

BOARD of SUPERVISORS



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MEMORANDUM

LAND USE AND TRANSPORTATION COMMITTEE

SAN FRANCISCO BOARD OF SUPERVISORS

TO: Supervisor Aaron Peskin, Chair, Land Use and Transportation Committee

FROM: Erica Major, Assistant Clerk, Land Use and Transportation Committee

DATE: April 14, 2020

SUBJECT: **COMMITTEE REPORT, BOARD MEETING**
Tuesday, April 14, 2020

The following file should be presented as a **COMMITTEE REPORT** at the Board meeting, Tuesday, April 14, 2020. This item was acted upon at the Committee Meeting on Monday, April 11, 2020, at 1:30 p.m., by the votes indicated.

Item No. 24 File No. 200174

Ordinance amending the General Plan to revise the Central Waterfront Plan, the Commerce and Industry Element, the Recreation and Open Space Element, the Transportation Element, the Urban Design Element, and the Land Use Index, to reflect the Potrero Power Station Mixed-Use Project; adopting findings under the California Environmental Quality Act; making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1; and adopting findings of public necessity, convenience, and welfare under Planning Code, Section 340.

RECOMMENDED AS A COMMITTEE REPORT

Vote: Supervisor Aaron Peskin - Aye
Supervisor Ahsha Safai - Aye
Supervisor Dean Preston - Aye

c: Board of Supervisors
Angela Calvillo, Clerk of the Board
Alisa Somera, Legislative Deputy
Anne Pearson, Deputy City Attorney

File No. 200174 Committee Item No. 3
Board Item No. 24

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Land Use and Transportation Committee Date April 13, 2020

Board of Supervisors Meeting Date April 14, 2020

Cmte Board

<input type="checkbox"/>	<input type="checkbox"/>	Motion
<input type="checkbox"/>	<input type="checkbox"/>	Resolution
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ordinance
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Legislative Digest
<input type="checkbox"/>	<input type="checkbox"/>	Budget and Legislative Analyst Report
<input type="checkbox"/>	<input type="checkbox"/>	Youth Commission Report
<input type="checkbox"/>	<input type="checkbox"/>	Introduction Form
<input type="checkbox"/>	<input type="checkbox"/>	Department/Agency Cover Letter and/or Report
<input type="checkbox"/>	<input type="checkbox"/>	MOU
<input type="checkbox"/>	<input type="checkbox"/>	Grant Information Form
<input type="checkbox"/>	<input type="checkbox"/>	Grant Budget
<input type="checkbox"/>	<input type="checkbox"/>	Subcontract Budget
<input type="checkbox"/>	<input type="checkbox"/>	Contract/Agreement
<input type="checkbox"/>	<input type="checkbox"/>	Form 126 – Ethics Commission
<input type="checkbox"/>	<input type="checkbox"/>	Award Letter
<input type="checkbox"/>	<input type="checkbox"/>	Application
<input type="checkbox"/>	<input type="checkbox"/>	Public Correspondence

OTHER (Use back side if additional space is needed)

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PLN Transmittal 022120
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PLN Executive Summary 013020
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Generalized Comm & Ind Land Use Pln
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PC Reso No. 20637 013020
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PC Reso No. 20639 013020
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PC Reso No. 20640 013020
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DRAFT FEIR Vol. 1
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DRAFT FEIR Vol. 2
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DRAFT FEIR Vol. 3 Response to Comments
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	DRAFT Dev Agmt
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Hearing Notice 031620
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Revised Hearing Notice 031620
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	PC Motion No. 20635 & PC Motion No. 20636
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Hearing Notice 041320

Completed by: Erica Major Date April 10, 2020

Completed by: Erica Major Date April 14, 2020

[General Plan - Potrero Power Station Mixed-Use Project]

Ordinance amending the General Plan to revise the Central Waterfront Plan, the Commerce and Industry Element, the Recreation and Open Space Element, the Transportation Element, the Urban Design Element, and the Land Use Index, to reflect the Potrero Power Station Mixed-Use Project; adopting findings under the California Environmental Quality Act; making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1; and adopting findings of public necessity, convenience, and welfare under Planning Code, Section 340.

NOTE: **Unchanged Code text and uncodified text** are in plain Arial font.
Additions to Codes are in *single-underline italics Times New Roman font*.
Deletions to Codes are in ~~*strikethrough italics Times New Roman font*~~.
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are in ~~Arial font~~.
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Environmental and Planning Code Findings.

(a) California Environmental Quality Act.

(1) At its hearing on January 30, 2020, and prior to recommending the proposed General Plan Amendments for approval, by Motion No. 20635 the Planning Commission certified a Final Environmental Impact Report (FEIR) for the Potrero Power Station Mixed-Use Project (Project) pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.), the CEQA Guidelines (Cal. Code Reg. Section 15000 et seq.), and Chapter 31 of the Administrative Code. A copy of said Motion is on file with the Clerk of the Board of Supervisors in File No. 200174, and is incorporated herein by reference. In accordance with the actions contemplated herein, this Board has

1 reviewed the FEIR, concurs with its conclusions, affirms the Planning Commission's
2 certification of the FEIR, and finds that the actions contemplated herein are within the scope
3 of the Project described and analyzed in the FEIR.

4 (2) In approving the Project at its hearing on January 30, 2020, by Motion No.
5 26036, the Planning Commission also adopted findings under CEQA, including a statement of
6 overriding considerations, and a Mitigation Monitoring and Reporting Program (MMRP).
7 Copies of said Motion and MMRP are on file with the Clerk of the Board of Supervisors in File
8 No. 200174, and are incorporated herein by reference. The Board hereby adopts and
9 incorporates by reference as though fully set forth herein the Planning Commission's CEQA
10 approval findings, including the statement of overriding considerations. The Board also adopts
11 and incorporates by reference as though fully set forth herein the Project's MMRP, dated
12 January 10, 2020, and on file with the Clerk of the Board in File No. 200174.

13 (b) Planning Code Findings.

14 (1) Under Charter Section 4.105 and Planning Code Section 340, any
15 amendments to the General Plan shall first be considered by the Planning Commission and
16 thereafter recommended for approval or rejection by the Board of Supervisors. On January
17 30, 2020, by Resolution No. 20637, the Planning Commission conducted a duly noticed public
18 hearing on the General Plan Amendments pursuant to Planning Code Section 340, and found
19 that the public necessity, convenience and general welfare require the proposed General Plan
20 Amendments, adopted General Plan Amendments, and recommended them for approval to
21 the Board of Supervisors. A copy of the Planning Commission Resolution No. 20637, is on file
22 with the Clerk of the Board of Supervisors in File No. 200174, and incorporated by reference
23 herein.

24 (2) On January 30, 2020, the Planning Commission, in Resolution No. 20639,
25 adopted findings that the actions contemplated in this ordinance are consistent, on balance,

1 with the City's General Plan and eight priority policies of Planning Code Section 101.1. The
2 Board adopts these findings as its own. A copy of said Resolution is on file with the Clerk of
3 the Board of Supervisors in File No. 200174, and is incorporated herein by reference.

4 Section 2. The General Plan is hereby amended by revising the Central Waterfront
5 Plan, as follows:

6 OBJECTIVE 1.1

7 ENCOURAGE THE TRANSITION OF PORTIONS OF THE CENTRAL WATERFRONT
8 TO A MORE MIXED-USE CHARACTER, WHILE PROTECTING THE NEIGHBORHOOD'S
9 CORE OF PDR USES AS WELL AS THE HISTORIC DOGPATCH NEIGHBORHOOD

10 * * * *

11 Adjacent to the Pier 70 area, the Potrero power plant ~~is expected to ceased~~ operations
12 ~~sometime in 2011 subject to a Settlement Agreement between the City and the previous owner, Mirant~~
13 ~~Potrero LLC the future. While contamination of the soil here will preclude housing development on~~
14 ~~the Settlement Agreement provided Mirant or a future property owner the opportunity to work with~~
15 ~~the City and community on a reuse plan for the site that could achieve community benefits and~~
16 ~~objectives. The power plant site is, it will be~~ an opportunity, similar to Pier 70, for residential and
17 mixed-use development ~~in the future~~ that could also include larger activities such as
18 commercial as well as research and development uses. ~~A future community planning process for~~
19 ~~this site will help determine exactly what should occur on the site.~~

20 * * * *

21 In areas controlled by the Port ~~as well as the Potrero Power Plant site~~, maintain existing
22 industrial zoning pending the outcome of ~~separate~~ planning processes for these areas.

23 * * * *

24 POLICY 1.1.8

POLICY 1.1.8

Consider the Potrero power plant site as an opportunity ~~for reuse~~ for larger-scale commercial and research establishments as part of a mixed use development.

* * * *

Map 2: ("Generalized Zoning Districts"), update Pier 70 and ~~the~~ Potrero ~~P~~power ~~plant~~ ~~S~~site description as follows: ~~Maintain existing manufacturing zoning here. After Pier 70 and plant site planning processes are complete, consider c~~Changing zoning to reflect the development plans for the Pier 70 and Potrero power plant site~~the outcome of the processes~~.

* * * *

OBJECTIVE 5.1

PROVIDE PUBLIC PARKS AND OPEN SPACES THAT MEET THE NEEDS OF RESIDENTS, WORKERS AND VISITORS

In a built-out neighborhood such as this, finding sites for sizeable new parks is difficult. However, it is critical that at least one new substantial open space be provided as part of this Plan. This Plan identifies a number of potential park sites: the area behind the IM Scott School site, which is currently used for parking, expansion of Warm Water Cove and the development of Crane Cove Park on Pier 70. ~~Additionally, a~~As part of ~~a~~the long-term planning process ~~for~~of ~~the Potrero Power Plant site and the Pier 70 site~~Planning process, the area surrounding Irish Hill is ~~also~~ identified as a potential park site. Additionally, any development on the Potrero power plant site should include public open space. Finally, an improved waterfront at the end of 22nd Street would provide a much needed bayfront park site and should be considered as part of any long-term plans for Pier 70.

Section 3. The General Plan is hereby amended by revising the Commerce and Industry Element, as follows:

1 Map 1 ("Generalized Commercial and Industrial Land Use Plan"), remove General
2 Industry designation from Potrero Power Station site and designate commercial blocks
3 (Blocks 2, 3, 11, 12, 15) as Business and Services, as shown in the Potrero Power Station
4 Special Use District, Planning Code Section 249.87.

5 Map 2 ("Generalized Commercial and Industrial Density Plan"), remove 3.0:1 FAR
6 density designation for Potrero Power Station site and add a boundary area for Potrero Power
7 Station site with a line that leads to a reference that states "See Potrero Power Station Special
8 Use District, Section 249.87 of the Planning Code for density controls therein."

9 * * * *

10 OBJECTIVE 4: IMPROVE THE VIABILITY OF EXISTING INDUSTRY IN THE CITY,
11 THE EQUITABLE DISTRIBUTION OF INFRASTRUCTURE, AND THE ATTRACTIVENESS OF
12 THE CITY AS A LOCATION FOR NEW INDUSTRY.

13 * * * *

14 Policy 4.12: As obsolete or underutilized infrastructure and heavy industrial uses are
15 decommissioned, consolidated or relocated, ensure that new uses on such sites complement the
16 adjacent neighborhood and address environmental justice considerations while also reflecting
17 broader contemporary City priorities.

18 Occasionally the opportunity arises to rethink the use and design of large sites occupied by a
19 large heavy industry, utility or infrastructure use, many of which are legacies of investments,
20 development patterns, and decisions from past eras, as these sites are shuttered, downsized or
21 relocated due to economic, regulatory or technological changes. Planning for these sites should
22 carefully consider the needs of adjacent neighborhoods, particularly where former industrial and
23 infrastructure uses, such as fossil fuel-powered power plants, historically created environmental justice
24 burdens for area residents, while balancing the larger policy goals of the City applicable to the site,
25 such as the development of community-serving facilities, public space, housing, economic development,

1 and modern, clean infrastructure or industry, to advance sustainability, resiliency and economic
2 diversity goals.

3 Section 4. The General Plan is hereby amended by revising Map 3 of the Recreation
4 and Urban Space Element ("Existing & Proposed Open Space"), as follows:

5 Add proposed open space depicted in the "Potrero Power Station Mixed-Use Project
6 Special Use District, Section 249.87 of the Planning Code."

7 Section 5. The General Plan is hereby amended by revising Map 11 of the
8 Transportation Element ("Citywide Pedestrian Network"), as follows:

9 Add proposed Bay Trail Recreational Loop to map through the Potrero Power Station
10 and Pier 70 project sites.

11 Add "Proposed Bay Trail Recreational Loop" route to legend.

12 Section 6. The General Plan is hereby amended by revising the Urban Design
13 Element, as follows:

14 Map 4 ("Urban Design Guidelines for Height of Buildings"), add to the map notes: "Add
15 a shaded area with a new height designation with a range between 65-240 feet in the location
16 of the former Potrero Power Plant, as shown in the Potrero Power Station Special Use
17 District, Planning Code Section 249.87.

18 Map 5 ("Urban Design Guidelines for Bulk of Buildings Map"), add the following
19 language to map notes: "Add asterisk and add: 'See Potrero Power Station Special Use
20 District, Planning Code Section 249.87.'"

21 Section 7. The Land Use Index shall be updated as necessary to reflect the
22 amendments set forth in Sections 3, 4, 5, and 6, above.

23 ///

24 ///

25 ///

1 Section 8. Effective Date. This ordinance shall become effective 30 days after
2 enactment. Enactment occurs when the Mayor signs the ordinance, the Mayor returns the
3 ordinance unsigned or does not sign the ordinance within ten days of receiving it, or the Board
4 of Supervisors overrides the Mayor's veto of the ordinance.

5
6 APPROVED AS TO FORM:
7 DENNIS J. HERRERA, City Attorney

8 By: 

9 Austin M. Yang
Deputy City Attorney

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LEGISLATIVE DIGEST

[General Plan - Potrero Power Station Mixed-Use Project]

Ordinance amending the General Plan to revise the Central Waterfront Plan, the Commerce and Industry Element, the Recreation and Open Space Element, the Transportation Element, the Urban Design Element, and the Land Use Index, to reflect the Potrero Power Station Mixed-Use Project; adopting findings under the California Environmental Quality Act; making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1; and adopting findings of public necessity, convenience, and welfare under Planning Code, Section 340.

Existing Law

Under Charter Section 4.105 and Planning Code Section 340, any amendments to the General Plan shall first be considered by the Planning Commission and recommended for approval or rejection by the Board of Supervisors.

Currently, the Potrero Power Station site in the Central Waterfront area of San Francisco, is zoned M-2 (Heavy Industrial) and PDR-1-G (Production, Distribution and Repair – General) and located in a 40-X and 65-X height and bulk district.

Amendments to Current Law

This ordinance would amend the General Plan as follows:

- (1) Amend Objective 1.1, Policy 1.1.8, Map 2, and Objective 5.1 of the Central Waterfront Area Plan to reflect the mixed-use vision for the Potrero Power Station site;
- (2) Amend the Commerce and Industry Element Maps 1 and 2, and Objective 4 by reclassifying generalized land uses and densities consistent with the proposal;
- (3) Amend the Recreation and Open Space Element Map 3 by adding new publicly accessible open spaces of significant size (6.9 acres) proposed for the site;
- (4) Amend the Transportation Element Map 11 by adding the Bay Trail Recreational Loop proposed for the site;
- (5) Amend the Urban Design Element Maps 4 and 5 by establishing maximum height and bulk limits consistent with the proposal; and;
- (6) Amend the Land Use Index to reflect amendments to the maps described above in the Commerce and Industry, Recreation and Open Space, Transportation, and Urban Design Elements.

Background Information

On January 30, 2019, the Planning Commission considered the proposed amendments to the General Plan and recommended approval in Resolution 20511.

This ordinance would enable the development of the Potrero Power Station Mixed-Use Project ("Project"), proposed by California Barrel Company ("Project Sponsor") The Project is immediately south of Pier 70 and encompasses property currently owned by the Project Sponsor, PG&E, the Port, and the City. The Project proposal includes developing approximately 2.5 million square feet ("sq. ft.") of residential space (2,601 dwelling units), 1.8 million sq. ft. of commercial uses, including 100,000 sq. ft. of retail, 800,000 sq. ft. of office, 650,000 sq. ft. of life science/laboratory, 240,000 sq. ft. of hotel (250 rooms), and 35,000 sq. ft. of Production, Distribution, and Repair ("PDR") uses. Additionally, it includes 25,000 square feet of entertainment/assembly uses, 50,000 square feet of community facilities, up to 2,686 off-street automobile parking spaces, and 6.9 acres of publicly accessible open space, including a new waterfront park. The proposal would also feature newly created public streets, pedestrian paths, cycle tracks, and the continuation of the Bay Trail. New buildings on the site are proposed to range from 65 feet to 240 feet in height and would generally step down from the middle of the site toward both the east and west. Three existing structures on the site, the Unit 3 power block and Boiler Stack along the waterfront and the Station A building, are proposed for adaptive reuse.

The project would also require the Planning Code amendments to create a Special Use District, the adoption of a Design for Development ("D4D") document to facilitate implementation, and a Development Agreement ("DA") between the Project Sponsor and the City and County of San Francisco.

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SAN FRANCISCO PLANNING DEPARTMENT

Planning Commission Motion No. 20635

HEARING DATE: JANUARY 30, 2020

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Case No.: 2017-011878ENV
Project Title: Potrero Power Station Mixed-Use Development Project
Zoning: M-2 (Heavy Industrial) and PDR 1-G
(Production, Distribution and Repair - General),
40-X and 65-X Height District
Block/Lot: Assessor's Block 4175/Lot 002, Block 4175/Lot 017, Block 4175/Lot 018,
Block 4232/Lot 001, Block 4232/Lot 006; and non-assessed Port and
City/County of San Francisco properties
Project Sponsor: California Barrel Company, LLC
Jim M. Abrams, J. Abrams Law, P.C
jabrams@jabramslaw.com, (415) 999-4402
Staff Contact: Rachel Schuett – (415) 575-9030
rachel.schuett@sfgov.org

ADOPTING FINDINGS RELATED TO THE CERTIFICATION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE PROPOSED POTRERO POWER STATION MIXED-USE DEVELOPMENT PROJECT.

MOVED, that the San Francisco Planning Commission (hereinafter "Commission") hereby CERTIFIES the final Environmental Impact Report identified as Case No. 2017-011878ENV, the "Potrero Power Station Mixed-Use Development Project" (hereinafter "Project"), based upon the following findings:

1. The City and County of San Francisco, acting through the Planning Department (hereinafter "Department") fulfilled all procedural requirements of the California Environmental Quality Act (Cal. Pub. Res. Code Section 21000 *et seq.*, hereinafter "CEQA"), the State CEQA Guidelines (Cal. Admin. Code Title 14, Section 15000 *et seq.*, hereinafter "CEQA Guidelines"), and Chapter 31 of the San Francisco Administrative Code (hereinafter "Chapter 31").
 - A. The Department determined that an Environmental Impact Report (hereinafter "EIR") was required and provided public notice of that determination by publication in a newspaper of general circulation on November 1, 2017.
 - B. The Department held a public scoping meeting on November 15, 2017 in order to solicit public comment on the scope of the Project's environmental review.
 - C. On October 3, 2018, the Department published the Draft Environmental Impact Report (hereinafter "DEIR") and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public

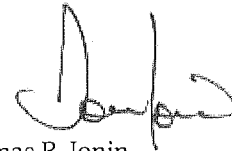
hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

- D. Notices of availability of the DEIR and of the date and time of the public hearing were posted near the project site on October 3, 2018.
 - E. On October 3, 2018, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, and to government agencies, the latter both directly and through the State Clearinghouse.
 - F. A Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on October 3, 2018.
2. The Commission held a duly advertised public hearing on said DEIR on November 8, 2018 at which opportunity for public comment was given, and public comment was received on the DEIR. The period for acceptance of written comments ended on November 19, 2018.
 3. The Department prepared responses to comments on environmental issues received at the public hearing and in writing during the 45-day public review period for the DEIR, prepared revisions to the text of the DEIR in response to comments received or based on additional information that became available during the public review period, and corrected errors in the DEIR. This material was presented in a Responses to Comments document, published on December 11, 2019, distributed to the Commission and all parties who commented on the DEIR, and made available to others upon request at the Department.
 4. A Final Environmental Impact Report (hereinafter "FEIR") has been prepared by the Department, consisting of the DEIR, any consultations and comments received during the review process, any additional information that became available, and the Responses to Comments document, all as required by law.
 5. Project EIR files have been made available for review by the Commission and the public. These files are available for public review at the Department at 1650 Mission Street, Suite 400, and are part of the record before the Commission.
 6. On January 30, 2020, the Commission reviewed and considered the information contained in the FEIR and hereby does find that the contents of said report and the procedures through which the FEIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the San Francisco Administrative Code.
 7. The Planning Commission hereby does find that the FEIR concerning File No. 2017-011878ENV reflects the independent judgment and analysis of the City and County of San Francisco, is adequate, accurate, and objective, and that the Responses to Comments document contains no significant revisions to the DEIR that would require recirculation of the document pursuant to CEQA Guideline section 15088.5, and hereby does CERTIFY THE COMPLETION of said FEIR in compliance with CEQA, the CEQA Guidelines and Chapter 31 of the San Francisco Administrative Code.

8. The Commission, in certifying the completion of said FEIR, hereby does find that the Project Variant described in the FEIR (with or without the PG&E subarea) would have the following significant unavoidable environmental impacts, which cannot be mitigated to a level of insignificance:
- A. **CR-4:** The Project Variant would demolish the Meter House and the Compressor House, two individually significant historic architectural resources, and would also partially demolish Station A, a third individually significant historic architectural resource, which would materially alter in an adverse manner the physical characteristics that justify their inclusion in the California Register of Historical Resources.
 - B. **TR-5:** The Project Variant would result in significant impacts on Muni transit operations on the 22 Fillmore and 48 Quintara/24th Street bus routes due to increases in transit travel time.
 - C. **C-TR-5:** The Project Variant would substantially contribute to significant impacts on Muni transit operations on the 22 Fillmore and 48 Quintara/24th Street bus routes due to increases in transit travel time.
 - D. **NO-2:** Construction of the Project Variant would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project.
 - E. **NO-8:** Operation of the Project Variant would cause substantial permanent increases in ambient noise levels along some roadway segments in the project vicinity that would affect off-site noise-sensitive receptors.
 - F. **C-NO-1:** Concurrent construction of the Project Variant and other development in the area would result in substantial temporary or periodic in ambient noise levels that would affect future planned offsite and proposed onsite noise-sensitive receptors.
 - G. **C-NO-2:** Traffic increases associated with operation of the Project Variant, in combination with other cumulative development, would result in a substantial contribution to increases in ambient noise levels along roadway segments in the project vicinity.
 - H. **AQ-2:** Construction of the portions of the Project Variant concurrent with operation of other portions of the Project Variant would result in emissions of ozone precursors at levels exceeding significance thresholds, which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.
 - I. **AQ-3:** Criteria air pollutant emissions—reactive organic gases and oxides of nitrogen—during operation of the Project Variant would exceed significance thresholds, which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.

- J. **C-AQ-1:** Criteria air pollutant emissions from implementation of the Project Variant, in combination with past, present, and reasonably foreseeable future development in the project area, would result in a substantial contribution to cumulative regional air quality impacts.
- K. **WS-2:** The phased construction of the Project Variant could alter localized wind conditions in a manner that substantially affects public areas on or near the project site, under interim conditions prior to full buildout.
9. The Commission reviewed and considered the information contained in the FEIR prior to approving the Project.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of January 30, 2020.



Jonas P. Ionin
Commission Secretary

AYES: Diamond, Fung, Koppel, Melgar, Moore
NOES: None
ABSENT: Johnson, Richards
ADOPTED: January 30, 2020



SAN FRANCISCO PLANNING DEPARTMENT

Planning Commission Motion No. 20636 CEQA Findings

HEARING DATE: JANUARY 30, 2020

Case Nos: 2017-011878ENV
Project: Potrero Power Station Mixed-Use Project
Existing Zoning: M-2 (Heavy Industrial)
PDR-1-G (Production, Distribution & Repair-1-General)
Height-Bulk: 40-X, 65-X
Block/Lot: 4175/002, 4175/017, 4175/018 (partial), 4232/001, 4232/006, 4232/010, and
non-assessed Port and City and County of San Francisco properties
Project Sponsor: Enrique Landa, California Barrel Company
Staff Contact: John M. Francis – (415) 575-9147, john.francis@sfgov.org

1650 Mission St.
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ADOPTING FINDINGS PURSUANT TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT ("CEQA"), AND THE CEQA GUIDELINES INCLUDING FINDINGS OF FACT, FINDINGS REGARDING SIGNIFICANT AND UNAVOIDABLE IMPACTS, EVALUATION OF MITIGATION MEASURES AND ALTERNATIVES, THE ADOPTION OF A MITIGATION, MONITORING AND REPORTING PROGRAM AND THE ADOPTION OF A STATEMENT OF OVERRIDING CONSIDERATIONS IN CONNECTION WITH APPROVALS FOR THE POTRERO POWER STATION MIXED-USE PROJECT, THE AREA GENERALLY BOUNDED BY 22ND STREET ON THE NORTH, THE SAN FRANCISCO BAY ON THE EAST, 23RD STREET ON THE SOUTH, AND ILLINOIS STREET ON THE WEST, TOTALING ABOUT 29 ACRES.

PREAMBLE

The Potrero Power Station Mixed-Use Development project is located on an approximately 29-acre site along San Francisco's central waterfront, encompassing the site of the former Potrero Power Plant that closed in 2011 ("Project Site" or "site"). The Project Site is generally bounded by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west, and is comprised of the following six sub-areas: Power Station sub-area, PG&E sub-area, Port sub-area, Southern sub-area, the Craig Lane sub-area, and City sub-area. California Barrel Company LLC, the Project Sponsor, currently has control only of the Power Station sub-area; the other sub-areas are owned and controlled by different entities. Current uses on the Power Station sub-area include warehouses, parking, vehicle storage, and office space. Twenty-four structures remain on the site associated with the former power plant, including six historic structures associated with the historic Third Street Industrial District: the Unit 3 Power Block, the Boiler Stack, Station A, the Meter House, the Gate House, and the Compressor House.

The Project Sponsor seeks to redevelop the site with a proposed multi-phased, mixed-use development, and to activate a new waterfront open space (the "Project"). The Project would rezone the site, establish land use controls, develop design standards, and provide for development of residential, commercial including office, research and development (R&D)/life science, retail, hotel, entertainment/assembly, and production, distribution, and repair (PDR), parking, community facilities, and open space land uses.

To do so, the Project includes proposed amendments to the San Francisco Planning Code and the San Francisco General Plan. The Planning Code amendments would change the Height and Bulk District Zoning Map and would add a new Potrero Power Station Special Use District (SUD) applicable to the entire Project Site. A Development Agreement is also proposed as part of the Project, as well as adoption of the Potrero Power Station Design for Development (D for D), which contain specific development standards and guidelines. The Project Sponsor also is seeking approval by the Port as part of the Project to construct open space and street improvements on the Port sub-area.

The proposed project analyzed in the Draft EIR ("proposed project") included construction of up to approximately 5.4 million gross square feet (gsf), of uses, including between approximately 2.4 and 3.0 million gsf of residential uses (about 2,400 to 3,000 dwelling units), between approximately 1.2 and 1.9 million gsf of commercial uses (office, R&D/life science, retail, hotel, and PDR), approximately 922,000 gsf of parking, approximately 100,000 gsf of community facilities, and approximately 25,000 gsf of entertainment/assembly uses. Most new buildings in this version of the project would range in height from 65 to 180 feet, with one building at 300 feet. Approximately 6.2 acres would be devoted to publicly accessible open space. As part of the proposed project analyzed in the Draft EIR, approximately 20 existing structures on the Project Site would be demolished, including up to five historic structures that are contributors to the historic Third Street Industrial District.

The proposed project included transportation and circulation improvements, shoreline improvements, and utilities infrastructure improvements. Transportation and circulation improvements included: a continuous street network, connection to the planned Pier 70 Mixed-Use District project directly north of the Project Site; a new bus stop and shuttle service; and the installation of traffic signals at the intersections of Illinois Street at 23rd and Humboldt streets. The roadway network would be accessible for all modes of transportation and would include vehicular, bicycle and pedestrian improvements. In addition to the development of waterfront parks, proposed shoreline improvements would include construction of a floating dock extending out and above the tidal zone to provide access from the site to the bay for fishing and suitable recreational vessels, and stormwater drainage outfalls. The proposed project included construction of infrastructure and utilities improvements to serve the development, including potable, non-potable, and emergency water facilities; wastewater and stormwater collection and conveyance; and natural gas and electricity distribution.

Project construction was anticipated to occur in seven overlapping phases (Phase 0 through 6), with each phase lasting approximately three to five years. Construction of the proposed project was estimated to occur over a 15-year period, beginning in 2020 and ending in 2034, depending on market conditions and permitting requirements.

Following publication of the Draft EIR on October 3, 2018, the Project Sponsor updated and refined select elements of the proposed project as part of the project development and design process. The Project Sponsor incorporated these changes into a variation on the proposed project, which is described in Chapter 9 of the Final EIR and is referred to as the "project variant" or "variant." The Project Sponsor is proposing that the project variant described in the Final EIR be adopted as the Project.

The project variant would have the same components as the proposed project, including rezoning, amendments to the San Francisco General Plan and Planning Code, and creation of the SUD and D for D.

The project variant would have a slightly larger total building area (an increase of 0.6 percent). The gross square footage of residential uses would decrease by 6 percent, although the number of residential units would decrease by only 3 percent (2,682 units to 2,601 units). The gross square footage of hotel uses would remain the same, although the number of hotel rooms would increase from 220 to 250. Commercial office space would increase by 36 percent (from 597,723 gsf to 814,240 gsf), but PDR space would decrease by 22 percent (from 45,040 gsf to 35,000 gsf) and retail space would decrease by 7 percent (from 107,439 gsf to 99,464 gsf). Life science and R&D space would remain the same. Community facilities space would decrease by about half, although entertainment/assembly space would remain the same. Parking area would increase by 5 percent, and the number of parking spaces would increase by 2 percent (from 2,622 spaces to 2,686 spaces). The number of bicycle parking spaces would decrease by 5 percent, from 1,950 to 1,862. Under the project variant, proposed open space would increase from 6.2 to 6.9 acres, an increase of more than 11 percent.

Under the variant, the maximum building height would be reduced from 300 to 240 feet; and instead of one 300-foot tower and three 180-foot towers, the variant would include one 240-foot tower, one 220-foot tower, and one 180-foot tower. Construction of the project variant is anticipated to require 16 years, instead of 15 years for the proposed project.

The site layout and land use plan for the project variant would differ from the proposed project in two ways: (1) Blocks 6 (designated for residential use) and 10 (designated for office or R&D use) under the proposed project are combined under the project variant and the no PG&E scenario to form a new long and thin Block 15 (designated for office or R&D use) such that there is no Blocks 6 or 10 under the variant; and (2) the variant would allow for R&D and/or office uses to be developed on Blocks 2 and 3, instead of only R&D uses.

Unlike the proposed project, which would demolish Station A (an individual and contributing historic resource), the project variant would retain substantial portions of Station A. Like the proposed project, the variant would retain the Boiler Stack (a contributing historic resource) and possibly retain the Unit 3 Power Block (a contributing historic resource). With respect to historic resources, the project variant is substantially similar to Preservation Alternative E, the Partial Preservation 2 Alternative discussed in the March 2018 preservation alternatives report described in Section V below.

Shoreline improvements would be somewhat expanded under the project variant, but infrastructure and utilities for the project variant would be essentially identical to that described for the proposed project, with the major differences being the change from Blocks 6 and 10 under the proposed project to a single larger Block 15 under the variant, and a few refinements of additional details and specifications for non-potable water system.

In addition, as stated above and in Chapter 2, Project Description, in the Draft EIR, the project sponsor does not control the PG&E subarea, and development of land uses within the PG&E subarea as proposed would only occur when and if PG&E determines it is feasible to relocate the existing utility infrastructure and operations and the owner of the PG&E subarea records a Notice of Joinder to Development Agreement. Therefore, the Final EIR identified a "no PG&E scenario" to represent a condition under the project variant

that could occur if there were an extended delay in the development of the PG&E subarea, or if it were never developed as proposed. The site layout and land use plan for the no PG&E scenario would be the same as that for the variant, except without the 4.8 acre PG&E subarea in the northwest corner of the site.

The Project Sponsors filed an Environmental Evaluation Application for the Project with the San Francisco Planning Department ("Department") on September 15, 2017. Pursuant to and in accordance with the requirements of Section 21094 of CEQA and Sections 15063 and 15082 of the CEQA Guidelines, the Department, as lead agency, published and circulated a Notice of Preparation ("NOP") on November 1, 2017, which solicited comments regarding the scope of the EIR for the proposed project. The NOP was distributed to the State Clearinghouse and mailed to governmental agencies with potential interest, expertise, and/or authority over the project; interested members of the public; and occupants and owners of real property surrounding the project area.

The Department held a public scoping meeting on November 15, 2017, at the Project Site, 420 23rd Street, San Francisco, to receive comments on the scope of the EIR. In total, during the scoping period the planning department received comments from two agencies, three non-governmental organizations, and three individuals. The Public Scoping Summary Report is included as Appendix A of the Draft EIR.

On July 16, 2018, the Project Sponsor submitted an application to the Governor's Office of Planning and Research seeking certification of the Project as an Environmental Leadership Development Project (ELDP) pursuant to Assembly Bill 900, the Jobs and Economic Improvement through Environmental Leadership Act of 2011 (and as updated by AB 734 (Chapter 210, Statutes of 2016) and AB 246 (Chapter 522, Statutes of 2017), and California Environmental Quality Act (CEQA) Section 21178. Under AB 900, ELDPs generally are projects that promote environmental sustainability, transportation efficiency, greenhouse gas reduction, stormwater management using green technology, substantial economic investment, and job creation, and that meet certain other specified criteria and metrics. On October 9, 2018 the Governor certified the Project as an ELDP.

The Department published a DEIR for the project on October 3, 2018 and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice. Notices of availability of the DEIR and the date and time of the public hearing were posted near the Project Site by the Project Sponsor on October 3, 2018. On October 3, 2018, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies.

The Historic Resources Commission held a duly advertised public hearing to allow the HPC to provide comments on the Draft EIR on October 17, 2018. Thereafter, the Planning Commission ("Commission") held a duly advertised public hearing on November 8, 2018, at which opportunity for public comment was given, and public comment was received on the DEIR. The period for commenting on the EIR ended on November 19, 2018.

The San Francisco Planning Department then prepared the responses to comments on environmental issues received during the 47-day public review period for the Draft EIR. That document, which provides written response to each comment received on the Draft EIR, was published on December 11, 2019 and included copies of all of the comments received on the Draft EIR and individual responses to those comments. The Responses to Comments document provided additional, updated information and clarification on issues

raised by commenters, as well as Planning Department staff-initiated text changes. Section 9 of the Responses to Comments document also describes and analyzes the environmental impacts of the project variant and the no PG&E scenario as compared to the analysis of the proposed project contained in the Draft EIR, thereby providing an equal level of detail of analysis for the project variant and no PG&E scenario, as for the proposed project.

A Final Environmental Impact Report has been prepared by the Department consisting of the Draft EIR and the Responses to Comments document as required by law. The Initial Study ("IS") is included as Appendix B to the Draft EIR and is incorporated by reference thereto.

The Planning Commission reviewed and considered the Final EIR and all of the supporting information and certified the Final EIR on January 30, 2020. In certifying the Final EIR, this Planning Commission found that the contents of said report and the procedures through which the Final EIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the Administrative Code. Further, the Planning Commission determined that the Final EIR, including its analysis of the project variant with or without the no-PG&E scenario, does not add significant new information to the Draft EIR that would require recirculation of the Final EIR under CEQA, because the Final EIR contains no information revealing (1) any new significant environmental impact that would result from the Project or from a new mitigation measure proposed to be implemented, (2) any substantial increase in the severity of a previously identified environmental impact, (3) any feasible project alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen the environmental impacts of the Project, but that was rejected by the Project's proponents, or (4) that the Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Specifically, the description and analysis of the project variant and no PG&E scenario in the Final EIR adds no significant new information to the EIR per CEQA Guidelines section 15088.5. The conclusions presented in the Draft EIR for the proposed project remain largely the same for the project variant and no PG&E scenario, with all impact conclusions either the same or less severe than previously identified for the proposed project. Notably, under the project variant, there would be two fewer significant and unavoidable impacts: the severity of the historic resources impact on the Third Street Industrial District at both a project-specific and cumulative level would be reduced to less than significant with mitigation. The new information presented in the Final EIR serves to clarify, amplify, and/or update information presented in the Draft EIR, providing appropriate information in the context of the project variant and no PG&E scenario. The information presented in Section 9. D of the Final EIR Responses to Comments, and in the findings set forth herein, provides the supporting analysis that indicates the following overall conclusions for the project variant and no PG&E scenario: (1) no new significant effects or substantially more severe significant effects would result beyond those identified in the Draft EIR for the proposed project; (2) no new mitigation measures are identified that would be required to mitigate new or more severe significant impacts; (3) with implementation of mitigation measures identified in the EIR, no substantial increase in the severity of an environmental impact would result; and (4) no additional alternatives or mitigation measures considerably different from those presented and analyzed in the Draft EIR are needed to satisfy CEQA requirements.

The Commission reviewed and considered the FEIR for the Project and found the contents of said report and the procedures through which the FEIR was prepared, publicized and reviewed complied with the

California Environmental Quality Act (Public Resources Code section 21000 et seq.), the CEQA Guidelines (14 Cal. Code Reg. section 15000 et seq.), and Chapter 31 of the San Francisco Administrative Code.

The Commission found the FEIR was adequate, accurate and objective, reflected the independent analysis and judgment of the Department and the Planning Commission, and that the summary of comments and responses contained no significant revisions to the DEIR, and certified the FEIR for the Project in compliance with CEQA, the CEQA Guidelines and Chapter 31 by its Motion No. 20635.

The Commission, in certifying the FEIR, found that the project variant described in the FEIR will have the following significant and unavoidable environmental impacts:

- Demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources.
- The project variant would result in a substantial increase in delays or operating costs such that significant adverse impacts to Muni would occur.
- Combine with past, present, and reasonably foreseeable future projects in the vicinity of the project site, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni.
- Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project variant.
- Project traffic would result in a substantial permanent increase in ambient noise levels at offsite receptors.
- Combine with construction of other past, present, and reasonably foreseeable future projects in the vicinity of the project site, would cause a substantial temporary or periodic increase in ambient noise levels.
- Cumulative traffic increases would cause a substantial permanent increase in ambient noise levels at offsite receptors in the project vicinity.
- Generate emissions of criteria air pollutants during construction that would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.
- Generate emissions of criteria air pollutants during project operations at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.
- Combine with past, present, and reasonably foreseeable future development in the project area, to contribute to significant cumulative regional air quality impacts.
- Phased construction of the project variant could alter wind in a manner that substantially affects public areas on or near the project site.

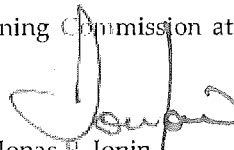
The Commission Secretary is the Custodian of Records for the Planning Department materials, located in the File for Case No. 2017-011878ENVGPAPCAMAPDVA, at 1650 Mission Street, Fourth Floor, San Francisco, California.

On January 30, 2020, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting on Case No. 2017-011878ENVGPAPCAMAPDVA to consider the approval of the Project. The Commission has heard and considered the testimony presented to it at the public hearing and has further considered written materials and oral testimony presented on behalf of the Project, the Planning Department staff, expert consultants and other interested parties.

The Commission has reviewed the entire record of this proceeding, the Environmental Findings, attached to this Motion as Attachment A and incorporated fully by this reference, regarding the alternatives, mitigation measures, environmental impacts analyzed in the FEIR and overriding considerations for approving the Project, and the proposed Mitigation Monitoring and Reporting Program ("MMRP") attached as Attachment B and incorporated fully by this reference, which material was made available to the public.

MOVED, that the Commission hereby adopts these findings under the California Environmental Quality Act, including rejecting alternatives as infeasible and adopting a Statement of Overriding Considerations, as further set forth in Attachment A hereto, and adopts the MMRP attached as Attachment B, based on substantial evidence in the entire record of this proceeding.

I hereby certify that the foregoing Motion was ADOPTED by the Planning Commission at its regular meeting of January 30, 2020.



Jonas P. Ionin
Commission Secretary

AYES: Diamond, Fung, Koppel, Melgar, Moore

NAYS: None

ABSENT: Johnson, Richards

DATE: January 30, 2020



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ATTACHMENT A

POTRERO POWER STATION MIXED-USE DEVELOPMENT PROJECT CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS: FINDINGS OF FACT, EVALUATION OF MITIGATION MEASURES AND ALTERNATIVES, AND STATEMENT OF OVERRIDING CONSIDERATIONS

SAN FRANCISCO PLANNING COMMISSION

In determining to approve the Potrero Power Station Mixed-Use Development Project described in Section I, Project Description below, the San Francisco Planning Commission makes and adopts the following findings of fact and decisions regarding mitigation measures and alternatives, and adopts the statement of overriding considerations, based on substantial evidence in the whole record of this proceeding and under the California Environmental Quality Act ("CEQA"), California Public Resources Code Sections 21000 et seq., particularly Sections 21081 and 21081.5, the Guidelines for Implementation of CEQA ("CEQA Guidelines"), 14 California Code of Regulations Sections 15000 et seq., particularly Sections 15091 through 15093, and Chapter 31 of the San Francisco Administration Code.

This document is organized as follows:

Section I provides a description of the project variant that is proposed for adoption as the Project, the environmental review process for the Project, and the approval actions to be taken and the location of records;

Section II identifies the impacts found not to be significant that do not require mitigation;

Section III identifies potentially significant impacts that can be avoided or reduced to less-than-significant levels through mitigation and describes the mitigation measures;

Section IV identifies significant impacts that cannot be avoided or reduced to less-than-significant levels and describes any applicable mitigation measures;

Section V evaluates the different Project alternatives and the economic, legal, social, technological, and other considerations that support approval of the Project and the rejection of the alternatives, or elements thereof; and

Section VI presents a statement of overriding considerations setting forth specific reasons in support of the Commission's actions and its rejection of the alternatives not incorporated into the Project.

The Mitigation Monitoring and Reporting Program ("MMRP") for the mitigation measures that have been proposed for adoption is attached with these findings as **Attachment B to Motion No. 20636**. The MMRP is required by CEQA Section 21081.6 and CEQA Guidelines Section 15091. Attachment B provides a table setting forth each mitigation measure listed in the Final Environmental Impact Report for the Project ("Final EIR") that is required to reduce or avoid a significant adverse impact. Attachment B also specifies the agency responsible for implementation of each measure and establishes monitoring actions and a monitoring schedule. The full text of the mitigation measures is set forth in Attachment B. These findings are based upon substantial evidence in the entire record before the Commission. The references set forth in these findings to certain pages or sections of the Draft Environmental Impact Report ("Draft EIR" or "DEIR") or the Responses to Comments document ("RTC" or "Responses to Comments") in the Final EIR are for ease of reference and are not intended to provide an exhaustive list of the evidence relied upon for these findings.

I. APPROVAL OF THE PROJECT VARIANT AS THE PROJECT

A. Project Description

The Potrero Power Station Mixed-Use Development project is located on an approximately 29-acre site along San Francisco's central waterfront, encompassing the site of the former Potrero Power Plant that closed in 2011 ("Project Site" or "site"). The Project Site is generally bounded by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west, and is comprised of the following six sub-areas: Power Station sub-area, PG&E sub-area, Port sub-area, Southern sub-area, the Craig Lane sub-area, and City sub-area. California Barrel Company LLC, the Project Sponsor, currently has control only of the Power Station sub-area; the other sub-areas are owned and controlled by different entities. Current uses on the Power Station sub-area include warehouses, parking, vehicle storage, and office space. Twenty-four structures remain on the site associated with the former power plant, including six historic structures associated with the historic Third Street Industrial District: the Unit 3 Power Block, the Boiler Stack, Station A, the Meter House, the Gate House, and the Compressor House.

The Project Sponsor seeks to redevelop the site with a proposed multi-phased, mixed-use development, and to activate a new waterfront open space (the "Project"). The Project would rezone the site, establish new land use controls, develop design standards, and provide for development of residential, commercial including office, research and development (R&D)/life science/laboratory, retail, hotel, entertainment/assembly, and production, distribution, and repair (PDR), parking, community facilities, and open space land uses.

To do so, the Project includes proposed amendments to the San Francisco Planning Code and the San Francisco General Plan. The Planning Code amendments would change the Height and Bulk District Zoning Map and would add a new Potrero Power Station Special Use District (SUD) applicable to the Project Site, including the PG&E Subarea upon recording of a Notice of Joinder

to the Development Agreement. A Development Agreement is also proposed as part of the Project, as well as adoption of the *Potrero Power Station Design for Development* (D for D), which contain specific development standards and guidelines. The Project Sponsor also is seeking approval by the Port as part of the Project to construct open space and street improvements on the Port sub-area.

1. Originally Proposed Project

The proposed project analyzed in the Draft EIR (“proposed project”) included construction of up to approximately 5.4 million gross square feet (gsf), of uses, including between approximately 2.4 and 3.0 million gsf of residential uses (about 2,400 to 3,000 dwelling units), between approximately 1.2 and 1.9 million gsf of commercial uses (office, R&D/life science, retail, hotel, and PDR), approximately 922,000 gsf of parking, approximately 100,000 gsf of community facilities, and approximately 25,000 gsf of entertainment/assembly uses. Most new buildings would range in height from 65 to 180 feet, with one building at 300 feet. Approximately 6.2 acres would be devoted to publicly accessible open space. As part of the proposed project, approximately 20 existing structures on the Project Site would be demolished, including up to five historic structures that are contributors to the historic Third Street Industrial District.

The proposed project in the Draft EIR included transportation and circulation improvements, shoreline improvements, and utilities infrastructure improvements. Transportation and circulation improvements included: a continuous street network, connection to the planned Pier 70 Mixed-Use District project directly north of the Project Site; a new bus stop and shuttle service; and the installation of traffic signals at the intersections of Illinois Street at 23rd and Humboldt streets. The roadway network would be accessible for all modes of transportation and would include vehicular, bicycle and pedestrian improvements. In addition to the development of waterfront parks, proposed shoreline improvements would include construction of a floating dock extending out and above the tidal zone to provide access from the site to the bay for fishing and suitable recreational vessels, and stormwater drainage outfalls. The proposed project included construction of infrastructure and utilities improvements to serve the development, including potable, non-potable, and emergency water facilities; wastewater and stormwater collection and conveyance; and natural gas and electricity distribution.

Project construction was anticipated to occur in seven overlapping phases (Phase 0 through 6), with each phase lasting approximately three to five years. Construction of the proposed project was estimated to occur over a 15-year period, beginning in 2020 and ending in 2034, depending on market conditions and permitting requirements.

2. Project Variant

The Project Sponsor is proposing that a project variant described in the Final EIR be adopted as the Project. Following publication of the Draft EIR on October 3, 2018, the Project Sponsor updated and refined select elements of the proposed project as part of the project development and design process. The Project Sponsor incorporated these changes into a variation on the proposed project, which is described in Chapter 9 of the Final EIR and is referred to as the “project variant” or “variant.”

The project variant would have the same components as the proposed project, including rezoning, amendments to the San Francisco General Plan and Planning Code, and creation of the SUD and D for D.

The project variant would have a slightly larger total building area (an increase of 0.6 percent). The gross square footage of residential uses would decrease by 6 percent, although the number of residential units would decrease by only 3 percent (2,682 units to 2,601 units). The gross square footage of hotel uses would remain the same, although the number of hotel rooms would increase from 220 to 250. Commercial office space would increase by 36 percent (from 597,723 gsf to 814,240 gsf), but PDR space would decrease by 22 percent (from 45,040 gsf to 35,000 gsf) and retail space would decrease by 7 percent (from 107,439 gsf to 99,464 gsf). Life science and R&D space would remain the same. Community facilities space would decrease by about half, although entertainment/assembly space would remain the same. Parking area would increase by 5 percent, and the number of parking spaces would increase by 2 percent (from 2,622 spaces to 2,686 spaces). The number of bicycle parking spaces would decrease by 5 percent, from 1,950 to 1,862. Under the project variant, proposed open space would increase from 6.2 to 6.9 acres, an increase of more than 11 percent.

Under the variant, the maximum building height would be reduced from 300 to 240 feet; and instead of one 300-foot tower and three 180-foot towers, the variant would include one 240-foot tower, one 220-foot tower, and one 180-foot tower. Construction of the project variant is anticipated to require 16 years, instead of 15 years for the proposed project.

The site layout and land use plan for the project variant would differ from the proposed project in two ways: (1) Blocks 6 (designated for residential use) and 10 (designated for office or R&D use) under the proposed project are combined under both the project variant and the no PG&E scenario to form a new Block 15 (designated for office or R&D use) such that there is no Block 6 or 10 under the variant; and (2) the variant would allow for R&D and/or office uses to be developed on Blocks 2 and 3 instead of only R&D uses.

Unlike the proposed project, which would demolish Station A (an individual and contributing historic resource), the project variant would retain substantial portions of Station A. Like the proposed project, the variant would retain the Boiler Stack (a contributing historic resource) and possibly retain the Unit 3 Power Block (a contributing historic resource). With respect to historic resources, the project variant is substantially similar to Preservation Alternative E, the Partial Preservation 2 Alternative discussed in the March 2018 preservation alternatives report described in Section V below.

Shoreline improvements would be somewhat expanded under the project variant, but infrastructure and utilities for the project variant would be essentially identical to that described for the proposed project, with the major differences being the change from Blocks 6 and 10 under the proposed project to a single larger Block 15 under the variant, and a few refinements of additional details and specifications for non-potable water system.

In addition, as stated above and in Chapter 2, Project Description, in the Draft EIR, the project sponsor does not control the PG&E subarea, and development of land uses within the PG&E subarea as proposed would only occur when and if PG&E determines it is feasible to relocate the existing utility infrastructure and operations and the owner of the PG&E subarea records a Notice of Joinder to Development Agreement. Therefore, the Final EIR identified a “no PG&E scenario” to represent a condition under the project variant that could occur if there were an extended delay in the development of the PG&E subarea, or if it were never developed as proposed. The site layout and land use plan for the no PG&E scenario would be the same as that for the variant, except without the 4.8 acre PG&E subarea in the northwest corner of the site.

B. Project Objectives

The Final EIR discusses several Project objectives identified by the Project Sponsor. The objectives are as follows:

1. Redevelop the former power plant site to provide a mix of residential, retail, office, Production, Distribution, and Repair (PDR), R&D space, a hotel, and activated waterfront open spaces to support a daytime population in a vibrant neighborhood retail district and to provide employment opportunities within walking distance to residents of the surrounding neighborhood.
2. Provide access to San Francisco Bay and create a pedestrian- and bicycle- friendly environment along the waterfront, by opening the eastern shore of the site to the public and extending the Bay Trail and the Blue Greenway.
3. Provide active open space uses such as playing fields and a playground to improve access to sports, recreational, and playground facilities in the Dogpatch, Potrero Hill, and Bayview-Hunters Point neighborhoods and complement other nearby passive open space uses and parks in the Central Waterfront.
4. Increase the city’s supply of housing to contribute to meeting the San Francisco General Plan Housing Element goals, and the Association of Bay Area Governments’ Regional Housing Needs Allocation for San Francisco by optimizing the number of dwelling units, particularly housing near transit.
5. Attract a diversity of household types by providing dense, mixed-income housing, including below-market rate units.
6. If Pacific Gas and Electric Company (PG&E) relocates its facilities in the PG&E sub-area, it would be redeveloped with community facilities, PDR, and housing in a fashion that provides continuity with the remainder of the Project Site and vicinity.
7. Build a neighborhood resilient to projected levels of sea level rise and earthquakes.

8. Incorporate the project and the anticipated adjacent Pier 70 Mixed-Use District project into a single neighborhood, by creating a network of streets and pedestrian pathways that connect to the street and pedestrian network.
9. Create an iconic addition to the city's skyline as part of the Dogpatch neighborhood and the Central Waterfront.
10. Provide opportunities for outdoor dining and gathering and create an active waterfront in the evening hours by encouraging ground floor retail and restaurant uses with outdoor seating along the waterfront.
11. Build adequate parking and vehicular and loading access to serve the needs of project residents, workers, and visitors.
12. Construct a substantial increment of new PDR uses in order to provide a diverse array of commercial and industrial opportunities in a dynamic mixed-use environment.
13. Create a circulation and transportation system that emphasizes transit-oriented development and promotes the use of public transportation and car-sharing through an innovative and comprehensive demand management program.
14. Demonstrate leadership in sustainable development by constructing improvements intended to reduce the neighborhood's per capita consumption of electricity, natural gas, and potable water, and generation of wastewater.
15. Create a development that is financially feasible and that can fund the project's capital costs and on-going operation and maintenance costs relating to the redevelopment and long-term operation of the property.
16. Construct a waterfront hotel use in order to provide both daytime and nighttime activity on the waterfront promenade.

The objectives of the project variant are identical to those of the proposed project.

C. Environmental Review

California Barrel Company LLC initiated the environmental review process by filing an Environmental Evaluation application with the San Francisco Planning Department on September 15, 2017. Pursuant to and in accordance with the requirements of Section 21094 of the Public Resources and Sections 15063 and 15082 of the CEQA Guidelines, the San Francisco Planning Department, as lead agency, prepared a Notice of Preparation ("NOP") on November 1, 2017. The NOP was distributed to the State Clearinghouse and mailed to governmental agencies with potential interest, expertise, and/or authority over the project; interested members of the public; and occupants and owners of real property surrounding the project area.

The Planning Department held a Public Scoping Meeting on November 15, 2017, at the Project Site, 420 23rd Street, San Francisco, to receive oral comments on the scope of the EIR. In total, during the scoping period the planning department received comments from two agencies, three non-governmental organizations, and three individuals. The Public Scoping Summary Report is included as Appendix A of the Draft EIR. Based on the comments received, controversial issues for the Project include:

- Project land uses, consideration of alternate uses, and compatibility of land uses on parcels adjacent to Pier 70;
- Noise from construction, operational traffic, and generators on sensitive receptors;
- Impacts from exposure to air pollutants during construction and operation on sensitive receptors;
- Wind and shadow impacts generated by the project and cumulatively by the project and Pier 70, with particular concern to recreational resources and the bay;
- The approach to the transportation impact analysis, reasons for the assumptions incorporated (specifically into mode share), employees by different income brackets and miles travelled, times of day and week studied, and cumulative projects considered;
- Impacts on transportation and circulation (including highways, arterial streets, local streets, transit stations and service, and emergency response);
- The project's assumptions and analysis for on-site parking demand and supply;
- Impacts associated with site remediation or management of soils during project construction;
- Project consistency with McAteer-Petris Act, Bay Plan, Coastal Zone Management Act, and with San Francisco Bay Conservation and Development Commission (BCDC) jurisdiction – including with respect to 100-foot shoreline band compliance, BCDC related permits, public access, remediation and sea level rise;
- Impacts to onsite historic buildings (including the Meter House, the Compressor House, Station A, and the Gate House) and consideration of their preservation and possibilities for reuse;
- Impacts related to affordable housing and jobs housing balance by the project;
- Financing, (including fair share contribution), monitoring, scheduling, and responsibility for implementation of mitigation measures;

- Cumulative impacts of development of the project combined with development of other projects (including Pier 70), and development under other plans, in the vicinity.

On July 16, 2018, the Project Sponsor submitted an application to the Governor's Office of Planning and Research seeking certification of the Project as an Environmental Leadership Development Project (ELDP) pursuant to Assembly Bill 900, the Jobs and Economic Improvement through Environmental Leadership Act of 2011 (and as updated by AB 734 (Chapter 210, Statutes of 2016) and AB 246 (Chapter 522, Statutes of 2017), and California Environmental Quality Act (CEQA) Section 21178. Under AB 900, ELDPs generally are projects that promote environmental sustainability, transportation efficiency, greenhouse gas reduction, stormwater management using green technology, substantial economic investment, and job creation, and that meet certain other specified criteria and metrics. On October 9, 2018 Governor certified the Project as an ELDP.

On October 3, 2018, the Department published the Draft EIR and provided public notice in a newspaper of general circulation of the availability of the DEIR for public review and comment and of the date and time of the Planning Commission public hearing on the DEIR; this notice was mailed to the Department's list of persons requesting such notice.

Notices of availability of the DEIR and the date and time of the public hearing were posted near the Project Site by the Project Sponsor on October 3, 2018.

On October 3, 2018, copies of the DEIR were mailed or otherwise delivered to a list of persons requesting it, to those noted on the distribution list in the DEIR, to adjacent property owners, and to government agencies.

Notice of Completion was filed with the State Secretary of Resources via the State Clearinghouse on October 3, 2018.

The Historic Resources Commission held a duly advertised public hearing to allow the HPC to provide comments on the Draft EIR on October 17, 2018. The Planning Commission held a duly advertised public hearing on the Draft EIR on November 8, 2018, at which opportunity for public comment was given, and public comment was received on the DEIR. The period for commenting on the EIR ended on November 19, 2018.

The San Francisco Planning Department then prepared the responses to comments on environmental issues received during the 46-day public review period for the Draft EIR. That document, which provides written response to each comment received on the Draft EIR, was published on December 11, 2019 and included copies of all of the comments received on the Draft EIR and individual responses to those comments. The Responses to Comments provided additional, updated information and clarification on issues raised by commenters, as well as Planning Department staff-initiated text changes. Section 9 of the Responses to Comments document also describes and analyzes the environmental impacts of the project variant and the no PG&E scenario as compared to the analysis of the proposed project contained in the Draft EIR, thereby providing an equal level of detail of analysis for the project variant and no PG&E scenario, and proposed project.

A Final Environmental Impact Report has been prepared by the Department consisting of the Draft EIR and the Responses to Comments document as required by law. The Initial Study ("IS") is included as Appendix B to the Draft EIR and is incorporated by reference thereto.

The Planning Commission reviewed and considered the Final EIR and all of the supporting information and certified the Final EIR on January 30, 2020. In certifying the Final EIR, this Planning Commission found that the contents of said report and the procedures through which the Final EIR was prepared, publicized, and reviewed comply with the provisions of CEQA, the CEQA Guidelines, and Chapter 31 of the Administrative Code. Further, the Planning Commission determined that the Final EIR does not add significant new information to the Draft EIR that would require recirculation of the Final EIR under CEQA, because the Final EIR contains no information revealing (1) any new significant environmental impact that would result from the Project or from a new mitigation measure proposed to be implemented, (2) any substantial increase in the severity of a previously identified environmental impact, (3) any feasible project alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen the environmental impacts of the Project, but that was rejected by the Project's proponents, or (4) that the Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Specifically, the description and analysis of the project variant and no PG&E scenario in the Final EIR adds no significant new information to the EIR per CEQA Guidelines section 15088.5. The conclusions presented in the Draft EIR for the proposed project remain largely the same for the project variant and no PG&E scenario, with all impact conclusions being either the same or less severe than previously identified for the proposed project. Notably, under the project variant, there would be two fewer significant and unavoidable impacts: the severity of the historic resources impact on the Third Street Industrial District at both a project-specific and cumulative level would be reduced to less than significant with mitigation. The new information presented in the Final EIR serves to clarify, amplify, and/or update information presented in the Draft EIR, providing appropriate information in the context of the project variant and no PG&E scenario. The information presented in Section 9.D of the Final EIR Responses to Comments, and in the findings set forth herein, provides the supporting analysis that indicates the following overall conclusions for the project variant and no PG&E scenario: (1) no new significant effects or substantially more severe significant effects would result beyond those identified in the Draft EIR for the proposed project; (2) no new mitigation measures are identified that would be required to mitigate new or more severe significant impacts; (3) with implementation of mitigation measures identified in the EIR, no substantial increase in the severity of an environmental impact would result; and (4) no additional alternatives or mitigation measures considerably different from those presented and analyzed in the Draft EIR are needed to satisfy CEQA requirements.

The San Francisco Planning Commission approves the project variant as the "Project."

D. Approval Actions

1. Planning Commission Actions

The Planning Commission is taking the following actions and approvals:

- Certification of the Final EIR.
- Approval of Potrero Power Station Design for Development.
- Review and recommendation to the Board of Supervisors to approve an ordinance adopting a Development Agreement.
- Review and recommendation to the Board of Supervisors to approve an ordinance adopting a new Potrero Power Station SUD setting forth uses and other development controls on the Project Site.
- Review and recommendation to the Board of Supervisors to adopt an ordinance amending the San Francisco Zoning Map Height and Bulk Maps.
- Review and approval of amendments to the San Francisco *General Plan*.

2. San Francisco Board of Supervisors Actions

The Board of Supervisors must take the following actions:

- Review and approval of an ordinance adopting a Development Agreement.
- Adoption of an ordinance adopting a new Potrero Power Station SUD setting forth uses and other development controls at the Project Site.
- Adoption of an ordinance amending the San Francisco Zoning Map Height and Bulk Maps.
- Approval of amendments to the San Francisco *General Plan*.
- Approval of street vacations, dedications and easements for public improvements, and acceptance (or delegation to Public Works Director to accept) of public improvements, as necessary.
- Approval of final subdivision map.

3. San Francisco Port Commission

- Adoption of findings regarding public trust consistency.
- Consent to a Development Agreement and recommendation to the San Francisco Board of Supervisors to approve.
- Approval of a lease for the improvement of the Port Sub-Area and Craig Lane.
- Approval of project construction-related permits for property within Port of San Francisco jurisdiction.
- Approval of Construction Site Stormwater Runoff Control Permit.

4. Other—Local Agencies

Implementation of the Project will involve consultation with or required approvals by other local, regulatory agencies, including, but not limited to, the following:

- San Francisco Public Works (approval of a subdivision map, consent to development agreement, issuance of public works street vacation order [if necessary]).

- San Francisco Department of Building Inspection (issuance of demolition, grading, and site construction permits).
- San Francisco Public Utilities Commission (consent to development agreement, approval of stormwater management plan, approvals of the landscape plan per the Water Efficient Irrigation Ordinance, Water Budget Application, Water Use Calculator, and Non-potable Implementation Plan per the Non-potable Water Ordinance, use of dewatering wells per Article 12B of the San Francisco Health Code [joint approval with the San Francisco Department of Public Health], approval of vacation of public service utility easements [if necessary]).
- San Francisco Municipal Transportation Agency (approval of transit improvements, public improvements and infrastructure, including certain roadway improvements, bicycle infrastructure and loading zones, to the extent included in the project (if any), consent to development agreement).
- San Francisco Fire Department (consent to development agreement).
- San Francisco Department of Public Health (oversee compliance with San Francisco Health Code Article 22A [Maher Ordinance], permit to operate under the Non-Potable Water Ordinance).

To the extent that the identified mitigation measures require consultation with or approval by these other agencies, the Planning Commission urges these agencies to assist in implementing, coordinating, or approving the mitigation measures, as appropriate to the particular measure.

E. Findings About Significant Environmental Impacts of the Project Variant, including the no PG&E scenario, and Mitigation Measures

The following Sections II, III and IV set forth the Planning Commission's findings about the Final EIR's determinations regarding significant environmental impacts of the project variant, including no PG&E scenario, and the mitigation measures proposed to address them. These findings provide the written analysis and conclusions of the Planning Commission regarding the environmental impacts of the Project and the mitigation measures included as part of the Final EIR and adopted by the Planning Commission as part of the Project. To avoid duplication and redundancy, and because the Planning Commission agrees with, and hereby adopts, the conclusions in the Final EIR, these findings will not repeat the analysis and conclusions in the Final EIR, but instead incorporates them by reference herein and relies upon them as substantial evidence supporting these findings.

In making these findings, the Planning Commission has considered the opinions of Planning Department and other City staff and experts, other agencies, and members of the public. The Planning Commission finds that: the determination of significance thresholds is a judgment decision within the discretion of the City and County of San Francisco; the significance thresholds used in the Final EIR are supported by substantial evidence in the record, including the expert opinion of the EIR preparers and City staff; and the significance thresholds used in the Final EIR provide reasonable and appropriate means of assessing the significance of the adverse environmental effects of the Project.

These findings do not attempt to describe the full analysis of each environmental impact contained in the Final EIR. Instead, a full explanation of these environmental findings and conclusions can be found in the Final EIR and these findings hereby incorporate by reference the discussion and analysis in the Final EIR supporting the determination regarding the Project impacts and mitigation measures designed to address those impacts. In making these findings, the Planning Commission ratifies, adopts and incorporates in these findings the determinations and conclusions of the Final EIR relating to environmental impacts and mitigation measures, except to the extent any such determinations and conclusions are specifically and expressly modified by these findings.

As set forth below, the Planning Commission adopts and incorporates the mitigation measures set forth in the Final EIR and the attached MMRP to substantially lessen or avoid the potentially significant and significant impacts of the Project. The Planning Commission intends to adopt the mitigation measures proposed in the Final EIR. Accordingly, in the event a mitigation measure recommended in the Final EIR has inadvertently been omitted in these findings or the MMRP, such mitigation measure is hereby adopted and incorporated in the findings below by reference. In addition, in the event the language describing a mitigation measure set forth in these findings or the MMRP fails to accurately reflect the mitigation measures in the Final EIR due to a clerical error, the language of the policies and implementation measures as set forth in the Final EIR shall control. The impact numbers and mitigation measure numbers used in these findings reflect the information contained in the Final EIR.

In the Sections II, III and IV below, the same findings are made for a category of environmental impacts and mitigation measures. Rather than repeat the identical finding dozens of times to address each and every significant effect and mitigation measure, the initial finding obviates the need for such repetition because in no instance is the Planning Commission rejecting the conclusions of the Final EIR or the mitigation measures recommended in the Final EIR for the Project.

F. Location and Custodian of Records

The public hearing transcript, a copy of all letters regarding the Final EIR received during the public review period, the administrative record, and background documentation for the Final EIR are located at the Planning Department, 1650 Mission Street, San Francisco. The Planning Commission Secretary, Jonas P. Ionin, is the custodian of records for the Planning Department and the Planning Commission.

II. IMPACTS OF THE PROJECT VARIANT FOUND NOT TO BE SIGNIFICANT AND THUS DO NOT REQUIRE MITIGATION

Under CEQA, no mitigation measures are required for impacts that are less than significant (Pub. Resources Code, § 21002; CEQA Guidelines, §§ 15126.4, subd. (a)(3), 15091.). Based on the evidence in the whole record of this proceeding, the Planning Commission finds that, as with the proposed project described in the Draft EIR, implementation of the project variant, including the

no PG&E scenario, will not result in any significant impacts in the following areas and that these impact areas therefore do not require mitigation¹:

Land Use

- Physically divide an established community. (LU-1)
- Conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental impact. (LU-2)
- Result in a cumulatively considerable contribution to a significant cumulative land use impact on established communities. (C-LU-1)
- Result in a cumulatively considerable contribution to a significant cumulative land use impact related to conflicts with applicable land use plans, policies, and/or regulations adopted for the purpose of avoiding or mitigating an environmental impact. (C-LU-2)

Population and Housing

- Induce substantial direct temporary population growth during project construction. (PH-1)
- Induce substantial employment growth in an area either directly or indirectly. (PH-2)
- Displace substantial numbers of people and/or existing housing units or create demand for additional housing, necessitating the construction the construction of replacement housing. (DEIR, p. 4.C-12)
- Induce substantial project-level or cumulative population growth in the area either directly or indirectly. (C-PH-1)

Historic Architectural Resources

- Materially alter, in an adverse manner, the physical characteristics of the adjacent Union Iron Works Historic District that justify its inclusion in the California Register of Historic Resources. (CR-7)

Transportation and Circulation

- Result in substantial interference during Project construction with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, and would not result in potentially hazardous conditions. (TR-1) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-TR-A: Construction Management Plan and Public Updates*.
- Cause substantial additional VMT or induced automobile travel. (TR-2)
- Create major traffic hazards. (TR-3) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-TR-B: Monitoring and Abatement of Queues*.

¹ The Project is located within an urbanized area of San Francisco. Therefore, as described in the Initial Study at Page B-17, impacts related to agricultural and forest resources are not applicable to the Project.

- Result in a substantial increase in regional demand that could not be accommodated by regional transit capacity or result in a substantial increase in delays or operating costs such that adverse impacts to regional transit would occur. (TR-6)
- Result in potentially hazardous conditions for bicyclists, or otherwise interfere with bicycle accessibility to the Project Site or adjacent areas. (TR-8)
- Fail to accommodate Project commercial vehicle and passenger loading demand, or result in Project loading operations that would create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking. (TR-9)
- Result in a substantial parking deficit and create potentially hazardous conditions or significant delays affecting transit, bicyclists, or people walking. (TR-10)
- Result in inadequate emergency vehicle access. (TR-11)
- Result in a cumulatively considerable contribution to a significant cumulative construction-related traffic impact. (C-TR-1) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-TR-A: Construction Management Plan and Public Updates*.
- Result in a cumulatively considerable contribution to a significant cumulative impact related to VMT. (C-TR-2)
- Result in a cumulatively considerable contribution to a significant cumulative impact related to traffic hazards. (C-TR-3) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-TR-B: Monitoring and Abatement of Queues*.
- Result in a cumulatively considerable contribution to a significant cumulative impact on regional transit providers. (C-TR-6)
- Result in a cumulatively considerable contribution to a significant cumulative impact related to pedestrian impacts. (C-TR-7)
- Result in a cumulatively considerable contribution to a significant cumulative impact related to bicycle impacts. (C-TR-8)
- Result in a cumulatively considerable contribution to a significant cumulative impact to loading. (C-TR-9)
- Result in a cumulatively considerable contribution to a significant cumulative impact to parking. (C-TR-10)
- Result in a cumulatively considerable contribution to a significant cumulative impact to emergency access. (C-TR-11)

Noise and Vibration

- Cause a substantial temporary or periodic increase in ambient noise levels along access streets in the Project vicinity resulting from construction truck traffic. (NO-3) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-NO-A: Avoidance of Residential Streets* and *Improvement Measure I-TR-A: Construction Management Plan and Public Updates*.
- Result in substantial temporary or periodic increase in ambient noise levels from events that include outdoor amplified sound. (NO-6)
- Result in substantial temporary or periodic increase in ambient noise levels from proposed rooftop bars and restaurants that include outdoor amplified sound. (NO-7)

- Result in a cumulatively considerable contribution to a significant cumulative noise impact from construction on existing offsite receptors or due to offsite haul truck traffic. (C-NO-1) To further ensure that the cumulative noise impact due to off-site haul truck traffic would be less than significant, the Project Sponsor will implement *Improvement Measure I-NO-A, Avoidance of Residential Streets (Variant)* and *Improvement Measure I-TR-A, Construction Management Plan and Public Updates*.

Air Quality

- During construction generate fugitive dust, violate an air quality particulate standard, contribute substantially to an existing or projected particulate violation, or result in a cumulatively considerable net increase in particulate concentrations. (AQ-1)
- Create objectionable odors that would affect a substantial number of people. (AQ-6)
- Result in cumulative PM2.5 concentrations at offsite or onsite receptors. (C-AQ-2)

Wind and Shadow

- At full buildout, alter wind in a manner that would substantially affect public areas on or near the Project Site. (WS-1) To further ensure that this impact would be less than significant, the Project Sponsor will implement *Improvement Measure I-WS-1: Wind Reduction Features for Block 1*
- Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas. (WS-3)
- When combined with other cumulative projects, alter wind in a manner that substantially affects public areas. (C-WS-1)
- In combination with past, present, and reasonably foreseeable future projects in the Project vicinity, create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas. (C-WS-2)

Biological Resources

- Have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (BI-2)
- Have a substantial adverse effect during Project operations, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service. (BI-5)
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service. (BI-6)

- Have a substantial adverse effect on state and federal waters through direct removal, filling, hydrological interruption, or other means. (BI-8)
- Conflict with any local policies or ordinances protecting biological resources; and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (BI-10)

Hydrology and Water Quality

- Violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality during Project construction. (HY-1)
- Violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality during Project operation. (HY-2)
- Result in stormwater runoff that exceeds the capacity of a storm drain system, or provide a substantial source of stormwater pollutants. (HY-2)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on or off site. (HY-3)
- Place housing or structures within an existing or future 100-year flood zone that would impede or redirect flood flows. (HY-4 and 5)
- Be susceptible to inundation by seiche, tsunami, or mudflow. (HY-6)
- In combination with past, present, and reasonably foreseeable future projects in the site vicinity, considerably contribute to cumulative impacts on hydrology and water quality. (C-HY-1)

Hazards and Hazardous Materials

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction or operation. (HZ-1)
- Expose workers or the public to hazardous building materials from demolition or renovation of buildings, including asbestos - containing materials, lead-based paint, PCBs, di (2-ethylhexyl) phthalate (DEHP), and mercury, or result in a release of these materials into the environment. (HZ-2)
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment due to construction on a site included on a government list of hazardous materials sites. (HZ-3)
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment due to encounters with hazardous materials in the soil or groundwater. (HZ-4)
- Result in hazardous emissions or use of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (HZ-5)

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (HZ-6)
- Expose people or structures to a risk of loss, injury or death involving fires. (HZ-6)
- Contribute considerably to a significant cumulative impact related to hazards and hazardous materials. (C-HZ-1)

Cultural Resources

- In combination with past, present and future project in the vicinity of the Project Site, contribute considerably to a significant cumulative impact to archaeological resources, tribal cultural resources, or human remains. (C-CR-1)

Greenhouse Gas Emissions

- Generate GHG emissions at levels that would result in a significant impact on the environment. (C-GG-1)
- Conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions. (C-GG-1)

Recreation

- Increase the use of existing park and recreational facilities to such an extent that there would be a significant adverse effect on these facilities. (RE-1)
- Considerably contribute to a significant cumulative impact on recreational use to existing public parks or recreational facilities. (C-RE-1)

Utilities and Services Systems

- Increase the demand for water to such an extent that new or expanded water supply resources or entitlements or the construction of new or expanded water treatment facilities would be required. (UT-1)
- Exceed wastewater treatment requirements of the Southeast Water Pollution Control Plant. (UT-2)
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (UT-3)
- Result in a determination by the SFPUC that it has inadequate capacity to serve the project's projected wastewater demand in addition to its existing commitments. (UT-3)
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (UT-4)
- Result in increased generation of solid waste that could not be accommodated by existing landfill capacity. (UT-5)
- Comply with all applicable statutes and regulations related to solid waste. (UT-6)

- Considerably contribute to a significant cumulative impact to utilities and service systems. (C-UT-1)

Public Services

- During construction or operation, result in a need for new or physically altered facilities in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, fire protection, schools, or other services, such that adverse physical impacts would occur. (PS-1 and PS-2)
- Considerably contribute to a significant cumulative impact resulting from a need for new or physically altered facilities in order to maintain acceptable service ratios, response times, or other performance objectives for police protection, fire protection, schools, or other services. (C-PS-1)

Geology, Soils, and Paleontological Resources

- Exacerbate the potential for the Project to expose people or structures to potential adverse effects due to fault rupture, seismic ground shaking, seismically induced ground failure, or landslides. (GE-1)
- Result in substantial erosion or loss of topsoil. (GE-2)
- Be located on unstable soil, or could become unstable as a result of the Project. (GE-3)
- Create substantial risks to life or property as a result of locating structures on expansive or corrosive soils. (GE-4)
- Substantially change the topography or any unique geologic or physical feature of the site. (GE-5)
- Considerably contribute to a significant cumulative impact with respect to geology, soils, or paleontological resources. (C-GE-1)

Mineral and Energy Resources

- Result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (ME-1)
- Considerably contribute to a significant cumulative impact on energy resources. (C-ME-1)

III. FINDINGS OF POTENTIALLY SIGNIFICANT IMPACTS THAT CAN BE AVOIDED OR REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL THROUGH MITIGATION

CEQA requires agencies to adopt mitigation measures that would avoid or substantially lessen a project's identified significant impacts or potential significant impacts if such measures are feasible (unless mitigation to such levels is achieved through adoption of a project alternative). The findings in this Section III and in Section IV concern mitigation measures set forth in the EIR. These findings discuss mitigation measures identified in the Draft EIR to mitigate the potentially significant impacts of the proposed project. As described in Section 9.D of the Final EIR, the severity of the impacts of the project variant, including no PG&E scenario, is the same or less than

for the proposed project, and as described in this Section the potentially significant impacts of the project variant, including no PG&E scenario, also would be mitigated to a less-than-significant level by the same mitigation measures identified in the Draft EIR for the proposed project (or minor variations of the same mitigation measures to be specific to the project variant). The full text of the mitigation measures is contained in the Final EIR and in Attachment B, the Mitigation Monitoring and Reporting Program. The Planning Commission finds that the impacts of the project variant, including no PG&E scenario, identified in this Section III would be reduced to a less-than-significant level through implementation of the mitigation measures contained in the Final EIR, included in the Project, or imposed as conditions of approval and set forth in Attachment B.

This Commission recognizes that some of the mitigation measures are partially within the jurisdiction of other agencies. The Commission urges these agencies to assist in implementing these mitigation measures, and finds that these agencies can and should participate in implementing these mitigation measures.

Historic Architectural Resources

Impacts CR-1, CR-2, and CR-3: With mitigation, ground disturbance associated with the project variant, with or without the PG&E subarea, would not cause a substantial adverse change in the significance of an archeological resource or a tribal cultural resource, and could disturb human remains.

Any ground-disturbing activities during project construction—particularly excavation, grading, and foundation work—could have the potential to uncover terrestrial prehistoric archeological resources, submerged prehistoric archeological resources, historic archeological resources, tribal cultural resources, and/or human remains. However, implementation of Mitigation Measures M-CR-1 and M-CR-3 would ensure that the project variant's impacts on archeological resources, human remains, and tribal cultural resources would be less than significant with mitigation. Impacts of the no PG&E scenario would be the same as those for the variant, since none of the changes under this scenario would affect impacts related to cultural resources.

Mitigation Measure M-CR-1: Archeological Testing

Mitigation Measure M-CR-3: Tribal Cultural Resources Interpretive Program

Impact CR-5: With mitigation, the proposed demolition, substantial alteration, and rehabilitation of contributing buildings would not materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.

As described below, cultural resources impacts of the project variant would be similar to those of the proposed project, and impacts of the no PG&E scenario would be the same as those for the variant, since none of the changes under this scenario would affect impacts related to cultural resources. For the project variant, retention and reuse of major portions of Station A, along with retention and rehabilitation of the Boiler Stack and, potentially, the Unit 3 Power Block, would

lessen effects on the Third Street Industrial District as compared to the proposed project, which would demolish Station A. Under the project variant, treatment of the Gate House, Meter House, Compressor House, Unit 3 Power Block, and the Boiler Stack would be the same as described for the proposed project. Mitigation Measures M-CR-5a, 5b, 5c, and 5d regarding documentation, video recordation, public interpretation/salvage, and rehabilitation of the Boiler Stack would be required to reduce the severity of this impact to the extent feasible. Mitigation Measure M-CR-5e, as modified in the Final EIR, would also be required under the Project. In addition, Mitigation Measures M-NO-4a, 4b, and 4c would be required to ensure that the historic resources would be protected during construction of the rest of the development. Because it would retain much of the visually prominent and architecturally distinctive features of Station A, and thus would retain a link to the Project Site's history of electrical generation, effects of the project variant on the Third Street Industrial District, would be less than significant with the following mitigation.

Mitigation Measure M-CR-5a: Documentation

Mitigation Measure M-CR-5b: Video Recordation

Mitigation Measure M-CR-5c: Public Interpretation and Salvage

Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack

Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack

Mitigation Measure M-NO-4a: Construction Vibration Monitoring

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment

Impact CR-6: With mitigation, the proposed infill construction would not materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.

The project variant calls for the establishment of new infill construction within the Project Site that could materially alter the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register. Consistent with the Secretary of the Interior's Rehabilitation Standard No. 9, the D for D includes standards and guidelines ensuring new construction would be of a size, scale, and density and/or would use exterior materials that would be compatible with the Third Street Industrial District. However, because the D for D must be approved as part of the Project, the Final EIR conservatively determined that the project variant could be incompatible with the Third Street Industrial District, which would be a significant impact. With implementation of Mitigation Measure M-CR-6, future new construction would be compatible with the character-defining features of the Third Street Industrial District, and this

impact would be less than significant with mitigation. Impacts of the no PG&E scenario would be the same as those for the variant, since none of the changes under this scenario would affect impacts related to cultural resources.

Mitigation Measure M-CR-6: Design Controls for New Construction

Impact C-CR-2: Although cumulative projects would materially alter, in an adverse manner, some of the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a significant cumulative impact, with mitigation, the project variant, with or without the PG&E subarea, would not make a cumulatively considerable contribution to that impact.

Retention of the majority of Station A under the project variant would avoid the proposed project's significant impact on the Third Street Industrial District. Because of this, although cumulative projects will result in the loss of seven contributing resources to the district, the project variant, unlike the proposed project, would not contribute considerably to this significant cumulative impact. With implementation of Mitigation Measures M-CR-5a, 5b, 5c, 5d, and 5e (Variant) and M-NO-4a, 4b, and 4c, the cumulative effects of the project variant on the Third Street Industrial District would be less than significant. Impacts of the no PG&E scenario would be the same as those for the variant, since none of the changes under this scenario would affect impacts related to cultural resources.

Mitigation Measure M-CR-5a: Documentation

Mitigation Measure M-CR-5b: Video Recordation

Mitigation Measure M-CR-5c: Public Interpretation and Salvage

Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack

Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack

Mitigation Measure M-NO-4a: Construction Vibration Monitoring

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment

Transportation

Impact TR-7: Implementation of the project variant would not create hazardous conditions for people walking, but existing pedestrian facilities could present barriers to accessible pedestrian travel.

The pedestrian-related features of the project variant would accommodate people walking within the site and would not result in hazardous conditions or present barriers to people walking. Similar to the proposed project, the combination of existing conditions at the intersection of Illinois Street/22nd Street, project-generated increases in vehicular travel on Illinois Street, and the large number of people who may be walking between the project site and destinations to the north and west, would result in significant impacts related to pedestrian safety and accessibility. Under the no PG&E scenario, the street network would not include a connection between the project site at Illinois Street via Humboldt Street, and would not include Georgia Street between Humboldt and 22nd streets. However, the no PG&E scenario would include sidewalk reconstruction on the east side of Illinois Street between 22nd and 23rd streets, as compared to only the portion between Humboldt and 22nd streets under the proposed project and variant. With implementation of Mitigation Measure M-TR-7, the impacts of the project variant, with and without the PG&E subarea, on people walking would be less than significant.

Mitigation Measure M-TR-7: Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street

Noise and Vibration

Impact NO-1: With mitigation Project-related construction activities would not expose people or increase noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code).

Project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies. As compared to the proposed project, the project variant would extend the construction period by one year; however, proposed phasing changes and durations would only alter the timing of noise increases and not their extent. Thus, proposed phasing changes would not alter the potential for compliance with Noise Ordinance standards during project construction. Therefore, like the proposed project the impact related to construction-related noise levels in excess of the noise ordinance limit would be less than significant with implementation of Mitigation Measure M-NO-1 for the project variant, with or without the PG&E subarea. Further, if nighttime noise levels exceed this nighttime noise limit, section 2908 would require that a special permit be obtained from the City to ensure that section 2908 ordinance requirements are met.

Mitigation Measure M-NO-1: Construction Noise Control Measures

Impact NO-4: With mitigation, Project construction would not generate excessive groundborne vibration that could result in building damage.

Impact activities such as pile driving could produce detectable vibration within nearby buildings during construction, and could be detectable by sensitive receptors. This could be a significant impact. Changes in construction phasing under the project variant (i.e., extending the construction duration by one year and changing the phases when the northern Waterfront shoreline improvements, Georgia Lane, and Humboldt Street would be constructed) would result in

vibration impacts similar to the proposed project, except that construction activities in the northern Waterfront area during Phase 3 instead of Phase 1 would increase the potential for construction-related vibration impacts if any adjacent planned offsite buildings on Pier 70 Parcels H1, H2, or E3 or future onsite buildings on Block 4 are constructed prior to any shoreline pile driving activities occurring in the northern Waterfront area. With inclusion of mitigation measures M-CR-5e, and M-NO-4a, 4b, and 4c, like the proposed project, this impact would be less than significant for the project variant, with or without the PG&E subarea.

Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring.

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving.

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment.

Impact NO-5: With mitigation, operation of the stationary equipment on the Project Site would not result in a substantial permanent increase in ambient noise levels in the immediate Project vicinity.

Operation of the project variant, with or without the PG&E subarea, like the proposed project, would similarly increase ambient noise levels on and near the Project Site from the onsite use of stationary equipment (i.e., heating/ventilation/air conditioning systems and emergency generators). Like the proposed project, this impact would be less than significant with mitigation.

Mitigation Measure M-NO-5: Stationary Equipment Noise Controls

Impact C-NO-1: With mitigation, vibration impacts resulting from construction of the project variant, with or without the PG&E subarea, combined with construction of other past, present, and reasonably foreseeable future projects would not be a cumulatively considerable contribution to a significant cumulative impact.

A significant cumulative impact with respect to construction vibration impacts would occur if concurrent construction activities at the Pier 70 parcels involved pile driving or other vibration-inducing activities, and the project's contribution to this cumulative impact would be considerable (i.e., significant). Implementation of Mitigation Measure M-NO-4a would reduce the Project's contribution to this cumulative impact to less than cumulatively considerable. This measure would require vibration controls sufficient to ensure that vibration levels would not exceed the 0.5 in/sec PPV vibration limit, and all potential vibration sources would need to be considered when determining the need for vibration controls. Therefore, this cumulative vibration impact from simultaneous construction of the project variant and the Pier 70 project would be less than significant with mitigation.

Mitigation Measure M-NO-4a: Vibration Control Measures During Controlled Blasting and Pile Driving

Air Quality

Impact AQ-4: With mitigation, although construction and operation of the project variant, with or without the PG&E subarea, would generate toxic air contaminants, including diesel particulate matter, which could expose sensitive receptors to substantial pollutant concentrations, this impact would be less than significant.

As with the proposed project, toxic air contaminant exposures during project variant construction and operations would be less than significant with implementation of Mitigation Measures M-AQ-2a, M-AQ-2b, and M-AQ-4. Specifically, while increased cancer risks at both on-site and offsite receptors would be significant without mitigation, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce the impact of the project variant, with or without the PG&E subarea, to a less-than-significant level, and the excess cancer risk impact to both onsite and offsite receptors was determined to be less than significant with mitigation. Also, the potential for future health risk impacts from laboratory emissions is less than significant with implementation of Mitigation Measure M-AQ-4.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

Mitigation Measure AQ-4: Siting of Uses that Emit Toxic Air Contaminants

Impact AQ-5: With mitigation, the project variant, with or without the PG&E subarea, would not conflict with implementation of the Bay Area 2017 Clean Air Plan.

As with the proposed project, the project variant could conflict with implementation of the Bay Area 2017 Clean Air Plan. Without certain mitigation measures incorporated into the project variant, the project variant would not include applicable control measures from the 2017 Clean Air Plan. However, as with the proposed project, with implementation of Mitigation Measure M-AQ-5, Include Spare the Air Telecommuting Information in Transportation Welcome Packets, plus the other mitigation measures identified in the EIR, the project variant, with or without the PG&E subarea, would include applicable control strategies contained in the 2017 Clean Air Plan for the basin, and the impact would be less than significant.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

Mitigation Measure M-AQ-2d: Electrification of Loading Docks

Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay

Mitigation Measure M-AQ-4: Siting of Uses that Emit Toxic Air Contaminants

Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets

Impact C-AQ-2: With mitigation, the project variant, with or without the PG&E subarea, in combination with past, present, and reasonably foreseeable future development in the project area, would not considerably contribute to a significant cumulative health risk impacts on sensitive receptors.

The project variant would result in a marginal reduction of excess cancer risk for the onsite receptor by one in one million compared to the proposed project, and would result in a marginal increase of excess cancer risk for the offsite receptor by one in one million compared to the proposed project. The resultant cumulative risks would still be well below the air pollutant exposure zone criteria of 100 in one million. Increased cancer risks of the project variant at both on-site and offset receptors would be significant without mitigation due to the contribution of construction activities, but implementation of Mitigation Measure M-AQ-2a would reduce the impact of the project variant, with or without the PG&E subarea, to a less than significant level.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

Biological Resources

Impact BI-1: With mitigation, construction of the project variant, with or without the PG&E subarea, would not have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status.

Construction activities within the Project Site, especially those that involve heavy machinery, may adversely affect nesting birds within 100 feet of the site boundaries during the nesting season (January 15–August 15). Nesting habitat for birds within the developed project site is of limited value and not expected to attract an abundance of breeding birds; however, certain construction activities such as vegetation removal, building demolition, and shoreline improvements, could adversely affect birds attempting to nest within the Project Site or nearby. Because the project variant, with or without the PG&E subarea, would require substantially the same nature and magnitude of construction activities as the proposed project, the same mitigation measure, Mitigation Measure M-BI-1, and compliance with the requirements of the California Fish and Game Code would reduce this potential impact to less than significant.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures

Impact BI-3: With mitigation, construction of the project variant, with or without the PG&E subarea, would not have a substantial adverse effect either directly or through habitat modification on bats identified as special-status.

Common bats (Mexican free-tailed bat) and special-status bats (Pallid bat and Yuma myotis) have the potential to roost in existing vacant or underutilized buildings, and other human-made

structures within or near the Project Site. The proposed project would involve building demolition and/or rehabilitation of buildings or structures that could host roosting bats. Mortality of special-status bats resulting from direct or indirect actions attributable to construction would be a significant impact. Additionally, common bats may establish maternity roosts in these same locations and disturbance that results in loss of a maternity colony would be a significant impact. The project variant would require substantially the same nature and magnitude of construction activities as the proposed project and, therefore, the same mitigation measure identified for the proposed project, Mitigation Measure M-BI-3, would reduce this potential impact for the project variant, with or without the PG&E subarea, to less than significant.

Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats

Impact BI-4: With mitigation, construction of the project variant, with or without the PG&E subarea, would not have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species.

There is the potential for significant impacts to a range of protected marine resources to occur during project construction in and adjacent to the San Francisco Bay. Although the nature of near shore and in-water construction activities for the project variant would be substantially the same as for the proposed project, the magnitude of construction activities—specifically the pile driving activities required for construction of the larger design of the wharf and floating dock—would be greater than what was anticipated for the proposed project and could result in more severe bioacoustic effects on fish and marine mammals. However, although the increased number and larger size piles for the project variant have the potential to result in higher underwater sound levels that could travel longer distances, the construction activity will use of bubble curtains for sound attenuation. Furthermore, the project variant would incorporate standard in-water work best management practices. Nevertheless, as identified for the proposed project, there remain uncertainties regarding the exact pile configuration and installation methods to be used for proposed in-water construction and, consequently, there remains a potential that construction could have an adverse effect on protected fish or marine mammals. Implementation of the proposed in-water construction best management practices together with Mitigation Measure M-BI-4 would ensure that, as with the proposed project, any potential impacts from pile installation under the project variant, with or without the PG&E subarea, would be effectively mitigated to less-than-significant levels.

Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving

Impact BI-7: With mitigation, construction of the project variant, with or without the PG&E subarea, would not have a substantial adverse effect on the San Francisco Bay through direct removal, filling, hydrological interruption, or other means.

Construction of physical shoreline improvements to protect against future sea level rise and/or for a new stormwater outfall for discharging stormwater, as well as construction of a floating dock could result in placement of fill within the jurisdictional waters of the San Francisco Bay. However, under the project variant, with or without the PG&E subarea, the revised design of the seawall would reduce the amount of new bay fill compared to the proposed project. In addition to

permit approval from the U.S. Army Corps of Engineers and a water quality certification from the Regional Water Quality Control Board, permanent placement of new fill may trigger a requirement for compensatory mitigation. Further, implementation of Mitigation Measure M-BI-7, like the proposed project, would reduce this impact to a less-than-significant level.

Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters

Impact BI-9: With mitigation, the project variant, with or without the PG&E subarea, would not interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

As with the proposed project, the project variant could interfere substantially with the movement of wildlife species. Construction of the project variant, with or without the PG&E subarea, could affect nesting birds and construction of the dock could generate high levels of underwater noise that is harmful to the movement of fish and marine mammals. However, implementation of Mitigation Measure M-BI-1 and Mitigation Measure M-BI-4 would reduce this impact to less than significant with mitigation.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures

Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving

Impact C-BI-1: With mitigation, the project variant, with or without the PG&E subarea, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a cumulatively considerable contribution to significant cumulative impacts on biological resources.

While adverse effects to nesting birds and special-status bats or maternal roosts could occur under the cumulative projects, after mitigation and through compliance with state and federal regulations protecting nesting birds, special-status bats and maternal roosts, the cumulative impact on these terrestrial biological resources would be less than significant with mitigation. Through compliance with the City's Standards for Bird-Safe Buildings the cumulative impacts to birds related to collisions would be less than significant. Project-specific mitigation measures and other best management practices designed to protect special-status fish, marine mammals, and jurisdictional waters would reduce the project's contribution to cumulative impacts to such species to a less-than-significant level. Therefore, cumulative impacts resulting from in-water work, and the cumulative impact on marine resources associated with construction would be less than significant with mitigation.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures

Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats

Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving

Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters

Impact GE-6: With mitigation, the project variant, with or without the PG&E subarea, would not directly or indirectly destroy a unique paleontological resource or site.

The project variant, with or without the PG&E subarea, could directly or indirectly destroy a unique paleontological resource because some of the geologic materials underlying the site have the potential to contain significant fossils, which could be encountered during construction. However, like the proposed project, implementation of Mitigation Measure M-GE-6 would ensure that the project variant, with or without the PG&E subarea, would not cause a substantial adverse change to the scientific significance of a paleontological resource and so would reduce this impact to a less-than-significant level.

Mitigation Measure M-GE-6: Paleontological Resources Monitoring and Mitigation Program

IV. SIGNIFICANT IMPACTS THAT CANNOT BE AVOIDED OR REDUCED TO A LESS-THAN-SIGNIFICANT LEVEL

Based on substantial evidence in the whole record of these proceedings, the Planning Commissions finds that, where feasible, changes or alterations have been required, or incorporated into, the project variant, including the no PG&E scenario, to reduce the significant environmental impacts as identified in the Final EIR and listed below. The Commission finds that the mitigation measures in the Final EIR and described below are appropriate, and that changes have been required in, or incorporated into, the project variant, with or without the PG&E subarea, that, pursuant to Public Resources Code Section 21002 and CEQA Guidelines Section 15091, may substantially lessen, but do not avoid (i.e., reduce to less-than-significant levels), the potentially significant environmental effects associated with implementation of the Project that are described below. The Commission adopts all of the mitigation measures and improvement measures set forth in the Mitigation Monitoring and Reporting Plan (MMRP), attached as Attachment B. The Commission further finds, however, for the impacts listed below, despite the implementation of feasible mitigation measures, the effects remain significant and unavoidable.

Based on the analysis contained within the Final EIR, other considerations in the record, and the significance criteria identified in the Final EIR, the Planning Commission finds that because some aspects of the project variant, with or without the PG&E subarea, could cause potentially significant impacts for which feasible mitigation measures are not available to reduce the impact to a less-than-significant level, those impacts are significant and unavoidable. The Planning Commission recognizes that for certain significant impacts, although mitigation measures are identified in the Final EIR that would reduce those impacts to a less-than-significant level, the measures are uncertain for reasons set forth below, and therefore those impacts remain significant and unavoidable or potentially significant and unavoidable.

The Planning Commission determines that the following significant impacts on the environment, as reflected in the Final EIR, are unavoidable, but under Public Resources Code Section 21081(a)(3) and (b), and CEQA Guidelines 15091(a)(3), 15092(b)(2)(B), and 15093, the

Commission determines that the impacts are acceptable due to the overriding considerations described in Section VII below. This finding is supported by substantial evidence in the record of this proceeding.

Historic Resources

Impact CR-4: Even with mitigation, the proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources.

Like the proposed project, the project variant, with or without the PG&E subarea, would demolish the Meter House and the Compressor House, two individually eligible resources, a significant unavoidable impact. Additionally, while the project variant would retain portions of Station A (an individually eligible historic resource), including restoring the south and east walls and portions of the north and west walls, it is still to be determined whether this would meet the Secretary of Interior's Standards, and thus the project variant's treatment of Station A would also potentially be significant and unavoidable. Similar to the proposed project, the project variant would retain the Boiler Stack, and potentially retain the Unit 3 Power Block (although Unit 3 could be demolished, as with the proposed project). In sum, therefore, the project variant's impacts on individually eligible historical resources would be significant and unavoidable with or without the PG&E subarea, although the effects would be less substantial than those of the proposed project due to the partial retention and reuse of Station A.

Implementation of Mitigation Measures M-CR-5a through M-CR-5c would reduce the severity of the impacts, but not to a less-than-significant level because only avoidance of demolition of, or substantial adverse changes to, a historical resource would reduce impacts to less-than-significant levels. Preservation of all individually significant historic resources is analyzed as full preservation alternatives in Chapter 6 of the Final EIR, rather than through development of a mitigation measure. As described in detail in the discussion of preservation alternatives in Section V below, the full preservation alternatives were determined to be infeasible per CEQA Guidelines Section 15091(a) (3). Therefore, the impact on individual historic architectural resources would be significant and unavoidable even with identified mitigation.

Mitigation Measure M-CR-5a: Documentation

Mitigation Measure M-CR-5b: Video Recordation

Mitigation Measure M-CR-5c: Public Interpretation and Salvage

Transportation

Impact TR-5: Even with mitigation, the project variant would result in a substantial increase in delays or operating costs such that significant adverse impacts to Muni would occur.

Although the project variant, with or without the PG&E subarea, would generate fewer vehicle trips than the proposed project, the project variant would still result in significant impacts on Muni

transit operations on the 22 Fillmore and 48 Quintara/24th Street bus routes due to increases in transit travel times. Therefore, Mitigation Measure M-TR-5, as modified, would be applicable to the project variant, with or without the PG&E subarea.

Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay Performance Standard.

This mitigation measure identifies a performance standard of the maximum number of project-generated p.m. peak hour vehicle trips for each phase of project buildout. This measure provides for monitoring of vehicle trips generated by Project operation starting before the beginning of construction and continuing through Project buildout. The measure also states that if the additional TDM measures do not achieve the performance standard, then the City shall impose additional onsite or offsite capacity improvements intended to reduce vehicle trips from the project. However, because the project-specific effectiveness of the various additional TDM strategies is unknown at this time, the project-related impacts on travel times on the 22 Fillmore route would remain significant and unavoidable with mitigation.

Impact C-TR-5: Even with mitigation, the project variant, with or without the PG&E subarea, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni.

Given this increase in vehicle delay and the sharing of travel lanes between vehicle trips and transit, it is anticipated that the Muni 22 Fillmore/Route XX (see "Cumulative Transportation Network Changes," p. 4.E-53, under "Approach to Analysis," above) and the 48 Quintara/24th Street bus routes would be delayed significantly in the study area (e.g., along 18th Street, 22nd Street, and north/south streets). Therefore, under 2040 cumulative conditions, there would be significant cumulative impacts related to transit operations on the Muni 22 Fillmore/Route XX and the 48 Quintara/24th Street bus routes. Mitigation Measure M-TR-5, as modified, would be applicable to the project variant, with or without the PG&E subarea.

Mitigation: Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

It is uncertain that a decrease in project-generated vehicles would be attained by the measures set forth in M-TR-5 to reduce intersection delays during the peak periods as to eliminate the significant impacts on bus operations. Therefore, the project variant's contribution to significant cumulative transit operations impacts would remain considerable. Thus, the project variant's transit operations impact on the Muni 22 Fillmore/Route XX and the 48 Quintara/24th Street bus routes, with or without the PG&E subarea, in combination with past, present, and reasonably foreseeable development projects, would be considered significant and unavoidable with mitigation.

Noise and Vibration

Impact NO-2: Even with mitigation, Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project variant.

With the exception of future residents on Block 13, future onsite residents, hotel occupants, and possible childcare users would be subject to significant construction-related noise levels for one to five years. Delaying Phases 1 through 6 (vertical construction phases) by one year under the project variant would not alter the potential for exposure of future onsite sensitive receptors to construction noise as compared to the proposed project. Since all construction phases would be delayed by one year (but the duration would remain the same), occupation of future onsite residences and exposure of these future residents to construction noise from later phases would be the same, but one year later. The delay in vertical construction also would not increase the number of future planned offsite sensitive receptors that could be exposed to construction. The duration of this impact would be the same, but it would occur one year later. The Draft EIR identified the potential for significant noise impacts on the closest planned offsite receptors on the adjacent Pier 70 site, and this would still occur with the proposed delay in vertical construction under the project variant, with or without the PG&E subarea.

Mitigation Measure M-NO-1: Construction Noise Control Measures

Improvement Measure I-NO-A: Nighttime Construction Noise Control Measures

Implementation of Mitigation Measure M-NO-1 would reduce the severity of noise impacts on future onsite sensitive receptors. However, even with implementation of this mitigation measure, the combined noise levels from simultaneous operation of the noisiest types of construction equipment could still exceed the “Ambient + 10 dBA” standard. Therefore, construction-related noise impacts on future onsite residential/hotel/childcare receptors would be significant and unavoidable with mitigation.

Impact NO-8: Even with mitigation, Project traffic would result in a substantial permanent increase in ambient noise levels at offsite receptors.

The project variant would generate slightly fewer daily vehicle trips than the proposed project (3.4 percent less), which would not measurably reduce project-related traffic noise increases along roadway segments that were described for the proposed project. The project variant, similar to the proposed project, would still result in significant traffic noise increases (increases would be more than 5 dBA) along three street segments (22nd Street, Humboldt Street, and 23rd Street) east of Illinois Street and on the western portion of the project site as well as the segments of 22nd Street and 23rd Street between Third and Illinois streets, west of the project site.

Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses

With traffic noise increases on four of the street segments of more than 9 dBA, these noise increases would likely continue to be significant even with additional vehicle trip reduction measures required under Mitigation Measure M-TR-5 (Variant). There are no other feasible measures that could further reduce noise generated by project-related vehicle trips. Therefore, this impact is significant and unavoidable with mitigation.

Separately, future with-project traffic noise levels along the sections of 22nd, Humboldt, and 23rd streets east of Illinois Street and along the section of Illinois Street adjacent to the project site are considered to be Conditionally Acceptable for residential, childcare, and hotel uses, a significant impact. However, with the required incorporation of noise attenuation measures, as specified in Mitigation Measure M-NO-8, this impact would be less than significant with mitigation.

Impact C-NO-1: Even with mitigation, construction of the project variant, with or without the PG&E subarea, combined with construction of other past, present, and reasonably foreseeable future projects would cause a substantial temporary or periodic increase in ambient noise levels.

As with the proposed project, concurrent construction of the project variant, the adjacent Pier 70 Mixed-Use District project, and other cumulative development in the area would result in cumulative construction-related noise and vibration impacts on certain future planned offsite and proposed onsite receptors. Even though Block 14 would not be constructed under the no PG&E scenario, the impacts associated with Blocks 1, 2, 3, and 4 would still occur, so the same impact conclusion applies. These cumulative noise increases might not be reduced to less-than-significant levels even with implementation of Mitigation Measure M-NO-1. Therefore, like the proposed project, this cumulative impact would be significant and unavoidable with mitigation under the project variant, with or without the PG&E subarea.

Mitigation Measure M-NO-1: Construction Noise Control Measures

Mitigation Measure M-NO-4a: Vibration Control Measures During Controlled Blasting and Pile Driving

Improvement Measure I-NO-A: Avoidance of Residential Streets

Improvement Measure I-TR-A: Construction Management Plan and Public Updates

Impact C-NO-2: Even with mitigation, cumulative traffic increases would cause a substantial permanent increase in ambient noise levels at offsite receptors in the project vicinity.

The project variant would generate slightly fewer daily vehicle trips than would be generated by the proposed project (3.4 percent less), which would not measurably reduce the project's contribution to cumulative traffic noise increases along some roadway segments. Traffic noise increases related to cumulative development in the area (including the project variant and Pier 70 project) would result in significant traffic noise increases (increases would be more than 5 dBA) on 26 street segments, which would be a cumulatively significant impact.

Mitigation Measure M-NO-8: Design of Future Noise-Sensitive Uses

Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

Significant cumulative noise increases on 23 street segments would likely continue to be significant even with additional transportation demand management measures required in

Mitigation Measure M-TR-5 (Variant). There are no other feasible measures that could further reduce project-related vehicle trips. However, incorporation of noise attenuation measures specified in Mitigation Measure M-NO-8 would achieve acceptable interior noise levels at future onsite noise-sensitive receptors, reducing this cumulative impact of the project variant, with or without the PG&E subarea, to less than significant with mitigation.

Air Quality

Impact AQ-2: Even with mitigation, during construction (including construction phases that overlap with project operations), the project variant, with or without the PG&E subarea, would generate criteria air pollutants that would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.

Impacts of the no PG&E scenario would be the same as or less than those for the project variant, since this scenario would have reduced construction (both in magnitude and duration) and reduced overall development (no development on Blocks 13 and 14 and reduced development on Block 1) compared to both the variant and the proposed project. However, criteria air pollutant emissions during project construction and overlapping operations would be significant and unavoidable even with implementation of mitigation measures. Specifically, emissions of ozone precursors (reactive organic gases, ROG, and oxides of nitrogen, NO_x) would exceed significance thresholds, even with mitigation. The project variant's ROG and NO_x increases could contribute to new or exacerbated air quality violations in the basin region by contributing to more days of ozone exceedance or result in Air Quality Index values that are unhealthy for sensitive groups and other populations.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products

Mitigation Measure M-AQ-2d: Electrification of Loading Docks

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures

Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions

Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

Implementation of Mitigation Measures M-AQ-2a through MAQ-2e and M-TR-5 (Variant) would reduce construction-related and operational emissions associated with the project variant, with or without the PG&E subarea. However, project emissions of ROG and NO_x would still exceed significance thresholds. Therefore, the Project Sponsor would also be required to implement Mitigation Measure M-AQ-2f (Variant), which requires the Project Sponsor to implement emission offsets. However, because implementation of the emissions reduction project could be

conducted by the air district and is outside the jurisdiction and control of the City and not fully within the control of the Project Sponsor and because no specific offset project has been identified, the impact with respect to criteria air pollutants is conservatively considered significant and unavoidable with mitigation.

Impact AQ-3: Even with mitigation, during project operations, the project variant, with or without the PG&E subarea, would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.

Criteria air pollutant emissions during project operations would be significant and unavoidable even with implementation of Mitigation Measures. Specifically, emissions of ROG and NO_x would exceed significance thresholds, even with mitigation. The majority of ROG emissions are generated from area sources, including architectural coatings, consumer products, and landscaping. Of the area-source emissions, the majority of the ROG emissions (approximately 83 percent) would be from consumer products, which are the various solvents that are used in nonindustrial applications and emit volatile organic compounds (VOCs) during their use. The residual impact of project emissions during operation at buildout is conservatively considered significant and unavoidable with mitigation, acknowledging the assumption that the Project Sponsor would implement Mitigation Measures M-AQ-2a through M-AQ-2f (Variant) and M-TR-5 (Variant).

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products

Mitigation Measure M-AQ-2d: Electrification of Loading Docks

Mitigation Measure M-TR-5 (Variant): Implement Measure to Reduce Transit Delay

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures

Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions

Implementation of these measures could potentially reduce emissions to levels below the significance thresholds, but due to the uncertainties and unknowns with some of these measures, particularly, Mitigation Measure M-AQ-2f (Variant), Offset Construction and Operational Emissions, this impact is conservatively deemed significant and unavoidable with mitigation.

Impact C-AQ-1: Even with mitigation, the project variant, with or without the PG&E subarea, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts.

The contribution of a project's individual air emissions to regional air quality impacts is, by its nature, a cumulative effect. Because the project variant's emissions exceed the project-level thresholds, with or without the PG&E subarea, as explained in Impacts AQ-2 and AQ-3, above,

the Project would result in a considerable contribution to cumulative regional air quality impacts, a significant impact.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products

Mitigation Measure M-AQ-2d: Electrification of Loading Docks

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures

Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions

Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

Implementation of Mitigation Measures M-AQ-2a through M-AQ-2f (Variant) and M-TR-5 (Variant) would reduce the severity of this impact, however, due to uncertainties in the implementation of these measures (particularly Mitigation Measure M-AQ-2f (Variant), Offset Construction and Operational Emissions), these measures would not reduce the Project's contribution to the cumulative impact to a less-than-significant level for the same reasons described in Impacts AQ-2 and AQ-3. Therefore, the Project's emissions of criteria air pollutants would be cumulatively considerable, and this cumulative impact would be significant and unavoidable with mitigation.

Wind and Shadow

Impact WS-2: Even with mitigation, the phased construction of the project variant, with or without the PG&E subarea, could alter wind in a manner that substantially affects public areas on or near the project site.

Like the proposed project, construction of the project variant, with or without the PG&E subarea, is expected to occur in phases over a period of approximately 15 to 16 years. It was determined through wind tunnel testing that at full buildout, the project variant would generally improve wind conditions, compared to existing conditions, and the project's effect on wind would be less than significant. However, during the rather lengthy construction period, a particular building configuration resulting from development of one or more individual structures could result in localized wind conditions that would be different than those reported for the Project at full buildout. It is possible that such individual building(s) could cause the wind hazard criterion to be exceeded, perhaps for one or more years. However, once surrounding buildings have been completed, and they provide effective wind shelter as reported in the project wind tunnel test, these temporary impacts would cease. Depending upon the circumstances and the actual phasing of the construction, these temporary impacts could continue at various locations until the full buildout is completed. Therefore, this EIR conservatively considers such an occurrence to be a significant, if temporary, wind impact. Furthermore, if the project variant were not to be completed in the time period anticipated, a partial

buildout situation could occur for an extended period, resulting in different wind characteristics than those tested in the wind tunnel. This, too, could result in one or more new exceedances of the wind hazard criterion and thus a significant wind impact.

Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts

Implementation of Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts, would reduce the project's potentially significant wind impacts. However, because it cannot be stated with certainty that no such localized wind hazard exceedances would arise during the project construction period or that feasible interim wind-reduction measures would be available, this impact is considered significant and unavoidable with mitigation.

V. EVALUATION OF PROJECT ALTERNATIVES

This section describes the EIR alternatives and the reasons for rejecting the alternatives as infeasible. The CEQA Guidelines, section 15126.6(a), state that an EIR must describe and evaluate a reasonable range of alternatives to the Project that would feasibly attain most of the Project's basic objectives, but that would avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

The Planning Department considered a range of alternatives in Chapter 6 of the Final EIR. The Final EIR analyzed the No Project/Code Compliant Alternative (Alternative A), the Full Preservation/Reduced Program Alternative (Alternative B), the Full Preservation/Similar Program Alternative (Alternative C), the Partial Preservation 1 Alternative (Alternative D), the Partial Preservation 2 Alternative (Alternative E), the Partial Preservation 3 Alternative (Alternative F), and the Partial Preservation 4 Alternative (Alternative G). Each alternative is discussed and analyzed in these findings, in addition to being analyzed in Chapter 6 of the Final EIR.

The Planning Commission certifies that it has independently reviewed and considered the information on the alternatives provided in the Final EIR and in the record. The Final EIR reflects the Planning Commission's and the City's independent judgment as to the alternatives.

The Planning Commission rejects the alternatives listed below because the Commission finds that there is substantial evidence, including evidence of economic, legal, social, technological, and other considerations described in this Section in addition, to those described below under CEQA Guidelines Section 15091(a)(3), that make these alternatives infeasible. In making these determinations, the Commission is aware that CEQA defines "feasibility" to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, legal, and technological factors." The Commission is also aware that under CEQA case law the concept of "feasibility" encompasses (i) the question of whether a particular alternative promotes the underlying goals and objectives of a project; and (ii) the question of whether an alternative is "desirable" from a policy standpoint to the extent that

desirability is based on a reasonable balancing of the relevant economic, environmental, social, legal, and technological factors. The Planning Commission finds that the project variant, provides the best balance between satisfaction of Project objectives and mitigation of environmental impacts to the extent feasible, as described and analyzed in the Final EIR. The Planning Commission further finds that the project variant under the no PG&E scenario would continue provide the best balance between the project objectives and environmental impacts, recognizing that in a no PG&E scenario, the alternatives would require a similarly modified land use and transportation program. Thus, the Planning Commission rejects the alternatives under a no PG&E scenario for the same reasons set forth below, and as described and analyzed in the Final EIR.

A. Alternatives Considered and Rejected

The following alternatives were considered during the EIR scoping period, but, for the reasons set forth in the Final EIR and in these findings, these alternatives were not carried forward for full analysis in the EIR.

1. Alternative Location

CEQA Guidelines section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects. While an alternative location might avoid the impacts associated with demolition of historic resources, the Planning Department has concluded that no feasible alternative locations exist. No comparable parcel of land is available along the bay shoreline to which the project sponsor could reasonably acquire, control, or otherwise have access.

For these reasons, the Commission finds that an Alternative Location is rejected as infeasible.

2. Preservation Alternatives

A preservation alternatives report was prepared in March 2018 consistent with guidance provided by San Francisco's Historic Preservation Commission. The report presents full and partial preservation alternatives that were developed, collaboratively by the project sponsor, Page & Turnbull, and Planning Department staff.

- No Project Alternative from Preservation Alternatives Report. This alternative consists of no new construction on the project site and retention of all existing buildings, including the historic buildings. This Alternative does not realistically depict reasonably foreseeable future conditions at the Project Site, given the location and value of the property.
- Full Preservation Alternative from Preservation Alternatives Report. This alternative consisted of rehabilitation of all six historic buildings on the Project Site and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,270 compared to 2,682 for the project). The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/ Similar

Program) included in the EIR adequately represent the range of environmental impacts that could be expected under this preservation scenario such that this alternative would be unnecessary. Therefore, this alternative was rejected from further consideration.

- Full Preservation Alternative A from Preservation Alternatives Report. Similar to the Full Preservation Alternative, this alternative consisted of rehabilitation of all six historic buildings on the project and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,663 compared to 2,682 for the project). The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/ Similar Program) included in the EIR adequately represent the range of environmental impacts that could be expected under this preservation scenario such that this alternative would be unnecessary. Therefore, this alternative was rejected from further consideration.
- Full Preservation Alternative B from Preservation Alternatives Report. Similar to the Full Preservation Alternative, this alternative consisted of rehabilitation of all six historic buildings on the project and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,140 compared to 2,682 for the project) and a reduced amount of open space (18 percent open space compared to 22 percent for the project). The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/Similar Program) included in the EIR adequately represent the range of environmental impacts that could be expected under this preservation scenario. Further, the reduction in open space component under this alternative would not reduce any significant impacts of the project variant. Therefore, this alternative was rejected from further consideration.
- Partial Preservation Alternative A from Preservation Alternatives Report. This alternative consisted of rehabilitation of Station A and the Boiler Stack, retention of the Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This variation from the Project would not reduce any significant impacts of the project variant. The Planning Department also determined that Alternative D (Partial Preservation 1) included in the EIR would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.
- Partial Preservation Alternative B from Preservation Alternatives Report. This alternative consisted of rehabilitation of the Meter House, the Compressor House, and the Boiler Stack, retention of the Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. The Planning Department determined that Alternative F (Partial Preservation 3) included in the EIR would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.

- Partial Preservation Alternative C from Preservation Alternatives Report. This alternative consisted of retaining and building within the façades of the Meter House and the Compressor House, constructing a glass wall to envelope the historic façades of Station A and new construction above Station A, rehabilitation of the Boiler Stack, retention of Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the project variant. While similar to Alternative G, this alternative included a glass wall of new construction to envelope the historic façades of Station A to provide more usable floor plates. This variation from the project and Alternative G would not serve to reduce any significant impacts of the project. Therefore, the Planning Department determined that Alternative G (Partial Preservation 4) included in the EIR would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.
- Other Partial Preservation Alternatives from Preservation Alternatives Report. One partial preservation concept considered consisted of rehabilitating and/or relocating only the Gate House. This concept was rejected because it would not avoid or lessen significant impacts to historic resources on the site and because it would mitigate significant impacts to a lesser extent than partial preservation Alternatives D, E, F, and G included in the EIR. Another concept considered would retain the exterior character-defining features of the Compressor House and the Meter House, but would relocate the buildings elsewhere on the project site; this concept was rejected because the feasibility of relocating either of these masonry buildings is unknown due to site constraints and their deteriorated condition such that rehabilitating the relocated structures to Secretary of Interior's standard is questionable. Therefore, these concepts were rejected from further consideration because they would not avoid or lessen significant impacts to historic resources on the site, would mitigate significant impacts to a lesser extent than partial preservation Alternatives D, E, F, and G included in the EIR, and/or would not be feasible.

The Commission concurs with the findings in the EIR, and rejects these preservation alternatives as infeasible because they would not avoid significant impacts of the Project and/or are adequately represented by other alternatives considered in the EIR.

3. No Office, No Hotel Alternative

This concept was raised during the scoping period for the EIR and was suggested in the context of concerns with housing/jobs balance and the lack of housing in San Francisco. This concept was rejected because it would not reduce identified significant environmental impacts of the Project, including impacts to cultural resources, air quality, and construction and operations noise. This concept also would not meet Objective 1 to the same degree as the project variant because it would not provide a mix of uses, including office and hotel uses, and also would not achieve Objective 16.

The Commission concurs with the findings in the EIR, and rejects this alternative as infeasible because it (1) would not avoid significant impacts of the Project, and (2) fails to meet several of the Project's basic objectives.

4. Design Alternatives

As part of project development, the Project Sponsor considered numerous design and layout concepts for the Project Site. As none of these concepts were developed for the purpose of reducing significant environmental impacts, the Planning Department did not consider them as alternatives as part of the CEQA environmental review.

5. New Construction Adjacent to Station A Turbine Hall

A comment on the EIR suggested that adjacent new construction could be developed on the footprint of the former Boiler Hall, which could also provide an opportunity for seismic strengthening of the Turbine Hall. The footprint of the former Boiler Hall is at the location of the project's proposed Louisiana Paseo open space and also extends into the western portion of the project's Block 7 and Block 11, as well as the western portion of Power Station Park. Therefore, changes to the site plan would be necessary that would be likely to impair the achievement of basic project objectives. Furthermore, new construction adjacent to the Station A Turbine Hall would not reduce effects on Station A to a greater degree than other fully analyzed alternatives that would preserve all or some portions of the Station A Turbine Hall (Alternatives B, C, and D). Therefore, this alternative was rejected from further consideration.

The Commission concurs with the findings in the EIR, and rejects this alternative as infeasible because it would not avoid significant impacts of the Project and would impair the achievement of basic project objectives.

B. Alternatives Considered in the EIR

The following Alternatives were fully considered and compared in the Final EIR:

1. Alternative A: No Project/Code Compliant Alternative

As required by CEQA Guidelines section 15126.6(e), a no project alternative is evaluated in this EIR to allow decision-makers to compare the environmental effects of approving the proposed project with the effects of not approving the project. The no project alternative is "the circumstance in which the Project does not proceed." (CEQA Guidelines section 15126.6(e)(3)(B)). Due to the desirable location and the value of the land, the Project Sponsor (and owner of the Power Station sub-area) has indicated that if the Project does not proceed, the Project Site would not remain in its current state of limited temporary uses and vacant buildings, but instead would be developed to the extent permitted by existing land use and Planning Code designations.

Due to the limited development potential under the existing Zoning Code and land use designations, this alternative assumes that the Project Sponsor would not seek to partner with PG&E in the development of the adjacent PG&E sub-area and that the 4.8-acre PG&E sub-area would remain in its current use as storage and housing for power transmission equipment. Thus, Alternative A would consist of development of a total of 22.9 acres compared to the 29 acres under the project variant.

Under the No Project/Code Compliant Alternative, the Project Site would be developed with 87,655 gross square feet (gsf) of commercial uses (general office), 1,088,735 gsf of Production, Distribution, and Repair uses, and 20,768 gsf of retail uses. The retail uses would be comprised of 3,131 gsf of general retail, 7,054 gsf of sit-down restaurant, and 10,583 gsf of quick service restaurant. There would be no residential uses, and no commercial uses designated for R&D/life sciences uses, since these uses are either not principally permitted or allowed under the existing zoning district controls. There would be 274,400 gsf of parking, providing 784 parking spaces, but no centralized parking facility would be developed. Total building area would be 1,471,558 gsf. All buildings would be 40 feet in height, consistent with the existing height limit. This alternative would include 4.4 acres of open space, including a rooftop playing field on one of the commercial buildings. Similar to the project variant, this alternative is assumed to extend the Blue Greenway and Bay Trail through the Project Site. However, there would be no dock or associated wharf and gangway along the bay shoreline.

The No Project/Code Compliant Alternative assumes that Station A, the Compressor House, the Gate House, the Meter House, and the Unit 3 Power Block would be demolished to enable the redevelopment of the site with new, code compliant land uses. This alternative assumes that the Boiler Stack would be retained and repurposed for retail uses, though not necessarily rehabilitated in accordance with the Secretary of Interior's Standards.

Alternative A would avoid or reduce some—but not all—of the significant impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant:

- Significant and unavoidable impacts on Muni operations and capacity, both project-specific and cumulative level, would be reduced to less than significant due to reduced number of transit trips.
- Significant and unavoidable impacts from construction-related increases in ambient noise levels to future onsite receptors would be reduced to less than significant due to the absence of residential uses on the site.
- Significant and unavoidable impacts from construction-related plus overlapping operational criteria air pollutant emissions, operations-related criteria air pollutant emissions, and cumulative regional air quality impacts would be reduced to less than significant with mitigation due to the 73 percent reduction in building square footage and associated reduction in vehicle trips.
- Significant and unavoidable impacts from interim wind hazards would be reduced to less than significant due to the reduced building heights.

However, because Alternative A would involve development on a site that is currently not in active use (other than ongoing remediation and temporary office uses), many of the same significant and unavoidable impacts and mitigation measures identified for the project variant would be applicable to Alternative A.

Alternative A also fails to meet several of the Project's basic objectives. The Alternative would not meet Objective 1. While it would provide a mix of general office, PDR, and retail uses, support a daytime population, and provide employment opportunities, the No Project/Code Compliant Alternative would not provide the full mix of diverse land uses targeted under this objective, since it would not include any residential or hotel uses or commercial uses designated for R&D/life sciences that together with office, PDR, and retail uses would constitute a "vibrant neighborhood retail district." Further, Alternative A would not meet most of the other project objectives, including Objectives 4, 5, 6, 8, 9, 12, and 13. It is assumed, however, that this alternative would meet the objectives related to resiliency to sea level rise and earthquakes and sustainable development.

The Commission concurs with these findings in the EIR, and rejects this alternative as infeasible because it (1) would fail to avoid several significant and unavoidable impacts of the project variant, and (2) fails to meet most of the basic Project Objectives. For these reasons, each of which is independently sufficient, the Commission rejects Alternative A in favor of the project variant.

2. Alternative B: Full Preservation/Reduced Program Alternative

The Full Preservation/Reduced Program Alternative would retain and rehabilitate in accordance with the Secretary of Interior's Standards all six onsite historic structures: Station A, the Meter House, the Compressor House, the Gate House, the Unit 3 Power Block, and the Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development reduced in all aspects to about two thirds the size of the project variant, thereby reducing the magnitude of both construction and operational impacts, but still retaining the diversity of land uses under the Project. Building heights under this alternative would be between 45 to 120 feet, with one building at a height of 200 feet.

Alternative B would avoid one of the significant impacts identified for the project variant – the impact to the onsite historic resources. Alternative B would not avoid any other significant impact identified for the project variant, although it would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant:

- Significant and unavoidable impacts on transit operations, both at a project-specific and cumulative level, would be reduced to less than significant due to the substantial reduction in vehicle trips.

Alternative B would partially meet Objective 1, to redevelop the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. However, the intensity of those uses and opportunities would be reduced by about one third. Alternative B would meet many of the project objectives, including Objectives 2, 5, 6, 13, and 16. However, it would only partially meet other objectives, including those related to increasing the city's housing supply (would provide two thirds the amount of the proposed project) (Objective 4), connecting to the Pier 70 Mixed-Use District project due to grade

changes at the Meter House and the Compressor House (Objective 8), and constructing a substantial amount of PDR uses (would provide two thirds the amount of the proposed project) (Objective 12).

The Planning Commission has reviewed and considered an analysis by EPS, titled “Potrero Power Plant Development Feasibility Analysis of Historic Preservation Alternatives,” dated September 9, 2019, and included in the administrative record for these proceedings which evaluated the financial feasibility of each Project alternative. Among other financial conclusions in the memorandum, the memorandum indicated that “the typical feasibility range [for unleveraged internal rate of return (IRR)] [is] about 18 percent and above for projects of comparable development risk and complexity” as the project variant. However, due to the reduced scope of development and the greatly increased costs to preserve and rehabilitate all of the historic structures on the site, the memorandum found that the Full Preservation/Reduced Program Alternative would result in a net loss of revenue and an unleveraged IRR of negative 0.2 percent, well below the typical IRR, and below the project variant IRR of 8.3 percent. Therefore, the Alternative is not financially feasible. The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban in a memorandum dated October 2, 2019, found that the analysis prepared by EPS was “generally reasonable and appropriate.” This peer review is also included in the administrative record for these proceedings.

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid several significant and unavoidable impacts of the project variant, (2) fails to meet several of the basic Project Objectives to the same extent as the project variant, and (3) would be financially infeasible because it would result in a substantial net loss of revenues for the project and therefore does not provide a commercially reasonable rate of return. For these reasons, each of which is independently sufficient, the Commission rejects Alternative B in favor of the project variant.

3. Alternative C: Full Preservation/Similar Program Alternative

The Full Preservation/ Similar Program Alternative would retain and rehabilitate in accordance with the Secretary of Interior’s Standards all six onsite historic structures: Station A, the Meter House, the Compressor House, the Gate House, the Unit 3 Power Block, and the Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development program similar in magnitude to the project variant, and would specifically include about the same number of residential units as the project. Building heights under this alternative would be between 65 to 240 feet, with two buildings with heights of 300 feet.

Alternative C would avoid one of the significant impacts identified for the project variant– the impact to the onsite historic resources. Alternative C would not avoid any other significant impact identified for the project variant, although it would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on individually eligible historic resources would be avoided by retaining and rehabilitating the onsite historic resources, and implementation of vibration monitoring and vibration control mitigation measures would reduce this impact to less than significant.

In addition, there is the potential for Alternative C to have an additional significant and unavoidable impact associated with wind hazards at buildout, at both a project-specific and cumulative level because of the additional towers at 300 feet in height.

Alternative C would meet Objective 1 to the same degree as the project variant, with only a slight reduction in the amount of office uses. Alternative C would meet most of the Project objectives, including Objectives 2, 4, 5, 6, 12, 13, and 16. However, it would only partially meet the objectives related to connecting to the Pier 70 Mixed-Use District project (Objective 8) due to grade changes at the Meter House and the Compressor House.

With two buildings at 300 feet in height, as compared to the project variant with one 240-foot tower, one 220-foot tower, and one 180-foot tower, Alternative C also would be less compatible with the General Plan Urban Design Element, which provides that heights for new development should complement the City pattern, the resources to be preserved, and the neighborhood element.

Among other financial conclusions, the EPS financial feasibility analysis described above found that largely due to the greatly increased costs to preserve and rehabilitate all of the historic structures on the site, the Full Preservation/Similar Program Alternative would result in an estimated unleveraged IRR of 1.3 percent and a significant loss in net profit. Therefore, the memorandum found that the Alternative does not provide a commercially reasonable rate of return and is not financially feasible. The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban found that the analysis prepared by EPS was "generally reasonable and appropriate."

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid several significant and unavoidable impacts of the project variant, (2) would have additional significant and unavoidable impacts with respect to wind, (3) fails to meet several of the basic Project Objectives to the same extent as the project variant, (4) is financially infeasible because it would result in an unleveraged IRR of 1.3 percent and a significant reduction in net profit, and therefore does not provide a commercially reasonable rate of return, and (5) the alternative's building heights are less compatible with the Urban Design Element of the General Plan than building heights proposed by the project variant. For these reasons, each of which is independently sufficient, the Commission rejects Alternative C in favor of the project variant.

4. Alternative D: Partial Preservation 1 Alternative

Similar to the project variant, Alternative D would retain Station A. However, unlike the project variant, Alternative D would rehabilitate Station A's exterior character-defining features in accordance with the Secretary of Interior's Standards. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate a development program

similar in magnitude to the project variant. Three historic structures—the Meter House, the Compressor House, and the Gate House—would be demolished. Alternative D would retain the Unit 3 Power Block for hotel use. Also, as with the Project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the Project, it would also be rehabilitated in accordance with the Secretary of the Interior’s Standards. Building heights under this alternative would be between 65 to 180 feet, with one building at 300 feet tall.

Although it would reduce the severity of some significant impacts, Alternative D would not eliminate any of the significant and unavoidable impacts of the project variant.

Alternative D would meet Objective 1 to the same degree as the project variant, with a slight reduction in residential and office uses. Alternative D would meet most of the project objectives, including Objectives 2, 5, 6, 8, 12, 13, and 16. However, it would not meet Objective 4 to the same extent as the project variant.

With heights up to 300 feet, as compared to the project variant’s maximum height of 240 feet, Alternative D also would be less compatible with the General Plan Urban Design Element, which provides that heights for new development should complement the City pattern, the resources to be preserved, and the neighborhood element.

Among other financial conclusions, as indicated in the EPS financial feasibility analysis, largely due to the increased costs of rehabilitating Station A and the Boiler Stack to the Secretary of Interior’s Standards, the Partial Preservation I Alternative would result in an estimated unleveraged IRR of 3.5 percent and a significant loss in net profit. Therefore, the memorandum found that the Alternative does not provide a commercially reasonable rate of return and is not financially feasible. The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban found that the analysis prepared by EPS was “generally reasonable and appropriate.”

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid any significant and unavoidable impacts of the project variant, (2) fails to meet several of the basic Project Objectives to the same extent as the project variant, (3) is not as financially feasible because it results in an unlevered IRR of 3.5 percent and significant loss in net profit, and therefore does not provide a commercially reasonable rate of return, and (4) the alternative’s building heights are less compatible with the Urban Design Element of the General Plan than building heights proposed by the project variant. For these reasons, each of which is independently sufficient, the Commission rejects Alternative D in favor of the project variant.

5. Alternative E: Partial Preservation 2 Alternative

Alternative E would retain the southern portion of Station A and rehabilitate all or a portion of the exterior character-defining features of the remaining portion of the structure in accordance with the Secretary of Interior’s Standards to the extent feasible. Building floors would be added to the open volume interior space of the remaining portion of Station A. The southern portion of Station

A was selected because there are more character-defining features at that end, and it would replace a 125-foot-tall office building. Otherwise, this alternative generally follows the same land use mixes, heights, and configurations as the project, including demolition of the Meter House, the Compressor House, the Gate House, and northern portion of Station A. Similar to the project variant, Alternative E would retain the Unit 3 Power Block for hotel use. Also, as with the project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards. Building heights under this alternative would be between 65 to 180 feet, with one building at 300 feet tall.

Alternative E would have similar impacts as the project variant and would meet the basic Project objectives.

However, with heights up to 300 feet, as compared to the project variant's maximum height of 240 feet, Alternative E also would be less compatible with the General Plan Urban Design Element, which provides that heights for new development should complement the City pattern, the resources to be preserved, and the neighborhood element.

With respect to historic resources, Alternative E is substantially similar to the project variant and was used as a basis for development of the project variant. Alternative E was developed to avoid the significant and unavoidable impacts of the proposed project on the Third Street Industrial District resulting from demolition of Station A. Among other financial conclusions, the EPS financial feasibility analysis found that as described in the DEIR, Alternative E would result in an estimated unleveraged IRR of 5.8 percent and a significant loss in net profit. Therefore, the memorandum found that the Alternative would not result in a commercially reasonable rate of return and is not financially feasible. The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban found that the analysis prepared by EPS was "generally reasonable and appropriate."

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid any significant and unavoidable impacts of the project variant, (2) is not financially feasible because it results in an unlevered IRR of 5.8 percent and a loss in net profit, and therefore does not provide a commercially reasonable rate of return, and (3) the Alternative's building heights are less compatible with the Urban Design Element of the General Plan than building heights proposed by the project variant. For these reasons, each of which is independently sufficient, the Commission rejects Alternative E in favor of the project variant.

6. Alternative F: Partial Preservation 3 Alternative

Alternative F would retain the Compressor House and the Meter House and rehabilitate all or a portion of their exterior character-defining features in accordance with the Secretary of Interior's Standards. This alternative would incorporate these structures into a development program similar in magnitude to the project variant. Two historic structures—Station A and the Gate House—would be demolished. Similar to the project, Alternative F would retain the Unit 3 Power Block for a hotel use. Also, as with the project, the Boiler Stack would be retained and repurposed as a

ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the project variant, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards. Building heights under this alternative would be between 65 to 180 feet, with one building at 300 feet tall.

Although it would reduce the severity of some impacts, Alternative F would not eliminate any of the significant and unavoidable impacts of the project variant. Also, there is the potential for Alternative F to have two additional significant and unavoidable impacts associated with wind hazards at buildout, at both a project-specific and cumulative level because of the massing of the 180-foot tall building at the southwest corner of the Project Site at Block 5.

Alternative F would meet Objective 1 to the same degree as the project variant, with a slight reduction in residential uses. Alternative F would meet most of the project objectives, including Objectives 2, 5, 6, 8, 12, 13, and 16. However, it would not meet Objectives 4 and 8 to the same extent as the project variant.

With heights up to 300 feet, as compared to the project variant's maximum height of 240 feet, Alternative F also would be less compatible with the General Plan Urban Design Element, which provides that heights for new development should complement the City pattern, the resources to be preserved, and the neighborhood element.

Among other financial conclusions, the EPS financial feasibility analysis found that as described in the DEIR, Alternative F would result in an estimated unleveraged IRR of 5.6 percent and a significant loss in net profit. Therefore, the memorandum found that the Alternative would not result in a reasonable rate of return and is not financially feasible. The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban found that the analysis prepared by EPS was "generally reasonable and appropriate."

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid any significant and unavoidable impacts of the project variant, (2) would have two additional significant and unavoidable impacts with respect to wind, (3) fails to meet several of the basic Project Objectives to the same extent as the project variant, (4) is not financially feasible because it results in an unleveraged IRR of 5.6 a significant loss in net profit, and therefore does not provide a commercially reasonable rate of return, and (5) the alternative's building heights are less compatible with the Urban Design Element of the General Plan than building heights proposed by the project variant. For these reasons, each of which is independently sufficient, the Commission rejects Alternative F in favor of the project variant.

7. Alternative G: Partial Preservation 4 Alternative

Alternative G would retain the façades and exterior character-defining features of Station A, the Compressor House, and the Meter House, but would include new construction within and above these buildings. A 125-foot-tall office building would extend from within the façades of the southern portion of Station A, and a 300-foot-tall residential tower would rise from within the façades of the northern portion of Station A. The ground floors within the façades of the

Compressor House and Meter House would be used for retail, with new construction extending 65 feet above the Compressor House to be used for office space. The alternative would incorporate these structures into a development similar in magnitude to the project variant. One historic structure—the Gate House—would be demolished. The major changes from the proposed project would be: (1) the parking garage with rooftop playing field would be relocated from Block 5 to Block 1, with an associated reduction in the building area of the garage and residential uses that are proposed on these blocks under the project, and (2) the 65-foot and 180-foot residential buildings adjacent to the Compressor House and Meter House would be redesigned. Similar to the project, Alternative G would retain the Unit 3 Power Block for a hotel use. Also, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the project variant, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards. Building heights under this alternative would be between 65 to 180 feet, with one building at 300 feet tall.

Although it would reduce the severity of some, Alternative G would not eliminate any of the significant and unavoidable impacts of the project variant. Also, there is the potential for Alternative G to have two additional significant and unavoidable impacts associated with wind hazards at buildout, at both a project-specific and cumulative level because of the massing of the 180-foot tall building at the southwest corner of the Project Site at Block 5.

Alternative G would meet Objective 1 to the same degree as the project variant, with a slight reduction in residential and office uses. Alternative G would meet most of the project objectives, including Objectives 2, 5, 6, 8, 12, 13, and 16. However, it would not meet Objectives 4 and 8 to the same extent as the project variant.

With heights up to 300 feet, as compared to the project variant's maximum height of 240 feet, Alternative G also would be less compatible with the General Plan Urban Design Element, which provides that heights for new development should complement the City pattern, the resources to be preserved, and the neighborhood element.

Among other financial conclusions, as indicated in the EPS financial feasibility analysis described above, due to the slight reduction in the scope of development and the increased costs of rehabilitating the Boiler Stack to the Secretary of Interior's Standards, the Partial Preservation 4 Alternative would result in an estimated unleveraged IRR of 4.2 percent and a significant loss in net profit. Therefore, the memorandum found that the Alternative does not result in a commercially reasonable rate of return and is not financially feasible. . The City retained Century Urban to conduct an independent review of the EPS financial feasibility analysis, and Century Urban found that the analysis prepared by EPS was "generally reasonable and appropriate."

The Commission concurs with these findings in the EIR, and the conclusions in the EPS and Century Urban reports, and rejects this alternative as infeasible because it (1) would fail to avoid any significant and unavoidable impacts of the project variant, (2) would have two additional significant and unavoidable impacts with respect to wind, (3) fails to meet several of the basic Project Objectives to the same extent as the project variant, (4) is not financially feasible because it results in an unlevered IRR of 4.2 percent and a significant loss in net profit, and therefore does not provide a commercially reasonable rate of return, and (5) the alternative's building heights are

less compatible with the Urban Design Element of the General Plan than building heights proposed by the project variant. For these reasons, each of which is independently sufficient, the Commission rejects Alternative G in favor of the project variant.

VI. STATEMENT OF OVERRIDING CONSIDERATIONS

Pursuant to CEQA section 21081 and CEQA Guideline 15093, the Commission hereby finds, after consideration of the Final EIR and the evidence in the record, that each of the specific overriding economic, legal, social, technological and other benefits of the Project as set forth below independently and collectively outweighs each of the significant and unavoidable impacts and is an overriding consideration warranting approval of the Project. Any one of the reasons for approval cited below is sufficient to justify approval of the Project. Thus, even if a court were to conclude that not every reason is supported by substantial evidence, the Commission will stand by its determination that each individual reason is sufficient. The substantial evidence supporting the various benefits can be found in the preceding findings, which are incorporated by reference into this Section, and in the documents found in the Record of Proceedings, as defined in Section I.

On the basis of the above findings and the substantial evidence in the whole record of this proceeding, the Commission specially finds that there are significant benefits of the Project in spite of the unavoidable significant impacts, and therefore makes this Statement of Overriding Considerations. The Commission further finds that, as part of the process of obtaining Project approval, all significant effects on the environment from implementation of the Project have been eliminated or substantially lessened where feasible. The Commission has determined that any remaining significant effects on the environment found to be unavoidable are acceptable due to the specific overriding economic, technical, legal, social and other considerations set forth below.

The Project will have the following benefits:

- Addition of approximately 2,601 residential units to the City's housing stock, including affordable housing, which helps the City meet its regional housing needs allocation;
- Addition of approximately 2,601 residential units to the City's housing stock within an urban infill location in close proximity to transit and retail uses, which will assist in alleviating the effects of suburban sprawl;
- Development of a land use program that will generate no net new greenhouse gas emissions, and which will provide a model of environmentally sustainable design practices, to, among other things maximize walking, bicycling and use of public transportation, and minimize the impacts and use of private automobiles by implementing a land use program with increased residential density and a commercial neighborhood core located within comfortable walking distance of transit service and residences;
- Construction of an energy-efficient, low-impact development that utilizes sustainable design and clean energy technologies to achieve LEED gold certification;
- Development of waterfront parks, and construction of a floating dock extending out and above the tidal zone to provide access from the site to the bay for fishing and suitable recreational vessels;

- Development of approximately 6.9 acres of open space, including a Waterfront Park that will extend the Blue Greenway and Bay Trail to provide pedestrian and bicycle access along the waterfront between the Pier 70 Mixed-Use District project and the Project Site, and a rooftop soccer field;
- Construction of improvements that protect the Project Site against potential flooding due to future sea level rise in combination with storm and high tide conditions, including physical improvements to the shoreline, including rock slope revetments, berms and bulkheads, and grade elevation inland;
- Preservation of large portions of Station A (an individual and contributing historic resource), and retention of the Boiler Stack (a contributing historic resource) and possibly the Unit 3 Power Block (a contributing historic resource).
- Provision of new child care facility/ies on-site to serve Project residents and users;
- Provision of approximately 32,000 gross square feet of facilities for community members to gather for recreational, educational, social, or cultural activities;
- Provision of affordable housing contributions in amounts that exceed the amounts required pursuant to existing City ordinances, regulations and policies and that are intended to constitute 30 percent of the total number of housing units in the Project;
- Reconfiguration of the street grid within the Project Site to conform with San Francisco's Better Streets design guidelines, including the realignment of existing streets and the creation of new publicly-owned streets and publicly-accessible streets that accommodate bicycles, pedestrians and motor vehicles;
- Construction of transportation and circulation improvements, including a continuous street network, connections to the planned Pier 70 Mixed-Use District project directly north of the Project Site; new bus stop and shuttle service; and installation of traffic signals at the intersections of Illinois Street at 23rd and Humboldt streets;
- Integration of the Project Site within MUNI's local transit network by including a curbside bus layover onsite at the north side of 23rd Street between Maryland and Delaware Streets, in anticipation of a future MUNI bus route extension into the Project Site;
- Strengthening of transit connectivity to the Project Site by providing a bus shuttle service, with service of at least 15-minute (and potentially 7.5-minute) intervals during weekday morning and evening peak periods. The shuttle service would provide access between the project site, the 22nd Caltrain station and the 16th Street BART station;
- Provision of employment opportunities during construction of the Project with wages at least at the general prevailing rate of per diem wages for the type of work and geographic area. The Project would create high-wage, highly skilled jobs that pay prevailing wages and living wages as required by Public Resources Code section 21183(b)
- Creation and implementation of a Transportation Demand Management ("TDM") program, including but not limited to transit pass subsidies for residents and employees in the Project Site, to facilitate and encourage the use of transportation modes other than the private automobile, to minimize the amount of automobile traffic originating from the Project Site, and to improve traffic flow on adjacent roadways, as further described in the TDM Plan;

TABLE A
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.D Historic Architectural Resources</p> <p>Mitigation Measure M-CR-5a: Documentation</p> <p>Before any demolition or rehabilitation activities within the project site, the project sponsor shall retain a professional who meets the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare written and photographic documentation of Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3. The documentation shall be prepared based on the National Park Service's Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Historical Report Guidelines. The HABS/HAER package shall jointly document the Third Street Industrial District contributors and individually eligible resources to be demolished or otherwise adversely affected. This type of documentation is based on a combination of both HABS/HAER standards and National Park Service's policy for photographic documentation, as outlined in the National Register and National Historic Landmarks Survey Photo Policy Expansion.</p> <p>The documentation shall be scoped and approved by Planning Department Preservation staff and will include the following:</p> <ul style="list-style-type: none"> <i>Measured Drawings:</i> A set of measured drawings that depict the existing size, scale, and dimension of Station A, the Compressor House, the Meter House, the Gate House, and the Unit 3 Power Block. Planning Department Preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). Planning Department Preservation staff will assist the consultant in determining the appropriate level of measured drawings; <i>HABS-Level Photography:</i> Either HABS standard large-format or digital photography shall be used. The scope of the photographs shall be reviewed by Planning Department Preservation staff for concurrence. All digital photography shall be conducted according to the latest National Park Service standards. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography. Photograph views for the dataset shall include (a) contextual views; (b) views of each side of each building and interior views; (c) oblique views of the buildings; and (d) detail views of character-defining features, including features on the interior. All views shall be referenced on a photographic key. This photographic key shall be on a map of the property and shall show the photograph number with an arrow to indicate the direction of the view. Historical photographs shall also be collected, reproduced, and included in the dataset; and <i>HABS Historical Report:</i> A written historical narrative and report, per HABS Historical Report Guidelines. <i>Print-On-Demand Book:</i> A Print On Demand softcover book will be produced that includes the content of the HABS historical report, historical photographs, HABS-level photography, measured drawings and field notes. <p>The project sponsor shall transmit such documentation to the San Francisco Planning Department, the Port of San Francisco, and to repositories including the History Room of the San Francisco</p>	<p>Project sponsor and qualified historic preservation professional who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the <i>Secretary of the Interior's Professional Qualification Standards</i> (36 Code of Federal Regulations, Part 61)</p>	<p>Prior to the issuance of a site permit, demolition permit, or any other Department of Building Inspection in connection with Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3</p>	<p>Planning Department Preservation Technical Specialist to review and approve HABS/HAER documentation</p>	<p>Considered complete upon submittal of final HABS/HAER documentation to the Preservation Technical Specialist and determination from the Preservation Technical Specialist that documentation is complete</p>

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
Public Library, San Francisco Heritage, Internet Archive, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. All documentation will be reviewed and approved by the San Francisco Planning Department's Preservation staff prior to granting any demolition or site permit.				
<p>Mitigation Measure M-CR-5b: Video Recordation</p> <p>Prior to any demolition or substantial alteration of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall retain a qualified professional to undertake video documentation of the affected historical resource and its setting. The documentation shall be conducted by a professional videographer with experience recording architectural resources. The professional videographer shall provide a storyboard of the proposed video recordation for review and approval by Planning Department preservation staff. The documentation shall be narrated by a qualified professional who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). The documentation shall include as much information as possible—using visuals in combination with narration—about the materials, construction methods, current condition, historical use, and historic context of the historic resources.</p> <p>Archival copies of the video documentation shall be submitted to the Planning Department, and to repositories including: the San Francisco Planning Department, the Port of San Francisco, the San Francisco Public Library, San Francisco Heritage, Prelinger Archives, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. This mitigation measure would supplement the traditional HABS documentation, and would enhance the collection of reference materials that would be available to the public and inform future research.</p> <p>The video documentation shall be reviewed and approved by the San Francisco Planning Department's preservation staff prior to issuance of a demolition permit or site permit or issuance of any Building Permits for the project.</p>	Project sponsor, professional videographer, and qualified narrator who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61)	Prior to the issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection in connection with Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3, or other contributor to a historic district	Planning Department Preservation Technical Specialist	Considered complete upon submittal of final video documentation to the Preservation Technical Specialist and determination from the Preservation Technical Specialist that documentation is complete
<p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage</p> <p>Prior to any demolition or rehabilitation activities that would remove character-defining features of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall consult with planning department preservation staff as to whether any such features may be salvaged, in whole or in part, during demolition/alteration. The project sponsor shall make a good faith effort to salvage materials of historical interest to be utilized as part of the interpretative program. This could include reuse of the Greek Revival façade of the Machine Shop Office, Gate House or a portion of the Unit 3 Power Block. Following any demolition or rehabilitation activities within the project site, the project sponsor shall provide within publicly accessible areas of the project site a permanent display(s) of interpretive materials concerning the history and architectural features of the individual historical resources</p>	Project sponsor, qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards, and an exhibit designer or landscape architect with historical interpretation design experience.	Adequacy of collection confirmed by the Planning Department Preservation Technical Specialist prior to demolition or rehabilitative activities. Interpretative display to be installed prior to the issuance of a Certificate of Occupancy	Planning Department Preservation Technical Specialist to review and approve salvaged material and interpretive display	Considered complete upon installation of display

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
and Third Street Industrial District. The content of the interpretive display(s) shall be coordinated and consistent with the site-wide interpretive plan prepared in coordination with planning department preservation staff, and may include the display of salvaged features recovered through the process described above. The specific location, media, and other characteristics of such interpretive display(s) shall be presented to planning department preservation staff for review prior to any demolition or removal activities. The historic interpretation plan shall be prepared in coordination with an architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards and an exhibit designer or landscape architect with historical interpretation design experience. As feasible, coordination with local artists should occur. Interpretive display(s) shall document both the Third Street Industrial District and individually eligible resources to be demolished or rehabilitated. The interpretive program should also coordinate with other interpretive displays currently proposed along the Bay, specifically at Pier 70, those along the Blue Greenway, and others in the general vicinity. The interpretive plan should also explore contributing to digital platforms that are publicly accessible. A proposal describing the general parameters of the interpretive program shall be approved by planning department preservation staff prior to issuance of a site permit. The substance, media and other elements of such interpretive display shall be approved by planning department preservation staff prior to issuance of a Temporary Certificate of Occupancy.				
Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack Prior to the issuing of building permits associated with modifications to the exterior of the Boiler Stack, planning department preservation staff shall review the proposed design and confirm that it conforms to the Secretary of the Interior's Standards for Rehabilitation and the Design for Development standards and guidelines.	Project sponsor and a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61)	Prior to the issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection in connection with the Boiler Stack	Planning Department Preservation Technical Specialist to review and approve design	Considered complete upon design approval from the Preservation Technical Specialist
Mitigation Measure M-CR-5e: (Dependent on approval of Proposed Project OR Project Variant) Proposed Project: Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish measures to protect the	Project sponsor and a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61)	Construction specifications to be developed prior to the issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection in connection with the Boiler Stack	Planning Department Preservation Technical Specialist to review and approve preservation and protection plan, specifications, monitoring schedule, and other supporting documents	Considered complete upon acceptance by Planning Department of construction specifications to avoid damage to the Boiler Stack

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with the Boiler Stack, to minimize construction-related damage to the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment would occur in proximity to the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff.	Project sponsor and a qualified architectural historian who meets the <i>Secretary of Interior's Professional Qualification Standards</i> (36 Code of Federal Regulations Part 61)	Construction specifications to be developed prior to the issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection in connection with Station A and the Boiler Stack	Planning Department Preservation Technical Specialist to review and approve preservation and protection plan, specifications, monitoring schedule, and other supporting documents	Considered complete upon acceptance by Planning Department of construction specifications to avoid damage to Station A and the Boiler Stack
<p>Project Variant:</p> <p>Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack</p> <p>Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting portions of Station A and the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish measures to protect the retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with Station A and the Boiler Stack, to minimize construction-related damage to Station A and the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of Station A and the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment would occur in proximity to Station A and the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff.</p>				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

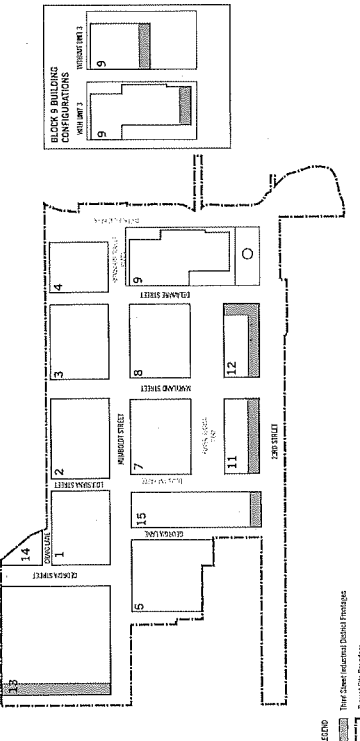
Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.D Historic Architectural Resources (cont.)</p> <p>Mitigation Measure M-CR-6: Design Controls for New Construction</p> <p>The Special Use District (SUD) and Design for Development (D for D) shall contain design standards and guidelines that ensure that new construction and site development within the SUD shall be compatible with the character of the Third Street Industrial District. Beyond the site-wide standards and guidelines developed for open space, buildings, and streetscapes in the D for D, the D for D shall contain design controls for the Third Street Industrial District, as outlined below (see site-wide design controls below).</p> <p>Additional design standards shall apply to the western façades of new buildings fronting Illinois Street, the southern façades of new buildings fronting 23rd Street, and the eastern and/or southern façades of new buildings fronting the Boiler Stack (see block and frontage-specific design controls below and Figure M-CR-6, Site Frontages Subject to Design Controls). These façades would all face contributors to the Third Street Industrial District. The additional design standards that shall apply specifically to those frontages are included below.</p>  <p style="text-align: center;">Figure M-CR-6 Site Frontages Subject to Design Controls</p> <p>These design controls in the D for D shall be compatible with the Secretary of the Interior Standards for Rehabilitation, Standard 9. Standard 9 states that new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the integrity of the historic district and its environment.</p>	Project sponsor and a qualified architectural historian	Review of new construction plans prior to the issuance of building permits	Planning Department and Planning Department staff and Preservation and Technical Specialist to review and approve design	Considered complete upon design approval from the Planning Department Preservation staff

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
Review Process				
<p>New construction in the Special Use District will be subject to administrative design review prior to the issuing of building permits. Planning staff along with Preservation staff will review new projects to ensure compatibility with the Third Street Industrial District as determined in the above standards and guidelines and identified in the D for D.</p> <p>The D for D shall contain the following Third Street Industrial District Frontage Design Controls:</p> <ul style="list-style-type: none"> • <i>Block and Frontage-Specific Design Controls Ground Floor Height for Blocks 11, 12, and 13: For Ground Floor of Blocks 11 and 12 facing 23rd Street Sugar Warehouses and Block 13 facing American Industrial Center all ground floor spaces shall have a minimum floor-to-floor height of 15 feet as measured from grade.</i> • <i>Height + Massing along 23rd and Illinois street frontages. In order for 23rd and Illinois streets to appear balanced on either side, new construction shall respect existing heights of contributors to the Third Street Industrial District by referencing their heights with an upper level 10-foot setback at approximately 65 feet.</i> • <i>Awnings on Blocks 10, 11, 12, and 13. An awning shall be provided on the southern facades of Blocks 10, 11, and 12 that face 23rd Street at a height of 15 to 25 feet above sidewalk grade to reference the industrial awning at the westernmost Sugar Refinery Warehouse. Awnings at this location may project up to 15 feet into the public realm. Should the southern façade of Station A be retained, an awning on Block 10 would not be required. For Block 13 frontages facing Illinois Street, canopies and awnings should only be located at the retail land use at the corner of Illinois and 22nd streets.</i> <p>The character, design and materials used for such awnings shall be industrial in character and design, suggestions are the following:</p> <ul style="list-style-type: none"> - They should be flat or pitched, and should not be arched. The functional supporting structure and/or tieback rods should be clearly read [i.e., remain apparent to the observer]. - Materials used for canopies and awnings should be utilitarian. Suggested materials include wood, standing seam or louvered metal panels, and corrugated metal. • <i>Openings along 23rd and Illinois street frontages. To the extent allowed by the Department of Public Health, large doors, such as sliding or roll-up doors that facilitate the movement of people, equipment, and goods in and out of the ground floor of new construction on Blocks 10-13 shall be incorporated along 23rd Street and Illinois Street.</i> • <i>Special Corners on Block 12. To frame the view of the iconic Boiler Stack, the northeast corner of Block 12 should include the use of high quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include:</i>				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
<ul style="list-style-type: none"> – Volumetric shaping of the area of a building within 15-feet of the northeastern corner of Block 12 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • <i>Special Corners Block 9 without Unit 3.</i> To create an open and inviting entrance to Waterfront Park and Stack Plaza from Delaware Street and Power Station Park, the southwest corner of Block 9 without Unit 3 should use high-quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include: <ul style="list-style-type: none"> – Volumetric shaping of any building in the area within 15-feet of the southwest corner of Block 9 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • Block 9 without Unit 3. For reference to the Historic Stack, and to create more physical space between the Stack and new construction, the building of Block 9 without Unit 3 shall be designed such that the overall bulk is reduced by at least 10 percent from the maximum permitted floor area, with a focus along the southern façade of the new building, facing the Stack. A potential distribution of bulk reduction, for example, could result in an 8 percent reduction along the southern façade with a 2 percent reduction elsewhere. <p>The building should interact meaningfully with the Boiler Stack, such as referencing the existing relationship between it and Unit 3 (i.e., the simple, iconic form of the Boiler Stack in contrast to the highly complex, detailed form of the Unit 3 Power Block). Retain the existing exhaust infrastructure connecting the Unit 3 Power Block with the Boiler Stack and incorporating it into the new structure as feasible. Consider preserving other elements of the Unit 3 Power Block, such as portions of the steel gridded frame structure, in new construction.</p> <ul style="list-style-type: none"> • <i>Architectural Features on Blocks 10, 11, 12, and 13.</i> Regularly-spaced structural bays should be expressed on the exterior of the lower massing through the use of rectangular columns or pilasters, which reference the rhythm of loading docks on the Western Sugar Refinery Warehouses and American Industrial Center. Bay widths shall be no larger than 30 feet on center. <p>Architectural features such as cornice lines, belt courses, architectural trim, or change in materiality or color should be incorporated into the building design to reference heights and massing of the Western Sugar Refinery Warehouses on 23rd Street and American Industrial Center on Illinois Street at areas of the façade that are not required to be set back.</p> <ul style="list-style-type: none"> • <i>Third Street District Fenestration.</i> Operable windows shall be single or double hung wood sash, or awning, pivot, or other industrial style steel or aluminum fenestration. Casement windows shall be avoided at lower building massing. Divided lite windows are appropriate. Ground level glazing shall incorporate transom windows if not utilizing roll up or full height sliding doors. 				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
<p>Upper level glazing shall consist of regular repeated punched openings with divided lites. Punched openings shall be rectangular in proportion; an exception is the use of segmentally arched openings if the building material is brick.</p> <ul style="list-style-type: none"> <i>Third Street District Building Rooftops.</i> Rooftops shall reflect the historic industrial character of the district and include flat, monitor, or shallow shed roofs. Gable or hipped roofs shall be avoided as primary features. <p>The D for D shall contain the following Site Wide Design Controls:</p> <ul style="list-style-type: none"> <i>Recommended Materials.</i> Recommended materials should be incorporated into building design. Recommended materials include brick, concrete, copper, steel, glass, smooth stucco and wood. Avoid using veneer masonry panels except as described in the Depth of Façade, below. Avoid using smooth, flat, or minimally detailed glass curtain walls; highly reflective glass; coarse-sand finished stucco as a primary siding material; bamboo wood siding as a primary siding material; laminated timber panels; or black and dark materials should not be used as a predominate material. Where metal is used, selection should favor metals with naturally occurring patina such as copper, steel, or zinc. Metals should be matte in finish. Where shiny materials are used, they should be accent elements rather than dominant materials, and are generally not encouraged. <i>Depth of Façade.</i> The façade should be designed to create a sense of durability and substantiality, and to avoid a thin or veneer-like appearance. Full brick or masonry is a preferred material. If thin brick or masonry or panel systems are used, these materials should read as having a volumetric legibility that is appropriate to their thickness. For example, masonry should turn the corner at a depth that is consistent with the typical depth of a brick. <p>Windows and other openings are an opportunity to reinforce the volumetric legibility of the façade, with an appropriate depth that relates to the material selected. For example, the depth of the building frame to the glazing should be sufficiently deep to convey a substantial exterior wall, and materials should turn the corner into a window reveal.</p> <ul style="list-style-type: none"> <i>Quality and Durability.</i> Exterior finishes should have the qualities of permanence and durability found in similar contextual building materials used on neighboring sites and in the Central Waterfront. Materials should be low-maintenance, well suited to the specific maritime microclimate of the neighborhood, and able to naturally weather over time without extensive maintenance and upkeep. Materials characteristic of the surrounding context, such as brick, concrete, stone, wood, and glass, and, are envisioned on site and are good candidates to meet durability needs. <p>The D for D shall contain the following Street and Open Spaces Design Controls:</p> <ul style="list-style-type: none"> <i>Stack Plaza.</i> No more than one-third of the area within 45 feet of the Boiler Stack shall be planted. Paving and hardscape elements shall incorporate industrial elements and materials into the design. Design elements should use simple geometric forms, regular or repeating paving patterns and utilitarian materials such as simple masonry pavers or salvaged masonry units if feasible and safe for public use. 				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.D Historic Architectural Resources (cont.)				
<p>Stack Plaza design elements, such as planters and native planting, should be kept low to the ground to complement and not distract from the Boiler Stack. Surfaces should not be designed with elaborately applied patterns. Any patterning should be the pragmatic result of the use of unit pavers or concrete score joints.</p> <ul style="list-style-type: none"> • 23rd Street Streetscape. The streetscape design of 23rd Street should balance the historic utilitarian character of the Third Street Industrial District with welcoming design gestures for this important entrance to the Potrero Power Station development. To that end, the following guidelines shall be followed: <ul style="list-style-type: none"> – Landscape elements should feel additive to the industrial streetscape. Examples include potted or otherwise designed raised beds of plants and trees that are placed onto paved surfaces; small tree wells within paved surfaces; green walls; and raised or lowered beds edged with industrial materials such as brick, low granite curbs, or steel. – Tree planting locations should be irregularly spaced or placed in small groupings along the street, in contrast with standard Better Street Plan requirements, in order to provide better compatibility with the historic district. – A tree and vegetation palette should be used that does not detract from the industrial character. Green walls, planter boxes, and vegetation should be considered rather than trees for storm water management. – Public art installations, such as murals, are encouraged. • Transit Bus Shelter. The bus shelter should be utilitarian in materiality and design to reflect the industrial nature of the nearby Western Sugar Refinery Warehouse buildings. The bus shelter shall be coordinated with the building design on Block 12. • 23rd Street and Illinois Paving. Sidewalk paving at 23rd Street and Illinois Street should be more industrial in character compared to sidewalk paving at other portions of the site. Consider varying sidewalk concrete score joint patterns or pavers from block to block. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. • 23rd Street Transit Island Paving. Pavement at the transit boarding island should incorporate concrete or stone pavers or enhanced cast-in-place concrete with smaller scale joint patterns for a more refined appearance. Integral color and decorative aggregates may be selected for aesthetic quality and shall meet accessible design requirements for slip-resistance. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. • Signage. Tenant signage facing contributing buildings to the Third Street Industrial District should be utilitarian in design and materiality to reflect the adjacent historic resources and strengthen the 23rd Street streetscape. Backlit signage should be avoided. 				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

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EIR Section 4.E Transportation and Circulation																							
Mitigation Measure M-TR-5: (Dependent on approval of Proposed Project OR Project Variant)	Project sponsor, a qualified transportation consultant approved by the SFMTA	Within one year of issuance of the project's first certificate of occupancy: the first monitoring of daily and p.m. peak period (4 p.m. to 7 p.m.) vehicle trips in accordance with an SFMTA and San Francisco Planning Department agreed upon monitoring and reporting plan. Ongoing: A document with the results of the annual vehicle counts shall be submitted to the Environmental Review Officer and the SFMTA for review within 30 days of the data collection, or with the project's annual TDM monitoring report as required by the TDM Plan (if the latter is preferable to ERO in consultation with the SFMTA).	Planning Department staff and SFMTA	Considered complete when eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.																			
Proposed Project:																							
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Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.E Transportation and Circulation (cont.)</p> <p>The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.</p> <p>If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City's TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project's approved TDM Plan, or, at the project sponsor's discretion, other measures not included in the City's TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.</p> <p>For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project's development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City's TDM Program shall continue to be required.</p> <p>If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making.</p> <p>The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.</p>				

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MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

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Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.E Transportation and Circulation (cont.)</p> <p>The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.</p> <p>If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City's TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project's approved TDM Plan, or, at the project sponsor's discretion, other measures not included in the City's TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.</p> <p>For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project's development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City's TDM Program shall continue to be required.</p> <p>If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making.</p> <p>The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.</p>				

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MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

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EIR Section 4.E Transportation and Circulation (cont.)				
Mitigation Measure M-TR-7: Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street In the event that the Pier 70 Mixed-Use District project does not implement improvements at the intersection of Illinois Street/22nd Street, as part of the proposed project's sidewalk improvements on the east side of Illinois Street between 22nd and 23rd streets, the project sponsor shall work with SFMTA to implement the following improvements: <ul style="list-style-type: none"> • Install a traffic signal, including pedestrian countdown signal heads at the intersection of Illinois Street/22nd Street. • Stripe marked crosswalks in the continental design. • Construct/reconstruct ADA compliant curb ramps at the four corners, as necessary. In the event that the Pier 70 Mixed-Use District project does not implement these improvements, the project sponsor shall be responsible for costs associated with design and implementation of these improvements. The SFMTA shall determine whether the SFMTA or the project sponsor would implement these improvements.	Project sponsor and SFMTA	Ongoing during project construction	ERO or other Planning Department staff along with SFMTA	Considered complete when intersection improvement is complete
EIR Section 4.F Noise and Vibration				
Mitigation Measure M-NO-1: Construction Noise Control Measures The project sponsor shall implement construction noise controls as necessary to ensure compliance with the Noise Ordinance limits and to reduce construction noise levels at sensitive receptor locations to the degree feasible. Noise reduction strategies that could be implemented include, but are not limited to, the following: <ul style="list-style-type: none"> • Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds). • Require the general contractor to locate stationary noise sources (such as the rock/concrete crusher, or compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and/or to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, to the maximum extent practicable. • Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which would reduce noise levels by as much as 10 dBA. 	Project sponsor and construction contractor	During the construction period for all measures, and prior to the issuance of each building permit for submittal of a plan to track and respond to complaints pertaining to construction noise	Planning Department, Department of Building Inspection (as requested and/or on complaint basis), Police Department (on complaint basis).	Considered complete at the completion of project construction

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.F Noise and Vibration (cont.)</p> <p>Include noise control requirements for construction equipment and tools, including specifically concrete saws, in specifications provided to construction contractors. Such requirements could include, but are not limited to, erecting temporary plywood noise barriers around a construction site, particularly where a site adjoins noise-sensitive uses; utilizing noise control blankets on a building structure as the building is erected to reduce noise levels emanating from the construction site; performing all work in a manner that minimizes noise; using equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants; and selecting haul routes that avoid residential uses.</p> <ul style="list-style-type: none"> • Prior to the issuance of each building permit, along with the submission of construction documents, submit to the Planning Department and Department of Building Inspection or the Port, as appropriate, a plan to track and respond to complaints pertaining to construction noise. The plan shall include the following measures: (1) a procedure and phone numbers for notifying the San Francisco Department of Building Inspection or the Port, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted onsite describing permitted construction days and hours, noise complaint procedures, and a complaint hotline number that shall be answered at all times during construction; (3) designation of an onsite construction compliance and enforcement manager for the project; and (4) notification of neighboring residents and non residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise-generating activities (such as pile driving and blasting) about the estimated duration of the activity. • Wherever pile driving or controlled rock fragmentation/rock drilling is proposed to occur, the construction noise controls shall include as many of the following control strategies as feasible: <ul style="list-style-type: none"> – Implement “quiet” pile-driving technology such as pre-drilling piles where feasible to reduce construction-related noise and vibration. – Use pile-driving equipment with state-of-the-art noise shielding and muffling devices. – Use pre-drilled or sonic or vibratory drivers, rather than impact drivers, wherever feasible (including slipways) and where vibration-induced liquefaction would not occur. – Schedule pile-driving activity for times of the day that minimize disturbance to residents as well as commercial uses located onsite and nearby. – Erect temporary plywood or similar solid noise barriers along the boundaries of each project block as necessary to shield affected sensitive receptors. – Implement other equivalent technologies that emerge over time. – If controlled rock fragmentation (including rock drills) were to occur at the same time as pile driving activities in the same area and in proximity to noise-sensitive receptors, pile drivers should be set back at least 100 feet while rock drills should be set back at least 50 feet (or vice-versa) from any given sensitive receptor. 				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.F Noise and Vibration (cont.)				
<ul style="list-style-type: none"> If blasting is done as part of controlled rock fragmentation, use of blasting mats and reducing blast size shall be implemented to the extent feasible in order to minimize noise impacts on nearby sensitive receptors. 				
<p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring</p> <p>The project sponsor shall undertake a monitoring program to ensure that construction-related vibration does not exceed 0.5 in/sec PPV at the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses as required pursuant to Mitigation Measures M-NO-4b (Vibration Control Measures During Controlled Blasting and Pile Driving), M-NO-4c (Vibration Control Measures During Use of Vibratory Equipment), and M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack). The monitoring program shall include the following components:</p> <ul style="list-style-type: none"> Prior to any controlled blasting, pile driving, or use of vibratory construction equipment (vibration-inducing construction), the project sponsor shall engage a historic architect or qualified historic preservation professional and a qualified acoustical/vibration consultant or structural engineer to undertake a pre-construction survey of the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource, a structural engineer or other qualified entity shall establish a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions and anticipated construction practices in use at the time. The qualified consultant shall conduct regular periodic inspections of each historical resource within 80 feet of vibration-inducing construction throughout the duration of vibration-inducing construction. The pre-construction survey and inspections shall be conducted in concert with the Historic Preservation Plan required pursuant to Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack. Prior to the start of any vibration-inducing construction, the qualified acoustical/vibration consultant or structural engineer shall undertake a pre-construction survey of any offsite structures or onsite structures constructed by the project within 80 feet of such vibration inducing construction. The qualified acoustical/vibration consultant or structural engineer shall conduct periodic inspections of all other non-historic structures throughout the duration of vibration inducing construction. The qualified historic and acoustical/structural consultant shall submit monitoring reports to San Francisco Planning documenting vibration levels and findings from regular inspections. Based on planned construction activities for the project and condition of the adjacent structures, an acoustical consultant shall monitor vibration levels at each structure and shall prohibit vibration inducing construction activities that generate vibration levels in excess of 0.5 in/sec PPV. Should vibration levels be observed in excess of 0.5 in/sec PPV or should damage to any structure be observed, construction shall be halted and alternative 	Project sponsor, structural engineer, and preservation architect	<p>Pre-Construction Assessment and Vibration Management and Monitoring Plan to be completed prior to issuance of site permit, demolition permit, or any other construction permit from the Department of Building Inspection in connection with the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses.</p> <p>Monitoring to occur during the period of major structural project construction activity, including demolition and excavation. If monitoring detects vibration levels in excess of the standard, sponsor to notify the Planning Department within 5 working days.</p> <p>Monitoring reports to be submitted at a frequency established in the monitoring plan.</p>	Planning Department Preservation Technical Specialist shall review and approve the Vibration Management and Monitoring Plan and periodic monitoring reports	Considered complete upon submittal to Planning Department of report on the Vibration Management and Monitoring Plan and effects, if any, on adjacent historical resources, after all major structural project construction activity, including demolition and excavation

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

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EIR Section 4.F Noise and Vibration (cont.)				
construction techniques put in practice, to the extent feasible. For example, smaller, lighter equipment might be able to be used or pre-drilled piles could be substituted for driven piles, if soil conditions allow.				
Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving Vibration controls shall be specified to ensure that the vibration limit of 0.5 in/sec PPV can be met at all nearby structures when all potential construction-related vibration sources (onsite and offsite) are considered. These controls could include smaller charge sizes if controlled blasting is used, pre-drilling pile holes, using the pulse plasma fragmentation technique, or using smaller vibratory equipment. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.	Project sponsor and construction contractor	During pile driving and related construction activities	Planning Department, Building Inspection	Considered complete at the completion of project construction
Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment In areas with a "very high" or "high" susceptibility for vibration-induced liquefaction or differential settlement risks, as part of subsequent site-specific geotechnical investigations, the project's geotechnical engineer shall specify an appropriate vibration limit based on proposed construction activities and proximity to liquefaction susceptibility zones. At a minimum, the vibration limit shall not exceed 0.5 in/sec PPV, unless the geotechnical engineer demonstrates, to the satisfaction of the Environmental Review Officer (ERO), that a higher vibration limit would not result in building damage. The geotechnical engineer shall specify construction practices (such as using smaller equipment or pre-drilling pile holes) required to ensure that construction-related vibration does not cause liquefaction hazards at nearby structures. The project sponsor shall ensure that all construction contractors comply with these specified construction practices. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.	Project sponsor, geotechnical engineer, and construction contractor	Plan submitted to ERO prior to use of vibratory equipment	ERO, Planning Department, and Building Inspection	Considered complete at the completion of project construction
Mitigation Measure M-NO-5: Stationary Equipment Noise Controls For all stationary equipment on the project site, noise attenuation measures shall be incorporated into the design of fixed stationary noise sources to ensure that the noise levels meet section 2909 of the San Francisco Police Code. A qualified acoustical engineer or consultant shall verify the ambient noise level based on noise monitoring and shall design the stationary equipment to ensure that the following requirements of the noise ordinance are met: <ul style="list-style-type: none"> Fixed stationary equipment shall not exceed 5 dBA above the ambient noise level at the property plane at the closest residential uses (Blocks 1, 5 - 8, 13 and possibly Blocks 4, 9, 12, and 14, depending on the use ultimately developed) and 8 dBA on blocks where commercial/industrial uses are developed (Blocks 2, 3, 10, 11, and possibly Blocks 4, 12, and 14, depending on the use ultimately developed); 	Project sponsor and qualified acoustical engineer or consultant	Prior to approval of a building permit	ERO, Planning Department, and Building Inspection	Considered complete at the completion of project construction

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.F Noise and Vibration (cont.)				
<ul style="list-style-type: none"> Stationary equipment shall be designed to ensure that the interior noise levels at adjacent or nearby sensitive receptors (residential, hotel, and childcare receptors) do not exceed 45 dBA. <p>Noise attenuation measures could include installation of critical grade silencers, sound traps on radiator exhaust, provision of sound enclosures/barriers, addition of roof parapets to block noise, increasing setback distances from sensitive receptors, provision of intake louvers or louvered vent openings, location of vent openings away from adjacent residential uses, and restriction of generator testing to the daytime hours.</p> <p>The project sponsor shall demonstrate to the satisfaction of the Environmental Review Officer (ERO) that noise attenuation measures have been incorporated into the design of all fixed stationary noise sources to meet these limits prior to approval of a building permit.</p>				
<p>Mitigation Measure M-NO-8: (Dependent on approval of Proposed Project OR Project Variant)</p> <p>Proposed Project:</p> <p>Mitigation Measure M-NO-8: Design of Future Noise-Sensitive Uses</p> <p>Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 60 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses.</p>	Project sponsor and qualified acoustical consultant	Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses	San Francisco Department of Building Inspection	Considered complete upon approval of final project design for buildings
<p>Project Variant:</p> <p>Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses</p> <p>Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to</p>	Project sponsor and qualified acoustical consultant	Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses	San Francisco Department of Building Inspection	Considered complete upon approval of final project design for buildings

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.F Noise and Vibration (cont.)				
the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 61 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses.				
EIR Section 4.G Air Quality				
Mitigation Measure M-AQ-2a: Construction Emissions Minimization The project sponsor or the project sponsor's contractor shall comply with the following: A. Engine Requirements. <ol style="list-style-type: none"> 1. The project sponsor shall also ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the project site (such as haul trucks, water trucks, dump trucks, and concrete trucks) be model year 2010 or newer. 2. All off-road equipment (including water construction equipment used onboard barges) greater than 25 horse power shall have engines that meet Tier 4 Final off-road emission standards. Tugs shall comply with U.S. EPA Tier 3 Marine standards for Marine Diesel Engine Emissions. 3. Since grid power will be available, portable diesel engines shall be prohibited. 4. Renewable diesel shall be used to fuel all diesel engines if it can be demonstrated to the Environmental Review Officer (ERO) that it is compatible with on-road or off-road engines and that emissions of ROG and NOx from the transport of fuel to the project site will not offset its NOx reduction potential. 5. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. 6. The contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. 	Project sponsor and construction contractor(s)	Prior to issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection, with ongoing compliance with the Construction Emissions Minimization Plan throughout the construction period	ERO to review and approve Construction Emissions Minimization Plan; project sponsor and construction contractor to comply with, and document compliance with, Construction Emissions Minimization Plan as required by the ERO	Construction Emissions Minimization Plan considered complete upon ERO review and acceptance of Plan; measure considered complete upon completion of project construction and submittal to ERO of required documentation

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
B. Waivers.				
<p>The ERO may waive the equipment requirements of Subsection (A)(1) if: a particular piece of off-road equipment is technically not feasible; the equipment would not produce desired emissions reduction due to expected operating modes; installation of the equipment would create a safety hazard or impaired visibility for the operator; or, there is a compelling emergency need to use other off-road equipment. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the table below.</p> <p>The ERO may waive the equipment requirements of Subsection (A)(2) if: a particular piece of off-road equipment with an engine meeting Tier 4 Final emission standards is not regionally available to the satisfaction of the ERO. If seeking a waiver from this requirement, the project sponsor must demonstrate to the satisfaction of the ERO that the health risks from existing sources, project construction and operation, and cumulative sources do not exceed a total of 10 µg/m³ or 100 excess cancer risks for any onsite or offsite receptor.</p> <p>The ERO may waive the equipment requirements of Subsection (A)(3) if: an application has been submitted to initiate on-site electrical power, portable diesel engines may be temporarily operated for a period of up to three weeks until on site electrical power can be initiated or, there is a compelling emergency.</p>				
C. Construction Emissions Minimization Plan. Before starting onsite construction activities, the contractor shall submit a Construction Emissions Minimization Plan to the ERO for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the requirements of Section A, Engine Requirements.				
<ol style="list-style-type: none"> 1. The Construction Emissions Minimization Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. 2. The project sponsor shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The plan shall include a certification statement that the contractor agrees to comply fully with the plan. 3. The contractor shall make the Construction Emissions Minimization Plan available to the public for review onsite during working hours. The contractor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. 				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
D. Monitoring. After start of construction activities, the contractor shall submit quarterly reports to the ERO documenting compliance with the Construction Emissions Minimization Plan. After completion of construction activities and prior to receiving a final certifying occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.	Project sponsor and construction contractor (s)	Quarterly, after start of construction activities, and within six months of completion of construction activity	Project sponsor/contractor(s) and the ERO	Considered complete upon acceptance of the final report by the ERO
<p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications</p> <p>To reduce NOx associated with operation of the proposed project, the project sponsor shall implement the following measures.</p> <p>A. All new diesel backup generators shall:</p> <ol style="list-style-type: none"> 1. Have engines that meet or exceed California Air Resources Board Tier 4 off-road emission standards which have the lowest NOx emissions of commercially available generators; and 2. Be fueled with renewable diesel, if commercially available², which has been demonstrated to reduce NOx emissions by approximately 10 percent. <p>B. All new diesel backup generators shall have an annual maintenance testing limit of 50 hours, subject to any further restrictions as may be imposed by the Bay Area Air Quality Management District in its permitting process.</p> <p>C. For each new diesel backup generator permit submitted to Bay Area Air Quality Management District for the project, the project sponsor shall submit the anticipated location and engine specifications to the San Francisco Planning Department environmental review officer for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generator is located shall be required to maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and to provide this information for review to the planning department within three months of requesting such information.</p>	Project sponsor, and each facility operator where a generator is located	Ongoing by the project sponsor, and each facility operator where a generator is located	San Francisco Planning Department ERO and BAQQMD	Ongoing for the life of each generator
<p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products</p> <p>The project sponsor shall provide educational programs and/or materials for residential and commercial tenants concerning green consumer products. Prior to receipt of any certificate of final occupancy and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to residential and/or commercial tenants of each building on the project site that</p>	Project sponsor	Prior to certificate of final occupancy and every five years thereafter	San Francisco Department of Environment	Ongoing

² Neste MY renewable Diesel is available in the Bay Area through Western States Oil.

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
encourages the purchase of consumer products that generate lower than typical VOC emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and website links to SF Approved (www.sfapproved.org). This website also may be used as an informational resource by businesses and residents.				
Mitigation Measure M-AQ-2d: Electrification of Loading Docks The project sponsor shall ensure that loading docks for retail, light industrial, or warehouse uses that will receive deliveries from refrigerated transport trucks incorporate electrification hook-ups for transportation refrigeration units to avoid emissions generated by idling refrigerated transport trucks.	Project sponsor and construction contractor	Prior to approval of a building permit	Department of Building Inspection	Considered complete at the completion of project construction
Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures The following Mobile Source Control Measures from the Bay Area Air Quality Management District's 2010 Clean Air Plan shall be implemented: <ul style="list-style-type: none"> Promote use of clean fuel-efficient vehicles through preferential (designated and proximate to entry) parking and/or installation of charging stations beyond the level required by the City's Green Building code, from 8 to 20 percent. Promote zero-emission vehicles by requesting that any car share program operator include electric vehicles within its car share program to reduce the need to have a vehicle or second vehicle as a part of the TDM program that would be required of all new developments. 	Project sponsor	Prior to approval of a building permit, or approval of design of district parking garage, whichever is first Ongoing during operation of car share programs	Department of Building Inspection for approval of district parking garage	Considered complete at the completion of district parking garage construction Ongoing during operations of car share programs
Mitigation Measure M-AQ-2f: (Dependent on approval of Proposed Project OR Project Variant) Proposed Project: Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the Environmental Review Officer (ERO), shall either: <ol style="list-style-type: none"> Directly fund or implement a specific offset project within San Francisco to achieve equivalent to a one-time reduction of 13 tons per year of ozone precursors. This offset is intended to offset the combined emissions from construction and operations remaining above significance levels after implementing the other mitigation measures discussed. To qualify under this mitigation measure, the specific emissions offset project must result in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsor shall notify the ERO within six (6) months of completion of the offset project for verification; or 	Project Sponsor	Upon completion of construction, and prior to issuance of certificate of occupancy, (within six months of completion of the offset project for verification)	ERO	Complete upon acceptance of fee by BAAQMD

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
<p>(2) Pay mitigation offset fees to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than 5 percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor, and the air district, and be based on the type of projects available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions of 13 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.</p> <p>The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted 13 tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.</p> <p>The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NOX (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NOX emissions offsets required.</p>				
<p>(3) Additional mitigation offset fee. The need for an additional mitigation offset payment shall be determined as part of the performance standard assessment of Mitigation Measure M-TR-5. If at that time, it is determined that implementation of Mitigation Measure M-TR-5 has successfully achieved its targeted trip reduction at project buildout, or the project sponsor demonstrates that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOX, then no further installment shall be required. However, if the performance standard assessment determines that the trip reduction goal has not been achieved, and the project sponsor is unable to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOX, then an additional offset payment shall be made in an amount reflecting the difference in emissions, in tons per year of ROG and NOX, represented by the shortfall in trip reduction.</p>				

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
<p>Documentation of mitigation offset payments, as applicable, shall be provided to the planning department.</p> <p>When paying a mitigation offset fee, the project sponsor shall enter into a memorandum of understanding (MOU) with the Bay Area Air Quality Management District Clean Air Foundation. The MOU shall include details regarding the funds to be paid, the administrative fee, and the timing of the emissions reductions project. Acceptance of this fee by the air district shall serve as acknowledgment and a commitment to</p> <p>(1) implement an emissions reduction project(s) within a time frame to be determined, based on the type of project(s) selected, after receipt of the mitigation fee to achieve the emissions reduction objectives specified above and (2) provide documentation to the planning department and the project sponsor describing the project(s) funded by the mitigation fee, including the amount of emissions of ROG and NOx reduced (tons per year) within the San Francisco Bay Area Air Basin from the emissions reduction project(s). To qualify under this mitigation measure, the specific emissions reduction project must result in emission reductions within the basin that are real, surplus, quantifiable, and enforceable and would not otherwise be achieved through compliance with existing regulatory requirements or any other legal requirement. The requirement to pay such mitigation offset fee shall terminate if the project sponsor is able to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx.</p>				
<p>Project Variant:</p> <p>Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions</p> <p>Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the Environmental Review Officer (ERO), shall either:</p> <p>(1) Directly fund or implement a specific offset project within San Francisco to achieve equivalent to a one-time reduction of 14 tons per year of ozone precursors. This offset is intended to offset the combined emissions from construction and operations remaining above significance levels after implementing the other mitigation measures discussed. To qualify under this mitigation measure, the specific emissions offset project must result in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsor shall notify the ERO within six (6) months of completion of the offset project for verification; or</p>	Project Sponsor	Upon completion of construction, and prior to issuance of certificate of occupancy; (within six months of completion of the offset project for verification)	ERO	Complete upon acceptance of fee by BAAQMD

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
(2) Pay mitigation offset fees to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than 5 percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor, and the air district, and be based on the type of projects available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions of 14 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.	<p>The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted 14 tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.</p> <p>The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NOX (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NOx emissions offsets required.</p>			
(3) Additional mitigation offset fee. The need for an additional mitigation offset payment shall be determined as part of the performance standard assessment of Mitigation Measure M-TR-5. If at that time, it is determined that implementation of Mitigation Measure M-TR-5 has successfully achieved its targeted trip reduction at project buildout, or the project sponsor demonstrates that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx, then no further installment shall be required. However, if the performance standard assessment determines that the trip reduction goal has not been achieved, and the project sponsor is unable to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx, then an additional offset payment shall be made in an amount reflecting the difference in emissions, in tons per year of ROG and NOx, represented by the shortfall in trip reduction.	Documentation of mitigation offset payments, as applicable, shall be provided to the planning department.			

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.G Air Quality (cont.)				
When paying a mitigation offset fee, the project sponsor shall enter into a memorandum of understanding (MOU) with the Bay Area Air Quality Management District Clean Air Foundation. The MOU shall include details regarding the funds to be paid, the administrative fee, and the timing of the emissions reductions project. Acceptance of this fee by the air district shall serve as acknowledgment and a commitment to (1) implement an emissions reduction project(s) within a time frame to be determined, based on the type of project(s) selected, after receipt of the mitigation fee to achieve the emissions reduction objectives specified above and (2) provide documentation to the planning department and the project sponsor describing the project(s) funded by the mitigation fee, including the amount of emissions of ROG and NOx reduced (tons per year) within the San Francisco Bay Area Air Basin from the emissions reduction project(s). To qualify under this mitigation measure, the specific emissions reduction project must result in emission reductions within the basin that are real, surplus, quantifiable, and enforceable and would not otherwise be achieved through compliance with existing regulatory requirements or any other legal requirement. The requirement to pay such mitigation offset fee shall terminate if the project sponsor is able to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx.	Project sponsor	Prior to issuance of the certificate of occupancy for new development would be expected to generate TACs (such as R&D uses and PDR uses)	BAAQMD and San Francisco Planning Department	Considered complete at the completion of project construction
Mitigation Measure AQ-4: Siting of Uses that Emit Toxic Air Contaminants For new development including R&D/life science uses and PDR use or other uses that would be expected to generate toxic air contaminants (TACs) as part of everyday operations, prior to issuance of the certificate of occupancy, the project sponsor shall obtain written verification from the Bay Area Air Quality Management District either that the facility has been issued a permit from the air district, if required by law, or that permit requirements do not apply to the facility. However, since air district could potentially issue multiple separate permits to operate that could cumulatively exceed an increased cancer risk of 10 in one million, the project sponsor shall also submit written verification to the San Francisco Planning Department that increased cancer risk associated with all such uses does not cumulatively exceed 10 in one million at any onsite receptor. This measure shall be applicable, at a minimum, to the following uses and any other potential uses that may emit TACs: gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; appliance repair shops; mechanical assembly cleaning; printing shops; medical clinics; laboratories, and biotechnology research facilities.	Project sponsor	Prior to and during occupancy of commercial uses	ERO	Ongoing
Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets The project sponsor shall include dissemination of information on Spare The Air Days within the San Francisco Bay Area Air Basin as part of transportation welcome packets and ongoing transportation marketing campaigns. This information shall encourage employers and employees, as allowed by their workplaces, to telecommute on Spare The Air Days.	Project sponsor			

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
<p>EIR Section 4.H Wind and Shadow</p> <p>Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts</p> <p>Prior to the approval of building plans for construction of any proposed building, or a building within a group of buildings to be constructed simultaneously, at a height of 85 feet or greater, the project sponsor (including any subsequent developer) shall submit to the San Francisco Planning Department for review and approval a wind impact analysis of the proposed building(s). The wind impact analysis shall be conducted by a qualified wind consultant. The wind impact analysis shall consist of a qualitative analysis of whether the building(s) under review could result in winds throughout the wind test area (as identified in the EIR) exceeding the 26-mph wind hazard criterion for more hours or at more locations than identified for full project buildout in the EIR. That is, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. The analysis shall compare the exposure, massing, and orientation of the proposed building(s) to the same building(s) in the representative massing models for the proposed project and shall include any then-existing buildings and those under construction. The wind consultant shall review the proposed building(s) design taking into account feasible wind reduction features including, but not necessarily limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. Comparable temporary wind reduction features (i.e., those that would be erected on a vacant site and removed when the site is developed) may be considered. The project sponsor shall incorporate into the design of the building(s) any wind reduction features recommended by the qualified wind consultant.</p> <p>If the wind consultant is unable to determine that the building(s) under consideration would not result in a net increase in hazardous wind hours or locations under partial buildout conditions compared to full buildout conditions, the building(s) under review shall undergo wind tunnel testing. The wind tunnel testing shall evaluate the building(s) to determine whether an adverse impact would occur. An adverse wind impact is defined as an aggregate net increase of 1 hour during which, and/or a net increase of 2 locations at which, the wind hazard criterion is exceeded, compared to full buildout conditions identified in the EIR and based on the existing conditions at the time of the subsequent wind tunnel test. As used herein, the existing conditions at the time of the subsequent testing shall include any completed or under construction buildings on the project site. As with the qualitative review above, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. Accordingly, wind tunnel testing, if required, would include the same test area and test points as were evaluated in the EIR.</p> <p>If the building(s) would result in an adverse impact, as defined herein, additional wind tunnel testing of mitigation strategies would be undertaken until no adverse effect is identified, and the resulting mitigation strategies shall be incorporated into the design of the proposed building(s) and building site(s). All feasible means as determined by the Environmental Review Officer (such as reorienting certain buildings, sculpting buildings to include podiums and terraces or other wind reduction treatments noted above or identified by the qualified wind consultant, or installing landscaping) to eliminate hazardous winds, if predicted, shall be implemented.</p>	Project sponsor, or building developer, and qualified wind consultant	Prior to the approval of building plans for construction of any proposed building, or a building within a group of buildings to be constructed simultaneously, at a height of 85 feet or greater. San Francisco Planning Department and ERO to review and approve scope of work prior to any wind impact analysis or wind tunnel testing	San Francisco Planning Department and ERO	Considered complete at the completion of project construction

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EUR Section 4.I Biological Resources				
Mitigation Measure M-BI-1: Nesting Bird Protection Measures				
The project sponsor shall require that all construction contractors implement the following measures for each construction phase to ensure protection of nesting birds and their nests during construction:				
<ol style="list-style-type: none"> To the extent feasible, conduct initial project activities outside of the nesting season (January 15–August 15). These activities include, but are not limited to: vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may impact nesting birds or the success of their nests (e.g., controlled rock fragmentation, blasting, or pile driving). For construction activities that occur during the bird nesting season, a qualified wildlife biologist³ shall conduct pre-construction nesting surveys within 14 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 14 days or more. Surveys shall be performed for suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 100 feet of the project site to locate any active raptor (birds of prey) nests, waterbird nesting pairs, or colonies. If active nests protected by federal or state law⁴ are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests and if so, the following measures would apply: <ol style="list-style-type: none"> If construction is not likely to affect the active nest, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. The qualified biologist would determine spot-check monitoring frequency on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise his/her determination at any time during the nesting season in coordination with the Environmental Review Officer (ERO). If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. Given the developed condition of the site, initial buffer distances are 100 to 250 feet for passerines and 100 to 500 feet for raptors; however, the qualified biologist may adjust the buffers based on the nature of proposed activities or site specific conditions. 				
	Project sponsor, construction contractors, and qualified biologist	Not more than 14 days prior to vegetation removal and grading activities that occur between January 15 and August 15	ERO	Complete upon completion of preconstruction nesting bird surveys or completion of vegetation removal and grading activities outside of the bird breeding season

³ Typical experience requirements for a "qualified biologist" include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

⁴ These would include species protected by FESA, MBTA, CESA, and California Fish and Game Code and does not apply to rock pigeon, house sparrow, or European starling. USFWS and CDFW are the federal and state agencies, respectively, with regulatory authority over protected birds and are the agencies who would be engaged with if nesting occurs onsite and protective buffer distances and/or construction activities within such a buffer would need to be modified while a nest is still active.

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.I Biological Resources (cont.)				
<p>c. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the ERO, who would notify CDFW.</p> <p>d. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If the qualified biologist observes adverse effects in response to project work within the buffer that could compromise the active nest, work within the no-disturbance buffer(s) shall halt until the nest occupants have fledged.</p> <p>e. With some exceptions, birds that begin nesting within the project area amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels. Exclusion zones around such nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the ERO, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly impacted.</p>				
<p>Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats</p> <p>A qualified biologist⁵ who is experienced with bat surveying techniques (including auditory sampling methods), behavior, roosting habitat, and identification of local bat species shall be consulted prior to demolition or building rehabilitation activities to conduct a pre-construction habitat assessment of the project site (focusing on buildings to be demolished or rehabilitated under the project) to characterize potential bat habitat and identify potentially active roost sites. No further action is required should the pre-construction habitat assessment not identify bat habitat or signs of potentially active bat roosts within the project site (e.g., guano, urine staining, dead bats, etc.).</p> <p>The following measures shall be implemented should potential roosting habitat or potentially active bat roosts be identified during the habitat assessment in buildings to be demolished or rehabilitated under the proposed project:</p> <ol style="list-style-type: none"> 1. In areas identified as potential roosting habitat during the habitat assessment, initial building demolition or rehabilitation shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, to the extent feasible. These dates avoid the bat maternity roosting season and period of winter torpor.⁶ 2. Depending on temporal guidance as defined below, the qualified biologist shall conduct pre-construction surveys of potential bat roost sites identified during the initial habitat assessment no more than 14 days prior to building demolition or rehabilitation. 	Project sponsor, contractors, and qualified biologist	Not more than 14 days prior to building demolition or rehabilitation	ERO	Complete upon completion of preconstruction roosting bat surveys or completion of building demolition or rehabilitation

⁵ Typical experience requirements for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

⁶ Torpor refers to a state of decreased physiological activity with reduced body temperature and metabolic rate.

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.1 Biological Resources (cont.)				
3. f active bat roosts or evidence of roosting is identified during pre-construction surveys, the qualified biologist shall determine, if possible, the type of roost and species. A no-disturbance buffer shall be established around roost sites until the qualified biologist determines they are no longer active. The size of the no-disturbance buffer would be determined by the qualified biologist and would depend on the species present, roost type, existing screening around the roost site (such as dense vegetation or a building), as well as the type of construction activity that would occur around the roost site.				
4. If special-status bat species or maternity or hibernation roosts are detected during these surveys, appropriate species- and roost-specific avoidance and protection measures shall be developed by the qualified biologist in coordination with the California Department of Fish and Wildlife. Such measures may include postponing the removal of buildings or structures, establishing exclusionary work buffers while the roost is active (e.g., 100-foot no-disturbance buffer), or other avoidance measures.				
5. The qualified biologist shall be present during building demolition or rehabilitation if potential bat roosting habitat or active bat roosts are present. Buildings with active roosts shall be disturbed only under clear weather conditions when precipitation is not forecast for three days and when daytime temperatures are at least 50 degrees Fahrenheit.				
6. The demolition or rehabilitation of buildings containing or suspected to contain bat roosting habitat or active bat roosts shall be done under the supervision of the qualified biologist. When appropriate, buildings shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost, likely in the evening and after bats have emerged from the roost to forage. Under no circumstances shall active maternity roosts be disturbed until the roost disbands at the completion of the maternity roosting season or otherwise becomes inactive, as determined by the qualified biologist.				
<p>Mitigation Measure M-B1-4: Fish and Marine Mammal Protection during Pile Driving</p> <p>Prior to the start of any in-water construction that would require pile driving, the project sponsor shall prepare a National Marine Fisheries Service-approved sound attenuation monitoring plan to protect fish and marine mammals, and the approved plan shall be implemented during construction. This plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities (if required based on projected in-water noise levels), and describe best management practices to reduce impact pile-driving in the aquatic environment to an intensity level less than 183 dB (sound exposure level, SEL) impulse noise level for fish at a distance of 33 feet, and 160 dB (root mean square pressure level, RMS) impulse noise level or 120 dB (RMS) continuous noise level for marine mammals at a distance of 1,640 feet. The plan shall incorporate, but not be limited to, the following best management practices:</p> <ul style="list-style-type: none"> • All in-water construction shall be conducted within the established environmental work window between June 1 and November 30, designed to avoid potential impacts to fish species. 	Project sponsor and construction contractors, and qualified acoustical engineer with experience in fish and marine mammal noise protection	Prior to the start of any in-water construction that would require pile driving, during the work window between June 1 and November 30	Planning Department and National Marine Fisheries Service	Complete upon completion of in-water construction that requires pile driving

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.I Biological Resources (cont.)				
<ul style="list-style-type: none"> To the extent feasible vibratory pile drivers shall be used for the installation of all support piles. Vibratory pile driving shall be conducted following the U.S. Army Corps of Engineers "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California." U. S. Fish and Wildlife Service and National Marine Fisheries Service completed section 7 consultation on this document, which establishes general procedures for minimizing impacts to natural resources associated with projects in or adjacent to jurisdictional waters. A soft start technique to impact hammer pile driving shall be implemented, at the start of each work day or after a break in impact hammer driving of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area. If during the use of an impact hammer, established National Marine Fisheries Service pile driving thresholds are exceeded, a bubble curtain or other sound attenuation method as described in the National Marine Fisheries Service-approved sound attenuation monitoring plan shall be utilized to reduce sound levels below the criteria described above. If National Marine Fisheries Service sound level criteria are still exceeded with the use of attenuation methods, a National Marine Fisheries Service-approved biological monitor shall be available to conduct surveys before and during pile driving to inspect the work zone and adjacent waters for marine mammals. The monitor shall be present as specified by the National Marine Fisheries Service during impact pile driving and ensure that: <ul style="list-style-type: none"> The safety zones established in the sound monitoring plan for the protection of marine mammals are maintained. Work activities are halted when a marine mammal enters a safety zone and resumed only after the animal has been gone from the area for a minimum of 15 minutes. <p>This noise level limit shall be coordinated with vibration limits required under Mitigation Measures M-NO-4a, Construction Vibration Monitoring, M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving, and M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment, to ensure that the lowest of the specified vibration limits is ultimately implemented.</p>				
<p>Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters</p> <p>The project sponsor shall provide compensatory mitigation for placement of fill associated with maintenance or installation of new structures in the San Francisco Bay as further determined by the regulatory agencies with authority over the bay during the permitting process.</p> <p>Compensation may include onsite or offsite shoreline improvements or intertidal/subtidal habitat enhancements along San Francisco's waterfront through removal of chemically treated wood material (e.g., pilings, decking, etc.) by pulling, cutting, or breaking off piles at least 1 foot below mudline or removal of other unengineered debris (e.g., concrete-filled drums or large pieces of concrete).</p>	Project sponsor	Prior to project construction and during the permitting process	ERO and regulatory agencies with authority over the bay during the permitting process	Considered complete when bay related fill permits are issued and compensatory mitigation accepted by regulatory agencies

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.3 Cultural Resources				
<p>Mitigation Measure MI-CR-1: Archeological Testing</p> <p>Based on a reasonable presumption that archeological resources may be present within the project site in locations determined to have moderate or high archeological sensitivity, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the San Francisco rotational Department Qualified Archeological Consultants List maintained by the San Francisco Planning Department archeologist. The project sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the list. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the City's appointed project Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the review officer, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 (a) and (c).</p>	<p>Project sponsor and Planning Department archeologist or a qualified archeological consultant from the Planning Department pool (archeological consultant)</p>	<p>Archeological consultant shall be retained prior to issuance of site permit from the Department of Building Inspection</p>	<p>Project sponsor to retain a qualified archeological consultant who shall report to the ERO. Qualified archeological consultant will scope archeological testing program with ERO and Planning Department staff archeologist</p>	<p>Considered complete when archeological consultant has approved scope from the ERO for the archeological testing program</p>
<p>Consultation with Descendant Communities: On discovery of an <i>archeological site</i>⁷ associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an <i>appropriate representative</i>⁸ of the descendant group and the review officer shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the review officer regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.</p>	<p>Project sponsor and/or archeological consultant</p>	<p>Throughout the duration of ground-disturbing activities</p>	<p>Project sponsor and/or archeological consultant to submit record of consultation as part of Final Archeological Resources Report, if applicable</p>	<p>Considered complete upon submittal to ERO of Final Archeological Resources Report, if applicable</p>

⁷ The term archeological site is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

⁸ An appropriate representative of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.3 Cultural Resources (cont.)				
Archeological Testing Program. The archeological consultant shall prepare and submit to the review officer for review and approval an archeological testing plan. The archeological testing program shall be conducted in accordance with the approved archeological testing plan. The archeological testing plan shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.	Project sponsor/ archeological consultant at the direction of the ERO.	Prior to any soils- disturbing activities on the project site.	Consultant Archeologist shall prepare and submit draft ATP to the ERO. ATP to be submitted and reviewed by the ERO prior to any soils disturbing activities on the project site.	Date ATP submitted to the ERO: _____ Date ATP approved by the ERO: _____ Date of initial soils disturbing activities: _____
At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the review officer. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the review officer in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the review officer or the planning department archeologist. If the review officer determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either: A. The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or B. A data recovery program shall be implemented, unless the review officer determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.	Project sponsor/ archeological consultant at the direction of the ERO.	After completion of the Archeological Testing Program.	Archeological consultant shall submit report of the findings of the ATP to the ERO. ERO determination of significant archeological resource present? Y N Would resource be adversely affected? Y N Additional mitigation to be undertaken by project sponsor? Y N	Date archeological findings report submitted to the ERO: _____ ERO determination of significant archeological resource present? Y N Would resource be adversely affected? Y N Additional mitigation to be undertaken by project sponsor? Y N
Archeological Monitoring Program. If the review officer in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions: • The archeological consultant, project sponsor, and review officer shall meet and consult on the scope of the archeological monitoring plan reasonably prior to any project-related soils disturbing activities commencing. The review officer in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils-disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context;	Project sponsor/ archeological consultant/ archeological monitor/ contractor(s), at the direction of the ERO.	ERO and archeological consultant shall meet prior to commencement of soils-disturbing activity. If the ERO determines that an Archeological Monitoring Program is necessary, monitor throughout all soils-disturbing activities.	Project sponsor/ archeological consultant/ archeological monitor/ contractor(s) shall implement the AMP, if required by the ERO.	AMP required? Y N Date: _____ Date AMP submitted to the ERO: _____ Date AMP approved by the ERO: _____

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.3 Cultural Resources (cont.)				
<ul style="list-style-type: none"> The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the project sponsor, archeological consultant, and the Environmental Review Officer (ERO) until the review officer has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving or deep foundation activities (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving or deep foundation activities may affect an archeological resource, the pile driving or deep foundation activities shall be terminated until an appropriate evaluation of the resource has been made in consultation with the review officer. The archeological consultant shall immediately notify the review officer of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. <p>Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.</p>				<p>Date AMP implementation complete: _____</p> <p>Date written report regarding findings of the AMP received: _____</p>
<p>Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan. The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the archeological data recovery plan prior to preparation of a draft plan. The archeological consultant shall submit a draft plan to the ERO. The archeological data recovery plan shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.</p>	Archeological consultant, as directed by the ERO	If there is a determination that an ADRP program is required, conduct ADRP throughout all soils-disturbing activities.	Project sponsor/archeological consultant/archeological monitor/contractor(s) shall prepare an ADRP if required by the ERO.	<p>ADRP required? Y N</p> <p>Date: _____</p> <p>Date of scoping meeting for ADRP: _____</p> <p>Date Draft ADRP submitted to the ERO: _____</p>

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.3 Cultural Resources (cont.)				
<p>The scope of the archeological data recovery plan shall include the following elements:</p> <ul style="list-style-type: none"> • <i>Field Methods and Procedures.</i> Descriptions of proposed field strategies, procedures, and operations. • <i>Cataloguing and Laboratory Analysis.</i> Description of selected cataloguing system and artifact analysis procedures. • <i>Discard and Deaccession Policy.</i> Description of and rationale for field and post-field discard and deaccession policies. • <i>Interpretive Program.</i> Consideration of an onsite/offsite public interpretive program during the course of the archeological data recovery program. • <i>Security Measures.</i> Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • <i>Final Report.</i> Description of proposed report format and distribution of results. • <i>Curation.</i> Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. 				<p>Date ARDP approved by the ERO: _____</p> <p>Date ARDP implementation complete: _____</p>
<p>Human Remains, Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable state and federal laws, including immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco and in the event of the medical examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission who shall appoint a Most Likely Descendant (Public Resource Code section 5097.98). The ERO shall also be immediately notified upon discovery of human remains. The archeological consultant, project sponsor, ERO, and a most likely descendant shall have up to but not beyond six days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of a most likely descendant. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects as specified in the treatment agreement if such as agreement has been made or, otherwise, as determined by the archeological consultant and the ERO. If no agreement is reached, state regulations shall be followed including the reburial of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (Public Resource Code section 5097.98).</p>	Project sponsor, contractor, Planning Department's archeologist or archaeological consultant, and ERO	Throughout the duration of ground-disturbing activities	Project sponsor to notify ERO, Coroner, and, if applicable, NAHC of any discovery of human remains	Considered complete upon completion of ground-disturbing activities

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.3 Cultural Resources (cont.)				
<p>Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.</p> <p>Once approved by the ERO, copies of the Final Archeological Resources Report shall be distributed as follows: California Historical Resource Information System Northwest Information Center shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the report to the Northwest Information Center. The San Francisco Planning Department Environmental Planning Division shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the report along with copies of any formal site recordation forms (California Department of Parks and Recreation 523 form) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.</p>	Archeological consultant	Prior to the issuance of the last certificate of occupancy for the proposed project	ERO	Considered complete upon submittal to ERO and other repositories identified in mitigation measure of Final Archeological Resources Report
<p>Mitigation Measure M-CR-3: Tribal Cultural Resources Interpretive Program</p> <p>If the ERO determines that a significant archeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the review officer determines that the resource constitutes a tribal cultural resource and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible. If the ERO, in consultation with the affiliated Native American tribal representatives, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program of the tribal cultural resource in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to implement the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.</p>	Project sponsor in consultation with tribal representative(s), as directed by the ERO	If directed by the ERO to implement an interpretive program, approval of interpretive plan prior to the issuance of the certificate of occupancy for the proposed building affecting the relevant Tribal Cultural Resource	ERO	Considered complete upon implementation of any required interpretive program

TABLE A (CONTINUED)
MITIGATION MEASURES ADOPTED AS CONDITIONS OF APPROVAL FOR THE PROPOSED PROJECT AND PROJECT VARIANT

Mitigation Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
Initial Study E.13 Geology and Soils				
<p>Mitigation Measure M-GE-6: Paleontological Resources Monitoring and Mitigation Program</p> <p>Prior to issuance of a building permit for construction activities that would disturb the deep fill area, where Pleistocene-aged sediments, which may include Colma Formation, bay mud, bay clay, and older beach deposits (based on the site-specific geotechnical investigation or other available information) may be present, the project sponsor shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a Paleontological Resources Monitoring and Mitigation Program. The program shall specify the timing and specific locations where construction monitoring would be required; inadvertent discovery procedures; sampling and data recovery procedures; procedures for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. The program shall be consistent with the Society for Vertebrate Paleontology Standard Guidelines for the mitigation of construction-related adverse impacts to paleontological resources and the requirements of the designated repository for any fossils collected.</p> <p>During construction, earth-moving activities that have the potential to disturb previously undisturbed native sediment or sedimentary rocks shall be monitored by a qualified paleontological consultant having expertise in California paleontology. Monitoring need not be conducted when construction activities would encounter artificial fill, Young Bay Mud, or non-sedimentary rocks of the Franciscan Complex.</p> <p>If a paleontological resource is discovered, construction activities in an appropriate buffer around the discovery site shall be suspended for a maximum of 4 weeks. At the direction of the Environmental Review Officer (ERO), the suspension of construction can be extended beyond four (4) weeks if needed to implement appropriate measures in accordance with the program, but only if such a suspension is the only feasible means to prevent an adverse impact on the paleontological resource.</p> <p>The paleontological consultant's work shall be conducted at the direction of the City's environmental review officer. Plans and reports prepared by the consultant shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.</p>	Project sponsor and a qualified paleontological consultant	Prior to issuance of a demolition or building permit	ERO	Considered complete upon completion of project construction

TABLE B
IMPROVEMENT MEASURES ADOPTED AS CONDITIONS OF APPROVAL

Improvement Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.E Transportation and Circulation				
Improvement Measure I-TR-A: Construction Management Plan and Public Updates				
<ul style="list-style-type: none"> Construction Management Plan—The project sponsor will develop and, upon review and approval by the San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works, implement a Construction Management Plan, addressing transportation-related circulation, access, staging and hours of delivery. The Construction Management Plan would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruption and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring transit, pedestrian, and bicycle connectivity. The Construction Management Plan would supplement and expand, rather than modify or supersede, the regulations, or provisions set forth by the SFMTA, Public Works, or other City departments and agencies, and the California Department of Transportation. Management practices could include: best practices for accommodating pedestrians and bicyclists, identifying routes for construction trucks to utilize, actively managing construction truck traffic, and minimizing delivery and haul truck trips during the morning (7 a.m. to 9 a.m.) and evening (4 p.m. to 6 p.m.) peak periods (or other times, as determined by the SFMTA). If construction of the proposed project is determined to overlap with nearby adjacent project(s) using the same truck access routes in the project vicinity, the project sponsor or its contractor(s) will consult with various City departments, as deemed necessary by the SFMTA, Public Works, and the Planning Department, to develop a Coordinated Construction Truck Routing Plan to minimize the severity of any disruption of access to land uses and transportation facilities. The plan will identify optimal truck routes between the regional facilities and the project sites, taking into consideration truck routes of other development and infrastructure projects and any construction activities affecting the roadway network. Carpool, Bicycle, Walk, and Transit Access for Construction Workers—To minimize parking demand and vehicle trips associated with construction workers, the construction contractor will include as part of the Construction Management Plan methods to encourage carpooling, bicycle, walk and transit access to the project site by construction workers. These methods could include providing secure bicycle parking spaces, participating in free-to-employee and employer ride matching program from www.511.org, participating in the emergency ride home program through the City of San Francisco (www.sferh.org), and providing transit information to construction workers. Project Construction Updates for Nearby Businesses and Residents—To minimize construction impacts on access to nearby residences and businesses, the project sponsor will provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities, travel lane closures, and parking lane and sidewalk closures (e.g., via the project's website). A regular email notice will be distributed by the project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns. 	Project sponsor, construction contractor, SFMTA, SF Public Works, as directed by the ERO	Prior to the issuance of a site permit, demolition permit, or any other permit from the Department of Building Inspection	SFMTA, SF Public Works, Planning Department	Considered complete upon completion of project construction

TABLE B (CONTINUED)
IMPROVEMENT MEASURES ADOPTED AS CONDITIONS OF APPROVAL

Improvement Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.E Transportation and Circulation (cont.)				
Improvement Measure I-TR-B: Monitoring and Abatement of Queues As an improvement measure to reduce the potential for queuing of vehicles accessing the project garages, it will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to garage entries. A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks, bicycle lanes, or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis. If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods will vary depending on the characteristics and causes of the recurring queue, as well as the characteristics of the parking facility, the street(s) to which the facility connects, and the associated land uses (if applicable). Suggested abatement methods include, but are not limited to the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; employment of parking attendants; installation of "GARAGE FULL" signs with active management by parking attendants; use of valet parking or other space-efficient parking techniques; use of other garages on the project site; use of parking occupancy sensors and signage directing drivers to available spaces; travel demand management strategies; and/or parking demand management strategies such as parking time limits, paid parking, time-of-day parking surcharge, or validated parking. If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.	Project sponsor, qualified transportation consultant, as directed by the ERO	Ongoing during project operation; if/when a vehicle queue is identified as reoccurring	ERO or other Planning Department staff	Monitoring of the public right-of-way would be ongoing by the owner/operator of off-street parking operations; considered complete upon abatement of the recurring queue or conflict
EIR Section 4.F Noise and Vibration				
Improvement Measure I-NO-A, Nighttime Construction Noise Control Measures The following shall occur to reduce potential conflicts between nighttime construction activities on the project site and residents of the Pier 70 project: <ul style="list-style-type: none"> Nighttime construction noise shall be limited to 10 dBA above ambient levels at 25 feet from the edge of the Power Station project boundary. Temporary noise barriers installed in the line-of-sight between the location of construction and any occupied residential uses. Construction contractor(s) shall be required to make best efforts to complete the loudest construction activities before 8 p.m. and after 7 a.m. 	Project sponsor and construction contractor	During the construction	Planning Department, Department of Building Inspection (as requested and/or on complaint basis)	Considered complete at the completion of project construction

TABLE B (CONTINUED)
IMPROVEMENT MEASURES ADOPTED AS CONDITIONS OF APPROVAL

Improvement Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.F Noise and Vibration (cont.)				
<ul style="list-style-type: none"> Further, notices shall be provided to be mailed or, if possible, emailed to residents of the Pier 70 project at least 10 days prior to the date any nighttime construction activities are scheduled to occur and again within three days of commencing such work. Such notice shall include: <ul style="list-style-type: none"> a description of the work to be performed; two 24-7 emergency contact names and cell phone numbers; the exact dates and times when the night work will be performed; the name(s) of the contractor(s); and the measures that the contractor will perform to reduce or mitigate night noise. In addition to the foregoing, the Developer shall work with building managers of occupied residential buildings in the Pier 70 project to post a notification with the aforementioned information in the lobby and other public meeting areas in the building. 				
Improvement Measure I-NO-B: Avoidance of Residential Streets Trucks should be required to use routes and queuing and loading areas that avoid existing and planned residential uses to the maximum extent feasible, including existing residential development on Third Street (north of 23rd Street), existing residential development on Illinois Street (north of 20th Street), and planned Pier 70 residential development (north of 22nd Street).	Project sponsor and construction contractor	During the construction	Planning Department, Department of Building Inspection	Considered complete at the completion of project construction
Improvement Measure I-NO-C: Design of Future Noise-Generating Uses near Residential Uses: The following improvement measures will be implemented to reduce the potential for disturbance of Pier 70 residents from other traffic-related, noise-generating activities located near the northern PPS site boundary: <ul style="list-style-type: none"> <i>Design of Building Loading Docks and Trash Enclosures.</i> To minimize the potential for sleep disturbance at any potential adjacent residential uses, exterior facilities such as loading areas / docks and trash enclosures associated with any non-residential uses along Craig Lane, shall be located on sides of buildings facing away from existing or planned Residential or Child Care uses, if feasible. If infeasible, these types of facilities associated with non-residential uses along Craig Lane shall be enclosed. If residential uses exist or are planned on Craig Lane, on-street loading activities on Craig Lane shall occur between the hours of 7:00 a.m. and 8:00 p.m. on weekdays, and 9:00 a.m. to 8:00 p.m. on Saturdays, Sundays, and federal holidays. Off-street loading outside of these hours shall only be permitted only if such loading occurs entirely within enclosed buildings. <i>Design of Above-Ground Parking Structure.</i> Any parking structure shall be designed to shield existing or planned residential uses from noise and light associated with parking cars. <i>Restrict Hours of Operation of Loading Activities on Craig Lane.</i> To reduce potential conflicts between loading activities for commercial uses and potential residential uses, the project 	Project sponsor and acoustical design consultant	Prior to approval of a building permit for development along the northern site boundary (adjacent to Pier 70) (a. and b.) Ongoing (c.)	Planning Department, Department of Building Inspection, and SFMTA Planning Department, Department of Building Inspection, and SFMTA	Considered complete at the completion of project construction (a. and b.), and for (c), upon completion of the Covenants, Conditions, and Restrictions applicable to the project site document

TABLE B (CONTINUED)
IMPROVEMENT MEASURES ADOPTED AS CONDITIONS OF APPROVAL

Improvement Measure	Responsibility for Implementation	Mitigation Schedule	Monitoring/Reporting Responsibility	Monitoring Actions/Schedule and Verification of Compliance
EIR Section 4.F Noise and Vibration (cont.)				
sponsor will seek to restrict loading activities on Craig Lane to occur only between the hours of 7 a.m. and 8 p.m. In the event Craig Lane is a private street, such restriction may be included in the Covenants, Conditions, and Restrictions applicable to the project site. If San Francisco Public Works accepts Craig Lane, the project sponsor will seek to have SFMTA impose these restrictions.				
EIR Section 4.H Wind and Shadow				
Improvement Measure I-WS-1: Wind Reduction Features for Block 1 As part of the schematic design of building(s) on Block 1, the project sponsor and the Block 1 architect(s) should consult with a qualified wind consultant regarding design treatments to minimize pedestrian-level winds created by development on Block 1, with a focus on the southwest corner of the block. Design treatments could include, but need not be limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. If recommended by the qualified wind consultant, the project sponsor should subject the building(s) proposed for this block to wind tunnel testing prior to the completion of schematic design. The goal of this measure is to improve pedestrian wind conditions resulting from the development of Block 1. The project sponsor should incorporate into the design of the Block 1 building(s) any wind reduction features recommended by the qualified wind consultant.	Project sponsor, architect and qualified wind consultant	Prior to Design Approval for Block 1	Planning Department, Building Inspection, or ERO	Considered complete upon issuance of Block 1 Design Approval



SAN FRANCISCO PLANNING DEPARTMENT

Executive Summary

HEARING DATE: JANUARY 30, 2020

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Case No.: 2017-011878 GPA PCA MAP DEV CWP
Project: Potrero Power Station Mixed-Use Project
Existing Zoning: M-2 (Heavy Industrial)
PDR-1-G (Production, Distribution & Repair-1-General)
Height-Bulk: 40-X, 65-X
Proposed Zoning: P (Public)
Potrero Power Station Mixed-Use District (PPS-MU)
Proposed Height: 65/240-PPS
Blocks/Lots: 4175/002, 4175/017, 4175/018 (partial), 4232/001, 4232/006, 4232/010, and
non-assessed Port and City and County of San Francisco properties
Project Sponsor: Enrique Landa, California Barrel Company – (415) 796-8945
Staff Contact: John M. Francis – (415) 575-9147, john.francis@sfgov.org

SUMMARY

On January 30, 2020, the Planning Commission ("Commission") will consider a series of approval actions related to the proposed Potrero Power Station Mixed-Use Project ("Project"). The Commission has previously reviewed the Project as part of: 1) informational hearings on August 23, 2018, November 8, 2018, April 25, 2019, and September 5, 2019; and 2) the Draft Environmental Impact Report ("DEIR") on November 8, 2018. The Project has also been discussed at the Commission in the context of the Southern Bayfront Strategy in multiple informational hearings. The actions before the Commission on the Project include the following:

1. Certification of the Final Environmental Impact Report ("FEIR") prepared for the Project pursuant to the California Environmental Quality Act (Pub. Resources Code §§ 21,000 et seq., "CEQA"), the guidelines implementing CEQA (14 Cal. Code Regs. §§ 15,000 et seq., "CEQA Guidelines"), and the Chapter 31 of the City's Administrative Code;
2. Adoption of CEQA Findings, including a Mitigation and Monitoring Plan ("MMRP");
3. Recommendation to the Board of Supervisors to approve General Plan Amendments to amend the Central Waterfront Area Plan, the Commerce and Industry Element, the Urban Design Element, the Transportation Element, and the Recreation and Open Space Element, and the Land Use Index as further described below;
4. Adopt General Plan and Planning Code Section 101.1 Consistency Findings;
5. Recommendation to the Board of Supervisors to approve Zoning Map Amendments and Planning Code Text Amendments to reclassify the site and establish the Potrero Power Station Special Use District ("SUD");
6. Approval of the Design for Development ("D4D"); and
7. Approval of the Development Agreement ("DA").

PROJECT DESCRIPTION

The Potrero Power Station site is located on approximately 29 acres of land on 6 privately-owned parcels and includes approximately 2.75 acres of land owned by the City and County of San Francisco and the Port of San Francisco. Current uses on the site include a small office building occupied by the Project Sponsor, an electrical switchyard owned and operated by PG&E, and street rights of way or shoreline areas owned by the Port and City; the remainder of the site includes multiple vacant structures and unused infrastructure related to the site's previous use as a power station.

In 2011, the Potrero Power Plant ceased its power-generating operations subject to a Settlement Agreement ("Settlement Agreement") between then-owner Mirant Potrero LLC and the City. The Settlement Agreement provided Mirant or a future property owner the opportunity to work with the City and community on a redevelopment proposal for the site. In 2016, the Project Sponsor purchased the property from then-owner NRG Energy, and in 2017 began an extensive planning process with City agencies and the community to develop a master plan for the site.

The Project will be built in up to six phases and includes developing approximately 2.5 million square feet ("sq ft") of residential space (2,601 dwelling units), 1.8 million sq ft of commercial uses, including 100,000 sq ft of retail, 800,000 sq ft of office, 650,000 sq ft of life science/laboratory, 240,000 sq ft of hotel (250 rooms), and 35,000 sq ft of Production, Distribution, and Repair ("PDR") uses. Additionally, it includes 25,000 square feet of entertainment/assembly uses, 50,000 square feet of community facilities, up to 2,686 off-street automobile parking spaces, and 6.9 acres of publicly accessible open space. The proposal includes three signature open space areas: the approximately 1.2-acre "Power Station Park," the approximately 0.6-acre "Stack Plaza," and an approximately 3-acre waterfront park that opens up over 1,000 linear feet of shoreline to the public for the first time in 150 years.

The Project is organized around the centrally located Power Station Park and extends the existing east/west street grid from Humboldt and 23rd Streets and the planned north/south street grid from the Pier 70 Project into the site to create a new street network. Land uses are interspersed by block throughout the site with no single use dominating one area. Three existing structures on the site, the Unit 3 power block and Boiler Stack along the waterfront and the Station A building, are proposed for adaptive reuse, bookending Power Station Park. A 250-room hotel would occupy Unit 3 while the exterior Station A walls would enclose the lower floors of a new commercial building. Humboldt Street will serve as the Project's primary neighborhood retail spine, with required ground floor retail uses clustered around the intersections with Maryland and Delaware Streets. Wrapped or subterranean parking would be an accessory use on all blocks and a district parking garage is proposed on one of three blocks on the western side of the site.

Heights of new buildings would range between 65 feet and 240 feet and would generally step down from the middle of the site toward both the east and west. Three towers with maximum building heights of 180 feet, 220 feet, and 240 feet are generally clustered around the intersection of Humboldt Street and Georgia Alley.

Power Station Park would include two U6 soccer/flexible recreation fields, a playground, and flexible plaza spaces. It is intended to be used as an active recreation area and neighborhood park for the Central Waterfront. Stack Plaza would be a large, flexibly-programmed civic gathering space featuring the site's

preserved Boiler Stack, an iconic symbol for the Central Waterfront and reminder of the site's long industrial history. A publicly accessible and reservable rooftop U10 soccer field will be located on the district parking garage.

The Project will also feature a linear shoreline park incorporating a new section of the Bay Trail with other plazas and green areas on either side for public use. These include:

- "The Point" at the southernmost end of the shoreline, which will include natural planted areas, picnic areas with tables and benches, outdoor grills, and discovery play features for children and adults;
- "Turbine Plaza," which will be partially enclosed in the Unit 3 complex and function as circulation to the shoreline, as an event space, and potentially as a space for the display of public art, and;
- "Humboldt Street Plaza," a pedestrian extension of Humboldt Street which will function as circulation to the shoreline and as a public gathering and event space.

Additional smaller spaces lining the east and west sides of the Bay Trail will offer seating, a flexible lawn, natural planting, outdoor dining, public art, and interpretive elements. A public recreational dock is also proposed. The shoreline park will connect seamlessly to the neighboring Pier 70 shoreline park to create a unified Central Waterfront shoreline open space system. All public open spaces in the Project—with the exception of the Point and some areas directly along the shoreline, which are owned by the Port—will be privately owned. All open spaces, including those on Port property, will be maintained by the site master association(s) and managed for public use and benefit in perpetuity according to rules and procedures established in the Development Agreement.

ENVIRONMENTAL REVIEW

On October 3, 2018, the Department published the Potrero Power Station Mixed-Use Project Draft Environmental Impact Report ("DEIR") for public review (Case No. 2017-011878ENV). The DEIR was available for public comment until November 19, 2018.

On November 8, 2018, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting to solicit comments regarding the DEIR.

On December 11, 2019, the Department published a Responses to Comments document, responding to comments made regarding the DEIR.

On January 30, 2020, the Commission will consider certification of the Final Environmental Impact Report ("FEIR") for the Project, and will determine if it is adequate, accurate and complete.

In addition, on January 30, 2020, the Commission must adopt the CEQA Findings for the FEIR, prior to the approval of the Project (See Case No. 2017-011878GPA PCA MAP DVA CWP).

PUBLIC COMMENT

The Project Sponsor has engaged in a robust community outreach program throughout the development and refinement of the Project design over the past several years. Community engagement included

roughly 170 community meetings, including public site tours, workshops and presentations, Project Sponsor office hours, presentations to the Eastern Neighborhoods Community Advisory Committee, the Potrero Boosters, the Dogpatch Neighborhood Association, SPUR, the Housing Action Coalition, the Port, the Historic Preservation Commission, and the Planning Commission.

Community voices have played an important role in shaping the design of the Project, particularly related to the height of buildings and the retention of Station A. Initial proposals for the Project site included height limits that would have permitted one 300 foot tower (north end of Block 15) and three 180 foot towers (Block 1, Block 5, and Block 7). However, some community members expressed concerns about the impact that buildings of this height would have on viewsheds from Potrero Hill. In response, the Project Sponsor reduced the number of proposed towers, reconfigured their location, and lowered the greatest permitted heights on the site from 300 feet to 240 feet. The current proposal includes heights of 240 feet on Block 7, 220 feet on Block 5, and 180 feet on Block 1. In order to maintain the overall development program—including the number of proposed housing units—while accommodating this change, height limits on Block 13 and the south end of Block 15 were increased.

Regarding Station A, the building's retention and adaptive reuse have been a goal of the Planning Department and Project Sponsor since the earliest stages of planning for the Project. However, its construction type (unreinforced masonry) and state of disrepair due to a lack of ongoing maintenance by previous property owners mean its retention is challenging for both technical and economic reasons. As such, Station A's status within the Project was uncertain as the Project Sponsor studied whether the structure could be physically incorporated into a modern building and whether Project financing could support it along with other important Project priorities. Throughout the planning and design process for the Project, community members from the Dogpatch and Potrero Hill neighborhoods strongly advocated for the retention of Station A in community meetings, at Planning Commission hearings, and at Historic Preservation Commission hearings. As a result of the ongoing dialogue between the City, the Project Sponsor, and members of the community, the existing Station A structure is proposed for retention and adaptive reuse and will become an iconic element within the Project.

In addition to the public participation noted above, the Planning Department received one comment letter from the public prior to the publication of this case report relating to the Planning Commission's scheduled Project approval actions on January 30, 2020. The letter, dated November 25, 2019, was sent by the SPUR Project Review Advisory Board. It endorses the Project noting the appropriateness of its location on an underutilized brownfield site adjacent to transit, its land use mix, its development density, and its design as a walkable neighborhood with ample open space and active ground floor uses.

PLANNING COMMISSION REQUIRED ACTIONS FOR THE PROJECT

As summarized above, the Commission must take several actions to approve the Project. These actions include:

Certification of the FEIR and adoption of CEQA Findings.

General Plan Consistency Findings

The Commission must adopt findings of General Plan consistency for all approval and implementation actions related to the project. These findings are included in the first approval action being considered by the Commission, which is consideration of the ordinance to amend the General Plan.

General Plan

The Project site is currently referenced in the General Plan as designated for industrial and PDR use with a height limit of 40-feet, and as such, the Project could not be constructed under the current provisions of the General Plan. However, existing policies in the Central Waterfront Area Plan as well as the Settlement Agreement anticipated redevelopment of the Project site to accommodate a wider range of uses upon conclusion of a community planning and design process. The proposed General Plan Amendments reflect the Project that emerged from the community process. The subject General Plan Amendments would: (1) amend Objective 1.1, Policy 1.1.8, Map 2, and Objective 5.1 of the Central Waterfront Area Plan to reflect the mixed-use vision for the subject site; (2) amend Urban Design Element Maps 4 and 5 by establishing maximum height and bulk limits consistent with the proposal; (3) amend Commerce and Industry Element Maps 1 and 2 by reclassifying generalized land uses and densities consistent with the proposal; (4) amend the Recreation and Open Space Element Map 3 by adding new publicly accessible open spaces of significant size (6.9 acres) proposed for the site; (5) amend the Transportation Element Map 11 by adding the Bay Trail Recreational Loop proposed for the site, and; (6) amend the Land Use Index to reflect amendments to the maps described above in the Urban Design, Commerce and Industry, Recreation and Open Space, and Transportation Elements.

Planning Code Map and Text Amendment – Potrero Power Station Special Use District (SUD)

On January 14, 2020, Supervisor Shamann Walton and Mayor London Breed initiated an ordinance that would amend the Planning Code to establish the Potrero Power Station SUD and make other conforming Code amendments.

The SUD will provide specific land use and development controls for the project site, which encompasses the subject property at 1201A Illinois Street, the public rights-of-way within the boundaries of the site and the associated open spaces. The Potrero Power Station SUD sets forth the zoning requirements for the site, including:

- Uses, including allowed uses per parcel and ground floor requirements;
- Building Standards, including Height and Bulk, Off-Street Parking, Bicycle Parking, Dwelling Unit Exposure, Open Space for Dwelling Units, Permitted Obstructions and Signage;
- Incorporation by reference of the Design for Development document, which contains additional standards and guidelines for development of the site

In addition, the SUD outlines the design review process for the Development Phases, Vertical Improvements and Minor/Major Modifications to Building Standards. The Design Review procedures include:

- Phase Approval: An overarching "Phase Application" will be submitted to the Department for approval in accordance with a Development Agreement ("DA"). The Phase approval would assure that the Master Developer is moving forward with infrastructure and community improvements at the same time as the development of the buildings (Vertical Improvements). The Phase approval is required before Planning can begin review on a specific Vertical Improvement.
- Design Review and Approval of Vertical Improvements and Privately-Owned Horizontal Improvements: Design review and applications for Vertical Improvements (new construction of a

building or any later expansion/major alteration or addition to a previously-approved building) and Privately-Owned Horizontal Improvements (e.g. Power Station Park, Stack Plaza, and other Project open spaces) will be submitted to Planning. Planning staff shall review these applications for consistency with the SUD and the D4D. The Planning Director shall have discretion over minor modifications (deviation of less than 10 percent from any dimensional or numerical standard in the SUD and the DSG), while the Planning Commission shall review and approve any major modification. Other than major modifications, the Planning Director would approve all Vertical Improvements and Privately-Owned Horizontal Improvements.

The SUD requires public meetings as an element of the design review process for buildings and Privately-Owned Community Improvements per the following: (1) For all buildings, Project Applicants must conduct a minimum of one pre-application public meeting at or near the Project site per the Planning Department's pre-application meeting procedures; (2) For buildings 200 feet or greater in height and for the rehabilitation and development of Station A on Block 15 and Unit 3 on Block 9, the Planning Director shall refer the Design Review Application to the Planning Commission for an informational hearing; and (3) For any parks or open space within the Power Station park system, Project Applicants must conduct a minimum of two community meetings at or near the Project site per the Planning Department's pre-application meeting procedures. Additional meetings related to the parks and open space design may be required at the discretion of the Planning Director.

Zoning Map Amendments

The same ordinance introduced on January 14, 2020, by Supervisor Shamann Walton and Mayor London Breed would also amend the Zoning Map and Height and Bulk District Map for the project site. As indicated above, the Site would be included within the new Potrero Power Station SUD, which would rezone the land currently zoned M-2 (Heavy Industrial) to PPS-MUD (Potrero Power Station Mixed-Use District) and P (Public) to reflect the intended mixed-use character of the site. The rezoning would also include rezoning portions of land under Port of San Francisco jurisdiction that are planned for open spaces uses from and PDR-1-G (Production, Distribution & Repair-1-General) to P (Public), which is the appropriate zoning designation for public park land. This rezoning also includes re-designating the height and bulk district within the SUD from 40-X and 65-X to 65/240-PPS.

The site is currently within the 40-X and 65-X Height and Bulk designations. It would be rezoned to a 65/240-PPS Height and Bulk District, which would, in turn, refer to the Potrero Power Station SUD for fine-grained height regulations.

Design for Development Document (D4D)

The D4D articulates a vision and goals for the character of the overall project, and provides specificity on aspects of land use, building frontage, historic preservation, open space, streets and streetscapes, parking and loading, buildings, lighting, and signage. The scope of the D4D is expansive and includes regulatory standards, supplementing the controls in the SUD, as well as guidelines for each topic area. The following is a summary of the main chapters of the D4D:

- *Land Use:* Allowable land uses on the site are designated by development block. Primarily residential blocks are distributed among primarily commercial blocks throughout the Project site in order to create a mixed-use environment and ensure that all areas of the site are active

throughout the day and into the evening. Certain ground floor land uses, such as retail, PDR, and other active uses, would also be required in some locations, particularly along the waterfront, Humboldt Street (which is envisioned as the site's main retail street), and 23rd Street (which is envisioned as a PDR-focused street).

- *Open Space Network:* The Project will create approximately 6.9 acres of new public open space including the Power Station Park, Stack Plaza, Waterfront Park, and several smaller plazas and pathways throughout the Project site. All open spaces in the Project—with the exception of the Point and some areas directly along the shoreline, which are owned by the Port—will be privately owned and publicly accessible. The D4D establishes minimum dimensions, amenities and general layout along with intentions for design and use of the space.
- *Streets and Streetscapes:* The Project will establish a new, multi-modal street network, which will connect the project site to Pier 70, the Dogpatch neighborhood, and the City at large. Streets will be designed in compliance with the D4D and Infrastructure Master Plan, both of which are adopted along with the DA.
- *Parking and Loading:* The SUD and D4D allow for the construction of a maximum of 2,622 parking spaces in a district parking structure and/or in below grade or fully wrapped parking structures. The parking is proposed to be provided in shared structures that will also provide public parking for commercial and retail uses on the site as well as the new open space resources.
- *Buildings:* The Project establishes standards and guidelines for massing and architecture, streetwall, building base and ground floor, facades and materiality, projections, roofs, residential building elements and open space, garages and service entry design, historic district compatibility, and sustainability. The D4D emphasizes design considerations for pedestrians by including robust requirements for activation, modulation, and scaling building frontages with respect to the scale and function of the adjacent street or open space.

In general, the Project's land uses and conceptual design are specifically established in the D4D. However, special circumstances require flexibility and/or the possibility of alternative development scenarios related to the following Project elements, which are all illustrated in the D4D:

- *PG&E Sub-Area:* PG&E owns and operates important power distribution switchyards just west of the Project site both north and south of Humboldt Street. PG&E has studied and is pursuing the option of consolidating the north and south switchyards such that they occupy a smaller footprint on its property south of Humboldt Street. As such, with permission from PG&E, the Project Sponsor included the area north of Humboldt— known as the PG&E Sub-Area and encompassing all of Project Block 13 and a portion of Project Block 1—in the Project master plan documents, entitlement, and EIR. However, in the scenario that PG&E does not consolidate its switchyard facilities and its property is not conveyed to the Project Sponsor or does not otherwise become party to the DA, the D4D provides a Project scenario that does not include the PG&E Sub-Area. The No-PG&E scenario differs from the proposed Project in that it contains approximately 500 fewer housing units, a reduction of approximately 20,000 sq ft of PDR space, and would not include Georgia Street or the segment of Humboldt Street between Georgia Lane and Illinois Street. The SUD zoning controls do not become operative for the PG&E Sub-Area until a Notice of Joinder to the Development Agreement is approved by the Board of Supervisors or until the PG&E Sub-Area, or any portion thereof, is conveyed to Developer.

- *District Parking Structure:* The Project permits, but does not require, a district parking structure to be constructed. The preferred location for the parking structure is on Block 5 due to its location adjacent to the existing PG&E southern switchyards, which will remain indefinitely in their current location. However, the D4D permits alternative locations of a district garage on Blocks 1 or 13 should PG&E's proposed switchyard consolidation require the use of land on either Block 5 or Block 13.
- *Station A:* The existing Station A structure on Block 15 is an important character-defining element of the base Project and its retention as part of an adaptive reuse effort is a high priority for the Project. However, as an unreinforced masonry building, it is prone to collapse in an earthquake. Should 70% or more of the existing Station A structure be severely damaged by an earthquake or other natural disaster—and thus unsalvageable—prior to construction of an adaptive reuse project for the structure, Block 15 may be constructed with a new commercial building. The D4D includes detailed design Standards, Guidelines, and Considerations for Block 15 to ensure a high caliber of design whether or not Station A is retained.
- *Unit 3:* Along with Station A, the existing Unit 3 structure on Block 9 is an important link to the Project site's industrial past and its retention for adaptive reuse as a hotel is included, although not required, in the proposed Project. Should the retention of Unit 3 as part of the Project prove infeasible, the D4D describes an alternative development scenario for Block 9 that includes a hotel and/or residential building with a smaller footprint than the scenario that retains Unit 3. This scenario without Unit 3 would result in an expanded Stack Plaza open space that would allow for uninterrupted views to the Bay from the Project's other main open space, Power Station Park.

Development Agreement (DA)

The Development Agreement (DA) is a contract between the City and the developer (California Barrel Company) that vests to the Developer master entitlement to construct the project in exchange for public benefit obligations of the developer above and beyond those provided by typical code-compliant projects. The DA "runs with the land" for a period of 30 years (i.e. transfers to any new parties, in case that California Barrel Company sells all or part of the land, including future HOAs). Among other things, the DA gives the master developer the right to develop the Project in phases in accordance with the DA, requires certain public benefits, describes the application of existing and future City laws, and establishes fees and exactions. Key provisions of the DA include:

- *Open Space:* Creation or improvement of approximately 6.9 acres of public open space, including the Power Station Park, Stack Plaza, Waterfront Park, and several smaller plazas and bicycle and pedestrian pathways throughout the Project site. The Project will also include a publicly accessible soccer field either on the roof of the district parking garage or another location (if no parking garage is built). All open spaces will be maintained in perpetuity by the Project.
- *Affordable Housing:* The Project will create a significant amount of affordable housing units. The affordable housing plan will facilitate development of 30% of all residential units built within the project site as below market rate units, inclusionary units, or in lieu fee units. A maximum of 258 affordable housing units (33% of total affordable units) may be constructed off-site through the payment of in lieu fees and such units must be located in Supervisor District 10. Inclusionary Rental Units will be restricted, on average, to a Housing Cost that is affordable to Households earning not more than 72% of Area Median Income ("AMI"). Inclusionary For-Sale Units will be

restricted, on average, to a Housing Cost that is affordable to Households earning not more than 99% of AMI.

- *Sustainability and Sea Level Rise Protection:* The Project will implement sustainability measures to enhance livability, health and wellness, mobility and connectivity, climate protection, resource efficiency, and ecosystem stewardship and provide funding sources through the formation of a Community Facilities (Special Tax) District that the City will use to implement protections along the Central Waterfront shoreline from future sea level rise.
- *Transportation:* In addition to constructing a new multi-modal street network connecting to the Dogpatch and Pier 70, the Project will provide a new bus stop and layover facilities for the proposed extension of the MUNI 55 bus service through the Pier 70 and Potrero Power Station sites, as well as shuttle service supplementing MUNI service and connecting the site to the BART system. Additionally, the Project will contribute approximately \$65 million in Transportation Sustainability Fees to a variety of purposes within the neighborhood and larger transportation system. The Project includes a robust Transportation Demand Management program with a requirement to reduce single occupancy vehicle trips by 11% from baseline metrics. This requirement was identified as part of the environmental review process.
- *Jobs & Workforce Development Program:* The DA includes a robust Workforce Agreement, which guarantees a significant financial contribution (\$1M) to training programs aimed at both construction and end-user employment opportunities onsite. As many future tenants in buildings within this Project will be life science and/or tech related, the development will provide unique opportunities for local employment in the fields of STEM. The DA also memorializes programmatic partnerships with future STEM employers to support job fairs, ongoing networking, technology-related career readiness, and curriculum development for further training efforts. The project will also comply with First Source Programs for construction and operational activities, as well as a Local Business Enterprise Utilization Plan.
- *Community Facilities:* The Project will include the construction of an on-site community recreation center of at least 25,000 gross square feet in size provided rent free to a community facility operator along with funding for tenant improvements. Additionally, the Project will provide funding or space to the San Francisco Public Library for a library to be located on the Project site or within ¾ mile from the Project site.
- *Childcare Facilities:* The Project will construct two childcare facilities on site totaling not less than 6,000 gross square feet in size each. These facilities will be available for lease to a licensed nonprofit operator without charge for rent, utilities, property taxes, building services, or repairs, with minimum terms of four years. After this initial term, they will be available to a licensed nonprofit operator for an additional period of four years, at a cost not to exceed actual operating and tenant improvement costs reasonably allocated to similar facilities in similar buildings.
- *Historic Preservation:* The Project will retain and adaptively reuse Station A and the Unit 3 Boiler Stack, two contributing structures in the Third Street Industrial District. The Boiler Stack will be rehabilitated to the Secretary of the Interior's Standards for Historic Rehabilitation.

In conjunction with the Development Agreement, other City agencies retain a role in reviewing and issuing later approvals for the Project (for example, subdivision of the site and construction of infrastructure and other public facilities), as memorialized in the DA and other implementing documents.

It is also proposed as part of approval of the DA that the City will consent to waive or modify certain procedures and requirements under existing Codes in consideration of alternative provisions in the DA.

ISSUES AND OTHER CONSIDERATIONS

- *Southern Bayfront Strategy.* The Potrero Power Station Mixed-Use Project is a Southern Bayfront Strategy project. The Southern Bayfront Strategy is a framework the City has used to negotiate several large-scale master development sites that are being developed under development agreements. Staff has concluded that the DA negotiated with the Project Sponsor meets the goals of the Southern Bayfront Strategy to deliver community benefits that contribute to a high quality waterfront, community facilities, and affordable housing particularly suited for the Central Waterfront context.
- *SB 330 compliance – M-zone clean-up.* The subject rezoning to create the PPS SUD, which allows housing as a principally permitted use on the majority of blocks within the district, and to increase height limits up to 240 feet constitutes a substantial increase of zoned housing capacity in the southeast quadrant of the City. This upzoning would create capacity for approximately 2,600 units, estimated at approximately 1,900 units above the zoned capacity for housing under the existing M-1 and PDR zoning with a 40-foot height limit (noting that housing is not principally permitted in the M district and only allowed through discretionary action as a Conditional Use). Concurrent with this upzoning of M-zoned parcels to increase housing capacity at the Potrero Power Station site, the City is considering other zoning changes in the industrial portions of the southeastern sector of the city to convert approximately 215 of the remaining M-zoned parcels to PDR zoning in order to protect the City's remaining industrial areas for industrial uses in some cases and others to P zoning to reflect the underlying existing public ownership and public use. The M zone is an antiquated industrial district that has been mostly been phased out of the City, other than on Port-owned properties, by rezoning industrial properties to PDR districts. All of these parcels currently zoned M are adjacent to and contiguous with industrial PDR districts, and includes various parcels in the Central Waterfront and Bayview area, including the Bayview Industrial Triangle, whose Redevelopment Plan is set to expire in June 2020. As noted, housing is not principally permitted on these M parcels, it is conditionally permitted on approximately 171 of the parcels. (Approximately 45 of these parcels are currently subject to the Bayview Industrial Triangle Redevelopment Plan, which does not permit housing on 44 of the subject parcels.) Approximately three-quarters of these 171 parcels are undevelopable for housing in any event due to a variety of factors, including: their active use as public freeway, roadway, and rail rights-of-way; their active use as critical publicly- and privately owned infrastructure (eg wastewater treatment plant, city dump/transfer station); their siting and dimensions rendering them undevelopable for housing (eg lacking street access and landlocked by surrounding PDR-zoned parcels). The theoretical maximum housing capacity of all those of the 171 parcels not encumbered by infrastructure and other confounding factors, if they were approved under Conditional Use at their maximum allowable density, is less than 1,000 units. The City is also concurrently proceeding with other substantial upzonings in 2020, including the Market Octavia Plan "Hub" area, Balboa Reservoir, and others, collectively representing several thousands of housing units of increased zoned capacity.

REQUIRED COMMISSION ACTION

In order for the Project to proceed, the Commission must:

- 1) Certify the FEIR pursuant to the CEQA;
- 2) Adopt CEQA Findings, including a statement of overriding considerations and a "MMRP";
- 3) Recommend that the Board of Supervisors approve the ordinance amending the General Plan including amendments to the Central Waterfront Area Plan, the Urban Design Element, the Commerce and Industry Element, the Transportation Element, the Recreation and Open Space Element, and the Land Use Index of the General Plan, and adopt General Plan consistency and Planning Code Section 101.1 Consistency and Implementation finds for the Project as a whole;
- 4) Recommend that the Board of Supervisors approve the ordinance amending the Planning Code to establish the Potrero Power Station Special Use District, and amend the associated Zoning Maps;
- 5) Adopt the proposed the Potrero Power Station Design for Development document; and
- 6) Recommend that the Board of Supervisors approve the Development Agreement (DA) for the Project.

BASIS FOR RECOMMENDATION

- The Project will add a substantial number of housing units, including affordable housing units in an underutilized site along the bay waterfront while improving and maintaining substantial waterfront acreage to augment the public open space system in an area lacking in such amenities and waterfront access.
- The site is currently underutilized, and the addition of new ground-floor retail spaces, new streets and public amenities, and publicly-accessible open spaces will enliven the streetscape and will provide new access to the waterfront.
- The Design for Development document will provide specific guidance for the character of the overall Project, resulting in high-quality architecture, extensive streetscape and public realm improvements, and abundant publicly-accessible open space.
- The Development Agreement will provide substantial public benefits in areas including affordable housing, funding for transportation improvements, workforce development, and historic preservation, among other benefits.
- The Project is, on balance, consistent with the Goals, Policies, and Objectives of the General Plan.

RECOMMENDATION: Recommend to the Board of Supervisors approval of the General Plan Amendments, Planning Code Text and Map Amendments, the DA (to be scheduled April 14, 2020), and adoption of approval of the D4D.

Attachments:

CEQA Materials

Draft FEIR Certification Motion
DEIR Response to Comments (electronic only)
CEQA Findings and Draft Adoption Motion
Development Feasibility Analysis of Historic Preservation Alternatives
Peer Review of Development Feasibility Analysis of Historic Preservation Alternatives

General Plan Amendments

Draft Resolution
Draft Ordinance
Exhibit: General Plan Maps with notated proposed changes

Planning Code Text and Map Amendments

Draft Resolution
Draft Ordinance

Development Agreement

Draft DA Resolution
Draft Ordinance
Draft Design for Development Motion
Project Sponsor Letter
Draft Development Agreement
Draft Development Agreement Exhibits including:

- Design for Development
- Infrastructure Master Plan
- Transportation Demand Management Plan

Redevelopment Fiscal Impact Analysis

Public Comment Letters

SPUR Project Review Advisory Board

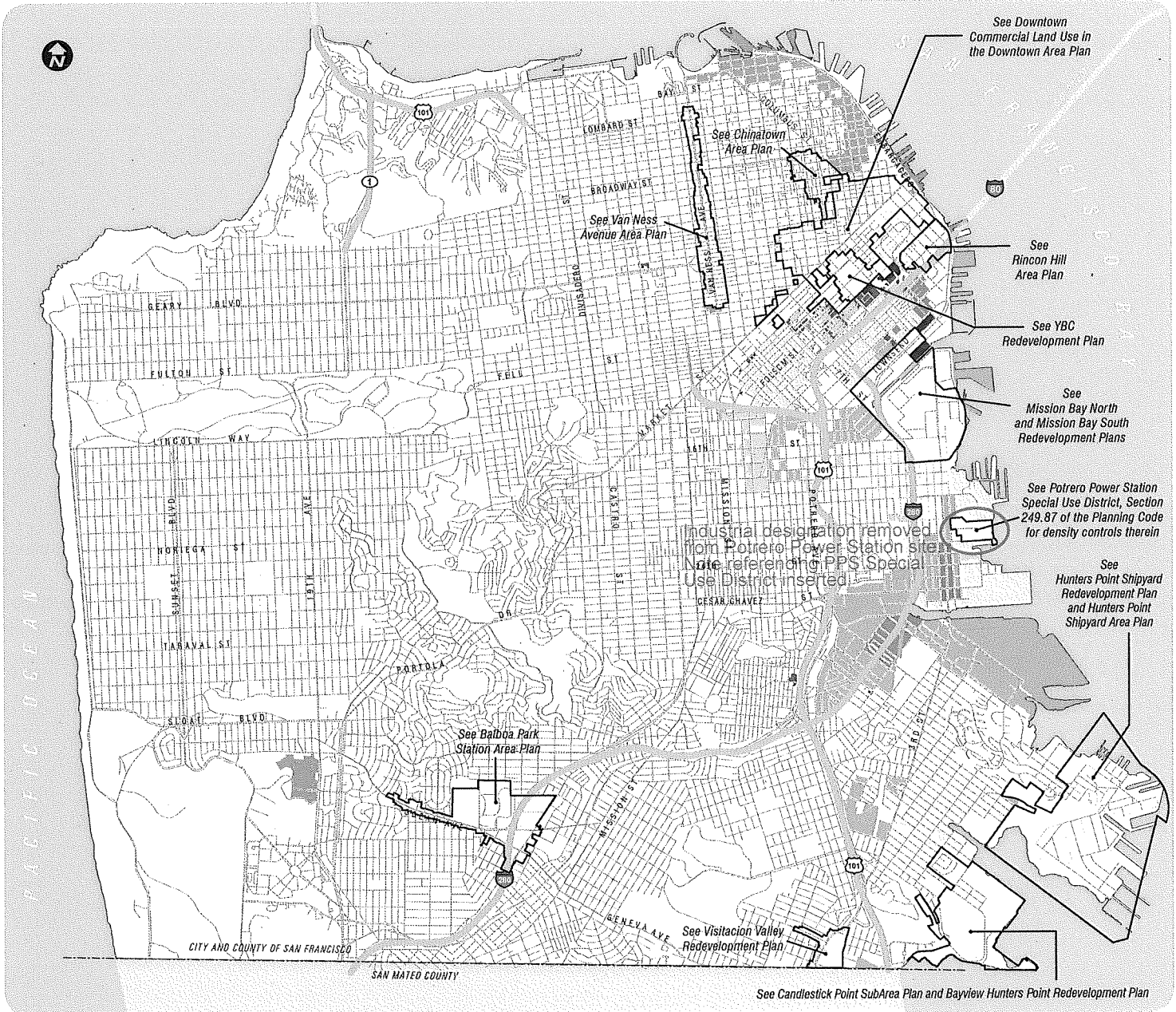
Generalized Commercial and Industrial Land Use Plan

0 Miles

MAP 01

-  Major Shopping
-  Business and Services
-  Light Industry
-  General Industry

Note:
This map does not illustrate mixed-use areas, which may also contain elements of commerce and industry.



Generalized Commercial and Industrial Density Plan (Excludes Neighborhood Commercial Areas)

0 Miles 1
MAP 02

Commercial (C-2)

3.6:1 FAR

FAR = Floor Area Ratio

Industrial (M-1, M-2, PDR)

3.0:1 FAR

4.0:1 FAR

5.0:1 FAR

6.0:1 FAR

9.0:1 FAR

Res/Com (MU, UMU, SoMa)

2.5:1 FAR

3.0:1 FAR

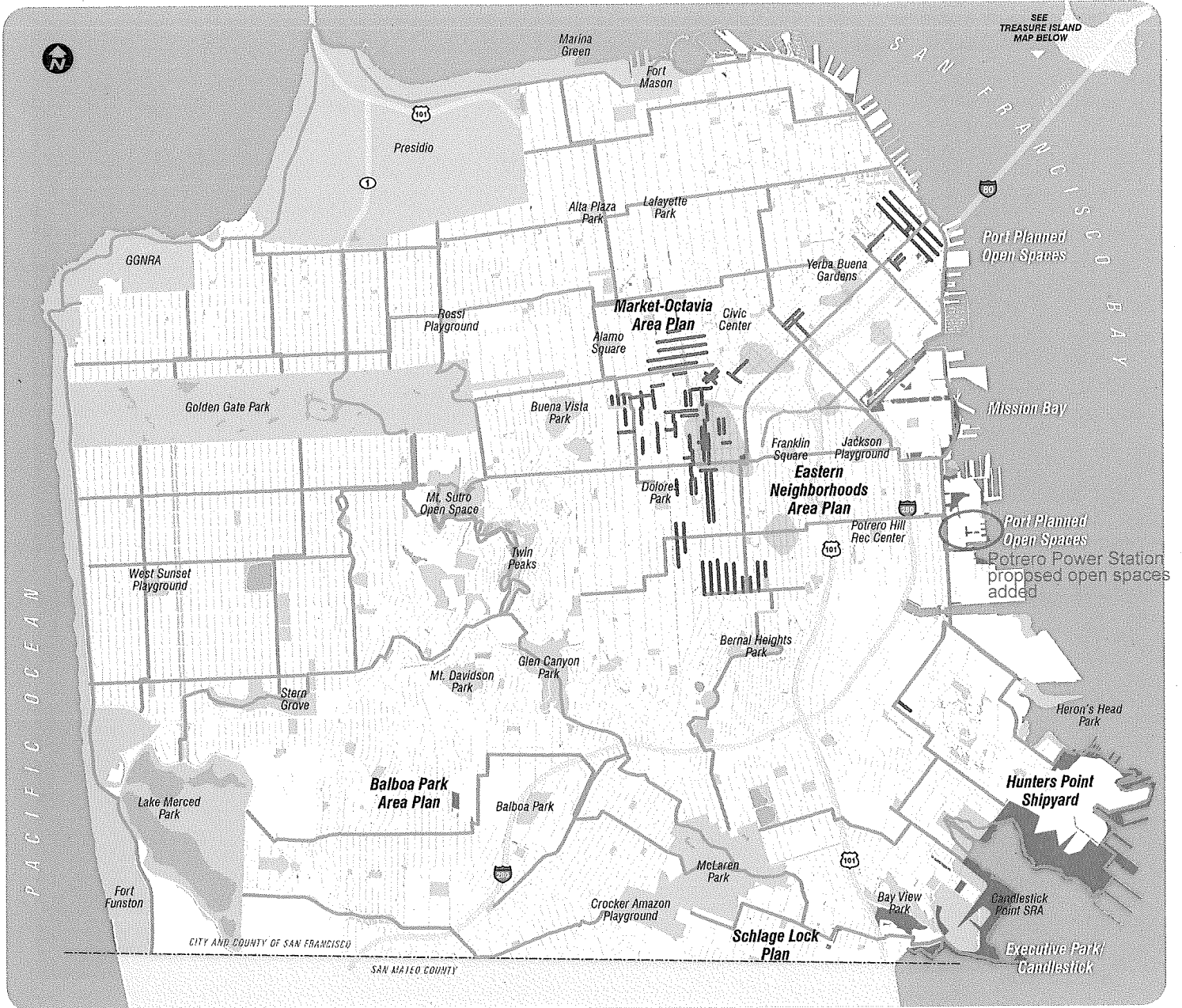
4.0:1 FAR

5.0:1 FAR

6.0:1 FAR

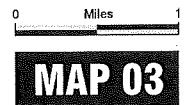
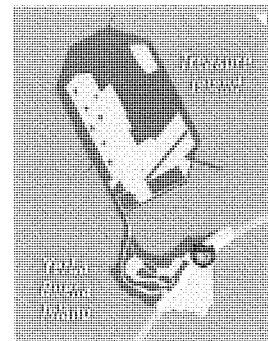
7.5:1 FAR

Note:
In Commercial and Industrial districts, both FAR and dwelling unit density controls apply. In Mixed Residential Commercial districts, FAR limits apply to nonresidential uses and dwelling unit limits apply to residential uses. See Map 3 in the Housing Element for dwelling unit densities, an additional 25% FAR may be added on corner lots in non C-3 districts. Public use areas are excluded.



Existing and Proposed Open Space

- | | |
|--|--|
|  Potential Living Alleys |  Proposed Open Space |
|  Potential Living Streets |  Existing Open Space |
|  Proposed Green Connections |  Acquire and develop sites for open space (Eastern Neighborhoods Area Plan) |
|  Off Street Multi-Use Paths | |

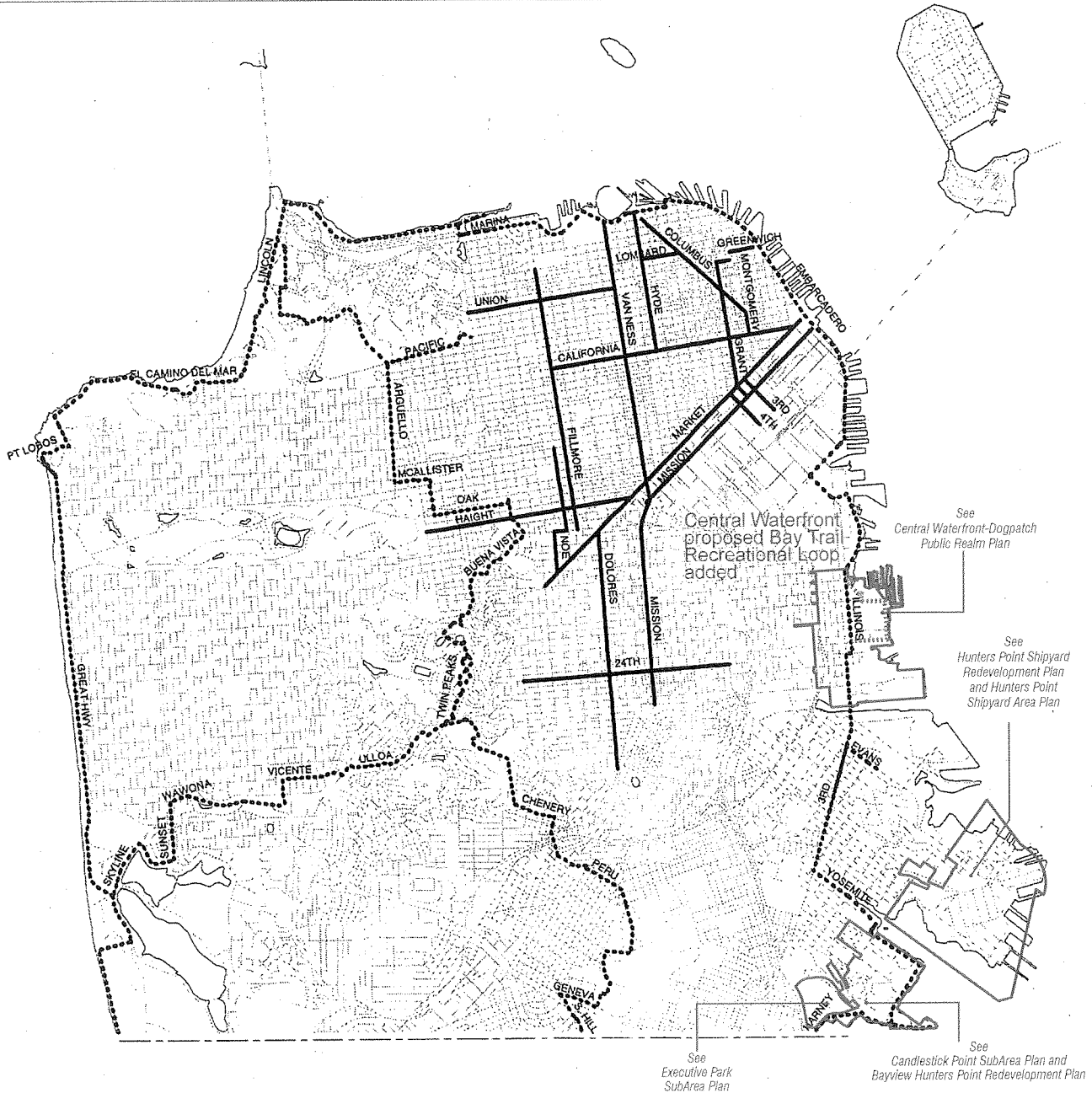


MAP APPROVED BY THE BOARD OF SUPERVISORS

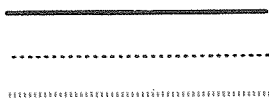
The notation below in *italics* represents a recent amendment to the General Plan that has been approved by the Board of Supervisors after this map was originally adopted. The change will be added to the map during the next map update.

- Add a boundary area around the Hunters Point Shipyard area with a line that leads to a reference that states "See Hunters Point Redevelopment Plan and Hunters Point Shipyard Area Plan"
- Designate Folsom St between Embarcadero and Essex St and Second St in its entirety as part of the Citywide Pedestrian Network
- Revise map to show proposed SF Bay Trail running from Candlestick Point SRA through Hunters Point Shipyard, then to Third Street and north if this is only depicting Third Street MUNI Metro light rail

- Add a boundary area around Candlestick Point with a line that leads to a reference that states "See Candlestick Point SubArea Plan and Bayview Hunters Point Redevelopment Plan"
- Add a boundary area around Executive Park with a line that leads to a reference that states "See Executive Park Subarea Plan"
- **CENTRAL WATERFRONT-DOGPATCH PUBLIC REALM PLAN:** The 2018 Public Realm Plan developed concept designs for Complete Streets and Open Spaces in this Public Realm Plan area. Please refer to that Public Realm Plan for more specific recommendations for implementation.

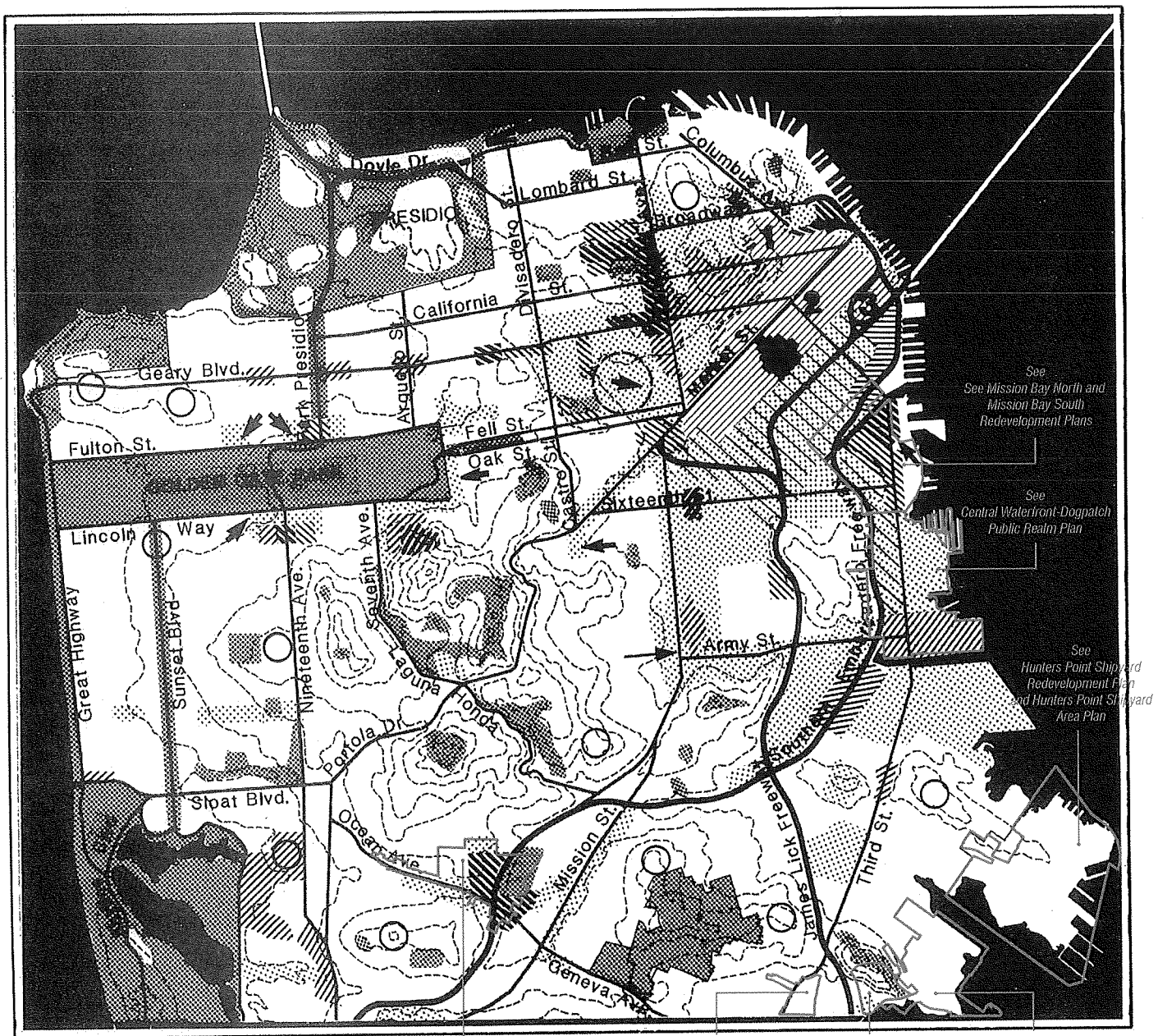


CITYWIDE PEDESTRIAN NETWORK



Citywide Pedestrian Network Street
Bay, Ridge and Coast Trail
Proposed Bay Trail Recreational Loop

Map 11



See
Mission Bay North and
Mission Bay South
Redevelopment Plans

See
Central Waterfront-Dogpatch
Public Realm Plan

See
Hunters Point Shipyard
Redevelopment Plan
and Hunters Point Shipyard
Area Plan

See Balboa Park Station
Area Plan

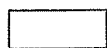
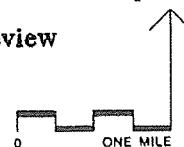
See Redevelopment Plan for the
Visitation Valley Schlage Lock Project

See Executive Park
SubArea Plan

See Candlestick Point SubArea Plan and
Bayview Hunters Point Redevelopment Plan

URBAN DESIGN GUIDELINES FOR HEIGHT OF BUILDINGS

Map 4



0-40 ft



41-88 ft



89-160 ft



161-240 ft

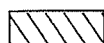


241-400 ft



OPEN SPACE

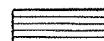
Any Development Subject To Review



MAXIMUM HEIGHT
Elevation Of Freeway



POINT TOWERS IN VICINITY



1. See Chinatown Area Plan
2. See Downtown Plan
3. See Rincon Hill Plan



LOWER END OF RANGE

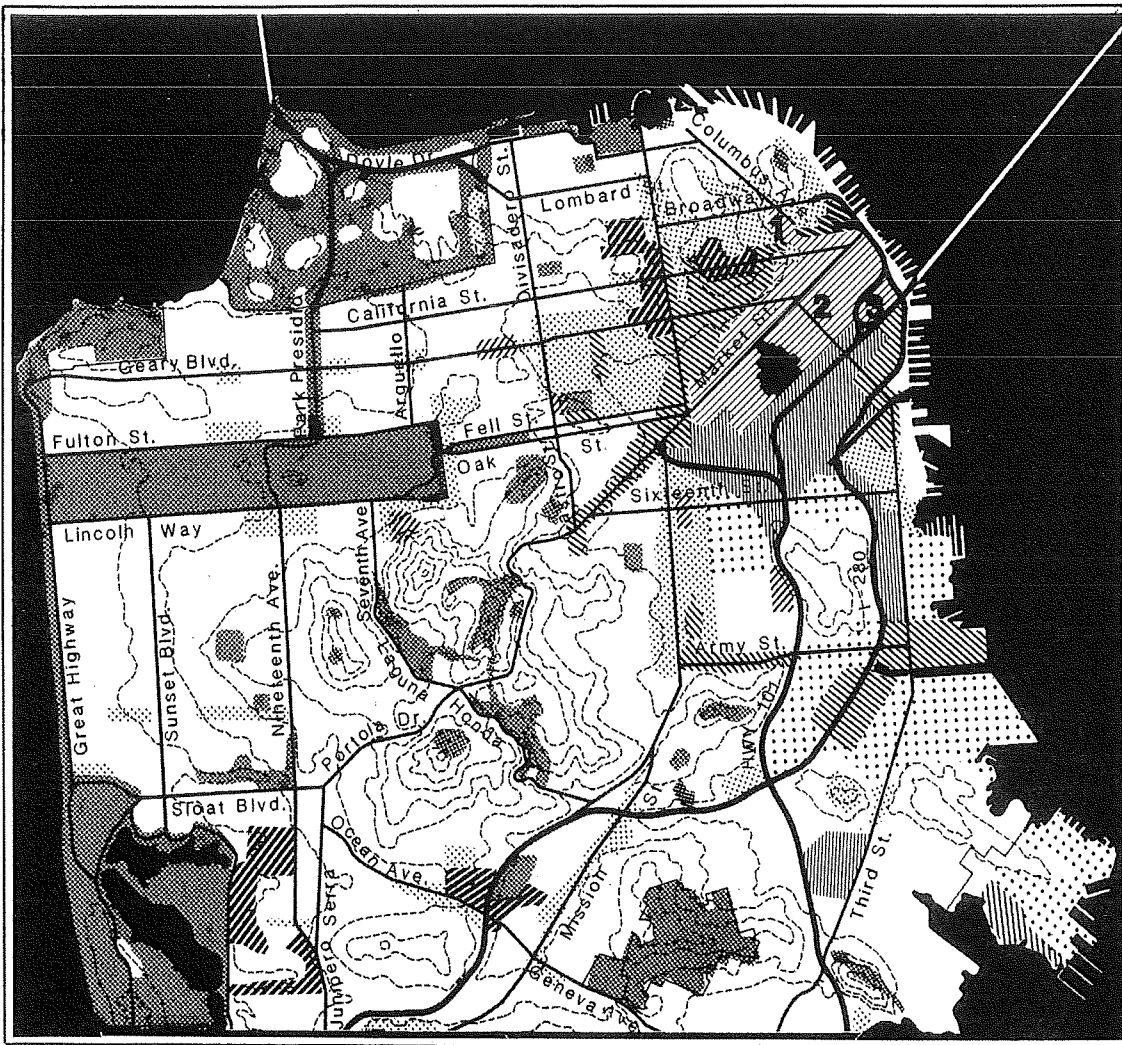
MIDDLE OR LOWER END OF RANGE

MAP APPROVED BY THE BOARD OF SUPERVISORS

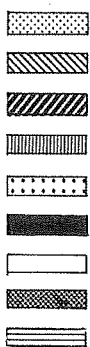
The notation below in italics represents a recent amendment to the General Plan that has been approved by the Board of Supervisors after this map was originally adopted. The change will be added to the map during the next map update.

- Delete the shaded areas within the Mission Bay area and add a boundary around the Mission Bay area with a line that leads to a reference that states "See Mission Bay North and Mission Bay South Redevelopment Plans." For Assessor's Blocks 3796 (Lots 1 and 2), 3797 (Lot 1), and a portion of 3880, place an asterisk on the parcels with a reference on the bottom of the page that states "See the Mission Bay Guidelines adopted by the Planning Commission"
- Add a boundary area around the Hunters Point Shipyard area with a line that leads to a reference that states "See Hunters Point Redevelopment Plan and Hunters Point Shipyard Area Plan"
- Add a boundary area around Candlestick Point with a line that leads to a reference that states "See Candlestick Point SubArea Plan and Bayview Hunters Point Redevelopment Plan"
- Add: "See Mission Bay Guidelines adopted by the Planning Commission"
- Add reference under #2 to Transbay: "See Downtown Plan and Transbay Redevelopment Development Controls and Design for Development Plan"
- Add a boundary area around the Balboa Park Station plan area with a line that leads to a reference that states "See the Balboa Park Station Area Plan"
- Add a boundary area around the Visitacion Valley Schlage Lock area with a line that leads to a reference that states "See Redevelopment Plan for the Visitacion Valley Schlage Lock Project"
- Add a boundary area around Executive Park with a line that leads to a reference that states "See Executive Park SubArea Plan"
- Add a shaded area with a new height designation with a range between 20-160 feet in the location of the Islais Creek area bordering Innes Avenue, Hawes and Griffith Streets.
- Add a shaded area for the 41-88 feet designation around the boundaries of the Sunnydale HOPE SF and Potrero HOPE SF Special Use Districts.
- Add a shaded area with a new height designation with a range between 65-240 feet in the location of the former Potrero Power Plant as shown in the Potrero Power Station Special Use District, Planning Code Section 249.87.

Notation for new height designation
at Potrero Power Station added



URBAN DESIGN GUIDELINES FOR BULK OF BUILDINGS



Guidelines Apply
Above Height Of

40 ft
80 ft
40 ft *
40 ft
60 ft
150 ft

Guidelines For
Maximum Plan
Dimension

110 ft
110 ft
110 ft *
250 ft
250 ft
250 ft

Guideline For
Maximum Diagonal
Plan Dimension

125 ft
125 ft
140 ft *
300 ft
300 ft
300 ft

Map 5



Bulk Regulated By Height Controls

OPEN SPACE: Any Development Subject To Review

1. See Chhntown Area Plan
2. See Downtown Plan
3. See Rincon Hill Plan

* Also Applies To Point Towers Where Designated In
Urban Design Guidelines For Height Of Buildings.

MAP APPROVED BY THE BOARD OF SUPERVISORS

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- Add a boundary area around the Hunters Point Shipyard area with a line that leads to a reference that states "See Hunters Point Redevelopment Plan."
- Add reference under #2 to Transbay: See Downtown Plan and Transbay Redevelopment Development Controls and Design for Development Plan.
- Delete shadings, add + at AB3796 (lots 1&2), 3797 (lot 7) and part of 3880; and add: "See Mission Bay North and South Redevelopment Plans."
- Add asterisk and add: "See Candlestick Point Special Use District; see applicable planning code provisions."
- Add + under "Also Applies..." and add: "See Mission Bay Guidelines adopted by the Planning Commission"

- Add a boundary area around the Balboa Park Station plan area with a line that leads to a reference that states "See the Balboa Park Station Area Plan."
- Add a boundary area around the Visitacion Valley Schlage Lock area with a line that leads to a reference that states "See Redevelopment Plan for the Visitacion Valley Schlage Lock Project."
- Add a boundary area around Executive Park with a line that leads to a reference that states "See Executive Park SubArea Plan"
- Delete Assessor's Block 5952, Lot 002 from shaded portion of map, and add a line that leads to a reference that states "See Jewish Home of San Francisco Special Use District, Planning Code Section 249.73, and San Francisco Zoning Map SU011."
- Add asterisk and add: "See Potrero Power Station Special Use District, Planning Code Section 249.87."

Notation for new bulk designation
at Potrero Power Station added



SAN FRANCISCO PLANNING DEPARTMENT

Planning Commission Resolution No. 20637

HEARING DATE: JANUARY 30, 2020

Case No.: 2017-011878GPA
Project: Potrero Power Station Mixed-Use Project
Existing Zoning: M-2 (Heavy Industrial)
PDR-1-G (Production, Distribution & Repair-1-General)
Height-Bulk: 40-X, 65-X
Proposed Zoning: P (Public)
Potrero Power Station Mixed-Use District (PPS-MUD)
Proposed Height: 65/240-PPS
Blocks/Lots: 4175/002, 4175/017, 4175/018 (partial), 4232/001, 4232/006, 4232/010, and
non-assessed Port and City and County of San Francisco properties
Project Sponsor: Enrique Landa, California Barrel Company – (415) 796-8945
Staff Contact: John M. Francis – (415) 575-9147, john.francis@sfgov.org

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

RESOLUTION RECOMMENDING THAT THE BOARD OF SUPERVISORS APPROVE AMENDMENTS TO THE CENTRAL WATERFRONT AREA PLAN, THE URBAN DESIGN ELEMENT, THE COMMERCE AND INDUSTRY ELEMENT, THE TRANSPORTATION ELEMENT, THE RECREATION AND OPEN SPACE ELEMENT, AND THE LAND USE INDEX OF THE GENERAL PLAN IN RELATION TO THE REDEVELOPMENT OF THE FORMER POTRERO POWER STATION AND MAKING FINDINGS OF CONSISTENCY WITH THE GENERAL PLAN AND PLANNING CODE SECTION 101.1, AND ADOPTING FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND PLANNING CODE 340.

WHEREAS, Section 4.105 of the Charter of the City and County of San Francisco provides that the Planning Commission periodically recommend General Plan Amendments to the Board of Supervisors; and

WHEREAS, the General Plan consists of goals, policies and programs for the future physical development of the City and County of San Francisco that take into consideration social, economic and environmental factors; and

WHEREAS, the General Plan shall be periodically amended in response to changing physical, social, economic, environmental or legislative conditions; and

WHEREAS, Planning Code Section 340 provides that an amendment to the General Plan may be initiated by the Planning Commission upon an application by one or more property owners, residents or commercial lessees, or their authorized agents; and

WHEREAS, in 2011, the Potrero Power Plant ceased its power-generating operations subject to a Settlement Agreement ("Settlement Agreement") between then-owner Mirant Potrero LLC ("Mirant")

and the City. The Settlement Agreement provided Mirant or a future property owner the opportunity to work with the City and community on a redevelopment proposal for the site. In 2016, the California Barrel Company ("Project Sponsor") purchased the property from then-owner NRG Energy, and in 2017 began an extensive planning process with City agencies and the community to develop a master plan for the site that would implement the Potrero Power Station Mixed-Use Project ("Project"); and

WHEREAS, the site is currently referenced in the General Plan as designated for industrial and PDR use with a height limit of 40 feet, and as such, the Project could not be constructed under the current provisions of the General Plan. However, existing policies in the Central Waterfront Area Plan as well as the Settlement Agreement anticipated redevelopment of the Project site to accommodate a wider range of uses; and

WHEREAS, the Project site is located on roughly 29 acres of land at 1201A Illinois Street immediately south of Pier 70 and encompasses property currently owned by the Project Sponsor, PG&E, the Port of San Francisco, and the City and County of San Francisco. The Project proposal includes developing approximately 2.5 million square feet ("sq ft") of residential space (2,601 dwelling units), 1.8 million sq ft of commercial uses, including 100,000 sq ft of retail, 800,000 sq ft of office, 650,000 sq ft of life science/laboratory, 240,000 sq ft of hotel (250 rooms), and 35,000 sq ft of Production, Distribution, and Repair ("PDR") uses. Additionally, it includes 25,000 square feet of entertainment/assembly uses, 50,000 square feet of community facilities, up to 2,686 off-street automobile parking spaces, and 6.9 acres of publicly accessible open space, including a new waterfront park. The proposal would also feature newly created public streets, pedestrian paths, cycle tracks, and the continuation of the Bay Trail. New buildings on the site are proposed to range from 65 feet to 240 feet in height and would generally step down from the middle of the site toward both the east and west. Three existing structures on the site, the Unit 3 power block and Boiler Stack along the waterfront and the Station A building, are proposed for adaptive reuse; and

WHEREAS, the Project Sponsor is proposing development of the Project and has submitted an application to the San Francisco Planning Department ("Department") for Environmental Review. The Project approvals include (1) General Plan Amendments, (2) Planning Code Text and Map Amendments, (3) the adoption of a Design for Development ("D4D") document to facilitate implementation, and (4) a Development Agreement ("DA") between the Project Sponsor and the City and County of San Francisco; and

WHEREAS, to implement the project, the Board of Supervisors must approve legislation amending the Planning Code (Planning Code Text and Planning Code Map amendments) by rezoning the underlying portions of the site from M-2 (Heavy Industrial) and PDR-1-G (Production, Distribution & Repair-1-General) to PPS-MUD (Potrero Power Station Mixed-Use District) and P (Public), rezoning the height district from 40-X and 65-X to 65/240-PPS, and establishing the Potrero Power Station Special Use District ("SUD") across the 1201A Illinois Street site; and

WHEREAS, on September 5, 2019, the Planning Commission passed Resolution 20511, which demonstrated the Commission's intent to amend the General Plan, and included by reference, the proposed General Plan Amendment necessary to implement the Project.

WHEREAS, the proposed General Plan Amendments contained in a draft ordinance attached hereto as Exhibit A would (1) amend Objective 1.1, Policy 1.1.8, Map 2, and Objective 5.1 of the Central Waterfront

Area Plan to reflect the mixed-use vision for the subject site; (2) amend Urban Design Element Maps 4 and 5 by establishing maximum height and bulk limits consistent with the proposal; (3) amend Commerce and Industry Element Maps 1 and 2 by reclassifying generalized land uses and densities consistent with the proposal, and Objective 4 to improve the equitable distribution of infrastructure; (4) amend the Recreation and Open Space Element Map 3 by adding new publicly accessible open spaces of significant size (6.9 acres) proposed for the site; (5) amend the Transportation Element Map 11 by adding the Bay Trail Recreational Loop proposed for the site, and; (6) amend the Land Use Index to reflect amendments to the maps described above in the Urban Design, Commerce and Industry, Recreation and Open Space, and Transportation Elements; and

WHEREAS, on January 30, 2020, the Planning Commission reviewed and considered the Final EIR ("FEIR") for the Project and found the FEIR to be adequate, accurate and objective, thus reflecting the independent analysis and judgment of the Department and the Commission, and that the summary of comments and responses contained no significant revisions to the Draft EIR, and certified the FEIR for the Project in compliance with the California Environmental Quality Act ("CEQA"), the CEQA Guidelines and Chapter 31 by Motion No. 20635; and

WHEREAS, on January 30, 2020, the Commission by Motion No. 20636 approved CEQA Findings, including adoption of a Mitigation Monitoring and Reporting Program (MMRP), under Case No. 2017-011878ENV, for approval of the Project, which findings and MMRP are incorporated by reference as though fully set forth herein; and

WHEREAS, on January 30, 2020, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting on the proposed General Plan Amendments and has considered the information included in the File for these Amendments, the staff reports and presentations, public testimony and written comments, as well as the information provided about the Project from other City departments.

NOW THEREFORE BE IT RESOLVED, that the Planning Commission hereby finds that the General Plan Amendments promote the public welfare, convenience and necessity for the following reasons:

1. The General Plan Amendments would help implement the Potrero Power Station Mixed-Use Project development by making available currently under-utilized land for needed housing, commercial space, parks and open space, community facilities, and other related uses.
2. The General Plan Amendments would help implement the Project, which, in turn, would provide employment opportunities for local residents during construction and post-occupancy.
3. The General Plan Amendments would help implement the Project by enabling the creation of a mixed-use and sustainable neighborhood with new infrastructure. The new neighborhood would improve the site's connectivity to and integration with the surrounding City fabric and connect existing neighborhoods to the Central Waterfront.
4. The General Plan Amendments would enable the construction of a new vibrant, safe, and connected neighborhood with active streets and open spaces, high quality and well-designed buildings, and thoughtful relationships between buildings and the public realm, including the waterfront.
5. The General Plan Amendments would enable construction of new housing, including new on-site affordable housing, a wide mix of waterfront recreational opportunities, and other related uses,

including commercial uses. These new uses would strengthen and complement nearby neighborhoods.

AND BE IT FURTHER RESOLVED, that the Planning Commission finds these General Plan Amendments are in general conformity with the General Plan, and that the Project and its approvals associated therein, all as more particularly described in Exhibit E to the Development Agreement on file with the Planning Department in Case No. 2017-011878DVA, are each on balance consistent with the General Plan, as it is proposed to be amended. These General Plan Findings are for the entirety of the Project and all related approval actions that, in addition to the General Plan Amendments, include but are not limited to Planning Code Text and Zoning Map Amendments, DA approval, D4D approval, and other subsequent approvals that are consistent with and further the Project.

HOUSING ELEMENT

OBJECTIVE 1

IDENTIFY AND MAKE AVAILABLE FOR DEVELOPMENT ADEQUATE SITES TO MEET THE CITY'S HOUSING NEEDS, ESPECIALLY PERMANENTLY AFFORDABLE HOUSING.

POLICY 1.1

Plan for the full range of housing needs in the City and County of San Francisco, especially affordable housing.

POLICY 1.8

Promote mixed use development, and include housing, particularly permanently affordable housing, in new commercial, institutional or other single use development projects.

POLICY 1.10

Support new housing projects, especially affordable housing, where households can easily rely on public transportation, walking and bicycling for the majority of daily trips.

The Project is a mixed-use development within walking distance of multiple high-frequency transit lines, including the T-Third light rail line and 22nd Street Caltrain Station with up to 2,601 dwelling units at full project build-out. The Project will include a wide range of housing options. As detailed in the Development Agreement, the Project exceeds the generally prevailing citywide affordable housing requirements of the Planning Code, by reaching a 30% affordability level.

OBJECTIVE 4

FOSTER A HOUSING STOCK THAT MEETS THE NEEDS OF ALL RESIDENTS ACROSS LIFECYCLES.

POLICY 4.2

Provide a range of housing options for residents with special needs for housing support and services.

As described in the Development Agreement, the Project will provide preference to the Homeless Prenatal Program for up to 36 Inclusionary Units over all phases of the project build-out.

OBJECTIVE 11

SUPPORT AND RESPECT THE DIVERSE AND DISTINCT CHARACTER OF SAN FRANCISCO'S NEIGHBORHOODS.

POLICY 11.1

Promote the construction and rehabilitation of well-designed housing that emphasizes beauty, flexibility, and innovative design, and respects existing neighborhood character.

POLICY 11.7

Respect San Francisco's historic fabric, by preserving landmark buildings and ensuring consistency with historic districts.

The Project, as described in the Development Agreement and the D4D, includes a program of development accompanied by substantial community benefits designed to revitalize an underutilized industrial site and complement the surrounding neighborhood with a mix of housing, commercial and open space uses. The Project includes the retention and adaptive reuse of two contributing buildings within the Third Street Industrial District, Station A and the Unit 3 Stack, and potentially the retention and adaptive reuse of a third, the Unit 3 Boiler. Additionally, the D4D includes standards and guidelines that ensure the design of new buildings on the site are consistent with the character of the Third Street Industrial District.

OBJECTIVE 12

BALANCE HOUSING GROWTH WITH ADEQUATE INFRASTRUCTURE THAT SERVES THE CITY'S GROWING POPULATION.

POLICY 12.1

Encourage new housing that relies on transit use and environmentally sustainable patterns of movement.

POLICY 12.2

Consider the proximity of quality of life elements, such as open space, childcare, and neighborhood services, when developing new housing units.

POLICY 12.3

Ensure new housing is sustainably supported by the City's public infrastructure systems.

OBJECTIVE 13

PRIORITIZE SUSTAINABLE DEVELOPMENT IN PLANNING FOR AND CONSTRUCTING NEW HOUSING.

POLICY 13.1

Support "smart" regional growth that locates new housing close to jobs and transit.

POLICY 13.3

Promote sustainable land use patterns that integrate housing with transportation in order to increase transit, pedestrian, and bicycle mode share.

The Project appropriately balances the construction of new housing and commercial uses with new and improved infrastructure and related public benefits in a sustainable manner. For example, the Project will:

- Host the eastern terminal stop for the new 55 Muni bus line, thereby bringing a high frequency transit line directly onto the Project site for use by residents, workers, and visitors.
- Implement a Transportation Demand Management (TDM) Program to incentive the use of transit, walking, and bicycling as alternatives to the private automobile. This includes the provision of a free shuttle connecting Project residents, workers, and visitors to the 22nd Street Caltrain Station and the 16th Street BART Station.
- Construct a new grid of streets that connects the site to Pier 70, the Dogpatch neighborhood, and additional high frequency transit lines off-site like the T Third Muni and prioritizes safe and comfortable bicycle and pedestrian access.
- Construct and maintain nearly seven acres of new waterfront and upland open space for a variety of active and passive recreational activities.
- Make substantial additional quality-of-life contributions to the Central Waterfront District including space for an indoor recreational center, childcare, and a potential library.

COMMERCE AND INDUSTRY ELEMENT

OBJECTIVE 3

PROVIDE EXPANDED EMPLOYMENT OPPORTUNITIES FOR CITY RESIDENTS, PARTICULARLY THE UNEMPLOYED AND ECONOMICALLY DISADVANTAGED.

POLICY 3.2

Promote measures designed to increase the number of San Francisco jobs held by San Francisco residents.

The Project would help meet the job creation goals established in the City's Economic Development Strategy by generating new employment opportunities and stimulating job creation across all sectors. The Project will provide expanded employment opportunities for City residents at all employment levels, both during and after construction. The Development Agreement, as part of the extensive community benefit programs, includes focused workforce first source hiring—both construction and end-user—as well as a local business enterprise component.

OBJECTIVE 5

REALIZE SAN FRANCISCO'S FULL MARITIME POTENTIAL.

POLICY 5.1

Encourage maritime activity which complements visitor activity and resident recreation.

POLICY 5.11

Pursue permitted non-maritime development on port properties.

The Project includes a proposed dock that could host small watercraft and function as a stop on a future water taxi service. Port properties within the Project site will be developed as open spaces that provide San Franciscans with enhanced opportunities to connect to and enjoy San Francisco Bay.

OBJECTIVE 6

MAINTAIN AND STRENGTHEN VIABLE NEIGHBORHOOD COMMERCIAL AREAS EASILY ACCESSIBLE TO CITY RESIDENTS.

POLICY 6.4

Encourage the location of neighborhood shopping areas throughout the city so that essential retail goods and personal services are accessible to all residents.

The Project will construct over 100,000 square feet of retail use concentrated on Humboldt Street, the waterfront, and on certain key corners throughout the site, which will serve the daily needs of residents, employees, and visitors of the site and of the surrounding community. As described in the DA, the Project will make good faith efforts to tenant a portion of its retail space with a full-service grocer.

TRANSPORTATION ELEMENT

OBJECTIVE 1

MEET THE NEEDS OF ALL RESIDENTS AND VISITORS FOR SAFE, CONVENIENT AND INEXPENSIVE TRAVEL WITHIN SAN FRANCISCO AND BETWEEN THE CITY AND OTHER PARTS OF THE REGION WHILE MAINTAINING THE HIGH QUALITY LIVING ENVIRONMENT OF THE BAY AREA.

POLICY 1.3

Give priority to public transit and other alternatives to the private automobile as the means of meeting San Francisco's transportation needs, particularly those of commuters.

The Project will host the eastern terminal stop for the new 55 Muni bus line, thereby bringing a high frequency transit line directly onto the Project site for use by residents, workers, and visitors, as well as a shuttle between the Project site and 16th Street BART station. The Project is also a short walk to the T Third Muni line, which offers high frequency service and connections to Downtown, the Bayview, and other City and regional destinations.

OBJECTIVE 2

USE THE TRANSPORTATION SYSTEM AS A MEANS FOR GUIDING DEVELOPMENT AND IMPROVING THE ENVIRONMENT.

POLICY 2.1

Use rapid transit and other transportation improvements in the city and region as the catalyst for desirable development, and coordinate new facilities with public and private development.

POLICY 2.5

Provide incentives for the use of transit, carpools, vanpools, walking and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.

The Project is located on underutilized land and will contribute to the creation of new local transportation services. Specifically, the Project will host the eastern terminal stop and Muni operator restroom facility for the new 55 Muni bus line, thereby bringing a high frequency transit line directly onto the Project site for use by residents, workers, and visitors. Additionally, the Project will contribute to the transit service by providing new intersection signals and pedestrian crosswalks on Illinois Street and a shuttle service for those living, working, and visiting the Project running from the site to the 22nd Street Caltrain Station and the 16th Street BART station. Shuttle service would be offered until such transit service is available.

The Project includes a detailed TDM program, including various performance measures, physical improvements and monitoring and enforcement measures designed to create incentives for transit and other alternative to the single occupancy vehicle for both residential and commercial buildings. In addition, the Project's design, including its streetscape elements, is intended to promote and enhance walking and bicycling. The Project features parking-protected bike lanes on 23rd Street, dedicated lanes on 23rd and Maryland Streets, and a new section of the Bay Trail along the waterfront.

OBJECTIVE 8

MAINTAIN AND ENHANCE REGIONAL PEDESTRIAN, HIKING AND BIKING ACCESS TO THE COAST, THE BAY AND RIDGE TRAILS.

POLICY 8.1

Ensure that the Coast Trail, the Bay Trail and the Ridge Trail remain uninterrupted and unobstructed where they pass through San Francisco.

The Project will construct a key section of the Bay Trail in the Central Waterfront, therefore helping to knit together the currently fragmented segments of the regional trail amenity within San Francisco.

OBJECTIVE 14

DEVELOP AND IMPLEMENT A PLAN FOR OPERATIONAL CHANGES AND LAND USE POLICIES THAT WILL MAINTAIN MOBILITY AND SAFETY DESPITE A RISE IN TRAVEL DEMAND THAT COULD OTHERWISE RESULT IN SYSTEM CAPACITY DEFICIENCIES.

POLICY 14.4

Reduce congestion by encouraging alternatives to the single occupant auto through the reservation of right-of-way and enhancement of other facilities dedicated to multiple modes of transportation.

POLICY 14.8

Implement land use controls that will support a sustainable mode split and encourage development that limits the intensification of automobile use.

The Project will include a network of streets that are designed with robust bicycle, pedestrian, and transit infrastructure to encourage residents, employees, and visitors of the site to use modes of transportation other than the automobile. The mixed-use nature of the Project will also support an environment of reduced automobile use by ensuring jobs, homes, retail, open space, and community uses are all in close proximity to each other.

OBJECTIVE 16

DEVELOP AND IMPLEMENT PROGRAMS THAT WILL EFFICIENTLY MANAGE THE SUPPLY OF PARKING AT EMPLOYMENT CENTERS THROUGHOUT THE CITY SO AS TO DISCOURAGE SINGLE-OCCUPANT RIDERSHIP AND ENCOURAGE RIDESHARING, TRANSIT AND OTHER ALTERNATIVES TO THE SINGLE-OCCUPANT AUTOMOBILE.

POLICY 16.1

Reduce parking demand through the provision of comprehensive information that encourages the use of alternative modes of transportation.

POLICY 16.6

Encourage alternatives to the private automobile by locating public transit access and ride-share vehicle and bicycle parking at more close-in and convenient locations on-site, and by locating parking facilities for single-occupant vehicles more remotely.

The Project's land use controls, which do not require any parking, would limit off-street auto parking to a maximum one space for every 1,500 square feet of commercial use and 0.6 spaces per residential unit, thereby encouraging use of transit, cycling and other means of travel. The Project would meet generally prevailing citywide standards for bicycle and car share parking and amenities.

OBJECTIVE 18

ESTABLISH A STREET HIERARCHY SYSTEM IN WHICH THE FUNCTION AND DESIGN OF EACH STREET ARE CONSISTENT WITH THE CHARACTER AND USE OF ADJACENT LAND.

POLICY 18.4

Discourage high-speed through traffic on local streets in residential areas through traffic "calming" measures that are designed not to disrupt transit service or bicycle movement, including.

As described in the D4D, the Project will construct a network of multi-modal neighborhood streets to complement adjacent uses. Given the local character of the streets, they are designed to include multiple traffic calming strategies including raised crosswalks, narrow travel lanes, street parking, among others, to discourage high traffic speeds.

OBJECTIVE 23

IMPROVE THE CITY'S PEDESTRIAN CIRCULATION SYSTEM TO PROVIDE FOR EFFICIENT, PLEASANT, AND SAFE MOVEMENT.

POLICY 23.1

Provide sufficient pedestrian movement space with a minimum of pedestrian congestion in accordance with a pedestrian street classification system.

POLICY 23.2

Widen sidewalks where intensive commercial, recreational, or institutional activity is present, sidewalks are congested, where sidewalks are less than adequately wide to provide appropriate pedestrian amenities, or where residential densities are high.

POLICY 23.6

Ensure convenient and safe pedestrian crossings by minimizing the distance pedestrians must walk to cross a street.

The Project will establish a new street and open space network and provide pedestrian improvements and streetscape enhancement measures as described in the D4D document and reflected in the MMRP and Transportation Plan in the Development Agreement. All project sidewalks will be designed to provide ample space for pedestrians and streets will provide safe pedestrian crossings. Project open spaces will provide additional pedestrian access through the Project site. Each of the new streets will include sidewalk and streetscape improvements consistent with the Better Streets Plan.

OBJECTIVE 24

IMPROVE THE AMBIANCE OF THE PEDESTRIAN ENVIRONMENT.

POLICY 24.2

Maintain and expand the planting of street trees and the infrastructure to support them.

As described in the D4D, the Project will include a robust tree planting program along nearly all development blocks utilizing a tree palette that includes native and climate-adaptive species.

URBAN DESIGN ELEMENT

OBJECTIVE 1

EMPHASIS OF THE CHARACTERISTIC PATTERN WHICH GIVES TO THE CITY AND ITS NEIGHBORHOODS AN IMAGE, A SENSE OF PURPOSE, AND A MEANS OF ORIENTATION.

POLICY 1.2

Recognize, protect and reinforce the existing street pattern, especially as it is related to topography.

The Project will extend the existing street pattern from the Dogpatch and the planned street pattern from the Pier 70 development, while also adding streets to reduce block sizes and enhance connectivity throughout the site. As described in the D4D, street types on the Project site (and their associated dimensions) generally conform to those described in the Better Streets Plan. The D4D also establishes streetwall heights that are intended to provide a consistent sense of enclosure that complements the nature and character of adjacent streets and adjacent open spaces.

OBJECTIVE 2

CONSERVATION OF RESOURCES WHICH PROVIDE A SENSE OF NATURE, CONTINUITY WITH THE PAST, AND FREEDOM FROM OVERCROWDING.

POLICY 2.4

Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

The Project includes the retention and adaptive reuse of two contributing buildings within the Third Street Industrial District, Station A and the Unit 3 Stack, and potentially the preservation of a third, the Unit 3 Boiler. Additionally, the D4D includes standards and guidelines that ensure the design of new buildings on the site are consistent with the character of the Third Street Industrial District.

OBJECTIVE 3

MODERATION OF MAJOR NEW DEVELOPMENT TO COMPLEMENT THE CITY PATTERN, THE RESOURCES TO BE CONSERVED, AND THE NEIGHBORHOOD ENVIRONMENT.

POLICY 3.6

Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction.

The Project's Design for Development document includes an extensive set of height and bulk standards that will help ensure that new development on the Project site complements adjacent development and the Dogpatch neighborhood overall. For example, upper story setbacks above the building podium will be required on almost every block on the Project site, creating streetwalls ranging from 50 to 90 feet in height, depending on the character of the street they face. The blocks along the proposed Craig Lane, which forms the boundary between the Project and the Pier 70 site to the north, will be required to provide building setbacks above 50 feet in order to transition to the lower height development at Pier 70 (generally 90 feet) and to allow for more light to reach the street below. Additionally, the tallest permitted building heights are generally located toward the middle of the Project site near the intersection of Humboldt Street and Georgia Lane and step down in all directions in order to transition to the waterfront and to the lower prevailing heights on properties surrounding the Project site.

RECREATION AND OPEN SPACE ELEMENT

OBJECTIVE 2

INCREASE RECREATION AND OPEN SPACE TO MEET THE LONG-TERM NEEDS OF THE CITY AND BAY REGION.

POLICY 2.2

Provide and promote a balanced recreation system which offers a variety of high quality recreational opportunities for all San Franciscans.

POLICY 2.4

Support the development of signature public open spaces along the shoreline.

The Project will add 6.9 acres of publicly accessible open space to the Central Waterfront, including significant shoreline parks such as The Point and Stack Plaza. Project parks will provide a wide range of active and passive recreation amenities that meet the needs of San Francisco's diverse population such as a rooftop soccer field, multi-use lawns, picnic areas, a playground, and a civic plaza. The Project will also include an indoor community recreational facility to complement the site's outdoor recreational facilities.

OBJECTIVE 3

IMPROVE ACCESS AND CONNECTIVITY TO OPEN SPACE.

POLICY 3.3

Develop and enhance the City's recreational trail system, linking to the regional hiking and biking trail system and considering restoring historic water courses to improve stormwater management.

POLICY 3.4

Encourage non-auto modes of transportation—transit, bicycle and pedestrian access—to and from open spaces while reducing automobile traffic and parking in public open spaces.

The Project will contribute to the City's recreational trail system by building a new segment of the Bay Trail along the shoreline and provide ample access to new open spaces on the site via transit, shuttle, bicycle, and walking.

OBJECTIVE 4

PROTECT AND ENHANCE THE BIODIVERSITY, HABITAT VALUE, AND ECOLOGICAL INTEGRITY OF OPEN SPACES AND ENCOURAGE SUSTAINABLE PRACTICES IN THE DESIGN AND MANAGEMENT OF OUR OPEN SPACE SYSTEM.

POLICY 4.3

Integrate the protection and restoration of local biodiversity into open space construction, renovation, management and maintenance.

POLICY 4.4

Include environmentally sustainable practices in construction, renovation, management and maintenance of open space and recreation facilities.

The D4D includes standards and guidelines for integrating local biodiversity into Project open spaces—thereby furthering City biodiversity goals—by, for example, establishing a robust native and climate-adaptive plant palette and minimum requirements for native plant use. D4D standards and guidelines also include requirements for sustainable practices in the construction, management and maintenance of open space facilities, such as the required use of non-potable water for irrigation and the consideration to use sustainable and recycled materials for site furnishings and paving materials.

ENVIRONMENTAL PROTECTION ELEMENT

OBJECTIVE 7

ASSURE THAT THE LAND RESOURCES IN SAN FRANCISCO ARE USED IN WAYS THAT BOTH RESPECT AND PRESERVE THE NATURAL VALUES OF THE LAND AND SERVE THE BEST INTERESTS OF ALL THE CITY'S CITIZENS.

POLICY 7.1

Preserve and add to public open space in accordance with the objectives and policies of the Recreation and Open Space Element.

See policies related to the Recreation and Open Space Element.

OBJECTIVE 14

PROMOTE EFFECTIVE ENERGY MANAGEMENT PRACTICES TO MAINTAIN THE ECONOMIC VITALITY OF COMMERCE AND INDUSTRY.

POLICY 14.4

Promote commercial office building design appropriate for local climate conditions.

POLICY 14.5

Encourage use of integrated energy systems.

Standards, guidelines, and considerations related to the sustainable development of the Project site are embedded throughout the entire D4D document. Important among them is the requirement that all Project buildings achieve a certification of LEEDv4 Gold or better, thus helping the City to meet its global commitment to be a net-zero carbon city by 2050 and keeping the City's commercial enterprises at a competitive advantage in a changing economic and climate environment. Additionally, the Project may elect to construct shared thermal energy plants within the project site if feasible. These plants would use shared thermal energy plants within the project site to recover waste heat from commercial buildings for use in space heating and domestic hot water production in residential buildings in order to reduce the project's overall energy and water demands.

OBJECTIVE 15

INCREASE THE ENERGY EFFICIENCY OF TRANSPORTATION AND ENCOURAGE LAND USE PATTERNS AND METHODS OF TRANSPORTATION WHICH USE LESS ENERGY.

POLICY 15.3

Encourage an urban design pattern that will minimize travel requirements among working, shopping, recreation, school and childcare areas.

A defining characteristic of the Project's urban design framework is its highly integrated land use mix, which will provide opportunities for residents to work, shop, recreate, and access community amenities and services on site. The Project site's location walking distance from the

Dogpatch neighborhood and Pier 70 will further help to reduce travel requirements for residents and employees.

COMMUNITY FACILITIES ELEMENT

OBJECTIVE 3

ASSURE THAT NEIGHBORHOOD RESIDENTS HAVE ACCESS TO NEEDED SERVICES AND A FOCUS FOR NEIGHBORHOOD ACTIVITIES.

POLICY 3.1

Provide neighborhood centers in areas lacking adequate community facilities.

POLICY 3.3

Develop centers to serve an identifiable neighborhood.

POLICY 3.4

Locate neighborhood centers so they are easily accessible and near the natural center of activity.

POLICY 3.5

Develop neighborhood centers that are multipurpose in character, attractive in design, secure and comfortable, and inherently flexible in meeting the current and changing needs of the neighborhood served.

POLICY 3.7

Program the centers to fill gaps in needed services, and provide adequate facilities for ill-housed existing services.

As described in the DA, the Project will include two new childcare facilities, each of at least 6,000 square feet in size; a new indoor community recreation center of at least 25,000 square feet, and a public library onsite or funding for a public library within $\frac{3}{4}$ of a mile of the Project site. These facilities will greatly enhance the Central Waterfront district and help fill a facilities gap in the neighborhood, which is one of the City's fastest growing.

CENTRAL WATERFRONT AREA PLAN

Land Use

OBJECTIVE 1.1

ENCOURAGE THE TRANSITION OF PORTIONS OF THE CENTRAL WATERFRONT TO A MORE MIXED-USE CHARACTER, WHILE PROTECTING THE NEIGHBORHOOD'S CORE OF PDR USES AS WELL AS THE HISTORIC DOGPATCH NEIGHBORHOOD.

POLICY 1.1.2

Revise land use controls in formerly industrial areas outside the core Central Waterfront industrial area, to create new mixed use areas, allowing mixed-income housing as a principal use, as well as limited amounts of retail, office, and research and development, while protecting against the wholesale displacement of PDR uses.

The Project will convert an underutilized industrial site, home of the former Potrero Power Plant, into a mixed-use neighborhood with large amounts of housing interspersed with commercial, laboratory, life science, retail, open space, and community uses. Additionally, the Project will continue the long tradition of industrial uses in the Central Waterfront by creating 35,000 square feet of new space for light industrial uses.

OBJECTIVE 1.2

IN AREAS OF THE CENTRAL WATERFRONT WHERE HOUSING AND MIXED-USE IS ENCOURAGED, MAXIMIZE DEVELOPMENT POTENTIAL IN KEEPING WITH NEIGHBORHOOD CHARACTER.

POLICY 1.2.2

For new construction, and as part of major expansion of existing buildings in neighborhood commercial districts, require housing development over commercial. In other mixed-use districts encourage housing over commercial or PDR where appropriate.

POLICY 1.2.3

In general, where residential development is permitted, control residential density through building height and bulk guidelines and bedroom mix requirements.

POLICY 1.2.4

Identify portions of Central Waterfront where it would be appropriate to increase maximum heights for residential development.

The Project's land use plan has a strong focus on residential and all blocks on the Project site will be required to provide active uses on the ground floor, including retail, PDR, residential entries, and community uses. Given the need for additional housing citywide, permitted building heights on the Project site are significantly greater than as currently zoned and residential density is regulated via height and bulk controls rather than prescribed density limits.

OBJECTIVE 1.4

SUPPORT A ROLE FOR "KNOWLEDGE SECTOR" BUSINESSES IN APPROPRIATE PORTIONS OF THE CENTRAL WATERFRONT.

POLICY 1.4.2

Allow medical office and life science uses in portions of the Central Waterfront where it is appropriate.

POLICY 1.4.3

Allow other Knowledge Sector office uses in portions of the Central Waterfront where it is appropriate.

POLICY 1.4.4

Identify portions of the Central Waterfront where it would be appropriate to allow other research and development uses that support the Knowledge Sector.

The Development Agreement requires that at least one development block on the Project site be dedicated to laboratory and/or life science uses, although nearly half the blocks permit these uses.

The Project's close proximity to the UCSF Mission Bay campus position it well to help support the expansion of "knowledge sector" uses in the Central Waterfront.

OBJECTIVE 1.7

RETAIN THE CENTRAL WATERFRONT'S ROLE AS AN IMPORTANT LOCATION FOR PRODUCTION, DISTRIBUTION, AND REPAIR (PDR) ACTIVITIES.

POLICY 1.7.3

Require development of flexible buildings with generous floor-to-ceiling heights, large floor plates, and other features that will allow the structure to support various businesses.

PDR uses are permitted on development blocks throughout the Project site, but, as described in the D4D, are required in "Priority PDR Frontages" along 23rd Street and Illinois Street where the site faces existing significant PDR uses. At least 30% of ground floor spaces in Priority PDR Frontages are required to have floor-to-floor ground floor heights of 17 feet while the remainder must be at least 15 feet in height. All Project blocks will include ample loading facilities for PDR businesses.

OBJECTIVE 2.1

ENSURE THAT A SIGNIFICANT PERCENTAGE OF NEW HOUSING CREATED IN THE CENTRAL WATERFRONT IS AFFORDABLE TO PEOPLE WITH A WIDE RANGE OF INCOMES.

POLICY 2.1.1

Require developers in some formally industrial areas to contribute towards the City's very low, low, moderate and middle income needs as identified in the Housing Element of the General Plan.

POLICY 2.1.2

Provide land and funding for the construction of new housing affordable to very low and low-income households.

POLICY 2.1.3

Provide units that are affordable to households at moderate and "middle incomes" – working households earning above traditional below-market-rate thresholds but still well below what is needed to buy a market priced home, with restrictions to ensure affordability continues.

POLICY 2.1.4

Allow single-resident occupancy hotels (SROs) and "efficiency" units to continue to be an affordable type of dwelling option, and recognize their role as an appropriate source of housing for small households.

As described in the Development Agreement, 30% of the residential units produced by the Project will be affordable housing units. This requirement will be met through inclusionary units within market-rate projects at the Project site, conveyance of development parcels, at no cost, to affordable housing developers for the construction of 100% affordable units, and payment of the in-lieu fee to the Mayor's Office of Housing and Community Development for construction of affordable housing in Supervisorial District 10, on not more than 258 (33% of total affordable units) residential units in the aggregate. Inclusionary rental units will be restricted, on average, to

a housing cost that is affordable to households earning not more than 72% of area median income (AMI), while inclusionary for-sale units will be restricted, on average, to a housing cost that is affordable to households earning not more than 99% of AMI. Additionally, the Project will provide preference to the Homeless Prenatal Program for up to 36 Inclusionary Units over all phases of the project build-out. SRO and "efficiency" units are permitted on the Project site.

OBJECTIVE 2.3

REQUIRE THAT A SIGNIFICANT NUMBER OF UNITS IN NEW DEVELOPMENTS HAVE TWO OR MORE BEDROOMS EXCEPT SENIOR HOUSING AND SRO DEVELOPMENTS UNLESS ALL BELOW MARKET RATE UNITS ARE TWO OR MORE BEDROOM UNITS.

POLICY 2.3.3

Require that a significant number of units in new developments have two or more bedrooms, except Senior Housing and SRO developments.

POLICY 2.3.4

Encourage the creation of family supportive services, such as childcare facilities, parks and recreation, or other facilities, in affordable housing or mixed-use developments.

As described in the D4D, no less than 30 percent of the total number of proposed dwelling units in each building or phase shall contain at least two bedrooms. Furthermore, no less than 10 percent of the total number of proposed dwelling units in each building shall contain at least three bedrooms; units counted towards this requirement may also count towards the requirement for units with two or more bedrooms. Group Housing, Inclusionary or below-market-rate dwelling units, Single Room Occupancy (SRO) Units, Student Housing, or housing specifically and permanently designated for seniors or persons with physical disabilities are exempt from these requirements.

Family-supportive elements of the Project include two childcare facilities, 6.9 acres of open space, a playground, a community recreation facility, and potentially an on-site public library.

OBJECTIVE 2.5

PROMOTE HEALTH THROUGH RESIDENTIAL DEVELOPMENT DESIGN AND LOCATION.

POLICY 2.5.3

Require new development to meet minimum levels of "green" construction.

Standards, guidelines, and considerations related to the sustainable development of the Project site are embedded throughout the entire D4D document. Important among them is the requirement that all Project buildings achieve a certification of LEEDv4 Gold or better, thus helping the City to meet its global commitment to be a net-zero carbon city by 2050.

Built Form

OBJECTIVE 3.1

PROMOTE AN URBAN FORM THAT REINFORCES THE CENTRAL WATERFRONT'S DISTINCTIVE PLACE IN THE CITY'S LARGER FORM AND STRENGTHENS ITS PHYSICAL FABRIC AND CHARACTER.

POLICY 3.1.9

Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

POLICY 3.1.11

Establish and require height limits along alleyways to create the intimate feeling of being in an urban room.

The Project includes the retention and adaptive reuse of two contributing buildings within the Third Street Industrial District, Station A and the Unit 3 Stack, and potentially the preservation of a third, the Unit 3 Boiler. Additionally, the D4D includes standards and guidelines that ensure the design of new buildings on the site are consistent with the character of the Third Street Industrial District.

The Project's Design for Development document includes an extensive set of height and bulk standards that will help ensure that new development on the Project site complements adjacent development and the Dogpatch neighborhood overall. In particular, development adjacent to alleys and narrow streets on the Project site such as Craig Lane, Georgia Lane, Louisiana Street, and the northernmost block of Delaware Street, will be required to have upper story setbacks above the building podium that are generally lower—starting at 50 or 65 feet in height—than on most other blocks. This creates a lower overall street wall and an intimate setting that also permits greater access to daylight.

OBJECTIVE 3.2

PROMOTE AN URBAN FORM AND ARCHITECTURAL CHARACTER THAT SUPPORTS WALKING AND SUSTAINS A DIVERSE, ACTIVE AND SAFE PUBLIC REALM.

POLICY 3.2.2

Make ground floor retail and PDR uses as tall, roomy and permeable as possible.

POLICY 3.2.3

Minimize the visual impact of parking.

POLICY 3.2.4

Strengthen the relationship between a building and its fronting sidewalk.

PDR uses are permitted on development blocks throughout the Project site, but, as described in the D4D, are required in "Priority PDR Frontages" along 23rd Street and Illinois Street. At least 30% of ground floor spaces in Priority PDR Frontages are required to have floor-to-floor ground floor heights of 17 feet while the remainder must be at least 15 feet in height. As described in the

D4D, all ground floor frontages are encouraged to provide a strong visual and physical connection between the sidewalk and interior spaces to ensure a lively and safe public realm. Accessory podium parking is required to be completely wrapped with primary building uses so that it is not visible from the street. The district parking garage must include active ground floor uses and upper story parking levels must be architecturally or artistically screened.

OBJECTIVE 3.3

PROMOTE THE ENVIRONMENTAL SUSTAINABILITY, ECOLOGICAL FUNCTIONING AND THE OVERALL QUALITY OF THE NATURAL ENVIRONMENT IN THE PLAN AREA.

POLICY 3.3.4

Compliance with strict environmental efficiency standards for new buildings is strongly encouraged. Standards, guidelines, and considerations related to the sustainable development of the Project site are embedded throughout the entire D4D document. Important among them is the requirement that all Project buildings achieve a certification of LEEDv4 Gold or better, thus helping the City to meet its global commitment to be a net-zero carbon city by 2050.

Transportation

OBJECTIVE 4.1

IMPROVE PUBLIC TRANSIT TO BETTER SERVE EXISTING AND NEW DEVELOPMENT IN CENTRAL WATERFRONT.

POLICY 4.1.6

Improve public transit in the Central Waterfront including cross-town routes and connections the 22nd Street Caltrain Station and Third Street Light Rail.

The Project will host the eastern terminal stop for the new 55 Muni bus line, thereby bringing a high frequency transit line directly onto the Project site for use by residents, workers, and visitors, as well as a shuttle between the Project site and 16th Street BART station. The Project is also a short walk to the T Third Muni line, which offers high frequency service and connections to Downtown, the Bayview, and other City and regional destinations.

OBJECTIVE 4.3

IMPROVE PUBLIC TRANSIT TO BETTER SERVE EXISTING AND NEW DEVELOPMENT IN CENTRAL WATERFRONT.

POLICY 4.3.5

Permit construction of public parking garages in Mixed Use districts only if they are part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area.

There are no off-street parking minimums on the Project site. A district parking garage is proposed near the entrance of the Project on Humboldt Street, which would be a shared facility for residents, employees, retail patrons, and visitors. Its location at western edge of the Project site will help reduce automobile traffic on neighborhood streets.

OBJECTIVE 4.4

SUPPORT THE CIRCULATION NEEDS OF EXISTING AND NEW PDR AND MARITIME USES IN THE CENTRAL WATERFRONT.

POLICY 4.4.2

Continue to require off-street facilities for freight loading and service vehicles in new large non-residential developments.

All development blocks on the Project site will include off-street facilities for freight loading and service vehicles.

OBJECTIVE 4.5

CONSIDER THE STREET NETWORK IN CENTRAL WATERFRONT AS A CITY RESOURCE ESSENTIAL TO MULTI-MODAL MOVEMENT AND PUBLIC OPEN SPACE.

POLICY 4.5.4

Extend and rebuild the street grid, especially in the direction of the Bay.

Currently, the only streets on the 29-acre Project site are Humboldt Street, which is currently gated near its intersection with Illinois Street as a private right of way, and 23rd Street. The Project will create a new network of streets with compact blocks that extends the City's street grid all the way to the Bay to the east.

OBJECTIVE 4.6

SUPPORT WALKING AS A KEY TRANSPORTATION MODE BY IMPROVING PEDESTRIAN CIRCULATION WITHIN CENTRAL WATERFRONT AND TO OTHER PARTS OF THE CITY.

POLICY 4.6.5

Facilitate completion of the sidewalk network in Central Waterfront, especially where new development is planned to occur.

POLICY 4.6.6

Explore opportunities to identify and expand waterfront recreational trails and opportunities including the Bay Trail.

The Project will create a new network of streets with robust pedestrian facilities that connect seamlessly to the existing City street grid. It will also complete a large section of the Bay Trail along the shoreline.

OBJECTIVE 4.7

IMPROVE AND EXPAND INFRASTRUCTURE FOR BICYCLING AS AN IMPORTANT MODE OF TRANSPORTATION.

POLICY 4.7.1

Provide a continuous network of safe, convenient and attractive bicycle facilities connecting Central Waterfront to the citywide bicycle network and conforming to the San Francisco Bicycle Plan.

POLICY 4.7.3

Support the establishment of the Blue-Greenway by including safe, quality pedestrian and bicycle connections from Central Waterfront.

The Project will create a new network of streets with robust pedestrian facilities that connect seamlessly to the existing City street grid. It will also complete a large section of the Bay Trail/Blue-Greenway along the shoreline.

Streets & Open Space

OBJECTIVE 5.1

PROVIDE PUBLIC PARKS AND OPEN SPACES THAT MEET THE NEEDS OF RESIDENTS, WORKERS AND VISITORS.

POLICY 5.1.1

Identify opportunities to create new public open spaces and provide at least one new public open space serving the Central Waterfront.

POLICY 5.1.2

Require new residential and commercial development to provide, or contribute to the creation of public open space.

The Project will add 6.9 acres of publicly accessible open space to the Central Waterfront, including significant shoreline parks such as The Point and Stack Plaza. Project parks will provide a wide range of active and passive recreation amenities that meet the needs of San Francisco's diverse population such as a rooftop soccer field, multi-use lawns, picnic areas, a playground, and a civic plaza.

OBJECTIVE 5.2

ENSURE THAT NEW DEVELOPMENT INCLUDES HIGH QUALITY PRIVATE OPEN SPACE.

POLICY 5.2.1

Require new residential and mixed-use residential development to provide on-site private open space designed to meet the needs of residents.

POLICY 5.2.3

Encourage private open space to be provided as common spaces for residents and workers of the building wherever possible.

As described in the D4D, new residential development must provide useable open space at a ratio of 36 square feet of private open space (e.g. balcony) per dwelling unit or 48 square feet of common open space (e.g. common courtyard or rooftop) per dwelling unit. The 6.9 acres of open space on the site will provide additional passive and recreational opportunities for residents, employees, and visitors of the site.

OBJECTIVE 5.3

ENSURE THAT NEW DEVELOPMENT INCLUDES HIGH QUALITY PRIVATE OPEN SPACE.

POLICY 5.3.2

Maximize sidewalk landscaping, street trees and pedestrian scale street furnishing to the greatest extent feasible.

POLICY 5.3.4

Enhance the pedestrian environment by requiring new development to plant street trees along abutting sidewalks. When this is not feasible, plant trees on development sites or elsewhere in the plan area.

POLICY 5.3.9

Explore opportunities to identify and expand waterfront recreational trails and opportunities including the Bay Trail and Blue-Greenway.

As described in the D4D, the Project will include a robust tree planting and greening program along nearly all development blocks utilizing tree and plant palettes that include native and climate-adaptive species. The Project will construct a new portion of the Bay Trail along the shoreline.

OBJECTIVE 5.4

THE OPEN SPACE SYSTEM SHOULD BOTH BEAUTIFY THE NEIGHBORHOOD AND STRENGTHEN THE ENVIRONMENT.

POLICY 5.4.1

Increase the environmental sustainability of Central Waterfronts system of public and private open spaces by improving the ecological functioning of all open space.

POLICY 5.4.3

Encourage public art in existing and proposed open spaces.

The D4D includes standards and guidelines for integrating local biodiversity into Project open spaces—thereby furthering City biodiversity goals—by, for example, establishing a robust native and climate-adaptive plant palette and minimum requirements for native plant use. The D4D also includes standards requiring adherence to stormwater management best practices and design to ensure the open spaces are high functioning ecologically.

Public art will be encouraged in all Project open space and the D4D includes a map of recommended locations.

Community Facilities

OBJECTIVE 7.1

PROVIDE ESSENTIAL COMMUNITY SERVICES AND FACILITIES.

POLICY 7.1.3

Ensure childcare services are located where they will best serve neighborhood workers and residents.

As described in the DA, the Project will include two new childcare facilities, each of at least 6,000 square feet in size.

OBJECTIVE 7.2

ENSURE CONTINUED SUPPORT FOR HUMAN SERVICE PROVIDERS THROUGHOUT THE EASTERN NEIGHBORHOODS.

POLICY 7.2.5

Encourage the creation of new social and cultural facilities in the Central Waterfront area.

As described in the DA, the Project will include a new community center of at least 25,000 square feet as well as a public library onsite or funding for a public library within $\frac{3}{4}$ of a mile of the site.

Historic Preservation

OBJECTIVE 8.2

PROTECT, PRESERVE, AND REUSE HISTORIC RESOURCES WITHIN THE CENTRAL WATERFRONT AREA PLAN.

POLICY 8.2.1

Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street.

The Project will include the retention and adaptive reuse of the Unit 3 Stack, in compliance with the Secretary of the Interior's Standards for Rehabilitation, and the retention and adaptive reuse of Station A, which are contributing structures to the Third Street Historic District.

OBJECTIVE 8.6

FOSTER PUBLIC AWARENESS AND APPRECIATION OF HISTORIC AND CULTURAL RESOURCES WITHIN THE CENTRAL WATERFRONT AREA PLAN.

POLICY 8.6.2

Foster education and appreciation of historic and cultural resources within the Central Waterfront plan area among business leaders, neighborhood groups, and the general public through outreach efforts.

The Project D4D includes an Interpretive Vision for the Project site that will serve as a framework for a site-wide interpretive masterplan to be developed in coordination with the Planning Department per Project EIR Mitigation Measure M-CR-5c. The masterplan and Mitigation Measure will ensure that salvaged materials of historical interest on the site are be utilized as part of the interpretative program for the site and help explain to and guide visitors through the long history of industrial uses on the Project site.

AND BE IT FURTHER RESOLVED, that the Planning Commission finds these General Plan Amendments are in general conformity with the Planning Code Section 101.1, and the Project and its approvals associated therein, all as more particularly described in Exhibit B to the Development Agreement on file with the Planning Department in Case No. 2017-011878DVA, are each on balance, consistent with the following Objectives and Policies of the General Plan, as it is proposed to be amended as described herein, and as follows:

- 1) *That existing neighborhood-serving retail uses would be preserved and enhanced, and future opportunities for resident employment in and ownership of such businesses enhanced;*

No neighborhood-serving retail uses are currently present on the Project site. Once constructed, the Project will contain new retail, PDR, and other commercial uses that would provide opportunities for employment and ownership of retail businesses in the community. These new uses would serve nearby residents and the surrounding community. The Development Agreement includes commitments related to local hiring. The construction of the Project will provide opportunities to generate thousands of annual construction jobs and hundreds of permanent jobs at project completion, encouraging participation by small and local business enterprises through a comprehensive employment and contracting policy.

- 2) *That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhoods;*

The Project would provide at full build-out up to 2,601 new residential units, including affordable housing; no housing is currently present on the Project site. The Project is designed to revitalize an underutilized site that most recently hosted a coal-fired power station and to provide a varied land use program that would enhance the surrounding neighborhood. The Project provides a new neighborhood complete with residential, office, retail, PDR, and hotel uses, along with new transit and street infrastructure, and public open space. The Project design provides a desirable, pedestrian-friendly experience with interactive and engaged ground floors. Thus, the Project would preserve and contribute to housing within the surrounding neighborhood and the larger City and would otherwise preserve and be consistent with the neighborhood's unique context.

- 3) *That the City's supply of affordable housing be preserved and enhanced;*

The Project would enhance the City's supply of affordable housing through its affordable housing commitments in the Development Agreement. As detailed in the Development Agreement, the Project exceeds the inclusionary affordable housing requirements of the Planning Code, by reaching a 30% affordability level.

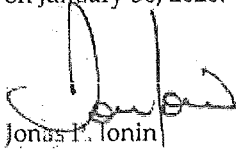
- 4) *That commuter traffic not impede Muni transit service or overburden our streets or neighborhood parking;*

The Project would not impede transit service or overburden streets and neighborhood parking. The Project includes a robust transportation program with an on-site Transportation Demand Management (TDM) program, facilities to support a new bus line on site, provision of a shuttle

with the proposal; (3) amend Commerce and Industry Element Maps 1 and 2 by reclassifying generalized land uses and densities consistent with the proposal, and Objective 4 to improve the equitable distribution of infrastructure; (4) amend the Recreation and Open Space Element Map 3 by adding new publicly accessible open spaces of significant size (6.9 acres) proposed for the site; (5) amend the Transportation Element Map 11 by adding the Bay Trail Recreational Loop proposed for the site, and; (6) amend the Land Use Index to reflect amendments to the maps described above in the Urban Design, Commerce and Industry, Recreation and Open Space, and Transportation Elements.

AND BE IT FURTHER RESOLVED, that pursuant to Planning Code Section 340, the Planning Commission Adopts a Resolution to Recommend to the Board of Supervisors to approve the Draft Ordinance.

I hereby certify that the foregoing Resolution was ADOPTED by the San Francisco Planning Commission on January 30, 2020.



Jonas L. Tonin
Commission Secretary

AYES: Diamond, Fung, Koppel, Melgar, Moore

NOES: None

ABSENT: Johnson, Richards

ADOPTED: January 30, 2020



SAN FRANCISCO PLANNING DEPARTMENT

Planning Commission Resolution No. 20639

HEARING DATE: JANUARY 30, 2020

Case No.: 2017-011878 PCA MAP
Project: Potrero Power Station Mixed-Use Project
Existing Zoning: M-2 (Heavy Industrial)
PDR-1-G (Production, Distribution & Repair-1-General)
Height-Bulk: 40-X, 65-X
Proposed Zoning: P (Public)
Potrero Power Station Mixed-Use District (PPS-MUD)
Proposed Height: 65/240-PPS
Blocks/Lots: 4175/002, 4175/017, 4175/018 (partial), 4232/001, 4232/006, 4232/010, and
non-assessed Port and City and County of San Francisco properties
Project Sponsor: Enrique Landa, California Barrel Company – (415) 796-8945
Staff Contact: John M. Francis – (415) 575-9147, john.francis@sfgov.org

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RESOLUTION RECOMMENDING THAT THE BOARD OF SUPERVISORS APPROVE AMENDMENTS TO THE PLANNING CODE TO: (1) ESTABLISH THE POTRERO POWER STATION SPECIAL USE DISTRICT; (2) ESTABLISH THE POTRERO POWER STATION MIXED USE DISTRICT; (3) AMEND ZONING MAP 08 TO REZONE THE PROJECT SITE FROM M-2 (HEAVY INDUSTRIAL) AND PDR-1-G (PRODUCTION, DISTRIBUTION, AND REPAIR 1 GENERAL) TO PPS-MU (POTRERO POWER STATION-MIXED USE); (4) AMEND PLANNING CODE HEIGHT AND BULK MAP 08 TO INCREASE THE HEIGHT LIMIT AT THE PROJECT SITE FROM 40-X / 65-X TO 65-PPS / 240-PPS; (5) AMEND PLANNING CODE SPECIAL USE DISTRICT MAP 08 BY ZONING THE PROJECT SITE AS POTRERO POWER STATION SPECIAL USE DISTRICT; AND (6) ADOPT FINDINGS OF CONSISTENCY WITH THE GENERAL PLAN AND PLANNING CODE SECTION 101.1 AND FINDINGS UNDER PLANNING CODE SECTION 302, AND FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

WHEREAS, on January 14, 2020, Supervisor Shamann Walton and Mayor London Breed introduced an ordinance (Board File 200039) for Planning Code Amendments to establish the Potrero Power Station Special Use District (herein "SUD"), and for Zoning Map Amendments by amending Zoning Maps ZN08, SD08 and HT08, for the Assessor's Blocks and Lots as listed above.

WHEREAS, The Planning Code and Zoning Map Amendments would enable the development of the Potrero Power Station Mixed-Use Project ("Project"). California Barrel Company ("Project Sponsor"), the owner of roughly 29 acres at 1201A Illinois Street, submitted an application to the San Francisco Planning Department ("Department") for environmental review on September 15, 2017. The Project is immediately south of Pier 70 and encompasses property currently owned by the Project Sponsor, PG&E, the Port of San Francisco, and the City and County of San Francisco. The Project proposal includes developing approximately 2.5 million square feet ("sq ft") of residential space (2,601 dwelling units), 1.8 million sq ft of commercial uses, including 100,000 sq ft of retail, 800,000 sq ft of office, 650,000 sq ft of life science/laboratory, 240,000 sq ft of hotel (250 rooms), and 35,000 sq ft of Production, Distribution, and

Repair ("PDR") uses. Additionally, it includes 25,000 square feet of entertainment/assembly uses, 50,000 square feet of community facilities, up to 2,686 off-street automobile parking spaces, and 6.9 acres of publicly accessible open space, including a new waterfront park. The proposal would also feature newly created public streets, pedestrian paths, cycle tracks, and the continuation of the Bay Trail. New buildings on the site are proposed to range from 65 feet to 240 feet in height and would generally step down from the middle of the site toward both the east and west. Three existing structures on the site, the Unit 3 power block and Boiler Stack along the waterfront and the Station A building, are proposed for adaptive reuse; and

WHEREAS, approvals required for the Project include (1) certification of an Environmental Impact Report ("EIR"), (2) Planning Code Zoning Map amendments, (3) General Plan Amendments, (4) Planning Code Text and Map Amendments, (5) the adoption of a Design for Development ("D4D") document to facilitate implementation, and (6) a Development Agreement ("DA") between the Project Sponsor and the City and County of San Francisco; and

WHEREAS, these Planning Code Text Amendments would establish the PPS-MU zoning district, establish the Potrero Power Station SUD, would outline the land use controls for the Project site through the SUD, and would rezone the land currently zoned M-2 (Heavy Industrial) to PPS-MUD (Potrero Power Station Mixed-Use District) and P (Public) designations that are more appropriate for the area and that allow the implementation of the Project. The rezoning would also include rezoning portions of land under Port of San Francisco jurisdiction that are planned for open spaces uses from PDR-1-G (Production, Distribution & Repair-1-General) to P (Public), which is the appropriate zoning designation for public park land. This rezoning also includes re-designating the height and bulk districts within the SUD from 40-X and 65-X to 65/240-PPS; and

WHEREAS, on January 30, 2020, the Planning Commission reviewed and considered the Final EIR ("FEIR") for the Project and found the FEIR to be adequate, accurate and objective, thus reflecting the independent analysis and judgment of the Department and the Commission, and that the summary of comments and responses contained no significant revisions to the Draft EIR, and certified the FEIR for the Project in compliance with the California Environmental Quality Act ("CEQA"), the CEQA Guidelines and Chapter 31 by Motion No. 20635; and

WHEREAS, on January 30, 2020, the Commission by Motion No. 20636 approved CEQA Findings, including adoption of a statement of overriding considerations and a Mitigation Monitoring and Reporting Program (MMRP), under Case No. 2017-011878ENV, for approval of the Project, which findings, statement of overriding considerations and MMRP are incorporated by reference as though fully set forth herein; and

WHEREAS, on January 30, 2020, the Commission by Resolution No. 20637 found that the Project, including the actions contemplated in this Resolution, is on balance consistent with the General Plan, as it is proposed to be amended, and the eight Priority Policies of Planning Code Section 101.1. That Resolution is incorporated by reference as though fully set forth herein; and

WHEREAS, on January 30, 2020, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting on the proposed Planning Code Text and Map Amendments and has considered the information included in the File for these Amendments, the staff reports and presentations, public

testimony and written comments, as well as the information provided about the Project from other City departments; and

WHEREAS, a draft ordinance, substantially in the form attached hereto as Exhibit A, approved as to form, would establish the Potrero Power Station SUD, and make other related Planning Code Map amendments.

WHEREAS, on January 30, 2020, the Commission recommended the following amendments to the SUD (additions underlined, deletions in ~~striketrough~~ text):

- Section 249.87(n)(5)(A) **Buildings and Privately-Owned Community Improvements Seeking No Modifications.** Within 10 days after the delivery and posting of the staff report on the Design Review Application, the Planning Director shall approve or disapprove the design based on its compliance with the Planning Code, including this Section 249.87, the Design for Development, and the General Plan. If the Design Review Application is consistent with the numeric standards set forth in this Section 249.87 and the Design for Development, the Planning Director's discretion to approve or disapprove the Design Review Application shall be limited to the Application's consistency with the non- numeric elements of the Design for Development and the General Plan. Prior to approval of a Design Review Application for any building and/or Privately-Owned Community Improvement that is 200 feet or more in height, or for the rehabilitation and development of Station A on Block 15 or of Unit 3 on Block 9, the Planning Director shall refer the Design Review Application to the Planning Commission for an informational hearing. Such informational hearing shall consider any pedestrian bridge proposed for attachment to Station A, regardless of whether such bridge is initially proposed as part of the Station A building or an adjacent building that proposes a bridge that would ultimately connect to Station A. In accordance with San Francisco Administrative Code Section 71.5, any Mills Act contract application would also require approval by the Historic Preservation Commission.
- Table 249.87-1. Add new footnote (16) to each row in the column labelled "Retail Sales and Service:" (16) Self Storage uses are conditionally permitted.
- Section 249.87(h)(2)(C): The dwelling unit mix requirement in this subsection (h)(2) shall not apply to buildings for which 100% of the Residential Uses are: Group Housing, Dwelling Units that are restricted to a maximum sales or rental price that is affordable to households earning 150% of Area Median Income or less for Owned Units and 130% of Area Median Income for Rental Units, Single Room Occupancy (SRO) Units, Student Housing, or housing specifically and permanently designated for seniors or persons with physical disabilities, including units to be occupied by staff serving any of the foregoing Residential Uses.

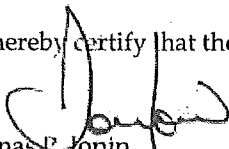
NOW THEREFORE BE IT RESOLVED, that the Planning Commission hereby finds that the Planning Code Text Amendments and Zoning Map Amendments promote the public welfare, convenience and necessity for the following reasons:

1. The Planning Code Amendments would help implement the Potrero Power Station Mixed-Use Project development, thereby evolving currently under-utilized land for needed housing, parks and open space, community facilities and amenities, and other related uses.
2. The Planning Code Amendments would help implement the Potrero Power Station Project, which in turn will provide employment opportunities for local residents during construction and occupancy, as well as community facilities and parks for new and existing residents.
3. The Planning Code Amendments would help implement the Potrero Power Station Project by enabling the creation of a mixed-use and sustainable neighborhood, with new infrastructure. The new neighborhood would improve the site's connectivity, and connect existing neighborhoods to the Central Waterfront.
4. The Planning Code Amendments would enable the construction of a new vibrant, safe, and connected neighborhood, including new parks and open spaces. The Planning Code Amendments would help ensure a vibrant neighborhood with active streets and open spaces, high quality and well-designed buildings, and thoughtful relationships between buildings and the public realm, including the waterfront.
5. The Planning Code Amendments would enable construction of new housing, including new on-site affordable housing, a wide mix of Bayfront waterfront recreational opportunities and other related uses. These new uses would create a new mixed-use neighborhood that would strengthen and complement nearby neighborhoods.

AND BE IT FURTHER RESOLVED, that the Commission finds the Potrero Power Station Planning Code Amendments are in conformity with the General Plan, as it is proposed to be amended, and Planning Code Section 101.1 as set forth in Resolution No. 20637.

AND BE IT FURTHER RESOLVED, that the Commission hereby recommends that the Board of Supervisors adopt the Potrero Power Station Planning Code and Zoning Map Amendments, in substantially the form attached hereto as Exhibit A.

I hereby certify that the Planning Commission ADOPTED the foregoing Motion on January 30, 2020.


Jonas P. Jonin
Commission Secretary

AYES: Diamond, Fung, Koppel, Melgar, Moore

NOES: None

ABSENT: Johnson, Richards

ADOPTED: January 30, 2020

[Planning Code, Zoning Map - Potrero Power Station Special Use District]

Ordinance amending the Planning Code and Zoning Map to establish the Potrero Power Station Special Use District, generally bound by 22nd Street and the southern portion of the newly created Craig Lane to the north, the San Francisco Bay to the east, 23rd Street to the south and Illinois Street to the west; and making findings under the California Environmental Quality Act, findings of consistency with the General Plan and the eight priority policies of Planning Code, Section 101.1, and findings of public necessity, convenience, and welfare under Planning Code, Section 302.

NOTE: Unchanged Code text and uncodified text are in plain Arial font.
Additions to Codes are in single-underline italics Times New Roman font.
Deletions to Codes are in ~~strikethrough italics Times New Roman font~~.
Board amendment additions are in double-underlined Arial font.
Board amendment deletions are in ~~strikethrough Arial font~~.
Asterisks (* * * *) indicate the omission of unchanged Code subsections or parts of tables.

Be it ordained by the People of the City and County of San Francisco:

Section 1. Planning and Environmental Findings.

(a) In companion legislation adopting a Development Agreement associated with the Potrero Power Station Mixed-Use Project, the Board of Supervisors adopted environmental findings pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000 et seq.), the CEQA Guidelines (14 Cal. Code Reg. Sections 15000 et seq.), and Chapter 31 of the Administrative Code. The Board adopts these environmental findings as though fully set forth herein in relation to this ordinance. A copy of said companion legislation is in Board of Supervisors File No. _____ and it and its environmental findings are incorporated herein by reference.

1 (b) In companion legislation adopting General Plan amendments associated with
2 the Potrero Power Station Mixed-Use Project, the Board of Supervisors adopted findings that
3 the actions contemplated in this ordinance are consistent, on balance, with the City's General
4 Plan and eight priority policies of Planning Code Section 101.1. The Board incorporates these
5 findings by reference and adopts these findings as though fully set forth herein in relation to
6 this ordinance. A copy of said companion legislation is in Board of Supervisors File No.

7 _____
8 (c) Pursuant to Planning Code Section 302, this Board finds that this Planning Code
9 amendment will serve the public necessity, convenience, and welfare for the reasons set forth
10 in Planning Commission Resolution No. _____ and adopted on _____, 2019, and the
11 Board adopts such reasons as its own. A copy of said resolution is on file with the Clerk of
12 the Board of Supervisors in File No. _____ and is incorporated herein by reference.
13

14 Section 2. The Planning Code is hereby amended by adding Section 249.87, to read
15 as follows:

16 **SEC. 249.87. POTRERO POWER STATION SPECIAL USE DISTRICT.**

17 (a) Purpose and Boundaries. A Special Use District entitled the "Potrero Power Station
18 Special Use District" (the SUD) is hereby established, generally bounded by 22nd Street and the
19 southern portion of the newly created Craig Lane to the north, the San Francisco Bay to the east, 23rd
20 Street to the south, and Illinois Street to the west, in the southeast part of San Francisco. The precise
21 boundaries of the SUD are shown on Sectional Map SU08 of the Zoning Map. The purpose of the SUD
22 is to implement the land use controls for the Potrero Power Station Mixed-Use Project, which is subject
23 to a Development Agreement, approved by the Board of Supervisors in the ordinance contained in
24 Board File No. _____ . The Project will provide several benefits to the City, such as a significant
25 amount of publicly accessible open space and Community Facilities, increased public access to the

1 waterfront, neighborhood-serving retail, extensive infrastructure improvements, and affordable
2 housing, while creating jobs, housing, and a vibrant community.

3 (b) **Role of the Port.** Within the SUD, certain open space properties are subject to the
4 jurisdiction of the Port of San Francisco. The Developer will develop, operate and maintain the public
5 parks and open spaces subject to the Public Trust in accordance with a lease with the Port. A copy of
6 the lease with the Port is on file with the Clerk of the Board of Supervisors in Board File No.

7 _____
8 (c) **Relationship to Other Planning Code Provisions.** Applicable provisions of the
9 Planning Code shall control except as otherwise provided in this Section 249.87. If there is a conflict
10 between other provisions of the Planning Code and this Section 249.87, this Section 249.87 shall
11 prevail.

12 (d) **Relationship to Design for Development.** The Design for Development, adopted by the
13 Planning Commission by Motion _____ on January 30, 2020, and as may be periodically amended,
14 sets forth design and land use standards and guidelines applicable within the SUD. A copy of the
15 Design for Development is on file with the Clerk of the Board of Supervisors in Board File No.
16 _____. Any capitalized term in this Section 249.87, and not otherwise defined in this Section or
17 elsewhere in the Planning Code shall have the meaning ascribed to it in the Design for Development.
18 This Section, remainder of the the Planning Code, and the Design for Development shall be read and
19 construed together so as to avoid any conflict to the greatest extent possible. If there is a conflict
20 between the Design for Development and either this Section or the remainder of the Planning Code,
21 this Section or the other provision of the Planning Code shall prevail. Subject to Section 249.87(c), if a
22 later amendment to any provision of the Planning Code, including this Section 249.87, results in a
23 conflict with the Design for Development, such amended Planning Code provision shall prevail.
24 Amendments to the Design for Development may be made by the Planning Commission, but if there is a
25 conflict between an amendment to the Design for Development and this Section or the remainder of the

1 Planning Code, as applicable, this Section or other provision of the Planning Code shall prevail unless
2 and until such time as this Section or the remainder of the Planning Code is amended to be consistent
3 with the amendment to the Design for Development.

4 (e) **Relationship to the Development Agreement.** This Section 249.87 shall be read and
5 construed consistent with the Development Agreement, and all development within the Project Site that
6 is subject to the Development Agreement shall satisfy the requirements of the Development Agreement
7 for so long as the Development Agreement remains in effect.

8 (f). **Definitions.** For purposes of this Section 249.87, the following definitions shall apply.
9 If not expressly superseded by definitions set forth in this subsection (f), all definitions of the Planning
10 Code shall apply.

11 "Apparent Face, Maximum" means the maximum length of any unbroken plane of a given
12 building elevation.

13 "Base (Podium)" means the lower portion of a midrise or highrise tower that extends vertically
14 to a height of up to 90 feet.

15 "Bicycle Cage / Storage Room" means a location that provides bicycle storage within an
16 enclosure accessible only to building residents, non-residential occupants, and employees.

17 "Block" means an area of land bounded by public or private Right-of-Way and/or park.

18 "Building Project" or "Building" means the construction of a building or group of buildings
19 undertaken as a discrete project distinct from and not a part of the overall Project.

20 "Building Standards" means the standards applicable to Building Projects and any associated
21 privately-owned open spaces within the SUD, consisting of the standards specified in subsection (h)
22 below and the standards and guidelines identified as such in the Design for Development. It does not
23 mean Building Code requirements under either the California, the San Francisco, or the Port Building
24 Codes, which this Section 249.87 and the Design for Development do not override.

1 "Cart" means a mobile structure used in conjunction with food service and/or retail uses, that
2 operates intermittently in a publicly accessible open space, and that is removed daily from such open
3 space during non-business hours.

4 "City" means the City and County of San Francisco.

5 "Community Facility" has the meaning as set forth in Planning Code Section 102 as amended
6 from time to time, except that it also includes transit support facilities.

7 "Corner" means the first 30 feet extending from the intersection of two right-of-ways or a right-
8 of-way and an open space along the Frontage of a building.

9 "Developer" means the California Barrel Company, LLC, a Delaware limited liability
10 company, or its successor(s).

11 "Development Agreement" means the Development Agreement by and between the City and the
12 Developer, relative to the Project, approved by the Board of Supervisors by the ordinance in Board
13 File No. _____, as the Development Agreement may be amended from time to time.

14 "Floorplate" means the gross area of a given floor of a building as bounded by the exterior
15 walls of a floor, without any exclusions or deductions otherwise permitted under the definition of Gross
16 Floor Area.

17 "Frontage" means the vertical exterior face or wall of a building and its linear extent that is
18 adjacent to or fronts on a street, right-of- way, or open space.

19 "Gross Floor Area" has the meaning set forth in Planning Code Section 102 for C-3 districts,
20 except that the following exemptions from that definition shall not apply to any new construction, and
21 shall apply only to existing buildings on the Project Site that are rehabilitated or reused as part of the
22 Project such as Unit 3 or Station A: (1) ground floor area devoted to building or pedestrian circulation
23 and building service, and (2) space devoted to personal services, restaurants, and retail sales of goods
24 intended to meet the convenience shopping and service needs of area workers and residents, not to
25

1 exceed 5,000 occupied square feet per use and, in total, not to exceed 75% of the area of the ground
2 floor of the building plus the ground level, on-site open space.

3 “Kiosk” means a Building or other structure that is set upon the ground and is not attached to a
4 foundation, such as a shipping container, trailer, or similar structure, from which food service and/or
5 retail business is conducted. A Kiosk operates in a publicly accessible open space, and remains in
6 place until the business operation is terminated or relocated.

7 “Major Modification” means a deviation of 10% or more from any dimensional or numerical
8 standard in the Planning Code, this Section 249.87 or in the Design for Development, except as
9 explicitly prohibited per subsection (k) below.

10 “Micro-Retail” is defined as Retail Sales and Service Uses that are 1,000 square foot or
11 smaller.

12 “Mid-Block Alley” means a publicly-accessible alley that runs the entire length of the Block,
13 generally located toward the middle of the subject Block, and perpendicular to the subject Frontage,
14 and connecting to any existing streets and alleys. A Mid-Block Alley may be open to both pedestrian
15 and vehicular traffic, and must have at least 60% of the area of the alley open to the sky.

16 “Mid-Block Passage” means a publicly-accessible passage that runs the entire length of the
17 building, generally located toward the middle of the subject Block face, perpendicular to the subject
18 Frontage, or diagonal across the Block, and connecting to any existing streets and alleys. A Mid-Block
19 Passage is accessible only to pedestrians and may be completely covered.

20 “Minor Modification” means a deviation of less than 10% from any dimensional or numerical
21 standard in the Planning Code, this Section 249.87 or in the Design for Development, except as
22 explicitly prohibited per subsection (k) below, or any deviation from any non-numerical standard in the
23 Design for Development. Minor Modification also includes a deviation of greater than 10%
24 necessitated as a result of changes to the following Planning Code sections enacted after the Effective
25 Date of the Development Agreement: the car share parking requirements per Section 166; freight

1 loading requirements per Section 154; bicycle parking requirements per Section 155; and shower and
2 locker requirements of Section 155.4, if such deviation is commensurate with the avoided (i)
3 displacement of any required ground floor uses (including PDR) per subsection (g)(8), (ii) the
4 displacement of building or mechanical service areas necessary for the operation of the building, or
5 (iii) new obligation that would require the construction of a subsurface floor that would otherwise not
6 be constructed.

7 “Power Station Design for Development” or “Design for Development” shall mean the
8 Potrero Power Station Design for Development adopted by Planning Commission Motion [] , as
9 may be amended from time to time. The Design for Development is incorporated into this Section
10 249.87 by reference.

11 “Privately-Owned Community Improvement,” means those facilities and services that are
12 privately-owned and privately-maintained, at no cost to the City (other than any public financing set
13 forth in the Financing Plan, Exhibit C to the Development Agreement), for the public benefit, but not
14 dedicated to the City. Privately-Owned Community Improvements include certain pedestrian paths,
15 alleys (such as Craig Lane), storm drainage facilities, open spaces, and community or recreation
16 facilities to be built on land owned by Developer, or on land owned by the City subject to the
17 appropriate permits.

18 “Project” means the Potrero Power Station Mixed-Use Project.

19 “Project Site” means the approximately 29-acre site comprised of the various subareas shown
20 on Figure 249.87-1 that is within the Special Use District.

21 “Projection” means a part of a building surface that extends outwards from the primary façade
22 plane. Projections may include balconies, bay windows and other architectural features. Projections
23 may extend into the building Setback or the public Right-of-Way. A Projection that extends into the
24 public right-of-way is also an Encroachment.

1 "Public Trust" refers to tidal and submerged lands subject to jurisdiction of the Port and held
2 in trust for the common use by the people for commerce, navigation, and fisheries.

3 "Setback" means the required or actual distance between the vertical edges of a building above
4 a specified height, or between the vertical edge of a building and the property line. The Setback may
5 either start at grade creating an open space provided between the property line and the primary built
6 structure, or it may start above a specified height for the purpose of bulk reduction in the mass of the
7 building. The ground area created by a Setback imposed at the ground floor level may be dedicated for
8 public use or may be private space between the public Right-of-Way and the building mass.

9 "Social Spaces" are areas that are communal and shared within a building used by building
10 users, such as fitness rooms, workshops for hands-on projects and to conduct repairs, leasing offices,
11 shared kitchens, resident libraries or reading rooms, community rooms, children's playrooms and
12 classrooms, which may also serve as general assembly rooms, communal kitchens, conferences rooms,
13 employee break rooms, and waiting areas.

14 "Streetwall" means a continuous façade of a building and/or buildings along a street
15 Frontage.

16 "Transparent Frontage" means the condition in which glass, glazing, window, or other
17 building feature allows visibility into the building interior. Does not include heavily tinted or highly
18 mirrored glass.

19 "Upper Building (Tower)" is the portion of a midrise or highrise tower above the Base.

20 (g) Uses.

21 (1) Potrero Power Station Special Use District Zoning Designations. As shown on
22 the Zoning Map, the Potrero Power Station Special Use District is co-terminus with the Potrero Power
23 Station Mixed Use District (PPS-MU), and the Public Trust Property zoned Public (P). This Special
24 Use District in Section 249.87 and other Sections referenced herein establish all zoning controls for the
25 PPS-MU district.

Table 249.87-1: Potrero Power Station Land Uses*

Power Station Blocks	Residential Uses	Institutional Uses	Retail Sales and Service Uses	Non-Retail Sales and Service (including Office Uses)	Entertainment, Arts, and Recreation Uses	PDR Uses	Laboratory Uses	Life Science Uses	Utility and Infrastructure Uses	Parking Garage, Public
Block 1	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(5)	NP	NP	NP(12)	P(14)
Block 2	NP	P(1)	P(2)(7)	P(13)	P(3)(9)	P(5)	P(13)	P(13)	NP(12)	NP
Block 3	NP	P(1)	P(2)(7)	P(13)	P(3)(9)	P(5)	P(13)	P(13)	NP(12)	NP
Block 4	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(5)	NP	NP	NP(12)	NP
Block 5	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(4)	NP	NP	NP(12)(6)	P(14)
Block 6	Block Omitted from Land Use Plan									
Block 7	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(5)	NP	NP	NP(12)	NP
Block 8	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(5)	NP	NP	NP(12)	NP
Block 9	P	P(1)	P(10)	P(8)	P(3)(11)	P(5)	NP	NP	NP(12)	NP
Block 10	Block Omitted from Land Use Plan									
Block 11	NP	P(1)	P(2)(7)	P(13)	P(3)(9)	P(4)	P(13)	P(13)	NP(12)	NP
Block 12	NP	P(1)	P(2)(7)	P(13)	P(3)(9)	P(4)	P(13)	P(13)	NP(12)	NP
Block 13	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(4)	NP	NP	NP(12)(6)	P(14)
Block 14	P	P(1)	P(2)(7)	P(8)	P(3)(9)	P(5)	NP	NP	NP(12)	NP
Block 15	NP	P(1)	P(2)(7)	P(13)	P(3)(9)	P(5)	P(13)	P(13)	NP(12)	NP
The Stack	NP	NP	P(2)	NP	P(3)	NP	NP	NP	NP(12)	NP
Public and Private Open Space	NP	NP	P(15)	NP	NP	NP	NP	NP	NP	NP

Notes:

** This Special Use District shall not become operative as to Block 13, Block 14, and a portion of Block 1, until the occurrence of a specified condition set forth in Section 6 of the ordinance in Board File No. _____, enacting this Section 249.87.*

(1) Hospital is NP, P at basement, ground floor, and mezzanine only for majority Residential buildings; provided that Residential Care Facility and Child Care Facility are permitted on all floors.

1 (2) Hotel is NP.

2 (3) Livery Stables are NP.

3 (4) Automobile Assembly, Agricultural and Beverage Processing 1, Arts Activities, Business Services,
4 Catering, Light Manufacturing, Metal Working, Trade Shop, Wholesale Sales are P at the basement
5 level, ground floor, 2nd floor, and mezzanine only. Other PDR Uses are NP.

6 (5) Agricultural and Beverage Processing 1, Light Manufacturing, Arts Activities, Business Services,
7 Catering, Trade Shop Wholesale Sales are P at the basement level, ground floor, 2nd floor, and
8 mezzanine only.

9 (6) Public Utility Yard and Storage Yards are P.

10 (7) P at the basement level, ground floor, mezzanine, and 2nd floor only; on Blocks 2, 3, 11, 12, and 15,
11 and Block 9 if Block 9 is majority non-residential, Bar, Tourist Oriented Gift Store, Specialty Grocery,
12 Gym, Liquor Store, Limited Restaurant, General Restaurant, Instructional Service, and Retail Personal
13 Service Uses are P on rooftops; other Retail Uses are NP on rooftops.

14 (8) P at the basement level, ground floor, and mezzanine only.

15 (9) P at the basement level, ground floor, mezzanine, and 2nd floor; on Blocks 2, 3, 11, 12, and 15, and
16 Block 9 if Block 9 is majority non-residential, Arts Activities, General Entertainment, Nighttime
17 Entertainment, Open Recreation Area, Outdoor Entertainment, and Passive Outdoor Recreation Uses
18 are P on rooftops; other Entertainment, Arts, and Recreation Uses are NP on rooftops.

19 (10) Hotel is P. Bar, Tourist Oriented Gift Store, Specialty Grocery, Gym, Liquor Store, Limited
20 Restaurant, General Restaurant, Instructional Service, and Retail Personal Service Uses are P on
21 rooftops; other Retail Uses are NP on rooftops. Only one rooftop bar shall be permitted on Block 9. If
22 building is majority Residential, P at the basement level, ground floor, mezzanine, 2nd floor and 3rd
23 floor only.

24 (11) If building is majority non-residential, P on all floors and rooftop, provided that only Arts
25 Activities, General Entertainment, Nighttime Entertainment, Open Recreation Area, Outdoor

1 Entertainment, and Passive Outdoor Recreation Uses P on rooftops; other Entertainment, Arts, and
2 Recreation Uses are NP on rooftops. If building is majority Residential, P at the basement level,
3 ground floor, mezzanine, 2nd floor, and 3rd floor only.

4 (12) Wireless Telecommunications Services (WTS) Facility, Macro and Wireless Telecommunications
5 Services (WTS) Facility, Micro are P.

6 (13) Consistent with the Phasing Plan of the Development Agreement, one or more of Blocks 2, 3, 11,
7 12, or 15 must be deed restricted for Life Science/Laboratory Uses.

8 (14) Up to one District Parking Garage is permitted but not required and may be located only on
9 Blocks 1, 5, or 13. The maximum amount of parking that may be located in the Garage is subject to the
10 parking maximums for the Project as built, less the amount of parking that is developed in each
11 individual building. The maximum height of the Parking Garage shall be 90 feet. The rooftop of the
12 District Parking Garage shall be used as a publicly accessible recreational sports field.

13 (15) Only Carts and Kiosks permitted.

14 (3) Temporary Uses. Temporary Uses are permitted consistent with Planning Code
15 Sections 205.1 through 205.4, subject to the following:

16 (A) Temporary Uses listed in Section 205.1(d) may be authorized for a period
17 of up to 180 days. Retail Sales and Service Uses as well as Entertainment, Arts, and Recreation Uses
18 that are permitted as a principal Use pursuant to Table 249.87-1 may be authorized for a period of up
19 to 180 days as a Temporary Use.

20 (B) Temporary uses listed in Section 205.3 may be authorized for a period up
21 to 72 hours per event for up to 12 events per year.

22 (C) Carts may be permitted as Temporary Uses pursuant to Section 205.4.

23 (4) Carts and Kiosks. Any approved Carts and Kiosks shall only be permitted in the
24 numbers reflected in Table 249.87-2, shall not block accessible paths of travel or areas for Emergency
25

1 Vehicle Access, and shall have a footprint of 200 square feet or less. Kiosks are permitted in the same
2 manner as other permanent uses.

3 **Table 249.87-2 Standards for Location of Carts and Kiosks**

USE/LOCATION	LOUISIANA PASEO	POWER STATION PARK	HUMBOLDT STREET PLAZA	BLOCK 9 OPEN SPACE	STACK PLAZA	WATERFRONT PARK
Cart (not larger than 200 square feet)	Limit of 1 in this open space	Limit of 2 in this open space	Limit of 1 in this open space	Not permitted	Not permitted	Limit of 3 in this open space
Kiosk (not larger than 200 square feet)	Limit of 1 in this open space	Limit of 1 in this open space	Limit of 1 in this open space	Not permitted	Not permitted	Limit of 1 in this open space

7 (5) Interim Uses. Prior to completion of the Project, certain interim uses may be
8 authorized for a period not to exceed five years by the Planning Director, without a public hearing if
9 the Planning Director finds that such Interim Use will not impede orderly development consistent with
10 this Section 249.87, the Design for Development, and the Development Agreement. Any authorization
11 granted pursuant to this subsection 249.87(g)(5) shall not exempt Applicant from obtaining any other
12 permit required by law. Additional time for such uses may be authorized upon a new application for
13 the proposed Interim Use. Permitted Interim Uses shall include, but are not limited to:

14 (A) Retail Sales and Services;

15 (B) Entertainment, Arts, and Recreation, including but not limited to
16 temporary art installations, exhibits, and sales, recreational facilities and uses (such as play and
17 climbing structures and outdoor fitness classes), and temporary structures to accommodate events
18 (such as stages, seating, and support facilities for patrons and operations);

19 (C) Public and Private Parking Lots, if accessory to other permitted,
20 temporary, or interim uses;

21 (D) PDR;

22 (E) Educational activities, including but not limited to after-school day camp
23 and activities;

1. (F) Site management service, administrative functions, and customer
2 amenities and associated loading;

3 (G) Rental or sales offices incidental to new development; and

4 (H) Trailers, recreational vehicles, or other temporary housing for
5 construction workers, seasonal labor, or other workforce employment needs.

6 (6) Outdoor Activity Areas.

7 (A) Outdoor Activity Areas as defined in Section 102 are permitted.

8 (B) Waterfront Outdoor Food Service Areas. Permanent, semi-permanent
9 and movable furnishings such as tables, chairs, umbrellas, heat lamps, and fire pits for eating and
10 drinking use shall be permitted on the east side of the buildings constructed on Blocks 4 and 9. The
11 shaded areas in Figure 249.87-2 indicate potential locations for this use. Food service areas must
12 remain clear of the Blue Greenway at all times. Within these areas, up to 60% of the area may be
13 reserved for exclusive use by eating and drinking establishments during business hours. This reserved
14 area may be contiguous. The remainder of these areas shall also feature similar seating amenities,
15 shall be open to the public and shall not require patronage of any eating and drinking establishment.
16 Public seating should be of high quality and differentiated from reserved seating at adjacent eating and
17 drinking establishments. Signage shall be provided to clearly indicate that public seating is open to the
18 public without having to patronize the eating and drinking establishment.

19 ///

20 ///

21 ///

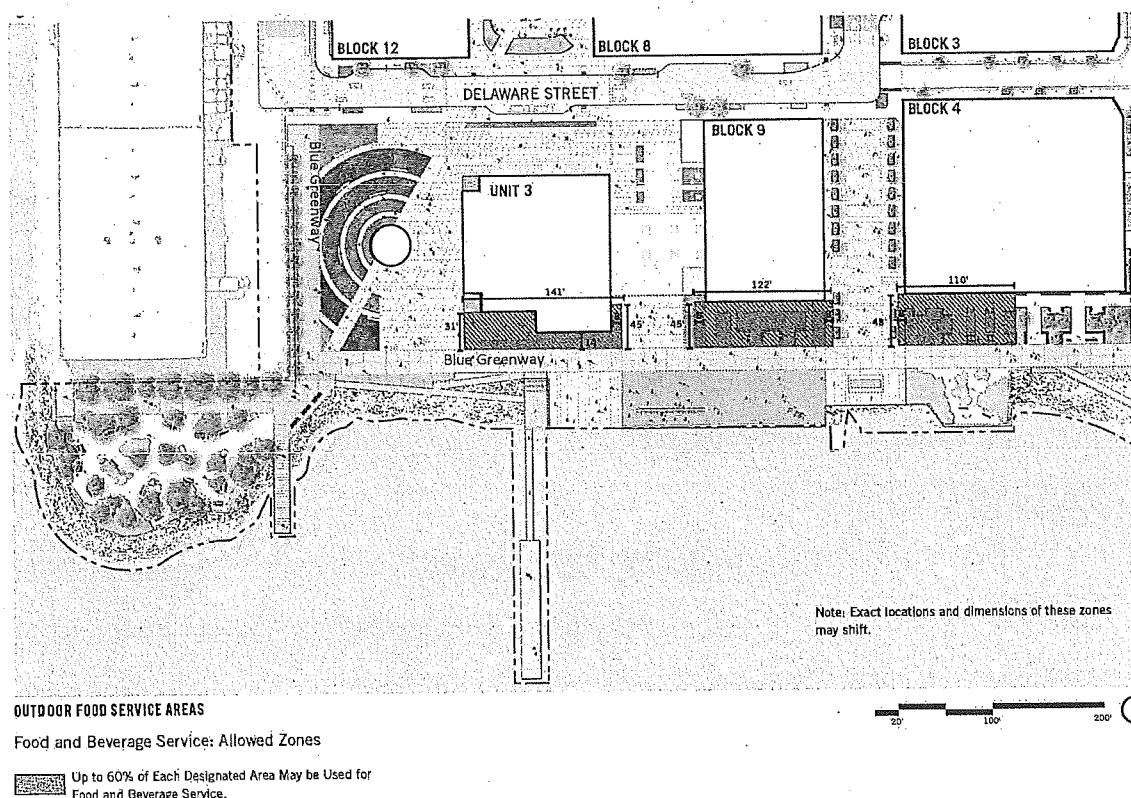
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Figure 249.87-2 Waterfront Park Outdoor Food Service Areas



(7) Nonconforming Uses. Nonconforming uses and structures may be continued and are otherwise subject to Sections 181-183 and 188 of the Planning Code.

(8) Ground Floor Use Requirements. Within this SUD, only the ground floor controls contained in the SUD shall apply. Ground Floor Uses shall be consistent with Section 145.1, subject to the following:

(A) Active Uses: Consistent with subsection (g)(8)(C), only the following Uses shall be considered a active uses: Retail, Sales and Service Use; PDR Use; Institutional Use; Entertainment, Arts, and Recreation Use; Non-Retail, Sales and Service Use; and Residential Use; and Lobbies up to 40 feet in width or 25% of building frontage, whichever is larger. With the exception of

1 space for parking and loading access, building egress, and access to mechanical systems, space for
2 active uses must be provided within the first 25 feet of building depth on the ground floor for 100% of
3 the shaded Active Use, Priority Retail, and Priority PDR Frontage zones identified in Figure 249.87-3,
4 unless specified otherwise in subsection (g)(8)(C).

5 (B) Active Use for Lane Frontages. In addition to the active uses permitted
6 under subsection (g)(8)(A), the following shall be considered an active uses for areas shown as Lane
7 Frontages in Figure 249.87-3: building insets of at least 4 feet in depth at the ground floor for
8 pedestrian amenities, including permanent, semi-permanent, and movable furnishings such as tables,
9 chairs, umbrellas; and Public Art, such as a wall mural, at least 15 feet in height measured from
10 ground level.

11 (C) Active Use Requirements:

12 (i) Non-Retail, Sales and Service Use may occupy up to a maximum
13 of 50% of the building Frontage including, any accessory mail rooms and bicycle storage rooms, which
14 must have direct access to the street or lobby space.

15 (ii) Non-Retail, Sales and Service Use and Institutional Use shall
16 provide Social Spaces (as defined in this Section 249.87).

17 (iii) Residential Uses shall have dwelling units with direct access to a
18 street or public open space.

19 (iv) Micro-Retail Uses shall be provided within the first 10 feet of
20 building depth.

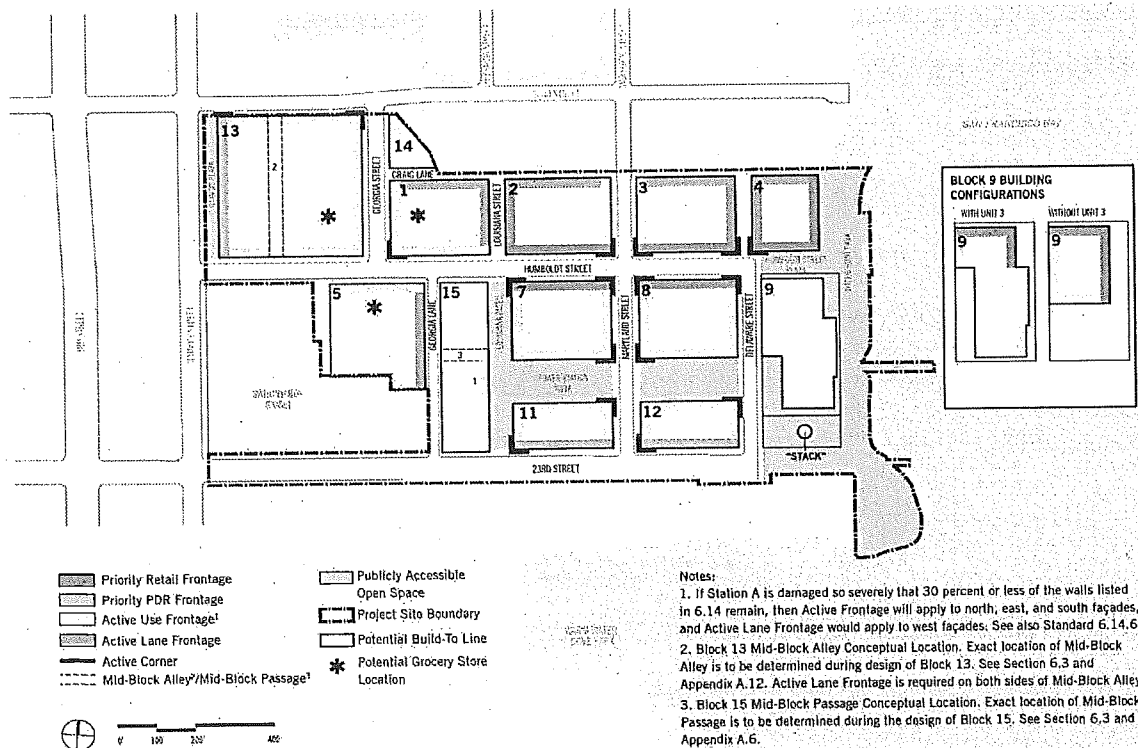
21 (v) Social Spaces, including those provided pursuant to subsection
22 (g)(C)(ii) shall be provided within the first 15 feet of building depth, at the front of the space, and
23 oriented toward the street.

24 (vi) Within Priority Retail Frontage zones, a minimum of 50% of the
25 active uses shall be Retail, Sales and Service Uses to a depth of 40 feet.

(vii) Within Priority PDR Frontage zones, a minimum of 75% of the active uses shall be PDR Uses to a depth of 40 feet, except that if Childcare and/or Community Facilities are provided within the subject Priority PDR Frontage(s), then a minimum of 50% of the active uses shall be limited to PDR uses.

(viii) Within Active Corners, as shown in Figure 249.87-3, only the following active uses are permitted for a minimum of 30 feet of the Frontage from each corner: (1) Retail, Sales, and Service Use; (2) Entertainment, Arts, and Recreation Use; and (3) Community Facility Use.

Figure 249.87-3: Ground Floor Uses



(h) Building Standards. Building Standards shall be as follows, unless modified in accordance with subsection (k) below.

1 (1) **Dwelling Unit Density.** There shall be no residential density limit or maximum
2 floor area ratio within the SUD.

3 (2) **Required Residential Dwelling Unit Mix.**

4 (A) No less than 30% of the total number of proposed dwelling units in each
5 building or phase in a Development Phase Approval shall contain at least two bedrooms. Any fraction
6 resulting from this calculation shall be rounded to the nearest whole number of dwelling units.

7 (B) No less than 10% of the total number of proposed dwelling units in each
8 building or phase in a Development Phase Approval shall contain at least three bedrooms. Any fraction
9 resulting from this calculation shall be rounded to the nearest whole number of dwelling units. Units
10 counted towards this requirement may also count towards the requirement for units with two or more
11 bedrooms as described in subsection (A) above.

12 (C) The dwelling unit mix requirement in this subsection (h)(2) shall not
13 apply to buildings for which 100% of the Residential Uses are: Group Housing, Dwelling Units that
14 are restricted to a maximum sales or rental price that is affordable to households earning 150% of
15 Area Median Income or less, Single Room Occupancy (SRO) Units, Student Housing, or housing
16 specifically and permanently designated for seniors or persons with physical disabilities, including
17 units to be occupied by staff serving any of the foregoing Residential Uses.

18 (3) **Building Height Limits.**

19 (A) **Measurement of Height.** Building heights are to be measured from the
20 highest point of finished grade along the property line of the parcel on which the building is located, up
21 to the highest point of the uppermost structural slab in the case of a flat roof; or up to the average
22 height of the rise in the case of a pitched or stepped roof, or similarly sculptured roof form.

23 (B) **Maximum Building Height.** For purposes of the SUD, the height limits
24 shall be as set forth in Section Map HT08 of the Zoning Map and as further limited and detailed in
25 Figure 249.87-4: Building Height Maximums, and as further governed by this Section 249.87. The

1 following rooftop elements may project above given height limits without regard to horizontal area
2 with the condition that:

3 (i) On rooftops between 45 feet and 100 feet in height, rooftop
4 elements greater than four feet in height must be set back at a minimum ratio of 1.2 feet in a horizontal
5 dimension from the roof edge for every one foot that they exceed the maximum height limit;

6 (ii) On Upper Building rooftops, mechanical features must be
7 screened or enclosed;

8 (iii) Enclosed structures designed for human occupancy may not
9 exceed 25% of the total roof area of a building (including roof areas of the same building at different
10 elevations);

11 (iv) The sum of the horizontal areas of the following rooftop elements
12 may not exceed 40% of the total horizontal area of the roof of the building, and may project for the
13 number of feet above the permitted height limit as follows:

14 a. Elevator, stair and mechanical penthouses, and other
15 mechanical equipment and appurtenances necessary to the operation or maintenance of the building or
16 structure itself, such as chimneys, ventilators, plumbing vent stacks, and/or cooling towers together
17 with visual screening for any such features, all up to 20 feet in height. Elevators, stair and mechanical
18 penthouses may exceed 20 feet in height as required by the California Code of Regulations.

19 b. On the roof of majority Residential buildings, structures
20 related to the recreational use of the rooftop (e.g. greenhouses, sheds for the storage of furniture or
21 equipment, hot tub enclosures, changing rooms, etc.) up to 16 feet in height.

22 c. On the roof of majority non-residential buildings, Retail
23 structures up to 16 feet in height containing one or more of the uses permitted in Table 249.87-1. Any
24 enclosed space for these uses shall not exceed 5,000 square feet of Gross Floor Area and, other than on
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1 Block 9, shall be accompanied by one square foot of Publicly Accessible Open Space for each square
2 foot of Gross Floor Area.

3 d. Enclosed restrooms up to 10 feet in height.

4 (v) On buildings that contain majority Laboratory Use, mechanical
5 features necessary to building operations related to Laboratory facilities may exceed 40% of the
6 horizontal area of the roof provided they do not contain space for human occupancy;

7 (vi) The following rooftop elements may project above given height
8 limits without regard to horizontal area:

9 a. Non-occupied architectural features, including non-
10 permeable wind screens, up to 10 feet in height on buildings between 45 and 100 feet (with a minimum
11 Setback of five feet from the roof edge) and up to 20 feet on Upper Buildings above the maximum
12 permitted building height, except on Block 7, where these features may extend up to 10% vertically
13 above the maximum permitted building height;

14 b. Unenclosed structures related to unroofed publicly
15 accessible recreation facilities, such as sports fields and swimming pools, including lighting required
16 for the nighttime enjoyment of rooftop fields, all up to 60 feet in height, and/or fencing, goal boxes and
17 other sports equipment, netting or other semi-transparent enclosure necessary for the safe enjoyment of
18 unroofed recreation facilities, all up to 30 feet in height;

19 c. Furniture and other unenclosed features intended to allow
20 for the habitable use of the rooftop, including, but not limited to tables, chairs, umbrellas, lighting,
21 canopies, lattices, sunshades, and trellises, all up to a height of 10 feet;

22 d. Photovoltaic panels;

23 e. Equipment and appurtenances necessary to Living Roofs
24 as defined in Planning Code Section 149;
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1 f. Wireless Telecommunications Services Facilities and
2 other antennas, dished and towers and related screening elements;
3 g. Landscaping features, with a maximum height of 48 inches
4 for planters or other non-plant materials;
5 h. Trees and plants;
6 i. Decking, up to three feet in height;
7 j. Flagpoles and flags;
8 k. Cranes, scaffolding and batch plants erected temporarily
9 at active construction sites; and
10 l. Railings, parapets and catwalks, up to four feet in height.

11 (vii) Permitted above-grade pedestrian connections for Turbine Plaza.

12 (C) Height of Existing Structures. The existing heights for Unit 3 (131 feet)
13 and the Stack (300 feet) are permitted. In the event that the Stack collapses or is otherwise damaged
14 beyond repair, permitted heights shall be those applicable to open space. Should Unit 3 be demolished,
15 the height limit for Block 9 shall be 125/85 feet, as set forth on Sectional Map HT08 of the Zoning Map
16 and as further limited and detailed in Figure 249.87-4.

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1 Maximum Diagonal Dimension of an Upper Building is the greatest horizontal distance between two
2 opposing points at any level of the Upper Building. Maximum Plan and Maximum Diagonal Dimension
3 do not apply to balconies, cornices, decorative Projections, unenclosed building elements, or other
4 unenclosed obstructions permitted by Planning Code Section 136.

5 (C) The Maximum Apparent Face shall be a maximum of 120 feet of the
6 Upper Building. The Maximum Apparent Face shall be offset with a change in plane of at least five feet
7 in depth. This change in plane must be accompanied by a change in height of the roof form (which may
8 be a reduction or increase in the height of the roof screen) of at least five feet and/or a change in
9 material. The required change in plane may occur by curving the face of the building.

10 (D) For buildings with curved façades, on those portions of the façade that
11 are curved, the Maximum Apparent Face shall be measured as the plan dimension between the end
12 points of each arc. If the building is a circle or ellipse, the Maximum Apparent Face shall be measured
13 as the longest diameter of the circle or ellipse.

14 (E) For Block 15 without Station A, the building above the 65-foot setback
15 shall achieve a 15% average reduction in square footage for all floors. The reduction shall apply
16 relative to a baseline floorplate of 47,089 square feet (i.e. the footprint of Station A) for construction
17 up to 145 feet and a baseline floorplate of 24,955 square feet for construction between 145 feet and 160
18 feet.

19 (F) Sculpting of Vertical Addition to Station A on Block 15. New
20 construction of a vertical addition to Station A on Block 15 is subject to the building height maximums
21 for Block 15 shown on Figure 249.87-4, and shall achieve a 15% reduction in overall exterior volume
22 for all mass above the existing Station A walls. The reduction shall apply relative to a baseline
23 floorplate of 47,089 square feet (i.e. the footprint of Station A) for construction up to a height of 145
24 feet, and a baseline floorplate of 24,955 square feet for construction between 145 feet and 160 feet in
25 height.

(i) Assuming the existing Station A walls are an average of 65 feet in height, the overall volume allowed above shall be calculated as follows:

A	Floorplate up to 145' x height between Station A walls and 145' = volume A	47,089 square feet x 80 feet = 3,767,120 cubic feet
B	Floorplate above 145' x height above 145' = volume B	24,955 square feet x 15 feet = 374,325 cubic feet
C	A + B = total volume	3,767,120 cubic feet + 374,325 cubic feet = 4,141,445 cubic feet
D	C x 0.85 = maximum buildable volume	4,141,445 cubic feet x 0.85 = 3,520,228 cubic feet
E	C x 0.15 = required volumetric reduction	4,141,445 cubic feet x 0.15 = 621,217 cubic feet

(ii) The 15% reduction may be achieved by providing setbacks, a Vertical Hyphen, or a combination of these or other sculpting strategies. Where a Vertical Hyphen is utilized as a design element, it shall be at least 10 feet in depth and at least one story in height beginning at the height of the cornice of the existing walls of Station A.

(iii) A project applicant may request and the Planning Director may grant a waiver from the 15% reduction requirement if the Planning Director determines that new construction on Block 15 above the height of the Station A walls demonstrates superior design quality consistent with the provisions of this Section 249.87 and with the following sculpting purposes:

a. Differentiation in mass from the existing Station A structure below;

b. Reduction in mass to ensure that development on Block 15 does not overwhelm adjacent open spaces and sensitively responds to its immediate context, including adjacent structures, streets, open spaces, and to the existing walls of Station A itself, and;

c. Sculpting of the mass with an architectural expression that distinguishes Block 15 as a high-quality, character-defining element of the site's urban design.

(iv) Projections in new construction above the existing Station A walls are permitted per Planning Code Section 136 for Streets, Alleys, and Useable Open Space, except that such

projections shall be measured from the outer face of the existing Station A wall that faces a street, alley, or open space.

(v) To allow for the possibility of a design response that results in a superior design consistent with the provisions of this Section 249.87, particularly Section 249.87(h)(4)(F)(iii), the Planning Director may approve projections on the eastern wall of Station A (facing Louisiana Paseo and Power Station Park) that deviate from Planning Code Section 136 provided that no projection extends farther than 10 feet beyond the outer face of the existing Station A walls, and projections are limited to no more than 25% of the square footage of the building face above the existing Station A walls.

Table 249.87-3: Summary of Bulk Controls and Separation Requirements

	LOWRISE & MIDRISE BUILDINGS (UP TO 145' IN HEIGHT)	MIDRISE TOWER ON BLOCK 1 (146'-180' IN HEIGHT)	MIDRISE TOWER ON BLOCK 15 (146'-160' IN HEIGHT)	HIGHRISE TOWERS ON BLOCKS 5 AND 7 (181'-240' IN HEIGHT)
UPPER BUILDING BULK CONTROLS				
Maximum Average Floorplate	N/A	12,000 gross square feet	See D4D Standard 6.5.1	12,000 gross square feet
Maximum Plan	N/A	150'	N/A	140'
Maximum Diagonal	N/A	190'	N/A	160'
Maximum Apparent Face	N/A	120'	N/A	120'
Upper Building Separation	N/A	85'	115'	115'

(5) **Upper Building Separation.** The applicable Upper Building separation requirements shall be as set forth in Table 249.87-3. Separation shall be measured horizontally from the building face of the subject Upper Building to the nearest building face of the closest Upper Building, exclusive of permitted obstructions pursuant to Planning Code Section 136.

(6) **Streetwalls.** New buildings must provide a Streetwall for at least 65% of each Frontage from sidewalk grade to the required maximum Streetwall height as established in Figure 249.87-5. The Streetwall requirements of this subsection do not apply to the following:

(A) Existing buildings on the Project Site that are rehabilitated or reused as part of the Project (such as Unit 3 or Station A), including additions to such existing buildings;

(B) Pocket parks that extend at least 10 feet horizontally inward from the property line; or

1 (C) The Frontage of any new building facing Waterfront Park (including
2 Humboldt Street Plaza), Power Station Park, or Louisiana Paseo, provided that deviations from the
3 minimum 65% standard shall contribute to differentiated architecture.

4 (7) Setbacks. All building mass shall be set back from the building's Streetwall
5 above a certain height, as summarized in Figure 249.87-5 and further regulated below.

6 (A) Setbacks are not required along Mid-Block Alleys, except that, on
7 Frontages facing the Mid-Block Alley on Block 13, buildings shall be set back at least 10 feet from the
8 Streetwall at a height of 70 feet.

9 (B) The Setback requirements do not apply to the highrise tower on Block 7.
10 Instead the highrise tower must be set back at least 15 feet in the horizontal dimension for at least 60%
11 of the Upper Building's Frontages along Humboldt Street or Louisiana Paseo.

12 (C) Setbacks are not required for the District Parking Garage.

13 (D) If the eastern wall of Station A is not retained, at least 60% of the eastern
14 façade of Block 15 framed by the southern façade of Block 7 and the northern façade of Block 11
15 should include a volumetric projection of approximately 10 feet in plan from the primary façade of the
16 building and that is at least 5 stories. The projection must provide a pedestrian passage way between
17 Louisiana Paseo and Georgia Lane that is no less than 20 feet wide and 30 feet tall. If the projection
18 reaches the ground floor, it must be permeable and open to pedestrians. Any building constructed
19 within the Mid-Block Alley on Block 15 without Station A shall be set back at least five feet from the
20 eastern and western faces of the building.

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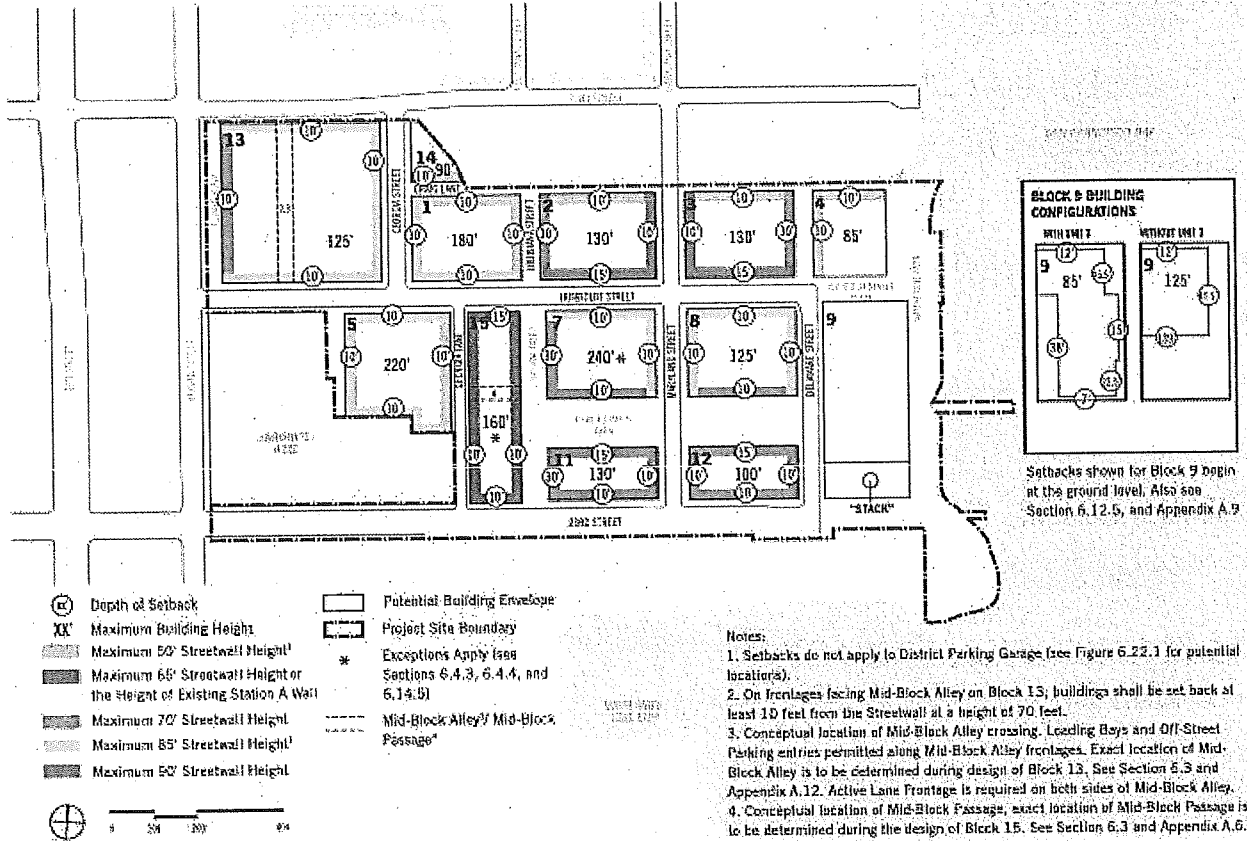
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Figure 249.87-5: Setbacks



(8) **Rear Yard.** There shall be no rear yard requirement within the Potrero Power Station Special Use District.

(9) **Usable Open Space.** Usable open space shall be required for Residential Uses as follows: For each dwelling unit there shall be: (i) a minimum of 36 square feet of open space if private, or (ii) 48 square feet of open space if common. For Group Housing or Single Room Occupancy units, the minimum open space requirements shall be one-third the amount specified in this subsection for a dwelling unit. Required open space shall be on the same development block as the units it serves. To count as usable open space, the area credited on a deck, balcony, porch, or roof must either face a street, or face or be within an open area per Subsection 249.87(h)(10).

1 (A) Common Open Space. All common open space shall have a minimum 10
2 feet in every horizontal dimension and be unobstructed and open to the sky, except for obstructions
3 permitted under Planning Code Section 136. Mid-Block Alleys may count as common open space
4 provided that the Alley does not allow vehicular access. Common Open Space may be publicly accessible.

5 (B) Private Open Space. Private open space shall have a minimum dimension
6 of six feet in every horizontal dimension. Private open space shall be directly accessible from the dwelling
7 unit it serves.

8 (10) Minimum Dwelling Unit Exposure. All dwelling units shall face onto a public or
9 private right-of-way, or onto an open area, defined as:

10 (A) A public street, publicly accessible alley, or Mid-Block Passage (public or
11 private) at least 20 feet in width that is unobstructed and at least 60% open to the sky;

12 (B) An outer court or terrace that is open to a public street, public alley, Mid-
13 Block Alley (public or private), or public open space and at least 25 feet in width;

14 (C) An inner court which is unobstructed (except for obstructions permitted in
15 Planning Code sections 136(c)(14), (15), (16), (19), and (20)) and is no less than 40 feet in one horizontal
16 dimension and 25 feet in the other horizontal dimension at the lowest two floors which have dwelling
17 units facing onto the inner court. The horizontal dimension that is at least 25 feet shall increase five feet
18 at each subsequent floor;

19 (D) For below grade units, an open space at the same grade as the units, that
20 is no less than 7.5 feet wide in every horizontal dimension, at least 136 square feet in area, and 60%
21 open to the sky. Such open spaces shall face onto a street, alley or open space. Below grade units shall
22 be maximum 6 feet below the grade of the street, alley or public open space.

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1 (11) Ground Floor Design.

2 (A) Ground Floor Height. All non-residential ground floor spaces shall have
3 a minimum floor-to-floor height of 15 feet as measured from grade. At least 30% of the cumulative PDR
4 space pursuant to Figure 249.87-3 shall contain floor-to- floor heights of 17 feet.

5 (B) Awnings and Canopies. Awnings and canopies must be at least eight feet
6 above sidewalk grade. Awnings that are more than 100 feet in length must be at least 15 feet above
7 sidewalk grade. Awnings or canopies that are between eight and 15 feet above sidewalk grade may
8 project up to 10 feet beyond the building facade (including into the public right of way). Awnings or
9 canopies that are higher than 15 feet above sidewalk grade may project up to 15 feet beyond the building
10 facade (including into the public right of way). In no instance shall any awning or canopy project beyond
11 the width of the sidewalk they cover. Awnings and canopies shall be designed so as not to interfere with
12 street tree canopy.

13 (C) Transparent Frontages. Portions of frontages that contain active uses per
14 section 249.87(g)(8), other than Residential Units or PDR Uses, shall be fenestrated with transparent
15 windows and doorways for not less than 60% of the street frontage at between two feet and 12 feet vertical
16 above grade, and must allow visibility of at least four feet in depth inside of the building. PDR frontages
17 shall be fenestrated with transparent windows or doors for no less than 50% of the street frontage from
18 sidewalk grade up to 12 feet vertical above grade, and must allow visibility of at least four feet in depth
19 inside of the building. The use of dark, mirrored, or opaque glass shall not count toward the required
20 transparent area. Ground-floor transparent frontage standards shall not apply to historic or adaptively-
21 reused buildings.

22 (12) Maximum Off-Street Parking. The location and design standards for off-street
23 automobile parking shall be governed by the Design for Development. Off-Street parking is not required
24 and shall be limited to the following maximum ratios:

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Table 249.87-4: Maximum Off-Street Parking Ratios per Land Use*

<u>Land Use</u>	<u>Off-Street Parking Ratio</u>
<u>Residential</u>	<u>0.6 space: 1 unit</u>
<u>Non-Retail Sales and Service, Industrial, PDR, Laboratory, or Life Science Uses</u>	<u>1 space: 1,500 gross square feet of Occupied Floor Area</u>
<u>Hotel</u>	<u>1 space: 16 Hotel guest rooms, plus 1 space for a hotel manager</u>
<u>General Grocery or Special Grocery Uses</u>	<u>3 spaces: 1,000 gross square feet of Occupied Floor Area</u>
<u>All Other Uses</u>	<u>No off-street parking permitted</u>

**Pursuant to subsection (n)(4), parking amounts may be greater on a Parcel-by-Parcel basis than otherwise allowed by Table 249.87-4.*

*(13) **Signage.** All signs shall be defined as described by Article 6 of the San Francisco Planning Code. The provisions of Section 607.2 ("Mixed-Use Districts") of the San Francisco Planning Code applicable to Urban Mixed Use ("UMU") Districts shall apply such that a sign that is permitted or prohibited in a UMU District shall likewise be permitted or prohibited in the Potrero Power Station SUD. All signs shall be defined as described by Article 6 of the San Francisco Planning Code. Provided further that:*

*(A) **Concealed Electrical Signage Elements.** All electrical signage elements such as wires, exposed conduits, junction boxes, transformers, ballasts, switches, and panel boxes shall be concealed from view.*

*(B) **Portable Signage.** Portable signs, such as sandwich boards and valet parking signs, are permitted and limited to one per business. All portable signage shall be located within frontage or furnishing zones on sidewalks, or within open spaces fronting the businesses.*

1 (C) Temporary Sale or Lease Signs. No permit shall be required for
2 temporary Sale or Lease Signs. Such signs are permitted only when all of the following criteria are
3 met:

4 (i) No more than two such signs are permitted at any one time on any
5 building;

6 (ii) The area of each sign is no larger than 40 square feet;

7 (iii) The height of each sign is no higher than 10 feet;

8 (iv) The sign is a wall sign or a window sign;

9 (v) The sign is not directly illuminated;

10 (vi) The sign indicates the availability of a particular space within the
11 building on or in which the sign is placed; and

12 (vii) The sign directs attention to a space which is available for
13 immediate sale or lease.

14 (D) Signage Along the Waterfront and Power Station Park. Signage for
15 buildings fronting Power Station Park or the Bay Trail (including the eastern Frontage of Blocks 4, 9,
16 12 and a portion of 15 directly facing Power Station Park; northern Frontage of Blocks 11 and 12; and
17 Southern Frontage of Blocks 7 and 8 shall:

18 (i) Be 50 square feet or less and its highest point may not reach a
19 height greater than 35 feet;

20 (ii) Consist only of indirect illumination, pursuant to Section 602 of
21 this Code, including but not limited to halo-style lighting.

22 (14) Mid-Block Alleys and Mid-Block Passages.

23 (A) Mid-Block Alleys. There shall be a Mid-Block Alley on Block 13. Any Mid-
24 Block Alley shall:

1 (i) Be located as close to the middle portion of the subject block as possible,
2 and connect to existing adjacent streets and alleys;

3 (ii) Have a minimum width of 20 feet at all points, exclusive of those
4 obstructions allowed within Setbacks pursuant to San Francisco Planning Code Section 136;

5 (iii) Provide public pedestrian access with dual sidewalks each of not less
6 than six feet in width with not less than four feet minimum clear walking width, unless the alley is
7 designed as a shared street;

8 (iv) Have at least 60% of the area of the Alley open to the sky. Obstructions
9 permitted within Setbacks pursuant to Planning Code Section 136 may be located within the portion of
10 the alley or pathway that is required to be open to the sky. All portions of the Alley not open to the sky
11 shall have a minimum clearance height from grade of 15 feet at all points;

12 (v) Provide such ingress and egress as will make the area easily accessible
13 to the general public;

14 (vi) Have appropriate paving, furniture, and other amenities that encourage
15 pedestrian use;

16 (vii) Be landscaped;

17 (viii) Have sufficient pedestrian lighting to ensure pedestrian comfort and
18 safety;

19 (ix) Be free of any changes in grade or steps not required by the underlying
20 natural topography and average grade; and

21 (x) Be fronted by Active Lane Uses.

22 (B) Mid-Block Passage. There shall be a Mid-Block Passage on Block 15. The
23 Mid-Block Passage shall:

1 (i) Be located as close to the middle portion of the subject block as possible,
2 connect to existing adjacent streets and alleys, and can be either perpendicular to the subject Frontage
3 or diagonal across the Block;

4 (ii) Provide publicly accessible east-west access through the entire depth of
5 Block 15 on the ground floor with at least 20 feet of continuous clear width and 15 feet of continuous
6 clear height; and may be completely enclosed to facilitate preservation of the existing Station A walls;
7 and shall be pedestrian only. If Station A is damaged such that 30% or less of the eastern wall
8 remains, a Mid-Block Alley shall be provided pursuant to the standards set forth in subsection
9 (h)(14)(A), except that the pathway shall be pedestrian only, and if the pathway is enclosed it shall have
10 a continuous clear height of 30 feet.

11 (C) Relationship to Open Space Requirements. Any non-vehicular portions of such
12 a Passage or Alley, including sidewalks or other walking areas, seating areas, or landscaping, are
13 permitted to count toward any open space requirements that include or require publicly accessible
14 open space on the same block where the Passage or Alley is located.

15 (i) Compliance with Article 4 of the Planning Code.

16 (A) Inclusionary Housing Requirements. Proposed Building Projects in areas of
17 the Special Use District that are subject to a Development Agreement shall comply with the affordable
18 housing requirements of the Development Agreement. Proposed Building Projects in areas of the
19 Special Use District that are not subject to a Development Agreement shall comply with the affordable
20 housing requirements as set forth in Section 415.1 et seq. Upon expiration or termination of the
21 Development Agreement as applied to a portion of the Project Site not yet permitted for construction,
22 the then-applicable affordable housing requirements of the Planning Code shall apply to that portion of
23 the Project Site, without reference to the date of any earlier environmental evaluation or development
24 application.

1 (B) Other Impact Fees. For so long as the Development Agreement remains in effect
2 with respect to a portion of the Project Site, the developer impact fees payable for any Vertical
3 Development on that portion of the Project Site will be determined in accordance with the Development
4 Agreement. Upon expiration or termination of the Development Agreement as applied to a portion of
5 the Project Site, the then-applicable developer impact fees in the Planning Code shall apply to that
6 portion of the Project Site.

7 (j) Relationship to State or Local Density Bonus Programs. In exchange for the benefits
8 expressed in the Development Agreement and this Section 249.87, and as set forth in the Development
9 Agreement, any Building Projects within the SUD shall not be eligible for additional density or
10 modifications to development standards allowed in any state or local law allowing additional density
11 or modifications to development in exchange for on-site affordable housing, including but not limited to
12 the State Density Bonus Law (California Government Code § 65915 et seq), the Affordable Housing
13 Bonus Program (Planning Code section 206 et seq.), and Planning Code Sections 207.

14 (k) Modifications to Building Standards and Use Requirements.

15 (1) No Modifications or Variances. No variances, exceptions, modifications or
16 other deviations from the requirements and standards of the Planning Code, including this SUD, and of
17 the Design for Development are permitted except through the procedures for granting of Minor and
18 Major Modifications established in this SUD. No modifications or variances are permitted for
19 permitted Uses (with the exception of numerical standards related to Ground Floor Uses), maximum
20 building height, or maximum automobile parking spaces.

21 (2) Modification of Other Building Standards and Use Requirements. A
22 dimensional or numerical standard for Building Standards and Ground Floor Use Requirements may
23 only be modified as provided in subsections (k)(3) and (k)(4), on a project-by-project basis. In order to
24 grant a modification, the Director or Commission must find that the proposed modification achieves
25

1 equal or superior design quality and public benefit as strict compliance with the applicable standard
2 and meets the intent of the SUD and the Design for Development.

3 (3) **Minor Modifications.** The Planning Director may approve a Minor
4 Modification administratively in accordance with the procedures set forth in subsection (n).

5 (4) **Major Modifications.** The Planning Commission may approve any application
6 for a Major Modification in accordance with the procedures set forth in subsection (n).

7 (l) **Development Phase Approval.** Consistent with the Development Agreement, the
8 Developer shall submit Development Phase Plan to the Planning Director for approval, and no
9 development may be approved within a Development Phase until after the Planning Director issues a
10 Development Phase Approval. The Development Phase Approval process, as set forth in the
11 Development Agreement, is to ensure that all Community Improvements and Building Projects within a
12 Development Phase are consistent with the Development Agreement and this SUD. Planning shall
13 review Development Phase Applications within 30 days of receipt in order to determine completeness.
14 If the Planning Director fails to respond within such 30-day period, the Development Phase
15 Application will be deemed complete. The Planning Director shall act on a Development Phase
16 Application within 60 days after submittal of a complete Development Phase Application. Changes
17 proposed by the Planning Department will be reasonably considered by Developer, and changes
18 proposed by Developer will be reasonably considered by the Planning Department. If there are no
19 objections, or upon resolution of any differences, the Planning Director shall approve the Development
20 Phase Application with such revisions, comments, or requirements as may be permitted in accordance
21 with the terms of the Development Agreement and the Phasing Plan.

22 (m) **Design Review and Approval.** The Planning Department shall approve only those
23 applications for individual Building Projects that are consistent with a Development Phase Approval.
24 To ensure that Buildings and Privately-Owned Community Improvements meet the requirements of the
25 Planning Code, including this Section 249.87, and the Design for Development, an Applicant shall

1 submit a Design Review Application and receive approval from the Planning Director, or the Planning
2 Commission if required, before obtaining any permits for the applicable construction. Standards and
3 limitations on design review approval are set forth in subsection (n), below. Nothing in this Section
4 249.87 limits the Charter authority of any City department or commission or the rights of City agencies
5 to review and approve proposed infrastructure as set forth in the Development Agreement.

6 (n) Design Review Applications and Process.

7 (1) Applications. Each Design Review Application shall include the documents and
8 other materials necessary to determine consistency with the Planning Code, including this Section
9 249.87, and the Design for Development, including site plans, floor plans, sections, elevations,
10 renderings, landscape plans, and exterior material samples to illustrate the overall concept design of
11 the proposed buildings. If an Applicant requests a Major or Minor Modification, the application shall
12 describe proposed changes in reasonable detail, and to the satisfaction of the Planning Director,
13 including narrative and supporting images, if appropriate, and a statement of the purpose or benefits of
14 the proposed modification(s).

15 (2) Completeness. Planning Department staff shall review the application for
16 completeness and advise the Applicant in writing of any deficiencies within 30 days of the date of the
17 application.

18 (3) Design Review of Buildings and Privately-Owned Community Improvements.

19 (A) Building Pre-Application Meeting. Prior to submittal of a Design
20 Review Application, the Applicant shall conduct a minimum of one pre-application public meeting. The
21 meeting shall be conducted at, or within a one-mile radius of, the Project Site, but otherwise subject to
22 the Planning Department's pre-application meeting procedures, including but not limited to the
23 submittal of required meeting documentation. A Planning Department representative shall be invited to
24 such meeting.

1 (B) Parks and Open Space Outreach. Prior to the Planning Department's
2 approval of any Design Review Application for any parks or open space within the Power Station park
3 system, the Applicant shall conduct a minimum of two community meetings; additional meetings may be
4 required at the discretion of the Planning Director. The meetings shall be conducted at, or within a
5 one-mile radius of, the Project Site, but otherwise subject to the Planning Department's pre-application
6 meeting procedures, including but not limited to the submittal of required meeting documentation. A
7 Planning Department representative shall be invited to such meetings.

8 (C) Design Review Process. Following submittal of the Design Review
9 Application, upon a determination of completeness, Planning Department staff shall conduct design
10 review and prepare a staff report determining compliance with this Section 249.87, the Planning Code,
11 and the Design for Development, including a recommendation regarding any modifications sought.
12 The staff report shall be delivered to the Applicant and any third parties requesting notice in writing,
13 shall be kept on file, and shall be posted on the Department's website for public review, within 60 days
14 of the determination of completeness. If Planning Department staff determines that the design is not
15 compliant with this Section 249.87, the Planning Code, or the Design for Development, the Applicant
16 may resubmit the Application, in which case the requirements of this subsection (n) for determination
17 of completeness, staff review and determination of compliance, and delivery, filing, and posting of the
18 staff report, shall apply anew.

19 (4) Off-Street Parking. Design Review Applications for Buildings shall include the
20 requested number of off-street parking spaces sought for the Building. It is the intent of Section 249.87
21 that at full build-out of all Parcels in the SUD, the total number of off-street parking spaces within the
22 SUD shall not exceed the applicable maximum parking ratios specified in Table 249.87-4. The
23 maximum parking ratios shall not apply to individual Buildings or Parcels, but shall be considered
24 cumulatively for the Buildings within the SUD as a whole, as set forth in the Development Agreement.
25 In the event an individual Building results in parking that exceeds the applicable maximum parking

1 ratios for the then cumulative development on the Project Site, the excess parking shall not be put into
2 operation and shall be excluded from the available parking supply until such time as additional
3 development within the Project Site occurs and the then applicable maximum parking ratios no longer
4 are exceeded. Each application shall include both the individual request for off-street parking related
5 to the specific location and the cumulative number of off-street parking spaces previously approved.

6 (5) Approvals and Public Hearings for Buildings and Privately-Owned
7 Community Improvements.

8 (A) Buildings and Privately-Owned Community Improvements Seeking No
9 Modifications. Within 10 days after the delivery and posting of the staff report on the Design Review
10 Application, the Planning Director shall approve or disapprove the design based on its compliance
11 with the Planning Code, including this Section 249.87, the Design for Development, and the General
12 Plan. If the Design Review Application is consistent with the numeric standards set forth in this
13 Section 249.87 and the Design for Development, the Planning Director's discretion to approve or
14 disapprove the Design Review Application shall be limited to the Application's consistency with the
15 non- numeric elements of the Design for Development and the General Plan. Prior to approval of a
16 Design Review Application for any building and/or Privately-Owned Community Improvement that is
17 200 feet or more in height, or for the rehabilitation and development of Station A on Block 15 or of
18 Unit 3 on Block 9, the Planning Director shall refer the Design Review Application to the Planning
19 Commission for an informational hearing.

20 (B) Buildings and Privately-Owned Community Improvements Seeking
21 Minor Modifications. Within 10 days after the delivery and posting of the staff report on the Design
22 Review Application including a Minor Modification, the Planning Director, shall approve or
23 disapprove any Minor Modification based on its compliance with the Planning Code, including this
24 Section 249.87, the Design for Development, and the General Plan. Notwithstanding any other
25 provisions of this Section 249.87, the Planning Director may, at his or her discretion, refer any

1 Application that proposes a Minor Modification to the Planning Commission if the Planning Director
2 determines that the proposed Modification does not meet the intent of the Design for Development or
3 the SUD.

4 (C) Buildings and Privately-Owned Community Improvements Seeking
5 Minor or Major Modifications. If an application for Design Review seeks one or more Major
6 Modifications, or if a Design Review Application that proposed a Minor Modification is otherwise
7 referred to the Planning Commission, the Planning Commission shall calendar the item for a public
8 hearing, subject to any required noticing. The Planning Commission's review shall be limited to the
9 proposed Major Modification or the modifications referred by the Planning Director for failure to meet
10 the Design for Development standards. The Planning Commission shall consider all comments from the
11 public and the recommendations of the staff report and the Planning Director in making a decision to
12 approve or disapprove the Design Review Application, including the granting of any Major
13 Modifications.

14 (D) Notice of Hearings. In addition to complying with the notice
15 requirements of the Brown Act and the Sunshine Ordinance, notice of Planning Commission hearings
16 shall be provided as follows:

17 (i) by mail not less than 20 days prior to the date of the hearing, to
18 the Applicant, to residents within 300 feet of the exterior boundaries of the property that is the subject
19 of the application, using for this purpose the names and addresses as shown on the citywide assessment
20 roll in the Office of the Tax Collector, and to any person who has requested such notice; and

21 (ii) by posting on the subject property not less than 10 days prior to
22 the date of the hearing.

23 (o) Building Permits. Each building permit application submitted to the Department of
24 Building Inspection for Buildings shall be forwarded to the Planning Department. The applicable
25 department shall review the building permit application for consistency with the authorizations granted

1 pursuant to this Section 249.87. For improvements to be built upon Port property, the Chief Harbor
2 Engineer shall review all permit applications on behalf of the Port.

3 (p) **Change of Use.** No building permit may be issued for any building and/or Privately-
4 Owned Community Improvement or for a Certificate of Occupancy or Certificate of Temporary
5 Occupancy that would authorize a new use unless the Planning Department determines such permit or
6 Certificate is consistent with the controls in this Section 249.87. Upon expiration or termination of the
7 Development Agreement, any new development, other than replacement of what was built under the
8 Development Agreement, shall require a conditional use approval under Section 303 of this Code.

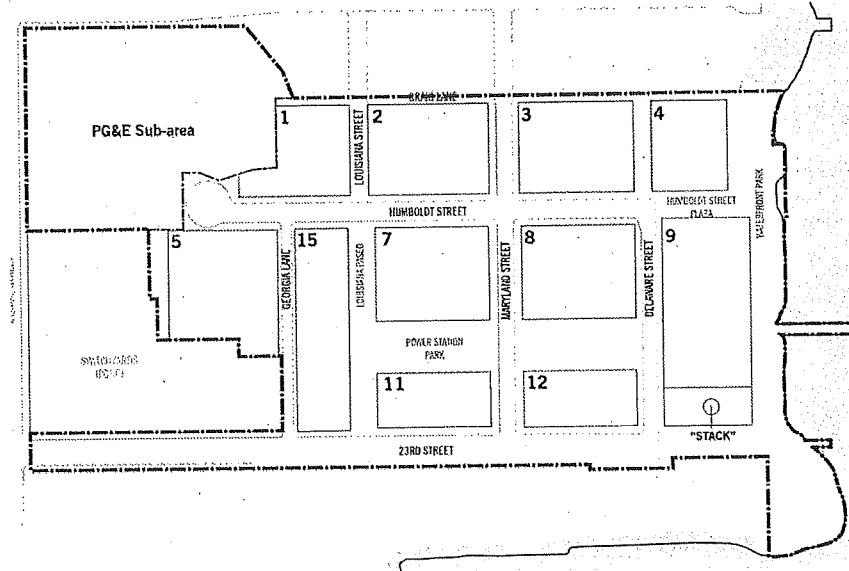
9 (q) **Discretionary Review.** No requests for discretionary review shall be accepted by the
10 Planning Department or heard by the Planning Commission for any Building in the SUD.

11 (r) **Waiver of Planning Code Section 138.1.** The streetscape design set forth in the Design
12 for Development attached to the Development Agreement shall set forth sufficient standards for
13 pedestrian and streetscape improvements for so long as the Development Agreement remains in effect.

14 (s) **Compliance with Planning Code Section 169.** The TDM provisions included in the
15 Development Agreement shall govern in this SUD.

16 (t) **Operative Date for the PG&E Sub-Area.** The zoning controls expressed in this Section
17 249.87 shall not become operative as to the PG&E Sub-Area, as shown on Map 249.87-1, or any
18 portion thereof, until a Notice of Joinder to the Development Agreement approved by the Board of
19 Supervisors in Board file No. _____ has been recorded, or until the PG&E Sub-Area, or any portion
20 thereof, is conveyed to Developer. Copies of the Development Agreement, including a form of the
21 Notice of Joinder, and a legal description of the PG&E Sub-Area is on file with the Clerk of the Board
22 of Supervisors in Board File No. _____.

Map 249.87-1



Section 3. The Planning Code is hereby amended in accordance with Planning Code Section 106 by revising Sectional Map ZN[08], Height Map HT[08], and Special Use District Map SU[08] of the Zoning Map, as follows:

(a) To change the Zoning Map (ZN[X08]) as follows:

Assessor's Parcels (Blocks/Lot Numbers)	Current Zoning to be Superseded	Proposed Zoning to be Approved
4175/002; 4175/017; 4175/018 (partial), 4232/001; 4232/006 and non-assessed Port and City and County of San Francisco properties, the legal descriptions of which are found in Exhibits A-1, A-2, A-4	M-2	PPS-MU

1 through A-7 to the Development Agreement (District 10)		
3 Non-assessed Port properties, the 4 legal description for which is found in 5 Exhibit A-3 to the Development 6 Agreement (District 10)	M-2 and PDR-1-G	P

(b) To change the Height and Bulk Map (HT[08]) from 40-X and 65-X to 65-PPS and 240-PPS.

Assessor's Parcels (Blocks/Lot Numbers)	Height and Bulk District Superseded	New Height and Bulk District
4175/002; 4175/017; 4175/018 (partial), 4232/001; 4232/006 and non-assessed Port and City and County of San Francisco properties, the legal descriptions for which are found in Exhibits A-1 through A-7 to the Development Agreement (District 10)	40-X / 65-X	65-PPS / 240-PPS

(c) To change the Special Use District Map (SU[08]) by creating the new Potrero Power Station Special Use District and assigning the following Parcels to be within the Potrero Power Station Special Use District:

Assessor's Parcels (Blocks/Lot Numbers)	Special Use District
4175/002; 4175/017; 4175/018 (partial), 4232/001; 4232/006 and non-assessed Port and City and County of	Potrero Power Station Special Use District

1 San Francisco properties, the legal descriptions for which
2 are found in Exhibits A-1 through A-7 to the Development
3 Agreement (District 10)

4
5 Section 4. The Planning Code is hereby amended to revise Section 201 as follows:

6 To add the Potrero Power Station Special Use District, after the "Mission Rock Mixed
7 Use District", as follows:

<u>Potrero Power Station Mixed Use District</u> <u>(Also see Sec. 249.87)</u>	
<u>PPS-MU</u>	<u>Potrero Power Station Mixed Use District</u> <u>(Defined in Sec. 249.87(g)(1))</u>

13
14 Section 5: The Figures presented in this ordinance (Figures 249.87-1 through 249.87-
15 5) have been placed in Board of Supervisors File No. _____, and are incorporated herein by
16 this reference.

17
18 Section 6. Effective and Operative Dates.

19 (a) This ordinance shall become effective 30 days after enactment. Enactment
20 occurs when the Mayor signs the ordinance, the Mayor returns the ordinance unsigned or
21 does not sign the ordinance within ten days of receiving it, or the Board of Supervisors
22 overrides the Mayor's veto of the ordinance.

23 (b) This ordinance shall become operative on its effective date or on the effective
24 date of the Development Agreement for the Potrero Power Station Mixed-Use Project,
25 enacted by the ordinance in Board of Supervisors File No. _____, whichever date occurs

1 later; provided, that this ordinance shall not become operative if the ordinance regarding the
2 Development Agreement is not approved.

3 (c) Notwithstanding subsection (b) above, this ordinance shall not become
4 operative as to the areas labeled as "PG&E Sub-Area" on Map 249.87-1, or any portion
5 thereof, until the conditions in Section 249.87(t) have been satisfied. A copy of the Map, and
6 a legal description of the area subject to this subsection (c) is on file with the Clerk of the
7 Board of Supervisors in Board File No. _____.
8

9 APPROVED AS TO FORM:
10 DENNIS J. HERRERA, City Attorney

11 By: _____
12 AUSTIN M. YANG
Deputy City Attorney

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25



SAN FRANCISCO PLANNING DEPARTMENT

Planning Commission Resolution No. 20640

HEARING DATE: JANUARY 30, 2020

Case No.: 2017-011878DVA
Project: Potrero Power Station Mixed-Use Project
Existing Zoning: M-2 (Heavy Industrial)
PDR-1-G (Production, Distribution & Repair-1-General)
Height-Bulk: 40-X, 65-X
Proposed Zoning: P (Public)
Potrero Power Station Mixed-Use District (PPS-MU)
Proposed Height: 65/240-PPS
Blocks/Lots: 4175/002, 4175/017, 4175/018 (partial), 4232/001, 4232/006, 4232/010, and
non-assessed Port and City and County of San Francisco properties
Project Sponsor: Enrique Landa, California Barrel Company, LLC – (415) 796-8945
Staff Contact: John M. Francis – (415) 575-9147, john.francis@sfgov.org

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

RESOLUTION RECOMMENDING THAT THE BOARD OF SUPERVISORS APPROVE A DEVELOPMENT AGREEMENT BETWEEN THE CITY AND COUNTY OF SAN FRANCISCO AND CALIFORNIA BARREL COMPANY, A DELAWARE LIMITED LIABILITY COMPANY, FOR A CERTAIN REAL PROPERTY GENERALLY BOUNDED BY 22ND STREET TO THE NORTH, THE SAN FRANCISCO BAY TO THE EAST, 23RD STREET TO THE SOUTH, AND ILLINOIS STREET TO THE WEST, FOR A 30-YEAR TERM AND ADOPTING VARIOUS FINDINGS, INCLUDING FINDINGS UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND FINDINGS OF CONSISTENCY WITH THE GENERAL PLAN AND PLANNING CODE SECTION 101.1.

WHEREAS, Chapter 56 of the San Francisco Administrative Code sets forth the procedure by which a request for a development agreement will be processed and approved in the City and County of San Francisco; and

WHEREAS, the Development Agreement would enable the Potrero Power Station Mixed-Use Project ("Project"). The Project proposal includes developing approximately 2.5 million square feet ("sq ft") of residential space (2,601 dwelling units), 1.8 million sq ft of commercial uses, including 100,000 sq ft of retail, 800,000 sq ft of office, 650,000 sq ft of life science/laboratory, 240,000 sq ft of hotel (250 rooms), and 35,000 sq ft of Production, Distribution, and Repair ("PDR") uses. Additionally, it includes 25,000 sq ft of entertainment/assembly uses, 50,000 sq ft of community facilities, up to 2,686 off-street automobile parking spaces, and 6.9 acres of publicly accessible open space, including a new waterfront park. The proposal would also feature newly created public streets, pedestrian paths, cycle tracks, and the continuation of the Bay Trail. New buildings on the site are proposed to range from 65 feet to 240 feet in height and would generally step down from the middle of the site toward both the east and west. Three existing structures on the site, the Unit 3 power block and Boiler Stack along the waterfront and the Station A building, are proposed for adaptive reuse; and

WHEREAS, the Project, as described in the Development Agreement, would provide certain public benefits including affordable housing (30% of all units), 6.9 acres of open space, a community center of 25,000 sq ft, two childcare facilities of 6,000 sq ft each, and funding or space (up to 5,000 sq ft for a public library; and

WHEREAS, the Board will be taking a number of actions in furtherance of the Project, including the adoption of Planning Code amendments to establish the Potrero Power Station Special Use District ("SUD") which refers to an associated Design for Development document ("D4D"), and Zoning Map amendments, which together outline land use controls and design guidance for both horizontal and vertical development improvements to the site; and

WHEREAS, in furtherance of the Project and the City's role in subsequent approval actions relating to the Project, the City and California Barrel Company, LLC ("Project Sponsor") negotiated a development agreement for development of the Project site, a copy of which is attached as Exhibit A (the "Development Agreement"); and

WHEREAS, the City has determined that as a result of the development of the Project site in accordance with the Development Agreement, clear benefits to the public will accrue that could not be obtained through application of existing City ordinances, regulations, and policies, as more particularly described in the Development Agreement. The Development Agreement will eliminate uncertainty in the City's land use planning for the Project site and secure orderly development of the Project site consistent with the D4D; and

WHEREAS, the Development Agreement shall be executed by the Director of Planning, and City Attorney subject to prior approval by multiple City Commissions and the Board of Supervisors; and

WHEREAS, on January 30, 2020, the Planning Commission reviewed and considered the Final EIR ("FEIR") for the Project and found the FEIR to be adequate, accurate and objective, thus reflecting the independent analysis and judgment of the Department and the Commission, and that the summary of comments and responses contained no significant revisions to the Draft EIR, and certified the FEIR for the Project in compliance with the California Environmental Quality Act ("CEQA"), the CEQA Guidelines and Chapter 31 by Motion No. 20635; and

WHEREAS, on January 30, 2020, the Commission by Motion No. 20636 approved CEQA Findings, including adoption of a Mitigation Monitoring and Reporting Program (MMRP), under Case No. 2017-011878ENV, for approval of the Project, which findings and MMRP are incorporated by reference as though fully set forth herein; and

WHEREAS, on January 30, 2020, by Resolution No. 20639 the Commission adopted findings in connection with its consideration of, among other things, the adoption of amendments to the Planning Code, under CEQA, the State CEQA Guidelines and Chapter 31 of the San Francisco Administrative Code and made certain findings in connection therewith, which findings are hereby incorporated herein by this reference as if fully set forth; and

WHEREAS, on January 30, 2020, by Resolution No. 20637, the Commission adopted findings regarding the Project's consistency with the General Plan as it is proposed to be amended, and Planning Code Section 101.1, including all other approval actions associated with the project therein, which findings are hereby incorporated herein by this reference as if fully set forth; and

WHEREAS, on January 30, 2020, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting on the proposed Development Agreement; and

WHEREAS, on January 30, 2020, the Commission recommended the following amendments to the Development Agreement (additions underlined, deletions in ~~striketrough~~ text):

- Section 7.5 "Mills Act": At Developer's request, Developer and the City agree to use good faith efforts to pursue the approval of a Mills Act contract under the California Mills Act (California Government Code, Article 12, Sections 50280 et seq., California Revenue and Taxation Code, Article 1.9, Sections 439 et seq.) for the rehabilitation of any building on the Project Site eligible for such contract under the California Mills Act. The City finds that the approval of Mills Act contracts for the rehabilitation of the Station A and Unit 3 buildings to be a critical component to the viability of the preservation of these buildings, given their dilapidated condition. So long as the term of any such Mills Act contract does not exceed twenty (20) years, the City agrees to waive any limitation under City Law regarding the tax assessment value of the building under San Francisco Administrative code 71.2(b), as well as the maximum amount of tax revenue loss that may result from any such Mills Act contract. In consideration for the City's efforts to pursue the approval of a Mills Act contract for Station A, Unit 3, and/or the Stack, Developer agrees to nominate Station A, Unit 3, and/or the Stack as a City historic landmark(s) under Article 10 of the Planning Code no later than Developer's submittal of an application for a Mills Act contract for Station A, Unit 3, and/or the Stack, respectively.
- Exhibit D "Affordable Housing Plan"
 - Section I. This Affordable Housing Plan is designed to ensure that thirty percent (30%) of the Residential Units produced by the Project are affordable housing units. The Affordable Housing Plan satisfies this goal by requiring Developer to build Inclusionary Units within Market-Rate Projects and/or to convey Development Parcels, at no cost, to Affordable Housing Developer, for the construction of 100% Affordable Units. In addition, Developer may partially satisfy the requirements of this Affordable Housing Plan by paying the Power Station Affordable Housing In-Lieu Fee, ~~or by causing the construction of 100% Affordable Units at locations proximate to the Project Site.~~ All proceeds of the Power Station Affordable Housing In-Lieu Fee will be paid to MOHCD and applied by MOHCD to affordable housing in Supervisorial District 10.
 - Section III(A)(1). Upon Final Completion of all Residential Projects, Developer shall have met the following "Final Completion Requirements": the sum of Inclusionary Unit Credits, In-Lieu Fee Credits, and 100% Affordable Unit Credits earned by Developer shall equal or exceed thirty percent (30%) of the total number of Residential Units constructed on the Project Site ~~and any 100% Affordable Units constructed outside of the Project Site~~ (the "Final Affordable Percentage");
 - Section IV(C). Developer shall receive two-third (2/3) of an "100% Affordable Unit Credit" for each Minimum 100% Affordable Unit upon (i) conveyance of the 100% Affordable Housing Parcel to Affordable Housing Developer or execution of an Affordable Housing Conveyance Agreement and (ii) recordation of a

Notice of Special Restrictions memorializing the requirements of such Affordable Housing Conveyance Agreement as well as the affordability restrictions.

Upon issuance of a First Certificate of Occupancy for each 100% Affordable Project, Developer shall (i) receive one (1) 100% Affordable Unit Credit for each 100% Affordable Unit constructed within an 100% Affordable Project, subtracted by (ii) the total number of 100% Affordable Unit Credits previously earned by Developer for such 100% Affordable Project as described in the previous paragraph (i.e., any "2/3" credits), such that the total number of 100% Affordable Unit Credits earned by Developer are the same as the number of 100% Affordable Units actually constructed in the 100% Affordable Project.

Developer may earn no more than two-hundred fifty-eight (258) In-Lieu Fee Credits and ~~100% Affordable Unit Credits for 100% Affordable Housing Projects constructed outside of the Project Site, in the aggregate~~, which is intended to represent approximately 33% of the Project's affordable housing requirement. No numerical limit applies to the number of 100% Affordable Unit Credits that Developer may earn for 100% Affordable Housing Projects constructed on the Project Site.

- Section VI(C). Developer shall receive one "In-Lieu Fee Credit" for each Market Rate Unit for which Developer has paid the Power Station Affordable Housing In-Lieu Fee, or upon payment of each One Hundred Ninety-Nine Thousand and Five Hundred Dollars (\$199,500) paid as the Power Station Proportionality In-Lieu Fee (as described in Section VII(D)(1)). Developer may earn no more than two-hundred fifty-eight (258) In-Lieu Fee Credits and ~~100% Affordable Unit Credits for 100% Affordable Housing Projects constructed outside of the Project Site in the aggregate~~, which is intended to represent approximately 33% of the Project's affordable housing requirement.
- Section VII(d). Within 45 days after any Affordable Housing Proportionality Event, Developer shall notify MOHCD in writing of the number of Inclusionary Unit Credits, In-Lieu Fee Credits, or 100% Affordable Unit Credits that Developer has obtained or will obtain to satisfy the Proportionality Requirement ("Developer's Proportionality Election"). Developer's Proportionality Election shall be at Developer's sole discretion; provided, however, that Developer may not earn more than two-hundred fifty-eight (258) In-Lieu Fee Credits and ~~100% Affordable Unit Credits for 100% Affordable Housing Projects constructed outside of the Project Site, in the aggregate~~, consistent with the requirements of Section IV(C) and Section VI(C).
- Exhibit I "Transportation Plan": Section I(B).
 - Safe streets around Jackson Park: Transportation-related elements that support safe streets around a renovated Jackson Park, once it is an approved City project. Up to ~~\$2.5~~ Two-and-a-half million dollars will be used to support any of the following improvements, if warranted: street and sidewalk improvements,

accessibility improvements, upgraded crosswalks, striping, traffic signals or signage, traffic calming such as speed humps, and/or corner bulbouts.

- 18th Street Bridge Safety Enhancements: Propose conceptual designs to enhance safety on the existing 18th Street overpass over Highway 280.
- Exhibit M-1 "Phasing Plan": Section 3.1 Child Care Facilities. Developer shall construct two childcare facilities, each no smaller than six thousand (6,000) gross square feet in size (the "On-Site Child Care Facility"). Each On-Site Child Care Facility shall be located in the Development Phase set forth in the Phasing Plan. The Development Phase Application shall specify in which Building an On-Site Child Care Facility shall be located. Each On-Site Child Care Facility shall have sufficient protected outdoor space to meet the requirements of California law, and be available for lease to a licensed nonprofit operator without charge for rent, utilities, property taxes, building services, repairs or any other charges of any nature, as evidenced by a lease and an operating agreement between the sponsor and the provider, with a minimum term of four years. Thereafter, each On-Site Child Care Facility must be available to a licensed nonprofit operator for an additional period of four years, at a cost not to exceed actual operating ~~and the original tenant improvement costs~~ (those incurred during the initial three-year term) reasonably allocated to similar facilities in similar buildings, amortized over the remaining term of the lease. In consideration of these requirements, Planning Code sections 414.1-414.15 and sections 414A.1-414A.8 shall not apply to the Project.
- Exhibit M-1-1: Substitution of Exhibit M-1-1 "Phasing Table" with an updated version of the same table, attached here as Exhibit B. An outdated version of the table was inadvertently submitted with the Project Case Packet.
- Exhibit Z: Inclusion of proposed Exhibit Z, attached here as Exhibit C, which describes proposed standards related to how the Port of San Francisco and various other City agencies will work together on the processing permits and the implementation of the Project, if approved.

NOW THEREFORE BE IT RESOLVED, that the Planning Commission hereby recommends that the Board of Supervisors approve the Development Agreement, in substantially the form attached hereto as Exhibit A.

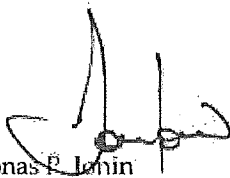
AND BE IT FURTHER RESOLVED, that the Commission finds that the application, public notice, Planning Commission hearing, and Planning Director reporting requirements regarding the Development Agreement negotiations contained in Administrative Code Chapter 56 required of the Planning Commission and the Planning Director have been substantially satisfied in light of the regular meetings held for the last two and a half years, the multiple public informational hearings provided by the Planning Department staff at the Planning Commission, the information contained in the Director's Report regarding the Potrero Power Station Development Agreement negotiations, and the mailed and published notice issued for the Development Agreement.

Resolution No. 20640
January 30, 2020

CASE NO. 2017-011878 DVA
Potrero Power Station Mixed-Use Project

AND BE IT FURTHER RESOLVED, that the Commission authorizes the Planning Director to take such actions and make such changes as deemed necessary and appropriate to implement this Commission's recommendation of approval and to incorporate recommendations or changes from the Port Commission, San Francisco Municipal Transportation Agency ("SFMTA") Board of Directors, the San Francisco Public Utilities Commission ("SFPUC"), and/or the Board, provided that such changes taken as a whole do not materially increase any obligations of the City or materially decrease any benefits to the City contained in the Development Agreement attached as Exhibit A.

I hereby certify that the Planning Commission ADOPTED the foregoing Resolution on Thursday, January 30, 2020.



Jonas P. Lohin

Commission Secretary

AYES: Diamond, Fung, Koppel, Melgar, Moore

NAYS: None

ABSENT: Johnson, Richards

ADOPTED: January 30, 2020

1 [Development Agreement - California Barrel Company LLC - Potrero Power Station Mixed-
2 Use Project]

3 Ordinance approving a Development Agreement between the City and County of San
4 Francisco and California Barrel Company LLC, a California limited liability company,
5 for the Potrero Power Station Mixed-Use Project at the approximately 29-acre site
6 generally bound by 22nd Street to the north, the San Francisco Bay to the east, 23rd
7 Street to the south and Illinois Street to the west, in the southeast part of San
8 Francisco, with various public benefits, including 30% affordable housing and
9 approximately 6.9 acres of publicly-accessible parks and open space; making findings
10 under the California Environmental Quality Act, findings of conformity with the General
11 Plan, and with the eight priority policies of Planning Code, Section 101.1 (b); making
12 public trust findings in accordance with the approval of a ground lease of Port-owned
13 land; approving specific development impact fees and waiving any conflicting
14 provision in Planning Code, Article 4, or Administrative Code, Article 10; confirming
15 compliance with or waiving certain provisions of Administrative Code, Chapters 14B,
16 23, 56, and and 82, and 99 and Planning Code, Sections 169 and 138.1, Public Works
17 Code, Section 806(d), and Subdivision Code, Section 1348, and ratifying certain actions
18 taken in connection therewith, as defined herein.

19 NOTE: Unchanged Code text and uncoded text are in plain Arial font.
20 Additions to Codes are in *single-underline italics Times New Roman font*.
21 Deletions to Codes are in ~~strikethrough italics Times New Roman font~~.
22 Board amendment additions are in double-underlined Arial font.
23 Board amendment deletions are in ~~strikethrough Arial font~~.
24 Asterisks (* * * *) indicate the omission of unchanged Code
25 subsections or parts of tables.

24 Be it ordained by the People of the City and County of San Francisco:

1 Section 1. Project Findings.

2 The Board of Supervisors makes the following findings:

3 (a) California Government Code Sections 65864 et seq. authorizes any city, county, or
4 city and county to enter into an agreement for the development of real property within the
5 jurisdiction of the city, county, or city and county.

6 (b) Pursuant to California Government Code Section 65865, Chapter 56 of the San
7 Francisco Administrative Code ("Chapter 56") sets forth certain procedures for the processing
8 and approval of development agreements in the City and County of San Francisco (the
9 "City").

10 (c) California Barrel Company LLC, a California limited liability company ("Developer")
11 owns approximately 21.0 acres of developed and undeveloped land located in the City that is
12 generally bound by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to
13 the south and Illinois Street to the west, as more particularly described on Exhibit A-1 to the
14 Development Agreement (the "Developer Property"). Existing structures on the Developer
15 Property consist primarily of vacant buildings and facilities associated with the former power
16 station use of the Developer Property.

17 (d) Pacific Gas & Electric Company, a California corporation ("PG&E"), owns
18 approximately 4.8 acres of land located in the City that is adjacent to the Developer Property,
19 as more particularly described on Exhibit A-2 to the Development Agreement (the "PG&E
20 Sub-Area").

21 (e) The City, through the Port of San Francisco (the "Port"), owns approximately 2.9
22 acres of land located in the City that is comprised of the following three noncontiguous sites in
23 the vicinity of the Developer Property (collectively, the "Port Sub-Area"): (i) approximately 1.5
24 acres of land located between the Developer Property and the San Francisco Bay, as more
25 particularly described on Exhibit A-3 to the Development Agreement (the "Port Open Space");

1 (ii) approximately 1.3 acres of land located along 23rd Street between the Developer Property
2 and Illinois Street, as more particularly described on Exhibit A-4 to the Development
3 Agreement (the "Port 23rd St. Property"); and (iii) less than 0.1 acres of land located near the
4 northeast corner of the Developer Property and adjacent to the San Francisco Bay, as more
5 particularly described on Exhibit A-5 to the Development Agreement (the "Port Bay Property").
6 Developer and the Port intend to enter into a ground lease on or about the Reference Date set
7 forth in the Development Agreement (the "Port Lease") for the Port Open Space and the Port
8 Bay Property in order to allow Developer to occupy and develop the Port Open Space and the
9 Port Bay Property and include the same in the Waterfront Park (as defined in the
10 Development Agreement). The Port 23rd St. Property will be subject to a license allowing
11 Developer to construct Public Improvements, as more particularly described therein.

12 (f) The City also owns less than 0.1 acres of land located in the City that is between the
13 Developer Property and the Port 23rd Street Property, as more particularly described on
14 Exhibit A-7 to the Development Agreement (the "City Sub-Area" and, collectively with the
15 Developer Property, the Port Sub-Area, and the PG&E Sub-Area, the "Project Site").

16 (g) On December ____, 2019, Developer filed an application with the City's Planning
17 Department for approval of a development agreement relating to the Project Site (the
18 "Development Agreement") under Chapter 56. A copy of the Development Agreement is on
19 file with the Clerk of the Board in File No. _____. Developer also filed applications with
20 the Department for certain activities described in Exhibit B to the Development Agreement
21 (collectively, the "Project").
22

23 (h) While the Development Agreement is between the City, acting primarily through the
24 Planning Department, and Developer, other City agencies retain a role in reviewing and
25 issuing certain later approvals for the Project. Later approvals include all approvals required

1 under the Project SUD or as otherwise set forth in the Municipal Code, Design Review
2 Applications or Development Phase Applications, demolition permits, grading permits, site
3 permits, building permits, sewer and water connection permits, major and minor
4 encroachment permits, sidewalk modification legislation, street improvement permits, permits
5 to alter, certificates of occupancy, transit stop relocation permits, street dedication approvals
6 and ordinances, public utility easement vacation approvals and ordinances, public
7 improvement agreements, subdivision maps, improvement plans, lot mergers, lot line
8 adjustments and re-subdivisions and any amendment to the foregoing or to any Initial
9 Approval. As a result, affected City agencies have consented to the Development Agreement.

10 (i) The Project is a phased, mixed use development on the Project Site that will include
11 up to approximately 2,601 dwelling units, 1.5 million gross square feet (gsf) of office and/or life
12 science / laboratory use, 241,574 gsf of hotel (250 rooms), 50,000 gsf of community facilities,
13 35,000 gsf PDR, 25,000 gsf assembly space, 99,464 gsf of retail, 1,862 bicycle parking
14 spaces, 2,686 parking spaces and the development and improvement of 6.9 acres of publicly
15 accessible open space, in addition to new streets, sidewalks, and bicycle lanes throughout the
16 site, all as more particularly described in the Development Agreement.

17 (j) The Project is anticipated to generate an annual average of approximately 230
18 construction jobs during construction and, upon completion, approximately 5,211 net new
19 permanent on-site jobs, and an approximately \$24 million annual increase in general fund
20 revenues to the City. In addition to the significant housing, jobs, urban revitalization, and
21 economic benefits to the City from the Project, the City has determined that development of
22 the Project under the Development Agreement will provide additional benefits to the public
23 that could not be obtained through application of existing City ordinances, regulations, and
24 policies. Additional public benefits to the City from the Project include: (i) affordable housing
25 contributions in amounts that exceed the amounts required pursuant to existing City

1 ordinances, regulations and policies and that are intended to constitute thirty percent (30%) of
2 the total number of housing units for the Project; (ii) workforce obligations, including significant
3 training, employment and economic development opportunities, related to the development
4 and operation of the Project; (iii) construction and maintenance of publicly accessible open
5 space, totaling approximately 6.9 acres, including (a) a series of contiguous, integrated
6 waterfront parks, including extension of the Blue Greenway and Bay Trail and creation of a
7 3.6-acre Waterfront Park, (b) a 1.2-acre central green space in the interior of the Project Site,
8 (c) a 0.7-acre plaza type open space and (d) a publicly accessible soccer field; (iv) delivery of
9 child care spaces totaling not less than 12,000 gross square feet; (v) sea level rise
10 improvements as part of the development of the Project; and (vi) a design of the Project
11 prioritizing and promoting travel by walking, biking and transit for new residents, tenants,
12 employees and visitors; all as further described in the Development Agreement. The
13 Development Agreement will eliminate uncertainty in the City's land use planning for the
14 Project Site and secure orderly development.

15 (k) Concurrently with this Ordinance, the Board is taking a number of actions in
16 furtherance of the Project, as generally described in the Development Agreement, including
17 Exhibit B to the Development Agreement (the "Initial Approvals").

18 Section 2. CEQA Findings. On _____, by Motion No. _____, the Planning Commission
19 certified as adequate, accurate and complete the Final Environmental Impact Report ("FEIR")
20 for the Project pursuant to the California Environmental Quality Act (California Public
21 Resources Code Section 21000 et seq.) ("CEQA"). A copy of Planning Commission Motion
22 No. _____ is on file with the Clerk of the Board of Supervisors in File No. _____. Also, on _____, by
23 Motion No. _____, the Planning Commission adopted findings, including a rejection of
24 alternatives and a statement of overriding considerations (the "CEQA Findings") and a
25 Mitigation Monitoring and Reporting Program ("MMRP"). These Motions are on file with the

1 Clerk of the Board of Supervisors in File No. _____. In accordance with the actions
2 contemplated herein, this Board has reviewed the FEIR and related documents, and adopts
3 as its own and incorporates by reference as though fully set forth herein the CEQA Findings,
4 including the statement of overriding considerations, and the MMRP.

5 Section 3. General Plan and Planning Code Section 101.1 (b) Findings.

6 (a) The Board of Supervisors shall consider companion legislation that adopts public
7 necessity findings of Planning Code Section 302 and General Plan amendments. A copy of
8 the companion legislation is on file with the Clerk of the Board of Supervisors in File No.
9 _____ and is incorporated herein by reference.

10 (b) For purposes of this Ordinance, the Board of Supervisors finds that the
11 Development Agreement will serve the public necessity, convenience and general welfare for
12 the reasons set forth in the companion legislation identified in subsection (a).

13 (c) For purposes of this Ordinance, the Board of Supervisors finds that the
14 Development Agreement is in conformity with the General Plan, as proposed to be amended,
15 and the eight priority policies of Planning Code Section 101.1 for the reasons set forth in the
16 companion legislation identified in subsection (a).

17 Section 4. Public Trust Findings.

18 At a public hearing on February 25, 2020, the Port Commission consented to the
19 Development Agreement and approved the Port Lease, subject to Board of Supervisors'
20 approval, finding that the Project would be consistent with and further the purposes of the
21 common law public trust and statutory trust under the Burton Act (Stats. 1968, ch. 1333) by
22 Resolution No. _____, a copy of which is in Board File No. _____. The Board of
23 Supervisors adopts and incorporates in this Ordinance the Port Commission's public trust
24 findings.

25 Section 5. Development Agreement.

1 (a) The Board of Supervisors approves all of the terms and conditions of the
2 Development Agreement, in substantially the form on file with the Clerk of the Board of
3 Supervisors in File No. ____

4 (b) The Board of Supervisors approves and authorizes the execution, delivery and
5 performance by the City of the Development Agreement as follows: (i) the Director of Planning
6 and (other City officials listed thereon) are authorized to execute and deliver the Development
7 Agreement, with signed consents of those City departments, agencies, boards, commissions,
8 and bureaus that have subdivision or other permit, entitlement or approval authority or
9 jurisdiction over development of the Project, or any improvement located on or off the Project
10 Site, including the San Francisco Municipal Transportation Agency, the San Francisco Public
11 Utilities Commission, the Port Commission, and the San Francisco Fire Department; and (ii)
12 the Director of Planning and other applicable City officials are authorized to take all actions
13 reasonably necessary or prudent to perform the City's obligations under the Development
14 Agreement in accordance with the terms of the Development Agreement.

15 (c) The Director of Planning, at his or her discretion and in consultation with the City
16 Attorney, is authorized to enter into any additions, amendments or other modifications to the
17 Development Agreement that the Director of Planning determines are in the best interests of
18 the City and that do not materially increase the obligations or liabilities of the City or materially
19 decrease the benefits to the City as provided in the Development Agreement.

20 Section 6. Development Impact Fees.

21 By approving the Development Agreement, the Board of Supervisors authorizes the
22 Controller and City Departments to accept the funds paid by Developer as set forth therein,
23 and to appropriate and use the funds for the purposes described therein. The Board
24 expressly approves the use of the development impact fees as set forth in the Development
25 Agreement, and waives or overrides any provision in Article 4 of the City Planning Code and

1 Article 10 of the City Administrative Code that would conflict with the uses of these funds as
2 described in the Development Agreement.

3 Section 7. City Administrative Code Chapter 56 Conformity.

4 The Development Agreement shall prevail in the event of any conflict between the
5 Development Agreement and City Administrative Code Chapter 56, and without limiting the
6 generality of the foregoing, the following provisions of City Administrative Code Chapter 56
7 are waived or deemed satisfied as follows:

8 (a) California Barrel Company LLC shall constitute a permitted "Applicant/Developer"
9 for purposes of Chapter 56, Section 56.3(b).

10 (b) The Project comprises approximately 29 acres and is the type of large multi-phase
11 and/or mixed-use development contemplated by the City Administrative Code and therefore
12 satisfies the provisions of Chapter 56, Section 56.3(g).

13 (c) The provisions of Development Agreement and the Workforce Agreement attached
14 to the Development Agreement as Exhibit F shall apply in lieu of the provisions of City
15 Administrative Code Chapter 56, Section 56.7(c).

16 (d) The provisions of the Development Agreement regarding any amendment or
17 termination, including those relating to "Material Change," shall apply in lieu of the provisions
18 of Chapter 56, Section 56.15 and Section 56.18.

19 (e) The provisions of Chapter 56, Section 56.20 have been satisfied by the
20 Memorandum of Understanding between Developer and the Office of Economic and
21 Workforce Development for the reimbursement of City costs, a copy of which is on file with the
22 Clerk of the Board of Supervisors in File No. _____

23 (f) The Board of Supervisors waives the applicability of Section 56.4 (Application, 18
24 Forms, Initial Notice, Hearing) and Section 56.10 (Negotiation Report and Documents).

25 ///

1 Section 8. Chapter 56 Waiver; Ratification.

2 (a) In connection with the Development Agreement, the Board of Supervisors finds that
3 the City has substantially complied with the requirements of Administrative Code Chapter 56,
4 and waives any procedural or other requirements if and to the extent not strictly complied with.

5 (b) All actions taken by City officials in preparing and submitting the Development
6 Agreement to the Board of Supervisors for review and consideration are hereby ratified and
7 confirmed, and the Board of Supervisors hereby authorizes all subsequent action to be taken
8 by City officials consistent with this Ordinance.

9 Section 9. Planning Code Waivers; Ratification.

10 (a) The Board of Supervisors finds that the impact fees and other exactions due under
11 the Development Agreement will provide greater benefits to the City than the impact fees and
12 exactions under Planning Code Article 4 and waives the application of, and to the extent
13 applicable exempts the Project from, impact fees and exactions under Planning Code Article 4
14 on the condition that Developer pays the impact fees and exactions due under the
15 Development Agreement.

16 (b) The Board of Supervisors finds that the Transportation Demand Management Plan
17 ("TDM Plan") attached to the Development Agreement and other provisions that meet the
18 goals of the City's Transportation Demand Management Program in Planning Code Section
19 169 and waives the application of Section 169 to the Project on the condition that Developer
20 implements and complies with the TDM Plan.

21 (c) The Board of Supervisors finds that the Design for Development attached to the
22 Development Agreement sets forth sufficient standards for streetscape design and waives the
23 requirements of Planning Code Section 138.1 (Streetscape and Pedestrian Improvements).

24 ///

25 ///

1 Section 10. Other Administrative Code Waivers.

2 The requirements of the Workforce Agreement attached to the Development
3 Agreement shall apply and shall supersede, to the extent of any conflict, the provisions of
4 Administrative Code: (i) Chapter 82.4 (Coverage); (ii) Chapter 23, Article II (Interdepartmental
5 Transfer of Real Property); and (iii) Chapter 23, Article VII (Prevailing Wage, Apprenticeship,
6 and Local Hire Requirements), but only to the extent any of the foregoing provisions are
7 applicable to the conveyance of vacated streets from the City to Developer and the other land
8 conveyances contemplated by the Development Agreement.

9 Section 11. Subdivision Code Waivers.

10 A Public Improvement Agreement, if applicable and as defined in the Development
11 Agreement, shall include provisions consistent with the Development Agreement and the
12 applicable requirements of the Municipal Code and the Subdivision Regulations regarding
13 extensions of time and remedies that apply when improvements are not completed within the
14 agreed time. Accordingly, the Board of Supervisors waives the application to the Project of
15 Subdivision 4 Code Section 1348 (Failure to Complete Improvements within Agreed Time).

16 Section 12. Public Works Code Waivers.

17 The Board of Supervisors finds that the Design for Development attached to the
18 Development Agreement sets forth sufficient standards for streetscape design and waives the
19 requirements of Planning Code Section 138.1 (Streetscape and Pedestrian Improvements)
20 and Public Works Code Section 806(d) (Required Street Trees for Development Projects).

21 Section 13. Effective and Operative Date. This Ordinance shall become effective 30
22 days from the date of passage. This Ordinance shall become operative only on (and no rights
23 or duties are affected until) the later of (a) 30 days from the date of its passage, or (b) the date
24 that Ordinance _____, Ordinance _____, and Ordinance _____ have become effective.

1 Copies of these Ordinances are on file with the Clerk of the Board of Supervisors in File Nos.

2 _____

3
4 APPROVED AS TO FORM:
5 DENNIS J. HERRERA, City Attorney

6 By: _____
7 HEIDI J. GEWERTZ
8 Deputy City Attorney
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Phasing Table		Phase	Delivered With Block or GSF	Primary Document	Other Reference	Horizontal Improvement	Vertical Improvement	Public Improvement	Privately-Owned Community Improvement	Notes
Infrastructure Improvements										
Sea Level Rise Improvements	All	n/a	IP	Section 5		X		X		Vertical Developer of Block 9 may have some SLR obligations if Unit 3 is rehabilitated
AWSS Connection to 3rd Street at 23rd Street	1	n/a	IP	Figure 1.3		X		X		
AWSS Connection to 3rd Street at 22nd Street	6	13	IP	Figure 1.3		X		X		Required only in the event Pier 70 has not implemented at time of Phase 6 application
Stormwater Outfall	1	n/a	IP	Figure 1.3		X		X		Required only if SFPUC determines the pump station is necessary as part of Development Phase Approval
Sanitary Sewer Pump Station	1	n/a	IP	Figure 1.3		X		X		Collection and/or distribution pipes in streets and open spaces are Horizontal Improvements. Pipes in buildings and treatment equipment are Vertical Improvements.
Recycled Water Infrastructure	All	n/a	IP	Section 12	D4D 6.18.3 D4D 5.7.2, Figure 5.2.2	X			X	
23rd/Illinois Intersection Improvements and Signal	1	n/a	IP	8.1.3	D4D 5.2.2 Figure 5.7.1	X		X		In the event the area of Block 13 is not subject to PPS DA at time of Phase 4 application, this improvement will be constructed with Block 5
Sidewalk on the east side of Illinois between Humboldt and 22nd Streets	6 or 4	13 or 5	IP	8.1.3	D4D 5.2.2 Figure 5.2.2	X		X		Required only if there is a single vehicular access route to and from the Project site via 23rd Street at the time of Phase 4 application
Sidewalk on the east side of Illinois between 23rd and Humboldt Streets	4	5	IP	19	Appendix E	X		X		In the event the area of Humboldt Street is not subject to PPS DA at time of Phase 4 application, this improvement will be constructed with Block 5. This may be an interim improvement until such time as the area of Humboldt Street becomes subject to the DA.
Humboldt Street Fire Turnaround	4	5	IP	19	Appendix E D4D 5.7.2, Figure 5.2.2	X		X		In the event the area of Humboldt Street is not subject to PPS DA at time of Phase 6 application, the signal will not be constructed with these intersection improvements.
Humboldt/Illinois Intersection Improvements and Signal	6	13	IP	8.1.3	Figure 5.7.1	X		X		
Open Spaces										
The Point	1	*	D4D	4.20		X			X	* Prior to the City's issuance of the First Certificate of Occupancy for the Building representing 500,000 square feet of total development, Developer is not required to construct the Bay Overlook at 23rd Street in any phase.
Waterfront Park South	1	*	D4D	4.16-4.19		X			X	* Prior to the City's issuance of the First Certificate of Occupancy for the Building representing 3 million square feet of total development, Developer is not required to construct the Recreational Dock in any phase.
Stack Plaza	1	9	D4D	4.21		X			X	* Prior to the City's issuance of the First Certificate of Occupancy for the Building representing 3 million square feet of total development.
Humboldt Street Plaza	1	*	D4D	4.24		X			X	
Power Station Park East	1	12	D4D	4.28		X			X	
Block 9 POGO (includes Turbine Plaza) and Restroom	1	9	D4D	4.16-4.22		X			X	Public restroom to be provided on Block 9.
Power Station Park West	2	11	D4D	4.29		X			X	
Waterfront Park North	3	4	D4D	4.16-4.19		X			X	
Waterfront Park West	3	4	D4D	4.16-4.19		X			X	
Louisiana Paseo	4	15	D4D	4.30		X			X	Soccer field to be provided on either the roof of the district parking structure on one of Blocks 1, 5, or 13 or in another location as further described in the Phasing Plan and Design for Development. Public restroom to be provided on the same block as soccer field.
Soccer Field and Restroom	4, 5, or 6	1, 5, or 13	D4D	4.31			X		X	
Illinois Street Plaza	6	13	D4D	4.32		X			X	
Streets and Infrastructure										
All public and private streets (including sidewalks, and bike facilities within such streets) within the boundaries of the Development Phase as shown in the D4D and IP	All		D4D, IP	5		X		X		Public Improvement if public street POC; if private street
All utilities within the boundaries of the Development Phase as shown in the IP	All		IP			X		X		
Transit Facilities										
Bus Layover	1	12	D4D	5.5.1, 6.10.1		X		X		Whether Public Improvement depends on whether City takes ownership of 23rd Street
Bus Shelter and Transit Operator Restroom	1	12	D4D	5.5.2, 6.10.1			X			
Development Agreement, Phasing Plan (Exhibit M-1)										
\$1.5 million AWSS Payment Fair Share Contribution	5	1	IP							Payment will be due at the earlier of either SFPUC's Notice to Proceed for the system-wide improvements or City's acceptance of the final public street in Development Phase 5.
Childcare (6,000 GSF)	2	11	DA	Exhibit M-1		N/A		N/A		If the entity that owns Block 13 is not a party to the Development Agreement prior to the City's approval of the Development Phase 2 application, Developer shall locate this space on Block 11.
La Cocina (1,500 GSF)	6 or 2	13 or 11	DA	Exhibit M-1			X			
Childcare (6,000 GSF)	4	15	DA	Exhibit M-1			X			If the entity that owns Block 13 is not a party to the Development Agreement prior to the City's approval of the Development Phase 4 Application, Developer shall specify a Building on a Non-PGE Sub Area Block in which the Community Facilities Space shall be located, which Building may be located in Development Phase 4 or Development Phase 5.
Community Center (25,000 GSF)	6, 5, or 4	1, 5, or 13	DA	Exhibit M-1			X			
\$2.5 M Library Payment	N/A	N/A	DA	Exhibit M-1		N/A		N/A		
Option For Public Library (5,000 GSF)	4	15	DA	Exhibit M-1			X			
Greenery Store	6, 5, or 4	1, 5, or 13	DA	Exhibit M-1			X			

EXHIBIT M-1-1

Phasing Table									
Phasing Table	Phase	Delivered With Block or GSF	Primary Document	Section Exhibit M-1	Other Reference	Horizontal Improvement	Vertical Improvement	Public Improvement	Privately-Owned Community Improvement Notes
SEPLUC Pump Station	N/A	N/A	DA	Exhibit M-1		N/A	N/A	N/A	N/A
The following items are not associated Community Improvements and not subject to the Phasing Plan, but are provided for informational purposes for implementation.									
Transportation Demand Management Plan									
Improved Walking Connections	All	All	TDM	Active-1	D4D, Sections 5 and 6	X		N/A	N/A
Bicycle Parking	All	All	TDM	Active-2	D4D 5.4		X	N/A	As provided in the D4D, the Planning Code's bike parking requirements apply as they change over time.
Showers and Lockers for Employees	Any	Any	TDM	Active-3	D4D 6.21.6		X	N/A	As provided in the D4D, the Planning Code's shower and locker requirements apply as they change over time.
Bicycle Repair Stations	All	All	TDM	Active-5a	D4D 6.21.6		X	N/A	As provided in the D4D, the Planning Code's car share requirements apply as they change over time.
On-Site Car Share Parking	All	All	TDM	Delivery-1	D4D 6.20.4		X	N/A	
Delivery Supportive Amenities	All	All	TDM	Family-2	D4D 6.18		X	N/A	
2 and 4	All	All	TDM	HOV-2	DA Phasing		X	N/A	
On-Site Child Care	All	All	TDM	HOV-2	D4D 5.6		X	N/A	
Shuttle Bus Service	All	All	TDM	Info-1	D4D 7.5		X	N/A	
Multimodal Wayfinding Signage	All	All	TDM	Info-2	D4D 6.18.5		X	N/A	
Real-Time Transportation Information Displays	All	All	TDM	Info-3				N/A	Per Housing Plan, certain requirements are Vertical Improvements (on site table) and certain requirements may be Horizontal Improvements (i.e. land dedication)
Tailored Transportation Marketing Services	All	All	TDM					N/A	
On-Site Affordable Housing	All	All	TDM	LU-2	DA Housing		X	N/A	
Unbundled Parking	All	All	TDM	PKG-1			X	N/A	
Parking Pricing	All	All	TDM	PKG-2			X	N/A	Short-Term Daily Parking Provision
Parking Supply	All	All	TDM	PKG-4	D4D 6.20.2		X	N/A	
TDM Coordinator	All	All	TDM	Ops				N/A	
CRQA Mitigation Measures									
Historic Architectural Resources Documentation	0	N/A	EIR	M-CR-5a				N/A	Prior to demolition of individual historical resource or contributor
Historic Architectural Resources Video Recordation	0	N/A	EIR	M-CR-5b				N/A	Prior to demolition of individual historical resource or contributor
Historic Architectural Resources Public Interpretation and Salvage	1	N/A	EIR	M-CR-5c	D4D 2.7.5			N/A	Project will submit an Interpretive Master Plan prior to demolition of historical resource or contributor
Rehabilitation of the Boiler Stack	1	N/A	EIR	M-CR-5d	D4D 6.12			N/A	
Historic Preservation Plan and Review Process for Alteration of the Boiler Stack	1	N/A	EIR	M-CR-5e				N/A	
Design Controls for New Construction	All	All	EIR	M-CR-6	D4D 6.11		X	N/A	
Construction Management Plan and Public Updates	All	All	EIR	I-TR-A				N/A	If resurfacing queuing occurs, owner/operator will employ abatement methods
Monitoring and Abatement of Queues	All	All	EIR	I-TR-B			X	N/A	Only required if annual monitoring report finds Maximum PM Peak Hour Vehicle Trips are exceeded in any Phase
Implement Measures to Reduce Transit Delay	All	All	EIR	M-TR-5				N/A	Only required in the event that Prior 70 has not completed the improvement prior to PPS Phase 6 application. In the event the area of Block 13 is not subject to PPS DA at time of Phase 5 application, this improvement will be constructed with Block 5.
Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street	6	5 or 13	EIR	M-TR-7				N/A	
Construction Noise Control Measures	All	All	EIR	M-NO-1			X	N/A	
Avoidance of Residential Streets	All	All	EIR	M-NO-A			X	N/A	Development of Construction Vibration Monitoring program is a Horizontal Improvement. Compliance with the program is a Vertical Improvement.
Construction Vibration Monitoring	Any	Any	EIR	M-NO-4a			X	N/A	
Vibration Control Measures During Controlled Blasting and Pile Driving	Any	Any	EIR	M-NO-4b			X	N/A	
Vibration Control Measures During Use of Vibratory Equipment	Any	Any	EIR	M-NO-4c			X	N/A	
Stationary Equipment Noise Controls	All	All	EIR	M-NO-5			X	N/A	
Design of Future Noise-Sensitive Uses	Any	Any	EIR	M-NO-8				N/A	Development of the Construction Emissions Minimization Plan is a Horizontal Improvement. Compliance with the program is a Vertical Improvement.
Construction Emissions Minimization	Any	Any	EIR	M-AQ-2a			X	N/A	
Diesel Backup Generator Specifications	Any	Any	EIR	M-AQ-2b			X	N/A	
Prompt Use of Green Consumer Products	Any	Any	EIR	M-AQ-2c			X	N/A	
Electrification of Loading Docks	Any	Any	EIR	M-AQ-2d			X	N/A	
Additional Mobile Source Control Measures	Any	Any	EIR	M-AQ-2e			X	N/A	
Offset Construction and Operational Emissions	1	N/A	EIR	M-AQ-2f			X	N/A	Horizontal Improvement is to fund or implement a specific offset project or pay fee to BAAQMD prior to issuance of CFO of last building in Phase 1
Shing of Uses that Emit Toxic Air Contaminants	All	All	EIR	M-AQ-4			X	N/A	
Wind Reduction Features for Block 1	5	1	EIR	I-WS-1			X	N/A	
Identification and Mitigation of Interim Wind Impacts	All	All	EIR	M-WS-2			X	N/A	
Nesting Bird Protection Measures	All	All	EIR	M-BI-1			X	N/A	Initial survey is a Horizontal Improvement. Compliance is a Vertical Improvement.
Avoidance and Minimization Measures for Bats	All	All	EIR	M-BI-3			X	N/A	
Fish and Marine Mammal Protection During Pile Driving	All	All	EIR	M-BI-4			X	N/A	
Compensation for Fill of Jurisdictional Waters	1	9	EIR	M-BI-7			X	N/A	

EXHIBIT M-1-1

Phasing Table		Phase	Delivered With Block or GSF	Primary Document	Section	Other Reference	Horizontal Improvement	Vertical Improvement	Public Improvement	Private-Owned Community Improvement	Notes
Archaeological Testing		All	All	Initial Study	M-CR-1		X	X	N/A	N/A	Archaeological testing program is Horizontal Improvement. All Developers will comply with archaeological monitoring program, if necessary. If an archaeological deposit is encountered, the Developer who made the discovery is responsible for developing archaeological data recovery plan and program.
Tribal Cultural Resources Interpretive Program		Any	Any	Initial Study	M-CR-3		X	X	N/A	N/A	If a tribal cultural resource is encountered, the Developer who made the discovery is responsible for developing tribal cultural resources interpretive program.
Paleontological Resources Monitoring and Mitigation Program		Any	Any	Initial Study	M-GE-6		X	X	N/A	N/A	Development of Paleontological Resources monitoring and Mitigation Program, if necessary, is a Horizontal Improvement. All Developers are responsible for complying with the program. If a paleontological resource is discovered, the Developer who made the discovery is responsible for any additional work conducted at the direction of the City's environmental review officer.

EXHIBIT Z

City and Port Implementation of Later Approvals for Port Sub-Area

A. Cooperation

The Port and the other City Agencies shall aid each other, cooperate with and amongst all City Agencies and undertake and complete all actions or proceedings reasonably necessary or appropriate to expeditiously and with due diligence implement the Project in accordance with the Plan Documents and the Approvals.

B. Maintenance and Repair of 23rd Street and Subsurface Utilities

Upon satisfaction of map conditions and acceptance, and execution of a future Memorandum of Understanding (MOU) between relevant City Departments, Public Works shall operate, maintain and repair the Port 23rd Street Property for use as a public street at no cost to the Port or Developer and accepts sole responsibility for the operation, maintenance, repair and liability of the Port 23rd Street Property for use as a public street. If PG&E vacates or otherwise terminates its existing utility easement located on the portion of 23rd Street on the Developer Property and more particularly described on Figure Z-1 (the “**Existing PG&E Easement**”), then Public Works shall operate, maintain and repair the Developer 23rd Street Property for use as a public street at no cost to Developer and shall accept sole responsibility for the operation, maintenance, repair and liability of the Developer 23rd Street Property for use as a public street. If the Existing PG&E Easement is not removed, the Developer 23rd Street Property may remain private property, as further detailed in Exhibit G Infrastructure Plan.

Upon execution of a future MOU detailing permitting and maintenance roles and responsibilities, the San Francisco Public Utilities Commission (“PUC”) will accept the utilities underlying 23rd Street, as further detailed in Exhibit G.

C. Port Review of Later Approvals

The Port Chief Harbor Engineer shall be responsible for reviewing and issuing all Later Approvals in accordance with the Development Agreement for certain shoreline and waterfront improvements (the “**Shoreline Improvements**”) located within the Port Sub-Area. The Shoreline Improvements anticipated as of the Reference Date are more particularly shown on Figure Z-2, including the storm drain outfall (itself subject to PUC review and acceptance), potential retrofit of the Station A intake structure (for use as an overlook of the San Francisco Bay), improvement of riprap, construction of wharfs and seawalls, and potential recreational dock and associated dredging. The Port’s design review of open spaces and streets under its jurisdiction will be in accordance with this Development Agreement, including Exhibit O, Development Phase Application Procedures and Requirements and Exhibit E, Design for Development.

D. City Review of Later Approvals on Port Sub-Area

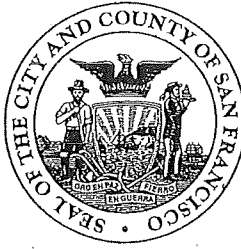
The City Agencies other than the Port (including the Planning Department, DBI, Public Works, and SFMTA) shall be responsible for reviewing and issuing all Later Approvals (including building permits, Subdivision Maps, street improvement permits, and Design Review Applications) for all improvements (including Public Improvements and Infrastructure) on the Port

Sub-Area other than the Shoreline Improvements. Each such Later Approval shall be reviewed and issued by the City Agency that would otherwise be responsible for the issuance of such Later Approval if the proposed improvement was located within the City's jurisdiction (and outside of Port jurisdiction), except that the Planning Department shall confer with the Port and obtain its recommendations as to the design of Waterfront Park and the Point prior to approving a Design Review Application for those two subareas. The Port delegates to the City its authority (if any) to approve any and all Later Approvals pertaining to any portion of the Project Site not located within the Port Sub-Area and not subject to the Public Trust.

E. Amendment

The terms of this Exhibit Z may be amended with at any time by mutual written consent of Developer and the Executive Director of the Port, and the Planning Director, Director of DPW, or the General Manger of the SFPUC, depending on the nature of the proposed amendment. Material Changes to this Exhibit may require Planning Commission review, the Port Commission's Consent, or both.

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

NOTICE OF PUBLIC HEARING
BOARD OF SUPERVISORS OF THE CITY AND COUNTY OF SAN FRANCISCO
LAND USE AND TRANSPORTATION COMMITTEE

NOTICE IS HEREBY GIVEN THAT the Land Use and Transportation Committee will hold a public hearing to consider the following proposals and said public hearing will be held as follows, at which time all interested parties may attend and be heard:

Date: ~~Monday, March 16, 2020~~ **CANCELLED**

Time: 1:30 p.m.

Location: Legislative Chamber, Room 250, located at City Hall
1 Dr. Carlton B. Goodlett Place, San Francisco, CA

Subjects: Potrero Power Station Mixed-Use Project

File No. 200174. Ordinance amending the General Plan to revise the Central Waterfront Plan, the Commerce and Industry Element, the Recreation and Open Space Element, the Transportation Element, the Urban Design Element, and the Land Use Index, to reflect the Potrero Power Station Mixed-Use Project; adopting findings under the California Environmental Quality Act; making findings of consistency with the General Plan, and the eight priority policies of Planning Code, Section 101.1; and adopting findings of public necessity, convenience, and welfare under Planning Code, Section 340.

File No. 200039. Ordinance amending the Planning Code and Zoning Map to establish the Potrero Power Station Special Use District, generally bound by 22nd Street and the southern portion of the newly created Craig Lane to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west; and making findings under the California Environmental Quality Act, findings of consistency with the General Plan, the eight priority policies of Planning Code, Section 101.1, and findings of public necessity, convenience, and welfare under Planning Code, Section 302.

File No. 200040. Ordinance approving a Development Agreement between the City and County of San Francisco and California Barrel Company LLC, a California limited liability company, for the Potrero Power Station Mixed-Use Project at the approximately 29-acre site generally bounded by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west, in the southeast part of San Francisco, with various public benefits, including 30% affordable housing and approximately 6.9 acres of publicly-accessible parks and open space; making findings under the California Environmental Quality Act, findings of conformity with the General Plan, and with the eight

priority policies of Planning Code, Section 101.1(b); making public trust findings in accordance with the approval of a ground lease of Port-owned land; approving specific development impact fees and waiving any conflicting provisions in Planning Code, Article 4, or Administrative Code, Article 10; confirming compliance with or waiving certain provisions of Administrative Code, Chapters 14B, 23, 56, 82, and 99, Planning Code, Sections 169 and 138.1, Public Works Code, Section 806(d), and Subdivision Code, Section 1348; and ratifying certain actions taken in connection therewith, as defined herein.

In accordance with Administrative Code, Section 67.7-1, persons who are unable to attend the hearing on this matter may submit written comments to the City prior to the time the hearing begins. These comments will be made part of the official public record in these matters and shall be brought to the attention of the members of the Committee. Written comments should be addressed to Angela Calvillo, Clerk of the Board, City Hall, 1 Dr. Carlton B. Goodlett Place, Room 244, San Francisco, CA 94102. Information relating to this matter can be found in the Legislative Research Center at sfgov.legistar.com/legislation. Meeting agenda information relating to this matter will be available for public review on Friday, March 13, 2020.

A handwritten signature in black ink, appearing to read "Angela Calvillo", with a stylized flourish at the end.

Angela Calvillo, Clerk of the Board

DATED/PUBLISHED/POSTED: March 6, 2020

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

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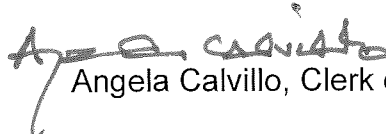
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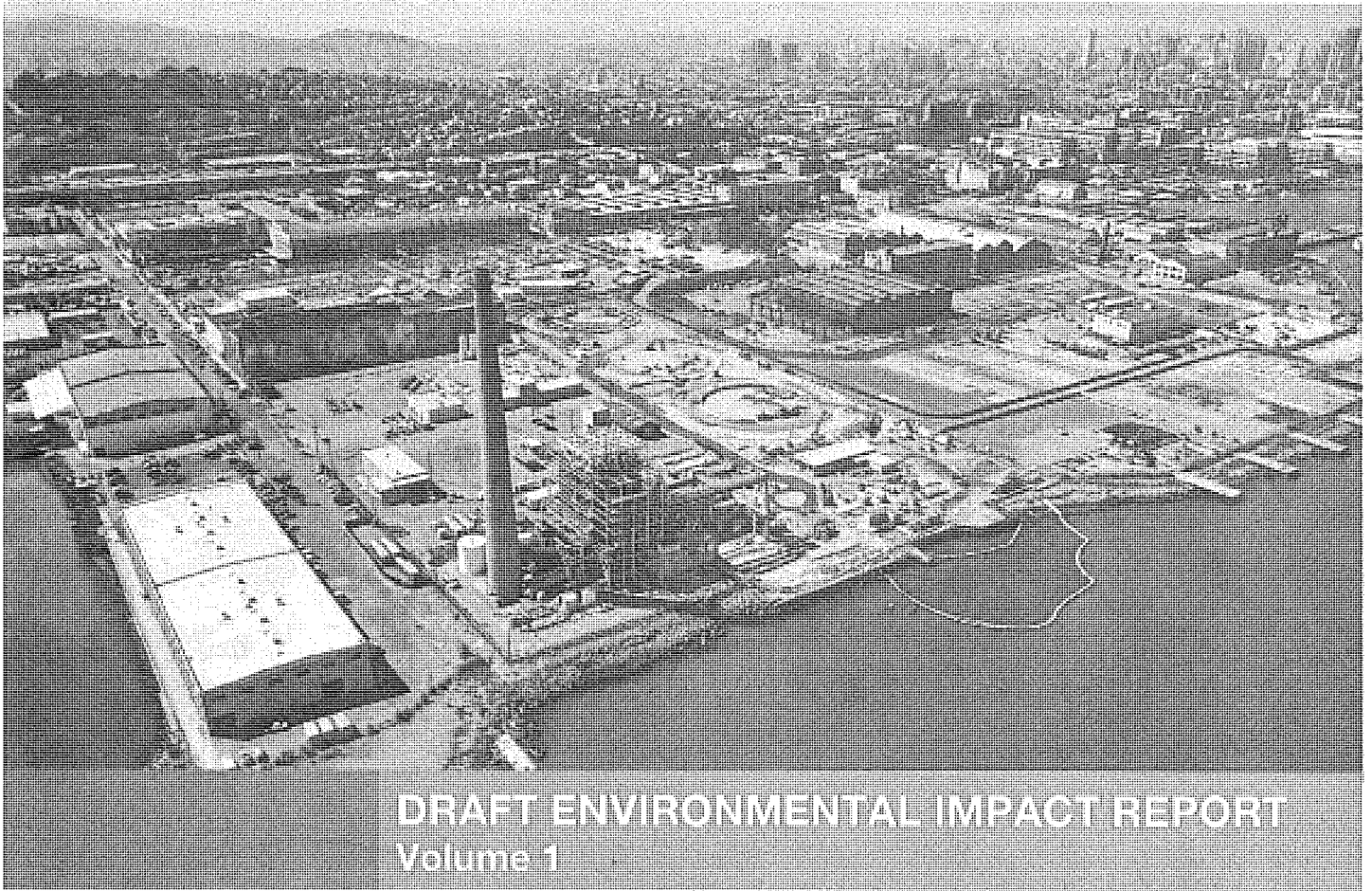
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A handwritten signature in dark ink, appearing to read "Angela Calvillo", is written over a horizontal line.

Angela Calvillo, Clerk of the Board

DATED/PUBLISHED/MAILED/POSTED: March 6, 2020



Potrero Power Station Mixed-Use Development Project

SAN FRANCISCO PLANNING DEPARTMENT
CASE NO. 2017-011878ENV
STATE CLEARINGHOUSE NO. 2017112005



SAN FRANCISCO
PLANNING
DEPARTMENT

Draft EIR Publication Date:	OCTOBER 3, 2018
Draft EIR Public Hearing Date:	NOVEMBER 8, 2018
Draft EIR Public Comment Period:	OCTOBER 4, 2018 – NOVEMBER 19, 2018

Written comments should be sent to:
San Francisco Planning Department
Attention: Rachel Schuett, PPS EIR Coordinator
1650 Mission Street, Suite 400 | San Francisco, CA 94103
or by email to: CPC.PotreroPowerStation@sfgov.org

DRAFT ENVIRONMENTAL IMPACT REPORT

Volume 1

Potrero Power Station Mixed-Use Development Project

SAN FRANCISCO PLANNING DEPARTMENT
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ACRONYMS AND ABBREVIATIONS

ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
AWSS	Auxiliary Water Supply System
BART	Bay Area Rapid Transit
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best Management Practice
CalOSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CD	compact disc
CEQA	California Environmental Quality Act
cfs	cubic-foot-per-second
D for D	Design for Development
dBA	A-weighted decibel
DDT	dichloro-diphenyl-trichloroethane
DNAPL	dense non-aqueous phase liquid
DEHP	di (2 ethylhexyl) phthalate
DSM	Deep Soil Mixing
DTR	Downtown Residential District
EDD	Employment Development Department
EIR	environmental impact report
ERO	Environmental Review Officer
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
GHG	greenhouse gas
gpm	gallons per minute
gsf	gross square feet
HRER	Historic Resources Evaluation Responses
HVAC	heating/ventilation/air conditioning
in/sec	inches per second
I-80	Interstate 80
I-280	Interstate 280
kV	kilovolt
LEED	Leadership in Energy and Environmental Design

Ldn	day-night noise level
Leq	steady-state energy level
Lmax	root mean squared maximum level of a noise source or environment
LMI	Labor Market Information
LOS	Level of Service
LTS	less than significant
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MLLW	Mean Lower Low Tide
MS4	Municipal Separate Storm Sewer Systems
MTC	Metropolitan Transportation Commission
Muni	San Francisco Municipal Transportation Agency
NAVD88	North American Vertical Datum of 1988
NI	no impact
NOAA	National Oceanic and Atmospheric Administration
NOP	notice of preparation
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric Company
PCB	polychlorinated biphenyl
PDA	Priority Development Area
PDR	Production, Distribution and Repair
PPV	peak particle velocity
PS	potentially significant
R&D	research and development
RMS	root-mean-square pressure level
ROSE	Recreation and Open Space Element
SEL	sound exposure level
sf	square feet
SFMTA	City and County of San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SoMa	South of Market Area
SU	significant and unavoidable
SUD	Special Use District
TAZ	Traffic Analysis Zones
TDM	Transportation Demand Management
U.S. EPA	U.S. Environmental Protection Agency
U.S. 101	United States Highway 101
VMT	vehicle miles traveled
WETA	Water Emergency Transportation Authority

SUMMARY

S.1 Project Synopsis

S.1.1 Project Description

The California Barrel Company LLC, the project sponsor, proposes to implement the Potrero Power Station Mixed-Use Development project (proposed project), the redevelopment of an approximately 29-acre site along San Francisco's central bayside waterfront with a variety of residential, commercial, parking, community facilities, and open space land uses. The residential uses would include both market-rate and affordable housing, and the commercial uses would include office, research and development (R&D)/life science, retail, hotel, entertainment/assembly, and production, distribution, and repair (PDR) uses. The proposed project would also include public access areas and open space, playing fields and other active open space uses, shoreline improvements, an internal grid of public streets, shared public ways, and utilities infrastructure. Overall, the proposed project could consist of up to approximately 5.4 million gross square feet (gsf) of development. The project site is located within the Central Waterfront neighborhood, generally bounded by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west. Figure 2-1, Project Location, (see Chapter 2, Project Description, page 2-2) shows the project location.

The proposed project would include amendments to the General Plan and Planning Code, creating a new Potrero Power Station Special Use District (SUD). The SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development (D for D) document. The Zoning Maps would be amended to change the current zoning to the proposed SUD zoning. These amendments would also modify the existing height limits on the portions of the project site not owned by the Port of San Francisco. The proposed rezoning would modify the existing height limits of 40 and 65 feet to various heights ranging from 65 to 300 feet. The proposed project would also include improvements to transportation and circulation, shoreline features, and utilities infrastructure.

The proposed sponsor has filed an application for the proposed project to be certified as an environmental leadership development project by the Governor of California. The approval of this application would make the project subject to streamlined judicial review under the Jobs and Economic Improvement Through Environmental Leadership Act of 2011 (California Public Resources Code section 21178 *et seq.*). Pursuant to the requirements of this act, the San Francisco Planning Department has provided a record of proceedings for the proposed project that can be accessed and downloaded from the following website: <http://www.PPSmixeduse.com>. The

record of proceedings contain all reference documents and other materials submitted to, or relied upon by, the lead agency in the preparation of this EIR.

The San Francisco Planning Department has determined that the proposed project is subject to the requirements of the California Environmental Quality Act (CEQA) and that an environmental impact report (EIR) is required to inform the public and decision-makers about the potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the project's significant adverse effects, and to describe and analyze possible alternatives to the proposed project.

S.1.1.1 Background

The project site encompasses the location of the former Potrero Power Plant, which ceased operation in 2011, and certain adjacent parcels. The approximately 29.0-acre site is comprised of five sub-areas based on current ownership and control: the 21-acre Power Station sub-area, a 4.8-acre PG&E sub-area, a 2.9-acre Port sub-area, a 0.2-acre Southern sub-area, and a triangularly shaped City sub-area. These are shown in Figure 2-2, Project Site Sub-Areas and Ownership, (see Chapter 2, Project Description, page 2-5). The project sponsor owns and has control over the development of the Power Station sub-area and has received letters of authorization from the Port of San Francisco, Pacific Gas and Electric Company (PG&E), and Harrigan Weidenmuller Company to study the proposed project on their respective properties.

Existing structures at the project site consist primarily of vacant buildings and facilities. The project site currently has little vegetation other than occasional ruderal weeds, unmaintained vegetation and a row of street trees along Illinois Street at the western boundary of the site and on a short segment of the north side of 23rd Street. Current uses on the Power Station sub-area include warehouses, parking, vehicle storage, and office space. In the Power Station and PG&E sub-areas, PG&E has completed or is currently completing hazardous materials remediation of the soils, soil vapors, and groundwater that have been contaminated by historical activities; all remediation efforts have been and are being conducted under the oversight of the San Francisco Bay Regional Water Quality Control Board. Twenty-four structures remain on the site associated with the former power plant, including six historic structures associated with the historic Third Street Industrial District: the Unit 3 Power Block, the Boiler Stack, Station A, the Meter House, the Gate House, and the Compressor House.

Figure 2-3, Existing Zoning on Project Site, (see Chapter 2, Project Description, page 2-7), shows the existing zoning and height and bulk designations for the project site. The Power Station sub-area is zoned M-2 (Heavy Industrial) and located in a 40-X Height and Bulk District. The portions of the Port sub-area along the shoreline are zoned M-2 (Heavy Industrial) and PDR-1-G (Production, Distribution and Repair – General) and are located in a 40-X Height and Bulk District. The PG&E sub-area is zoned M-2 (Heavy Industrial) and is located in the 40-X and 65-X Height and Bulk districts. The City and Southern subareas and the portion of the Port sub-area on 23rd Street consist of rights-of-way and, consequently, are not within zoning or height and bulk districts.

S.1.1.2 Project Characteristics

The Potrero Power Station Mixed-Use Development project would rezone and establish development controls for a multi-phased, mixed-use development at the project site. **Table S-1, Potrero Power Station Mixed-Use Development Preferred Project Characteristics**, summarizes the proposed project's characteristics, including a description of the types and amounts of proposed land uses, details regarding proposed dwelling units, building heights, vehicle and bicycle parking, and other features. As shown in Table S-1, the project would include approximately 2.7 million gsf of residential uses (2,682 residential units), and approximately 1.6 million square feet of commercial uses. In addition, the project would provide approximately 922,000 gsf parking, approximately 100,000 gsf of community facilities, approximately 25,000 gsf of entertainment/assembly uses, and approximately 6.2 acres of open space. As part of the proposed project, approximately 20 existing structures on the project site would be demolished, including up to five historic structures that are contributors to the historic Third Street Industrial District.

Figure 2-4, Proposed Land Use Plan, (see Chapter 2, Project Description, page 2-9) presents the conceptual project site plan, illustrating the proposed layout of the development blocks and street network and location of proposed uses. As shown on this figure, the proposed project incorporates a flexible land use program in which certain blocks on the project site are designated for either residential or commercial uses (referred to as "flex blocks"), where future market conditions would ultimately determine the type and amount of land uses to be developed on those blocks. The project characteristics presented in Table S-1 reflects the project sponsor's preferred allocation of residential and commercial uses for the various flex blocks.

Transportation and circulation improvements under the proposed project would include: a continuous street network, connection to the planned Pier 70 Mixed-Use District project directly north of the project site; a new bus stop and shuttle service; and the installation of traffic signals at the intersections of Illinois Street at 23rd and Humboldt streets. The roadway network would be accessible for all modes of transportation and would include vehicular, bicycle and pedestrian improvements. Proposed shoreline improvements would include the development of waterfront parks, construction of a floating dock extending out and above the tidal zone to provide access from the site to the bay for fishing and suitable recreational vessels, stormwater drainage outfalls, and physical improvements to guard against potential flooding due to future sea level rise. The proposed project would construct infrastructure and utilities improvements to serve the proposed development, including potable, non-potable, and emergency water facilities; wastewater and stormwater collection and conveyance; and natural gas and electricity distribution. The project would pursue LEED v4 Gold certification for each proposed building.

As part of the project, the proposed sponsor has developed a draft Transportation Demand Management Plan to support sustainable land use development, and would implement a final approved plan as part of project operations. The plan would prioritize pedestrian and bicycle access and implement measures to encourage alternative modes of transportation and to support a dense, walkable, mixed-use, transit-oriented development that prioritizes safety, especially for bicyclists and pedestrians.

TABLE S-1
POTRERO POWER STATION MIXED-USE DEVELOPMENT PREFERRED PROJECT CHARACTERISTICS^a

Project Characteristic	Metric	
Project Site Size and Shape	Dimensions	
Area	29.0 acres	
Maximum Length and Width	Approximately 1,650 feet by 950 feet	
Proposed Land Use Program^b	Area (gsf)	
Residential	2,682,427	
Commercial (Retail)	107,439	
Commercial (Office)	597,723	
Commercial (R&D/life science)	645,738	
Commercial (Hotel)	241,574 ^c	
Commercial (PDR)	45,040	
Community Facilities	100,938	
Entertainment/Assembly	25,000	
Parking	921,981	
Total Building Area	5,367,860 gsf	
Proposed Dwelling Units	Number	Percentage (approximate)
Studio	388	14.5%
1-Bedroom	1,159	43.2%
2-Bedroom	867	32.3%
3-Bedroom	268	10.0%
Total Dwelling Units	2,682	100%
Proposed Parking	Number	
Vehicle Parking Spaces ^d	2,622	
Car Share Spaces	38	
Bicycle Parking ^e		
Bicycle Parking Class 1	1,577	
Bicycle Parking Class 2	373	
Total Bicycle Parking	1,950	
Open Space	Area (gsf)	
Publicly Accessible Open Space	Approximately 6.2 acres	
Private Open Space	36 square feet per unit if located on balcony, or 48 square feet per unit if commonly accessible to residents	
Building Characteristics	Area (gsf)	
Stories	5 to 30 stories	
Height	65 to 180 feet; one building at 300 feet	
Ground Floor	All blocks would include ground floor active/retail/production space	
Basements	All development blocks would allow but not require one below-grade level of vehicle parking spaces ^f	

NOTES: gsf = gross square feet; R&D = research and development; PDR = production, distribution, and repair

^a All numbers in this table are approximate.

^b The proposed project includes a number of flex blocks, for which either residential or certain commercial uses may ultimately be selected. The numbers shown in this table show the anticipated development of the flex blocks, assuming a targeted amount/type of residential and commercial development at each flex block. The EIR addresses the potential for variation in the total amount of residential and amount and type of commercial development on the flex blocks.

^c The hotel would have 220 hotel rooms.

^d Per the proposed Design for Development document, the number of vehicle parking spaces is based on 0.6 space per residential unit; one space per 1,500 square feet of commercial office, R&D/life science, or PDR uses; three spaces per 1,000 square feet of grocery store use; and one space per each 16 hotel guest rooms. Dedicated car share spaces would be as required by planning code section 166. The number of car share spaces is based on one car share space per residential buildings with 50 to 200 dwelling units; for residential buildings with over 200 dwelling units, two car share spaces plus one for every 200 dwelling units over 200; for non-residential buildings, providing between 25 and 49 parking spaces, one car share space; for non-residential buildings providing 50 or more parking spaces, one car share space plus one for every 50 parking spaces over 50.

^e Per the proposed D for D, the number of bicycle parking spaces reflects Planning Code requirements, as follows.

- Residential: One Class 1 bicycle parking space for each dwelling unit up to 100 plus one space for every four units in excess of 100; one Class 2 bicycle parking space for every 20 dwelling units.
- Office: One Class 1 bicycle parking space for every 5,000 square feet of occupied floor area; two Class 2 bicycle parking spaces up to 5,000 square feet of OFA plus one for each 50,000 square feet of OFA in excess of 5,000 square feet.
- PDR, R&D/life science: One Class 1 bicycle parking space for every 12,000 square feet of OFA; two Class 2 bicycle parking spaces up to 50,000 square feet of OFA, and an additional two for spaces in excess of 50,000 square feet of OFA.
- Retail: One Class 1 bicycle parking space per 7,500 square feet of OFA; minimum two Class 2 bicycle parking spaces with a rate of one per 2,500 square feet up to 50,000 square feet and an additional space for each additional 10,000 square feet.
- Hotel: One Class 1 space per 30 rooms; one Class 2 space per 30 rooms and one Class 1 space per 5,000 square feet of conference space.

^f Basement parking is accounted for in the above line item for parking.

SOURCE: California Barrel Company, EEA PPA Application Package, Potrero Power Station Mixed Use Development, October 2017

One potential element of the proposed project is environmental remediation activities beyond those currently being conducted by PG&E, if deemed necessary by the Regional Water Quality Control Board. As stated above, PG&E has conducted and is undertaking environmental remediation activities as directed by the regional board. PG&E is required to complete remediation activities to achieve a commercial/industrial land use standard. However, regulatory requirements governing the portions of the site subject to remediation activities specify that residential or other sensitive land uses are prohibited without prior approval from the regional board. Therefore, in order to implement proposed residential or other sensitive land uses (such as childcare uses), the project sponsor would be required to conduct further environmental remediation activities as directed by the regional board, which could include additional human health risk evaluation, additional media-specific mitigation, and/or additional institutional and engineering controls, to ensure the health and safety of current and future site users.

S.1.1.3 Project Construction

Construction is estimated to occur over a 15-year period, beginning in 2020 and ending in 2034, but the construction period could vary depending on market conditions and permitting requirements. Project construction would likely occur in seven overlapping phases (Phase 0 through 6), with each phase lasting approximately three to five years. Following the initial demolition, site preparation and rough grading for the entire site (Phase 0), Phase 1 of construction is anticipated to start on the southeast portion of the site and Phase 6 of construction would end in the northwest portion of the site. Each phase would construct a portion of the transportation and circulation improvements, utilities infrastructure improvements, open space improvements, and other aspects of the project (including the bike and automobile parking), in conjunction with the construction of new buildings within each phase. Once a construction phase is completed, occupancy and long-term operations of completed phases would commence, concurrent with construction of subsequent phases. Construction phasing is shown in Figure 2-25, Proposed Project Phasing Plan, (see Chapter 2, Project Description, page 2-51). The project characteristics presented above (including the total number of residential units, square footage of commercial use, acres of open space, bicycle and automobile spaces) are totals based on full buildout and completion of all phases of the proposed project. Construction activities would take place up to seven days a week, between 7 a.m. and 8 p.m., consistent with the provisions of section 2908 of the San Francisco Police Code. Nighttime construction activities would be limited to certain areas of the project site during phase 1 only, prior to residential occupancy on the site.

S.2 Summary of Impacts and Mitigation Measures

The initial study determined that the following topics would have either no significant impacts or impacts that can be reduced to less than significant with mitigation: archeological resources, human remains, and tribal cultural resources; greenhouse gas emissions; recreation; utilities and services systems; public services; geology, soils and paleontological resources; mineral and energy resources; and agricultural and forest resources. Discussion and analysis of impacts in these resource areas are presented in Appendix B.

Impacts related to aesthetics are not analyzed in the initial study or this EIR because under CEQA (Public Resources Code section 21099), aesthetics impacts of a mixed-use or employment center project on an infill site located within a transit priority area are not to be considered significant impacts, and the proposed project meets the applicable criteria under this section.

Chapter 4 of the EIR presents detailed discussion and analysis of the following resources: land use and land use planning; population and housing; historic architectural resources; transportation and circulation; noise and vibration; air quality; wind and shadow; biological resources; hydrology and water quality; and hazards and hazardous materials.

Table S-2 (at the end of this chapter) summarizes all of the impacts of the proposed project, identifies the significance of each impact, and presents the full text of the recommended mitigation measures and improvement measures. Mitigation measures are feasible measures that would avoid, lessen, or reduce significant impacts, and would be required to be implemented if the project is approved. Improvement measures would also lessen or reduce impacts, but unlike mitigation measures, implementation of improvement measures is not required under CEQA because they apply only to impacts determined to be less than significant. However, all improvement measures identified in this EIR would be incorporated into conditions of approval and therefore would also be required to be implemented if the project is approved. The summary table includes all impacts and mitigation measures applicable to the proposed project, with the EIR sections presented first, followed by the initial study sections.

As indicated on Table S-2, the EIR determined that the proposed project would result in significant and unavoidable impacts in the following areas, even with implementation of feasible mitigation measures:

- **Historic architectural resources:** impacts on individually significant buildings, and on the integrity of a historic district at a project-specific and cumulative level (Impact CR-4, Impact CR-5, and Impact C-CR-2)
- **Transportation and circulation:** transit capacity and transit operations, both at a project-specific and cumulative level (Impact TR-4, Impact TR-5, Impact C-TR-4, and Impact C-TR-5)
- **Noise:** construction noise levels at noise-sensitive receptors, operational noise increases along roadways, and cumulative traffic noise increases (Impact NO-2, Impact NO-8, Impact NO-1, and Impact C-NO-2)
- **Air quality:** criteria air pollutant emissions during construction and overlapping operations, criteria air pollutant emissions during operations, and cumulative regional air quality impacts (Impact AQ-2, Impact AQ-3, and Impact C-AQ-1)
- **Wind:** potential for hazardous wind conditions during interim periods during phased construction and/or due to changes in the building layout and/or massing. (Impact WS-2)

S.3 Summary of Project Alternatives

CEQA requires that an EIR must describe and evaluate a reasonable range of alternatives to the proposed project that would avoid or lessen significant impacts of the proposed project, would meet most of the project objectives, and would be feasible. The following seven alternatives are analyzed in this EIR:

- Alternative A: No Project/Code Compliant Alternative
- Alternative B: Full Preservation/Reduced Program Alternative
- Alternative C: Full Preservation/Similar Program Alternative
- Alternative D: Partial Preservation 1 Alternative
- Alternative E: Partial Preservation 2 Alternative
- Alternative F: Partial Preservation 3 Alternative
- Alternative G: Partial Preservation 4 Alternative

The San Francisco Planning Department determined that these seven alternatives are feasible and adequately represent the range of alternatives required under CEQA for this project, although the financial feasibility of all alternatives is unknown. These alternatives would lessen, and in some cases avoid, significant and unavoidable adverse impacts related to historic architectural resources, transportation, air quality, noise, and wind that were identified for the proposed project, as well as meet most of the project objectives. A "no project alternative" is included as Alternative A, as required by CEQA, even though it would not meet the basic project objectives. Schematics of all alternatives are included in Chapter 6 (pages 6-18 to 6-24).

S.3.1 Alternative A: No Project/Code Compliant Alternative

S.3.1.1 Description of Alternative

Alternative A assumes that the project sponsor would develop the Power Station sub-area in compliance with the existing planning code and land use designations. In addition, the adjoining Southern, City and eastern portions of the Port sub-areas of the project site would be developed in conjunction with the Power Station sub-area to provide continuity and connectivity to the bay and surrounding land uses; the 1.3 acre portion of the Port sub-area along 23rd Street would not be developed. However, due to the limited development potential under the existing zoning code and land use designations, this alternative assumes that the project sponsor would not seek to partner with PG&E in the development of the adjacent PG&E sub-area and that the 4.8-acre PG&E sub-area would remain in its current use as storage and housing for power transmission equipment. Thus, Alternative A would consist of development of a total of 22.9 acres compared to the 29 acres under the proposed project.

Overall development on the project site would be reduced to about 28 percent of that proposed under the proposed project, consisting of commercial, PDR, and retail uses. There would be no residential uses (including no childcare uses), and no commercial uses designated for R&D/life

sciences uses, since these uses are not be allowed under the existing zoning. Open space would be reduced to 4.4 acres, compared to 6.2 acres for the project. All buildings would be 40 feet in height, consistent with the existing height limit, and there would be no recreational dock. This alternative also assumes that Station A, the Compressor House, Gate House, Meter House, and Unit 3 Power Block would be demolished, but that the Boiler Stack would be retained.

S.3.1.2 Summary of Impacts

Alternative A would avoid or reduce some—but not all—of the significant and unavoidable impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant or less than significant with mitigation: impacts on Muni capacity, both at a project-specific and cumulative level; impacts on Muni operations, both at a project-specific and cumulative level; impacts from construction-related increases in ambient noise levels to future onsite receptors; impacts from construction-related plus overlapping operational criteria air pollutant emissions; impacts from operations-related criteria air pollutant emissions; impacts from cumulative regional air quality impacts; and impacts from interim wind hazards.

However, significant and unavoidable impacts identified for the project (including some impacts that would be lessened compared to the project but still significant and unavoidable) that would not be substantially reduced under Alternative A and would still occur include impacts related to: individually eligible historic resources; effects on the Third Street Industrial District, both at a project-specific and cumulative level; construction-related increases in ambient noise levels to future Pier 70 receptors; operational offsite traffic noise increases, both at a project-specific and cumulative level; and cumulative construction-related noise increases.

S.3.2 Alternative B: Full Preservation/Reduced Program Alternative

S.3.2.1 Description of Alternative

Alternative B would retain and rehabilitate in accordance with the Secretary of Interior's Standards all six on-site historic structures: Station A, the Meter House, the Compressor House, the Gate House, the Unit 3 Power Block, and the Unit 3 Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development reduced in all aspects to about two thirds the size of the proposed project, thereby reducing the magnitude of both construction and operational impacts, but still retaining the diversity of land uses under the proposed project. The gross square footage of the development would be reduced to two thirds that of the project, and building heights of proposed towers would also be reduced to two thirds that of the project, but open space acreage would remain the same as that of the project.

S.3.2.2 Summary of Impacts

Alternative B would avoid or substantially lessen the severity of four of the significant and unavoidable impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant or less than significant with mitigation: impacts on individually eligible historic resources; impacts on the Third Street Industrial District, both at a project-specific and cumulative level; and impacts on transit operations, both at a project-specific and cumulative level.

Significant and unavoidable impacts identified for the project that would not be substantially reduced under Alternative B and would still occur include the following: Muni capacity impacts, both at a project-specific and cumulative level; construction-related increases in ambient noise levels to future on-site and Pier 70 receptors; operational off-site traffic noise increases; cumulative construction-related noise increases; impacts related to construction- and operations-related criteria air pollutant emissions; cumulative regional air quality impacts, and interim wind hazards.

S.3.3 Alternative C: Full Preservation/Similar Program Alternative

S.3.3.1 Description of Alternative

Alternative C would retain and rehabilitate in accordance with the Secretary of Interior's Standards all six on-site historic structures: Station A, Meter House, Compressor House, Gate House, Unit 3 Power Block, and Unit 3 Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development program and mix of uses similar in magnitude to the proposed project, and would specifically include about the same number of residential units as the project but with a slight reduction in office uses. Overall total building area would be about 99 percent of the proposed project, and buildings heights would generally be the same as those identified for proposed project, ranging in most part from 65 to 180 feet, except there would be two 300-foot towers and two 240-foot towers instead of one 300-foot tower and three 180-foot towers for the proposed project. Open space acreage would remain the same as that of the project.

S.3.3.2 Summary of Impacts

Alternative C would avoid or substantially lessen the severity of three of the significant and unavoidable impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant with mitigation: impacts on individually eligible historic resources; and impacts on the Third Street Industrial District, both at a project-specific and cumulative level.

Significant and unavoidable impacts identified for the project that would not be substantially reduced under Alternative C and would still include the following: Muni capacity impacts, both at

a project-specific and cumulative level; transit operations impacts, both at a project-specific and cumulative level; construction-related increases in ambient noise levels to future on-site and Pier 70 receptors; operational off-site traffic noise increases, both at a project-specific and cumulative level; cumulative construction-related noise increases; construction and operations related criteria air pollutant emissions; cumulative regional air quality impacts; and interim wind hazards.

In addition, there is the potential for Alternative C to have two additional significant and unavoidable impacts associated with wind hazards. Although no wind tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the additional towers. Conservatively, it is assumed that Alternative C would have significant and unavoidable wind impacts at build-out even with mitigation, at both a project-specific and cumulative level.

S.3.4 Alternative D: Partial Preservation 1 Alternative

S.3.4.1 Description of Alternative

Alternative D would retain Station A and rehabilitate its exterior character-defining features in accordance with the Secretary of Interior's Standards. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate a development program similar in magnitude to the proposed project. Three historic structures—the Meter House, the Compressor House, and the Gate House—would be demolished. The major changes from the proposed project would be that Station A would exist in place of a 125-foot building on Block 10, and the 300-foot tower on Block 6 would be relocated to Block 7. Similar to the proposed project, Alternative D would retain the Unit 3 Power Block for hotel use and rehabilitate the Boiler Stack. The development program and mix of uses would be similar in magnitude to the proposed project, with a slight reduction in residential and office uses. Overall total building area would be about 94 percent of the proposed project, and buildings heights would generally be the same as those identified for proposed project. Open space acreage would remain the same as that of the project.

S.3.4.2 Summary of Impacts

Alternative D would reduce two of the significant and unavoidable impacts identified for the proposed project to less than significant with mitigation: impacts on the Third Street Industrial District, both at a project-specific and cumulative level.

Significant and unavoidable impacts identified for the project that would not be reduced under Alternative D and would still occur include the following: impacts on individually eligible historic resources; impacts on Muni capacity, both at a project-specific and cumulative level; transit operations impacts, both at a project-specific and cumulative level; construction-related increases in ambient noise levels to future on-site and Pier 70 receptors; operational off-site traffic noise increases both at a project-specific and cumulative level; cumulative construction-related noise increases; construction and operations related criteria air pollutant emissions; cumulative regional air quality impacts; and interim wind hazards.

S.3.5 Alternative E: Partial Preservation 2 Alternative

S.3.5.1 Description of Alternative

Alternative E would retain the southern portion of Station A and rehabilitate all or a portion of the exterior character-defining features of the remaining portion of the structure in accordance with the Secretary of Interior's Standards to the extent feasible. Building floors would be added to the open volume interior space of the remaining portion of Station A. The southern portion of Station A was selected because there are more character-defining features at that end, and it would replace a 125-foot-tall office building in the same location under the proposed project. Otherwise, this alternative generally follows the same land use mixes, heights, and configurations as the proposed project, including demolition of the Meter House, Compressor House, Gate House, and northern portion of Station A. Similar to the proposed project, Alternative E would retain the Unit 3 Power Block for hotel use and rehabilitate the Boiler Stack. The development program and mix of uses would be similar in magnitude to the proposed project, with a slight reduction in office uses. Overall total building area would be about 97 percent of the proposed project, and buildings heights would generally be the same as those identified for proposed project. Open space acreage would remain the same as that of the project.

S.3.5.2 Summary of Impacts

The overall impacts of Alternative E compared to those of the proposed project would generally be the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation: impacts on the Third Street Industrial District, both at a project-specific and cumulative level.

Alternative E would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determination of significant and unavoidable with mitigation. All of the other impacts of Alternative E compared to those of the proposed project would be the same as described above for Alternative D.

S.3.6 Alternative F: Partial Preservation 3 Alternative

S.3.6.1 Description of Alternative

Alternative F would retain the Compressor House and Meter House and rehabilitate all or a portion of their exterior character-defining features in accordance with the Secretary of Interior's Standards. This alternative would incorporate these structures into a development program similar in magnitude to the proposed project. Two historic structures—Station A and the Gate House—would be demolished. The major change from the proposed project would be that the parking garage with rooftop playing field would be relocated from Block 5 to Block 1, with an associated reduction in the building area of the garage and residential uses that are proposed on these blocks under the project. Similar to the proposed project, Alternative F would retain the

Unit 3 Power Block for a hotel use and would rehabilitate the Boiler Stack. The development program and mix of uses would be similar in magnitude to the proposed project, with a slight reduction in residential uses. Overall total building area would be about 95 percent of the proposed project, and buildings heights would generally be the same as those identified for proposed project. Open space acreage would remain the same as that of the project.

S.3.6.2 Summary of Impacts

The overall impacts of Alternative F compared to those of the proposed project would be generally the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant with mitigation: impacts on the Third Street Industrial District, both on project-specific and cumulative level.

Alternative F would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determination of significant and unavoidable with mitigation. All of the other impacts of Alternative F compared to those of the proposed project would be the same as described above for Alternative D.

However, there is the potential for Alternative F to have two additional significant and unavoidable impact associated with wind hazards. Although no wind tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the massing of the 180-foot tall building at the southwest corner of the project site at Block 5. Conservatively, it is assumed that Alternative F would have significant and unavoidable wind impacts at buildout even with mitigation, at both a project-specific and cumulative level.

S.3.7 Alternative G: Partial Preservation 4 Alternative

S.3.7.1 Description of Alternative

Alternative G would retain the façades and exterior character-defining features of Station A, the Compressor House, and the Meter House, but would include new construction within and above these buildings. A 125-foot-tall office building would extend from within the façades of the southern portion of Station A, and a 300-foot-tall residential tower would rise from within the façades of the northern portion of Station A. The ground floors within the façades of the Compressor House and Meter House would be used for retail, with new construction extending 65 feet above the Compressor House to be used for office space. The alternative would incorporate these structures into a development similar in magnitude to the proposed project. One historic structure—the Gate House—would be demolished. The major changes from the proposed project would be: (1) the parking garage with rooftop playing field would be relocated from Block 5 to Block 1, with an associated reduction in the building area of the garage and residential uses that are proposed on these blocks under the project, and (2) the 65-foot and 180-foot residential buildings adjacent to the Compressor House and Meter House would be

redesigned. Similar to the proposed project, Alternative G would retain the Unit 3 Power Block for a hotel use and would rehabilitate the Boiler Stack. The development program and mix of uses would be similar in magnitude to the proposed project, with a slight reduction in residential and office uses. Overall total building area would be about 96 percent of the proposed project, and buildings heights would generally be the same as those identified for proposed project. Open space acreage would remain the same as that of the project.

S.3.7.2 Summary of Impacts

The overall impacts of Alternative G compared to those of the proposed project would be generally the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant with mitigation: impacts on the Third Street Industrial District, both at a project-specific and cumulative level.

Alternative G would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determination of significant and unavoidable with mitigation. All of the other impacts of Alternative G compared to those of the proposed project would be the same as described above for Alternative D.

However, there is the potential for Alternative G to have two additional significant and unavoidable impacts associated with wind hazards. Although no wind tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the massing of the 180-foot tall building at the southwest corner of the project site at Block 5. Conservatively, it is assumed that Alternative G would have significant and unavoidable wind impacts at build-out even with mitigation, at both a project-specific and cumulative level.

S.3.8 Environmentally Superior Alternative

Table S-3 (at the end of this chapter, following Table S-2) presents a summary comparison of the impacts of all the alternatives, focusing only on impacts that would substantially or noticeably be different under the alternatives compared to the project; other impacts not shown on the table would substantially have all the same or similar impacts as identified for the proposed project. Overall, Alternative B, Full Preservation/Reduced Program Alternative, is considered the environmentally superior alternative. Alternative B would eliminate the significant and unavoidable impacts related to individually eligible historic resources, effects on the Third Street Industrial District, and transit operations that would occur under the proposed project. Even though some significant and unavoidable impacts would still occur under Alternative B, this alternative would lessen the severity of the significant adverse impacts related to transit capacity, construction and operational noise, and construction and operational criteria air pollutant emissions, pedestrian safety and accessibility, and health risk from exposure to toxic air contaminants when compared to the impacts of the proposed project. Compared to the other alternatives, Alternative B would meet most of the basic project objectives and would offer the greatest environmental advantages over the proposed project.

S.4 Areas of Controversy and Issues to Be Resolved

On November 1, 2017, the San Francisco Planning Department issued a Notice of Preparation (NOP) of an EIR on the proposed Potrero Power Station Mixed-Use Development project and made the NOP available on its website. The NOP was sent to governmental agencies, organizations, and persons interested in the proposed project to initiate the 30-day public scoping period for this EIR, which started on November 1, 2017 and ended on December 1, 2017. A scoping meeting was held on November 15, 2017, to solicit comments on the scope of the EIR. The NOP and comments on the NOP are included in Appendix A of this document.

Based on the comments received, controversial issues for the proposed project include:

- Project land uses, consideration of alternate uses, and compatibility of land uses on parcels adjacent to Pier 70;
- Noise from construction, operational traffic, and generators on sensitive receptors;
- Impact from exposure to air pollutants during construction and operation on sensitive receptors;
- Wind and shadow impacts generated by the project and cumulatively by the project and Pier 70, with particular concern to recreation resources and the bay;
- The approach to the transportation impact analysis, reasons for the assumptions incorporated (specifically into mode share), employees by different income brackets and miles travelled, times of day and week studied, and cumulative projects considered;
- Impacts on transportation and circulation (including highways, arterial streets, local streets, transit stations and service, and emergency response);
- The project's assumptions and analysis for on-site parking demand and supply;
- Impacts associated with site remediation or management of soils during project construction;
- Project consistency with McAteer-Petris Act, Bay Plan, Coastal Zone Management Act, and with San Francisco Bay Conservation and Development Commission (BCDC) jurisdiction – including with respect to 100-foot shoreline band compliance, BCDC related permits, public access, remediation and sea level rise;
- Impacts to onsite historic buildings (including Meter House, Compressor House, Station A, and the Gate House) and consideration of their preservation and possibilities for reuse;
- Impacts related to affordable housing and jobs housing balance by the project;
- Financing, (including fair share contribution), monitoring, scheduling, and responsibility for implementation of mitigation measures;
- Cumulative impacts of development of the project combined with development of other projects (including Pier 70), and development under other plans, in the vicinity.

TABLE S-2
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.B Land Use and Land Use Planning			
Impact LU-1: The proposed project would not physically divide an established community.	LTS	No mitigation required.	NA
Impact LU-2: The proposed project would not conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	NA
Impact C-LU-1: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to physical division of an established community.	LTS	No mitigation required.	NA
Impact C-LU-2: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to conflicts with applicable land use plans, policies, and/or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	NA
EIR Section 4.C Population and Housing			
Impact PH-1: Construction of the proposed project would not induce substantial population growth in an area.	LTS	No mitigation required.	NA
Impact PH-2: Operation of the proposed project would not induce substantial population growth in an area.	LTS	No mitigation required.	NA
Impact C-PH-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to significant cumulative population and housing impacts.	LTS	No mitigation required.	NA
EIR Section 4.D Historic Architectural Resources			
Impact CR-4: The proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources.	S	Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, below) Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, below) Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, below)	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-5: The proposed demolition, substantial alteration, and rehabilitation of contributing buildings would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.	S	<p>Mitigation Measure M-CR-5a: Documentation</p> <p>Before any demolition or rehabilitation activities within the project site, the project sponsor shall retain a professional who meets the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare written and photographic documentation of Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3. The documentation shall be prepared based on the National Park Service's Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Historical Report Guidelines. The HABS/HAER package shall jointly document the Third Street Industrial District contributors and individually eligible resources to be demolished or otherwise adversely affected. This type of documentation is based on a combination of both HABS/HAER standards and National Park Service's policy for photographic documentation, as outlined in the National Register and National Historic Landmarks Survey Photo Policy Expansion.</p> <p>The documentation shall be scoped and approved by Planning Department Preservation staff and will include the following:</p> <ul style="list-style-type: none"> • <i>Measured Drawings:</i> A set of measured drawings that depict the existing size, scale, and dimension of Station A, the Compressor House, the Meter House, the Gate House, and the Unit 3 Power Block. Planning Department Preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). Planning Department Preservation staff will assist the consultant in determining the appropriate level of measured drawings; • <i>HABS-Level Photography:</i> Either HABS standard large-format or digital photography shall be used. The scope of the photographs shall be reviewed by Planning Department Preservation staff for concurrence. All digital photography shall be conducted according to the latest National Park Service standards. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography. Photograph views for the dataset shall include (a) contextual views; (b) views of each side of each building and interior views; (c) oblique views of the buildings; and (d) detail views of character-defining features, including features on the interior. All views shall be referenced on a photographic key. This photographic key shall be on a map of the property and shall show the photograph number with an arrow to indicate the direction of the view. Historical photographs shall also be collected, reproduced, and included in the dataset; and • <i>HABS Historical Report:</i> A written historical narrative and report, per HABS Historical Report Guidelines. • <i>Print-On-Demand Book:</i> A Print On Demand softcover book will be produced that includes the content of the HABS historical report, historical photographs, HABS-level photography, measured drawings and field notes. 	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-5 (cont.)		<p>The project sponsor shall transmit such documentation to the San Francisco Planning Department, the Port of San Francisco, and to repositories including the History Room of the San Francisco Public Library, San Francisco Heritage, Internet Archive, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. All documentation will be reviewed and approved by the San Francisco Planning Department's Preservation staff prior to granting any demolition or site permit.</p> <p>Mitigation Measure M-CR-5b: Video Recordation</p> <p>Prior to any demolition or substantial alteration of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall retain a qualified professional to undertake video documentation of the affected historical resource and its setting. The documentation shall be conducted by a professional videographer with experience recording architectural resources. The professional videographer shall provide a storyboard of the proposed video recordation for review and approval by Planning Department preservation staff. The documentation shall be narrated by a qualified professional who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). The documentation shall include as much information as possible—using visuals in combination with narration—about the materials, construction methods, current condition, historical use, and historic context of the historic resources.</p> <p>Archival copies of the video documentation shall be submitted to the Planning Department, and to repositories including: the San Francisco Planning Department, the Port of San Francisco, the San Francisco Public Library, San Francisco Heritage, Prelinger Archives, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. This mitigation measure would supplement the traditional HABS documentation, and would enhance the collection of reference materials that would be available to the public and inform future research.</p> <p>The video documentation shall be reviewed and approved by the San Francisco Planning Department's preservation staff prior to issuance of a demolition permit or site permit or issuance of any Building Permits for the project.</p> <p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage</p> <p>Prior to any demolition or rehabilitation activities that would remove character-defining features of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall consult with planning department preservation staff as to whether any such features may be salvaged, in whole or in part, during demolition/alteration. The project sponsor shall make a good faith effort to salvage materials of historical interest to be utilized as part of the interpretative program. This could include reuse of the Greek Revival façade of the Machine Shop Office, Gate House or a portion of the Unit 3 Power Block. Following any demolition or rehabilitation activities within the project site, the project sponsor</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
<p>EIR Section 4.D Historic Architectural Resources (cont.)</p> <p>Impact CR-5 (cont.)</p>		<p>shall provide within publicly accessible areas of the project site a permanent display(s) of interpretive materials concerning the history and architectural features of the individual historical resources and Third Street Industrial District. The content of the interpretive display(s) shall be coordinated and consistent with the site-wide interpretive plan prepared in coordination with planning department preservation staff, and may include the display of salvaged features recovered through the process described above. The specific location, media, and other characteristics of such interpretive display(s) shall be presented to planning department preservation staff for review prior to any demolition or removal activities. The historic interpretation plan shall be prepared in coordination with an architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards and an exhibit designer or landscape architect with historical interpretation design experience. As feasible, coordination with local artists should occur. Interpretive display(s) shall document both the Third Street Industrial District and individually eligible resources to be demolished or rehabilitated. The interpretive program should also coordinate with other interpretive displays currently proposed along the Bay, specifically at Pier 70, those along the Blue Greenway, and others in the general vicinity. The interpretive plan should also explore contributing to digital platforms that are publicly accessible. A proposal describing the general parameters of the interpretive program shall be approved by planning department preservation staff prior to issuance of a site permit. The substance, media and other elements of such interpretive display shall be approved by planning department preservation staff prior to issuance of a Temporary Certificate of Occupancy.</p> <p>Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack</p> <p>Prior to the issuing of building permits associated with modifications to the exterior of the Boiler Stack, planning department preservation staff shall review the proposed design and confirm that it conforms to the Secretary of the Interior's Standards for Rehabilitation and the Design for Development standards and guidelines.</p> <p>Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack</p> <p>Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish measures to protect the retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with the Boiler Stack, to minimize construction-related damage to the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-5 (cont.)		<p>would occur in proximity to the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff.</p> <p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4)</p> <p>Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4)</p> <p>Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4)</p>	
Impact CR-6: The proposed infill construction could materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.	S	<p>Mitigation Measure M-CR-6: Design Controls for New Construction</p> <p>The SUD and Design for Development (D for D) shall contain design standards and guidelines that ensure that new construction and site development within the SUD shall be compatible with the character of the Third Street Industrial District. Beyond the site-wide standards and guidelines developed for open space, buildings, and streetscapes in the D for D, the D for D shall contain design controls for the Third Street Industrial District, as outlined below (see site-wide design controls below).</p> <p>Additional design standards shall apply to the western façades of new buildings fronting Illinois Street, the southern façades of new buildings fronting 23rd Street, and the eastern and/or southern façades of new buildings fronting the Boiler Stack (see block and frontage-specific design controls below and Figure M-CR-6, Site Frontages Subject to Design Controls). These façades would all face contributors to the Third Street Industrial District. The additional design standards that shall apply specifically to those frontages are included below.</p> <p>These design controls in the D for D shall be compatible with the Secretary of the Interior Standards for Rehabilitation, Standard 9. Standard 9 states that new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the integrity of the historic district and its environment.</p> <p>Review Process</p> <p>New construction in the Special Use District will be subject to administrative design review prior to the issuing of building permits. Planning staff along with Preservation staff will review new projects to ensure compatibility with the Third Street Industrial District as determined in the above standards and guidelines and identified in the D for D.</p>	LSM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

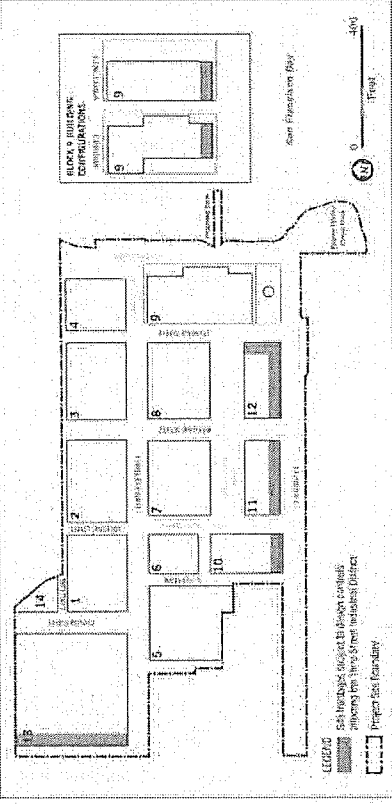
Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.) Impact CR-6 (cont.)		 <p>Figure M-CR-6 Site Frontages Subject to Design Controls</p> <p>The D for D shall contain the following Third Street Industrial District Frontage Design Controls:</p> <ul style="list-style-type: none"> Block and Frontage-Specific Design Controls Ground Floor Height for Blocks 11, 12, and 13: For Ground Floor of Blocks 11 and 12 facing 23rd Street Sugar Warehouses and Block 13 facing American Industrial Center all ground floor spaces shall have a minimum floor-to-floor height of 15 feet as measured from grade. Height + Massing along 23rd and Illinois street frontages. In order for 23rd and Illinois streets to appear balanced on either side, new construction shall respect existing heights of contributors to the Third Street Industrial District by referencing their heights with an upper level 10-foot setback at approximately 65 feet. Awnings on Blocks 10, 11, 12, and 13. An awning shall be provided on the southern facades of Blocks 10, 11, and 12 that face 23rd Street at a height of 15 to 25 feet above sidewalk grade to reference the industrial awning at the westernmost Sugar Refinery Warehouse. Awnings at this location may project up to 15 feet into the public realm. Should the southern facade of Station A be retained, an awning on Block 10 would not be required. For Block 13 frontages facing Illinois Street, canopies and awnings should only be located at the retail land use at the corner of Illinois and 22nd streets. 	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-6 (cont.)		<p>The character, design and materials used for such awnings shall be industrial in character and design, suggestions are the following:</p> <ul style="list-style-type: none"> – They should be flat or pitched, and should not be arched. The functional supporting structure and/or tieback rods should be clearly read [i.e., remain apparent to the observer]. – Materials used for canopies and awnings should be utilitarian. Suggested materials include wood, standing seam or louvered metal panels, and corrugated metal. • <i>Openings along 23rd and Illinois street frontages.</i> To the extent allowed by the Department of Public Health, large doors, such as sliding or roll-up doors that facilitate the movement of people, equipment, and goods in and out of the ground floor of new construction on Blocks 10-13 shall be incorporated along 23rd Street and Illinois Street. • <i>Special Corners on Block 12.</i> To frame the view of the iconic Boiler Stack, the northeast corner of Block 12 should include the use of high quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include: <ul style="list-style-type: none"> – Volumetric shaping of the area of a building within 15-feet of the northeastern corner of Block 12 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • <i>Special Corners Block 9 without Unit 3.</i> To create an open and inviting entrance to Waterfront Park and Stack Plaza from Delaware Street and Power Station Park, the southwest corner of Block 9 without Unit 3 should use high-quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include: <ul style="list-style-type: none"> – Volumetric shaping of any building in the area within 15-feet of the southwest corner of Block 9 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • <i>Block 9 without Unit 3.</i> For deference to the historic Stack, and to create more physical space between the Stack and new construction, the building of Block 9 without Unit 3 shall be designed such that the overall bulk is reduced by at least 10 percent from the maximum permitted floor area, with a focus along the southern façade of the new building, facing the Stack. A potential distribution of bulk reduction, for example, could result in an 8 percent reduction along the southern façade with a 2 percent reduction elsewhere. <p>The building should interact meaningfully with the Boiler Stack, such as referencing the existing relationship between it and Unit 3 (i.e., the simple, iconic form of the Boiler Stack in contrast to the highly complex, detailed form of the Unit 3 Power Block). Retain the existing exhaust infrastructure connecting the Unit 3 Power Block with the Boiler Stack and incorporating it into the new structure as feasible. Consider preserving other elements of the Unit 3 Power Block, such as portions of the steel gridded frame structure, in new construction.</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-6 (cont.)		<ul style="list-style-type: none"> • <i>Architectural Features on Blocks 10, 11, 12, and 13.</i> Regularly-spaced structural bays should be expressed on the exterior of the lower massing through the use of rectangular columns or pilasters, which reference the rhythm of loading docks on the Western Sugar Refinery Warehouses and American Industrial Center. Bay widths shall be no larger than 30 feet on center. • Architectural features such as cornice lines, belt courses, architectural trim, or change in materiality or color should be incorporated into the building design to reference heights and massing of the Western Sugar Refinery Warehouses on 23rd Street and American Industrial Center on Illinois Street at areas of the façade that are not required to be set back. • <i>Third Street District Fenestration.</i> Operable windows shall be single or double hung wood sash, or awning, pivot, or other industrial style steel or aluminum fenestration. Casement windows shall be avoided at lower building massing. Divided lite windows are appropriate. Ground level glazing shall incorporate transom windows if not utilizing roll up or full height sliding doors. • Upper level glazing shall consist of regular repeated punched openings with divided lites. Punched openings shall be rectangular in proportion; an exception is the use of segmentally arched openings if the building material is brick. • <i>Third Street District Building Rooftops.</i> Rooftops shall reflect the historic industrial character of the district and include flat, monitor, or shallow shed roofs. Gable or hipped roofs shall be avoided as primary features. <p>The D for D shall contain the following Site Wide Design Controls:</p> <ul style="list-style-type: none"> • <i>Recommended Materials.</i> Recommended materials should be incorporated into building design. Recommended materials include brick, concrete, copper, steel, glass, smooth stucco and wood. Avoid using veneer masonry panels except as described in the Depth of Façade, below. Avoid using smooth, flat, or minimally detailed glass curtain walls; highly reflective glass; coarse-sand finished stucco as a primary siding material; bamboo wood siding as a primary siding material; laminated timber panels; or black and dark materials should not be used as a predominate material. Where metal is used, selection should favor metals with naturally occurring patina such as copper, steel, or zinc. Metals should be matte in finish. Where shiny materials are used, they should be accent elements rather than dominant materials, and are generally not encouraged. • <i>Depth of Façade.</i> The façade should be designed to create a sense of durability and substantiality, and to avoid a thin or veneer-like appearance. Full brick or masonry is a preferred material. If thin brick or masonry or panel systems are used, these materials should read as having a volumetric legibility that is appropriate to their thickness. For example, masonry should turn the corner at a depth that is consistent with the typical depth of a brick. 	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-6 (cont.)		<p>Windows and other openings are an opportunity to reinforce the volumetric legibility of the façade, with an appropriate depth that relates to the material selected. For example, the depth of the building frame to the glazing should be sufficiently deep to convey a substantial exterior wall, and materials should turn the corner into a window reveal.</p> <ul style="list-style-type: none"> <i>Quality and Durability.</i> Exterior finishes should have the qualities of permanence and durability found in similar contextual building materials used on neighboring sites and in the Central Waterfront. Materials should be low-maintenance, well suited to the specific maritime microclimate of the neighborhood, and able to naturally weather over time without extensive maintenance and upkeep. Materials characteristic of the surrounding context, such as brick, concrete, stone, wood, and glass, and, are envisioned on site and are good candidates to meet durability needs. <p>The D for D shall contain the following Street and Open Spaces Design Controls:</p> <ul style="list-style-type: none"> Stack Plaza. No more than one-third of the area within 45 feet of the Boiler Stack shall be planted. Paving and hardscape elements shall incorporate industrial elements and materials into the design. Design elements should use simple geometric forms, regular or repeating paving patterns and utilitarian materials such as simple masonry pavers or salvaged masonry units if feasible and safe for public use. <p>Stack Plaza design elements, such as planters and native planting, should be kept low to the ground to complement and not distract from the Boiler Stack. Surfaces should not be designed with elaborately applied patterns. Any patterning should be the pragmatic result of the use of unit pavers or concrete score joints.</p> <ul style="list-style-type: none"> 23rd Street Streetscape. The streetscape design of 23rd Street should balance the historic utilitarian character of the Third Street Industrial District with welcoming design gestures for this important entrance to the Portero Power Station development. To that end, the following guidelines shall be followed: <ul style="list-style-type: none"> – Landscape elements should feel additive to the industrial streetscape. Examples include potted or otherwise designed raised beds of plants and trees that are placed onto paved surfaces; small tree wells within paved surfaces; green walls; and raised or lowered beds edged with industrial materials such as brick, low granite curbs, or steel. – Tree planting locations should be irregularly spaced or placed in small groupings along the street, in contrast with standard Better Street Plan requirements, in order to provide better compatibility with the historic district. – A tree and vegetation palette should be used that does not detract from the industrial character. Green walls, planter boxes, and vegetation should be considered rather than trees for storm water management. – Public art installations, such as murals, are encouraged. 	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact CR-6 (cont.)		<ul style="list-style-type: none"> <i>Transit Bus Shelter.</i> The bus shelter should be utilitarian in materiality and design to reflect the industrial nature of the nearby Western Sugar Refinery Warehouse buildings. The bus shelter shall be coordinated with the building design on Block 12. <i>23rd Street and Illinois Paving.</i> Sidewalk paving at 23rd Street and Illinois Street should be more industrial in character compared to sidewalk paving at other portions of the site. Consider varying sidewalk concrete score joint patterns or pavers from block to block. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. <i>23rd Street Transit Island Paving.</i> Pavement at the transit boarding island should incorporate concrete or stone pavers or enhanced cast-in-place concrete with smaller scale joint patterns for a more refined appearance. Integral color and decorative aggregates may be selected for aesthetic quality and shall meet accessible design requirements for slip-resistance. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. <i>Signage.</i> Tenant signage facing contributing buildings to the Third Street Industrial District should be utilitarian in design and materiality to reflect the adjacent historic resources and strengthen the 23rd Street streetscape. Backlit signage should be avoided. 	
Impact CR-7: The proposed project would not materially alter, in an adverse manner, the physical characteristics of the adjacent Union Iron Works Historic District that justify its inclusion in the California Register of Historical Resources.	LTS	No mitigation required.	NA
Impact C-CR-2: The impacts of the proposed project, in combination with those of past, present, and reasonably foreseeable future projects, would materially alter, in an adverse manner, some of the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a cumulative impact.	S	<p>Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-6: Design Controls for New Construction (see Impact CR-6, above)</p> <p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4)</p>	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.D Historic Architectural Resources (cont.)			
Impact C-CR-2 (cont.)		<p>Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4)</p> <p>Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4)</p>	
EIR Section E Transportation and Circulation			
Impact TR-1: Construction of the proposed project would not result in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, and would not result in potentially hazardous conditions.	LTS	<p>Improvement Measure I-TR-A: Construction Management Plan and Public Updates</p> <ul style="list-style-type: none"> Construction Management Plan—The project sponsor will develop and, upon review and approval by the San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works, implement a Construction Management Plan, addressing transportation-related circulation, access, staging and hours of delivery. The Construction Management Plan would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruption and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring transit, pedestrian, and bicycle connectivity. The Construction Management Plan would supplement and expand, rather than modify or supersede, the regulations, or provisions set forth by the SFMTA, Public Works, or other City departments and agencies, and the California Department of Transportation. Management practices could include: best practices for accommodating pedestrians and bicyclists, identifying routes for construction trucks to utilize, actively managing construction truck traffic, and minimizing delivery and haul truck trips during the morning (7 a.m. to 9 a.m.) and evening (4 p.m. to 6 p.m.) peak periods (or other times, as determined by the SFMTA). <p>If construction of the proposed project is determined to overlap with nearby adjacent project(s) using the same truck access routes in the project vicinity, the project sponsor or its contractor(s) will consult with various City departments, as deemed necessary by the SFMTA, Public Works, and the Planning Department, to develop a Coordinated Construction Truck Routing Plan to minimize the severity of any disruption of access to land uses and transportation facilities. The plan will identify optimal truck routes between the regional facilities and the project sites, taking into consideration truck routes of other development and infrastructure projects and any construction activities affecting the roadway network.</p> <ul style="list-style-type: none"> Carpool, Bicycle, Walk, and Transit Access for Construction Workers—To minimize parking demand and vehicle trips associated with construction workers, the construction contractor will include as part of the Construction Management Plan methods to encourage carpooling, bicycle, walk and transit access to the project site by construction workers. These methods could include providing secure bicycle parking spaces, participating in free-to-employee and employer ride matching program from www.511.org, participating in the emergency ride home program through the City of San Francisco (www.sferh.org), and providing transit information to construction workers. 	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.)			
Impact TR-1 (cont.)		<ul style="list-style-type: none"> Project Construction Updates for Nearby Businesses and Residents—To minimize construction impacts on access to nearby residences and businesses, the project sponsor will provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities, travel lane closures, and parking lane and sidewalk closures (e.g., via the project's website). A regular email notice will be distributed by the project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns. 	
Impact TR-2: The proposed project would not cause substantial additional VMT or induced automobile travel.	LTS	No mitigation required.	NA
Impact TR-3: The proposed project would not create major traffic hazards.	LTS	<p>Improvement Measure I-TR-B: Monitoring and Abatement of Queues</p> <p>As an improvement measure to reduce the potential for queuing of vehicles accessing the project garages, it will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to garage entries. A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks, bicycle lanes, or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis.</p> <p>If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods will vary depending on the characteristics and causes of the recurring queue, as well as the characteristics of the parking facility, the street(s) to which the facility connects, and the associated land uses (if applicable).</p> <p>Suggested abatement methods include, but are not limited to the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; employment of parking attendants; installation of "GARAGE FULL" signs with active management by parking attendants; use of valet parking or other space-efficient parking techniques; use of other garages on the project site; use of parking occupancy sensors and signage directing drivers to available spaces; travel demand management strategies; and/or parking demand management strategies such as parking time limits, paid parking, time-of-day parking surcharge, or validated parking.</p> <p>If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.</p>	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.)			
Impact TR-4: The proposed project would result in a substantial increase in transit demand that could not be accommodated by nearby Muni transit capacity.	S	<p>Mitigation Measure M-TR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/Street Routes</p> <p>The project sponsor shall provide capital costs to the San Francisco Municipal Transportation Agency (SFMTA) that allow for increased capacity on each affected route to be provided in a manner deemed acceptable by SFMTA through the following means:</p> <ul style="list-style-type: none"> The project sponsor shall pay the capital costs, adjusted for inflation, for the additional buses that would be necessary to accommodate the projected travel demand within the 85 percent capacity utilization standard. The additional capacity required to reduce the capacity utilization to below the 85 percent standard would be one additional bus on the 48 Quintara/24th Street route when the proposed project is 35 percent built out (i.e., prior to construction of Phase 3 of the project) and one additional bus on the 22 Fillmore route when the project is 65 percent built out (i.e., prior to construction of Phase 5 of the project). While the project sponsor will provide funding for procurement of the two buses, the SFMTA would need to identify funding to pay for the added operating cost associated with operating increased service made possible by the increased vehicle fleet. The source of that funding has not been established. Alternatively, if the SFMTA determines that the options described below increase capacity along the route would more effectively address the impacts of the project on affected routes at 35 or 65 percent buildout, the project sponsor shall pay an amount equivalent to the cost of two buses toward completion of one or more of the following options, as determined by the SFMTA: <ul style="list-style-type: none"> Convert to using higher-capacity vehicles on the 22 Fillmore (or alternative route) and 48 Quintara/24th Street routes. In this case, the project sponsor funding shall be used to pay a portion of the capital costs to convert the route from standard buses (with a capacity of 63 passengers) to articulated buses (with a capacity of 94 passengers). Some bus stops along the routes may not currently be configured to accommodate the longer articulated buses. Some bus zones could likely be extended by removing one or more parking spaces; in some locations, appropriate space may not be available. The project sponsor's contribution may not be adequate to facilitate the full conversion of the route to articulated buses. The source of funding needed to complete the remainder, including improvements to bus stop capacity at all of the bus stops along the route that do not currently accommodate articulated buses, has not yet been established. Increase bus travel speeds along the route. In this case, the project sponsor's funding would be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase bus travel speeds sufficiently to increase capacity along the affected route(s) such that the project's impacts along the route(s) would be determined to be less than 	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation																							
EIR Section E Transportation and Circulation (cont.)																										
Impact TR-4 (cont.)		<p>significant. Increased speeds could be accomplished by funding a portion of the current 16th Street Improvement Project along 16th Street between Church and Kansas streets. Adding a traffic signal with transit signal priority at the intersection of Pennsylvania Avenue/ Street may increase travel speeds on this relatively short segment of the 48 Quintara/24th Street bus route. The project sponsor's funding may not be adequate to fully achieve the capacity increases needed to reduce the project's impacts and SFMTA may need to secure additional sources of funding.</p> <p>– Another option to increase capacity in the vicinity of the project site is to add a new Muni service route in this area. By providing an additional service route, a percentage of the current transit riders on the 22 Fillmore and 48 Quintara/ Street would likely shift to the new route, lowering the capacity utilization below the 85 percent utilization standard for the 22 Fillmore (or the alternative route) and 48 Quintara/24th Street. The SFMTA may need to secure funding to pay for operating the new route.</p>	SUM																							
Impact TR-5: The proposed project would result in a substantial increase in delays or operating costs such that significant adverse impacts to Muni would occur.	S	<p>Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay Performance Standard. The project sponsor shall be responsible for implementing transportation demand management (TDM) measures to limit the number of project-generated vehicle trips during the p.m. peak hour to a maximum of 89 percent of the EIR-estimated values of each of the phases of project development (performance standard), as shown in the table below. The number of vehicle trips by phase to meet the above stated performance standard shall be included in the approved TDM Plan.</p> <table><thead><tr><th rowspan="2">Project Development Phase</th><th colspan="2">Maximum P.M. Peak Hour Vehicle Trips</th></tr><tr><th>Phase Total</th><th>Running Total</th></tr></thead><tbody><tr><td>Phase 1</td><td>380</td><td>380</td></tr><tr><td>Phase 2</td><td>400</td><td>780</td></tr><tr><td>Phase 3</td><td>270</td><td>1,050</td></tr><tr><td>Phase 4</td><td>640</td><td>1,690</td></tr><tr><td>Phase 5</td><td>300</td><td>1,990</td></tr><tr><td>Phase 6</td><td>270</td><td>2,260</td></tr></tbody></table> <p>Monitoring and Reporting. Within one year of issuance of the project's first certificate of occupancy, the project sponsor shall retain a qualified transportation consultant approved by the SFMTA to begin monitoring daily and p.m. peak period (4 p.m. to 7 p.m.) vehicle trips in accordance with an SFMTA and San Francisco Planning Department agreed upon</p>	Project Development Phase	Maximum P.M. Peak Hour Vehicle Trips		Phase Total	Running Total	Phase 1	380	380	Phase 2	400	780	Phase 3	270	1,050	Phase 4	640	1,690	Phase 5	300	1,990	Phase 6	270	2,260	
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TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.) Impact TR-5 (cont.)		<p>monitoring and reporting plan, which shall be included as a part of the approved TDM Plan. The vehicle data collection shall include counts of the number of vehicles entering and exiting the project site on internal streets at the site boundaries on 22nd, Illinois, and 23rd streets for three weekdays. The data for the three weekdays (Tuesday, Wednesday or Thursday) shall be averaged, and surveys shall be conducted within the same month annually. A document with the results of the annual vehicle counts shall be submitted to the Environmental Review Officer and the SFMTA for review within 30 days of the data collection, or with the project's annual TDM monitoring report as required by the TDM Plan (if the latter is preferable to Environmental Review Officer in consultation with the SFMTA).</p> <p>The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.</p> <p>If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City's TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project's approved TDM Plan, or, at the project sponsor's discretion, other measures not included in the City's TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.</p> <p>For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project's development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City's TDM Program shall continue to be required.</p> <p>If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.)			
Impact TR-5 (cont.)		vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making. The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.	
Impact TR-6: The proposed project would not result in a substantial increase in regional transit demand that could not be accommodated by regional transit capacity and would not result in a substantial increase in delays or operating costs such that significant adverse impacts to regional transit would occur.	LTS	No mitigation required.	NA
Impact TR-7: The proposed project would not create hazardous conditions for people walking, or otherwise interfere with accessibility for people walking to the site or adjoining areas, but existing pedestrian facilities could present barriers to accessible pedestrian travel.	S	Mitigation Measure M-TR-7: Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street In the event that the Pier 70 Mixed-Use District project does not implement improvements at the intersection of Illinois Street/22nd Street, as part of the proposed project's sidewalk improvements on the east side of Illinois Street between 22nd and 23rd streets, the project sponsor shall work with SFMTA to implement the following improvements: <ul style="list-style-type: none"> • Install a traffic signal, including pedestrian countdown signal heads at the intersection of Illinois Street/22nd Street. • Stripe marked crosswalks in the continental design. • Construct/reconstruct ADA compliant curb ramps at the four corners, as necessary. In the event that the Pier 70 Mixed-Use District project does not implement these improvements, the project sponsor shall be responsible for costs associated with design and implementation of these improvements. The SFMTA shall determine whether the SFMTA or the project sponsor would implement these improvements.	LTS
Impact TR-8: The proposed project would not result in potentially hazardous conditions for bicyclists, or otherwise interfere with bicycle accessibility to the project site or adjacent areas.	LTS	No mitigation required.	NA
Impact TR-9: The proposed project would accommodate its commercial vehicle and passenger loading demand, and proposed project loading operations would not create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.)			
Impact TR-10: The proposed project would not result in a substantial parking deficit and thus the project's parking supply would not create potentially hazardous conditions or significant delays affecting transit, bicyclists, or people walking.	LTS	No mitigation required.	NA
Impact TR-11: The proposed project would not result in inadequate emergency vehicle access.	LTS	No mitigation required.	NA
Impact C-TR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in cumulative construction-related transportation impacts.	LTS	No mitigation required. Improvement Measure I-TR-A: Construction Management Plan and Public Updates (see Impact TR-1, above)	NA
Impact C-TR-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative impacts related to VMT.	LTS	No mitigation required.	NA
Impact C-TR-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts related to traffic hazards.	LTS	No mitigation required. Improvement Measure I-TR-B: Monitoring and Abatement of Queues (see Impact TR-3, above)	NA
Impact C-TR-4: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to transit capacity utilization on Muni routes.	S	Mitigation M-TR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/Street Routes (see Impact TR-4, above).	SUM
Impact C-TR-5: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni.	S	Mitigation: Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Impact TR-5, above)	SUM
Impact C-TR-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative transit impacts on regional transit providers.	LTS	No mitigation required.	NA
Impact C-TR-7: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative pedestrian impacts.	LTS	No mitigation required.	NA
Impact C-TR-8: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative bicycle impacts.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section E Transportation and Circulation (cont.)			
Impact C-TR-9: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative loading impacts.	LTS	No mitigation required.	NA
Impact C-TR-10: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative parking impacts.	LTS	No mitigation required.	NA
Impact C-TR-11: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative emergency access impacts.	LTS	No mitigation required.	NA
EIR Section 4.F Noise and Vibration			
Impact NO-1: Project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies.	S	<p>Mitigation Measure M-NO-1: Construction Noise Control Measures</p> <p>The project sponsor shall implement construction noise controls as necessary to ensure compliance with the Noise Ordinance limits and to reduce construction noise levels at sensitive receptor locations to the degree feasible. Noise reduction strategies that could be implemented include, but are not limited to, the following:</p> <ul style="list-style-type: none"> Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds). Require the general contractor to locate stationary noise sources (such as the rock/concrete crusher, or compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and/or to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, to the maximum extent practicable. Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which would reduce noise levels by as much as 10 dBA. Include noise control requirements for construction equipment and tools, including specifically concrete saws, in specifications provided to construction contractors. Such requirements could include, but are not limited to, erecting temporary plywood noise barriers around a construction site, particularly where a site adjoins noise-sensitive uses ; utilizing noise control blankets on a building structure as the building is erected 	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.F Noise and Vibration (cont.) Impact NO-1 (cont.)		<p>to reduce noise levels emanating from the construction site; performing all work in a manner that minimizes noise; using equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants; and selecting haul routes that avoid residential uses.</p> <ul style="list-style-type: none"> • Prior to the issuance of each building permit, along with the submission of construction documents, submit to the Planning Department and Department of Building Inspection or the Port, as appropriate, a plan to track and respond to complaints pertaining to construction noise. The plan shall include the following measures: (1) a procedure and phone numbers for notifying the San Francisco Department of Building Inspection or the Port, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted onsite describing permitted construction days and hours, noise complaint procedures, and a complaint hotline number that shall be answered at all times during construction; (3) designation of an onsite construction compliance and enforcement manager for the project; and (4) notification of neighboring residents and non residential building managers within 3001 feet of the project construction area at least 30 days in advance of extreme noise-generating activities (such as pile driving and blasting) about the estimated duration of the activity. • Wherever pile driving or controlled rock fragmentation/rock drilling is proposed to occur, the construction noise controls shall include as many of the following control strategies as feasible: <ul style="list-style-type: none"> – Implement "quiet" pile-driving technology such as pre-drilling piles where feasible to reduce construction-related noise and vibration. – Use pile-driving equipment with state-of-the-art noise shielding and muffling devices. – Use pre-drilled or sonic or vibratory drivers, rather than impact drivers, wherever feasible (including slipways) and where vibration-induced liquefaction would not occur. – Schedule pile-driving activity for times of the day that minimize disturbance to residents as well as commercial uses located onsite and nearby. – Erect temporary plywood or similar solid noise barriers along the boundaries of each project block as necessary to shield affected sensitive receptors. – Implement other equivalent technologies that emerge over time. – If controlled rock fragmentation (including rock drills) were to occur at the same time as pile driving activities in the same area and in proximity to noise-sensitive receptors, pile drivers should be set back at least 100 feet while rock drills should be set back at least 50 feet (or vice-versa) from any given sensitive receptor. – If blasting is done as part of controlled rock fragmentation, use of blasting mats and reducing blast size shall be implemented to the extent feasible in order to minimize noise impacts on nearby sensitive receptors. 	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.F Noise and Vibration (cont.)			
Impact NO-2: Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project.	S	Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)	SUM
Impact NO-3: Construction truck traffic would not cause a substantial temporary or periodic increase in ambient noise levels along access streets in the project vicinity	LTS	<p>No Mitigation required.</p> <p>Improvement Measure I-NO-A: Avoidance of Residential Streets</p> <p>Trucks should be required to use routes and queuing and loading areas that avoid existing and planned residential uses to the maximum extent feasible, including existing residential development on Third Street (north of 23rd Street), existing residential development on Illinois Street (north of 20th Street), and planned Pier 70 residential development (north of 22nd Street).</p> <p>Improvement Measure I-TR-A, Construction Management Plan and Public Updates (see Section 4.E, Transportation and Circulation, Impact TR-1)</p>	NA
Impact NO-4: Project construction would generate excessive groundborne vibration that could result in building damage.	S	<p>Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack (see Impact CR-5)</p> <p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring</p> <p>The project sponsor shall undertake a monitoring program to ensure that construction-related vibration does not exceed 0.5 in/sec PPV at the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses as required pursuant to Mitigation Measures M-NO-4b (Vibration Control Measures During Controlled Blasting and Pile Driving), M-NO-4c (Vibration Control Measures During Use of Vibratory Equipment), and M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack). The monitoring program shall include the following components:</p> <ul style="list-style-type: none"> • Prior to any controlled blasting, pile driving, or use of vibratory construction equipment (vibration-inducing construction), the project sponsor shall engage a historic architect or qualified historic preservation professional and a qualified acoustical/vibration consultant or structural engineer to undertake a pre-construction survey of the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource, a structural engineer or other qualified entity shall establish a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions and anticipated construction practices in use at the time. The qualified consultant shall conduct regular periodic inspections of each historical resource within 80 feet of vibration-inducing construction throughout the duration of vibration-inducing construction. The pre-construction survey and inspections shall be conducted in concert with the Historic Preservation Plan required pursuant to Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack. 	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.F Noise and Vibration (cont.)			
Impact NO-4 (cont.)		<ul style="list-style-type: none"> • Prior to the start of any vibration-inducing construction, the qualified acoustical/vibration consultant or structural engineer shall undertake a pre-construction survey of any offsite structures or onsite structures constructed by the project within 80 feet of such vibration inducing construction. The qualified acoustical/vibration consultant or structural engineer shall conduct periodic inspections of all other non-historic structures throughout the duration of vibration inducing construction. • The qualified historic and acoustical/structural consultant shall submit monitoring reports to San Francisco Planning documenting vibration levels and findings from regular inspections. • Based on planned construction activities for the project and condition of the adjacent structures, an acoustical consultant shall monitor vibration levels at each structure and shall prohibit vibration inducing construction activities that generate vibration levels in excess of 0.5 in/sec PPV. Should vibration levels be observed in excess of 0.5 in/sec PPV or should damage to any structure be observed, construction shall be halted and alternative construction techniques put in practice, to the extent feasible. For example, smaller, lighter equipment might be able to be used or pre-drilled piles could be substituted for driven piles, if soil conditions allow. <p>Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving</p> <p>Vibration controls shall be specified to ensure that the vibration limit of 0.5 in/sec PPV can be met at all nearby structures when all potential construction-related vibration sources (onsite and offsite) are considered. These controls could include smaller charge sizes if controlled blasting is used, pre-drilling pile holes, using the pulse plasma fragmentation technique, or using smaller vibratory equipment. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.</p> <p>Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment</p> <p>In areas with a "very high" or "high" susceptibility for vibration-induced liquefaction or differential settlement risks, as part of subsequent site-specific geotechnical investigations, the project's geotechnical engineer shall specify an appropriate vibration limit based on proposed construction activities and proximity to liquefaction susceptibility zones. At a minimum, the vibration limit shall not exceed 0.5 in/sec PPV, unless the geotechnical engineer demonstrates, to the satisfaction of the Environmental Review Officer (ERO), that a higher vibration limit would not result in building damage. The geotechnical engineer shall specify construction practices (such as using smaller equipment or pre-drilling pile holes) required to ensure that construction-related vibration does not cause liquefaction hazards at</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.F Noise and Vibration (cont.)			
Impact NO-4 (cont.)		nearby structures. The project sponsor shall ensure that all construction contractors comply with these specified construction practices. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.	
Impact NO-5: Operation of the stationary equipment on the project site could result in a substantial permanent increase in ambient noise levels in the immediate project vicinity, and permanently expose noise-sensitive receptors to noise levels in excess of standards in the San Francisco Noise Ordinance.	S	<p>Mitigation Measure M-NO-5: Stationary Equipment Noise Controls</p> <p>For all stationary equipment on the project site, noise attenuation measures shall be incorporated into the design of fixed stationary noise sources to ensure that the noise levels meet section 2909 of the San Francisco Police Code. A qualified acoustical engineer or consultant shall verify the ambient noise level based on noise monitoring and shall design the stationary equipment to ensure that the following requirements of the noise ordinance are met:</p> <ul style="list-style-type: none"> Fixed stationary equipment shall not exceed 5 dBA above the ambient noise level at the property plane at the closest residential uses (Blocks 1, 5 - 8, 13 and possibly Blocks 4, 9, 12, and 14, depending on the use ultimately developed) and 8 dBA on blocks where commercial/industrial uses are developed (Blocks 2, 3, 10, 11, and possibly Blocks 4, 12, and 14, depending on the use ultimately developed); Stationary equipment shall be designed to ensure that the interior noise levels at adjacent or nearby sensitive receptors (residential, hotel, and childcare receptors) do not exceed 45 dBA. <p>Noise attenuation measures could include installation of critical grade silencers, sound traps on radiator exhaust, provision of sound enclosures/barriers, addition of roof parapets to block noise, increasing setback distances from sensitive receptors, provision of intake louvers or louvered vent openings, location of vent openings away from adjacent residential uses, and restriction of generator testing to the daytime hours.</p> <p>The project sponsor shall demonstrate to the satisfaction of the Environmental Review Officer (ERO) that noise attenuation measures have been incorporated into the design of all fixed stationary noise sources to meet these limits prior to approval of a building permit.</p>	LTS
Impact NO-6: Events that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels.	LTS	No mitigation required.	NA
Impact NO-7: Proposed rooftop bars and restaurants that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.F Noise and Vibration (cont.)			
Impact NO-8: Project traffic would result in a substantial permanent increase in ambient noise levels.	S	<p>Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Impact TR-5)</p> <p>Mitigation Measure M-NO-8: Design of Future Noise-Sensitive Uses</p> <p>Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 60 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses.</p>	SUM
Impact C-NO-1: Cumulative construction of the proposed project combined with construction of other past, present, and reasonably foreseeable future projects would cause a substantial temporary or periodic increase in ambient noise levels.	S	<p>Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)</p> <p>Mitigation Measure M-NO-4a: Vibration Control Measures During Controlled Blasting and Pile Driving (see Impact NO-4, above)</p> <p>Improvement Measure I-NO-A: Avoidance of Residential Streets (see Impact NO-3 above)</p> <p>Improvement Measure I-TR-A, Construction Management Plan and Public Updates (see Impact TR-1)</p>	SUM
Impact C-NO-2: Cumulative traffic increases would cause a substantial permanent increase in ambient noise levels in the project vicinity.	S	Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see, Impact TR-5)	SUM
EIR Section 4.G Air Quality			
Impact AQ-1: During construction the proposed project would not generate fugitive dust but would not violate an air quality particulate standard, contribute substantially to an existing or projected particulate violation, or result in a cumulatively considerable net increase in particulate concentrations.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-2: During construction (including construction phases that overlap with project operations), the proposed project would generate criteria air pollutants which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization The project sponsor or the project sponsor's contractor shall comply with the following:</p> <p>A. Engine Requirements</p> <ol style="list-style-type: none"> 1. The project sponsor shall also ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the project site (such as haul trucks, water trucks, dump trucks, and concrete trucks) be model year 2010 or newer. 2. All off-road equipment (including water construction equipment used onboard barges) greater than 25 horse power shall have engines that meet Tier 4 Final off-road emission standards. Tugs shall comply with U.S. EPA Tier 3 Marine standards for Marine Diesel Engine Emissions. 3. Since grid power will be available, portable diesel engines shall be prohibited. 4. Renewable diesel shall be used to fuel all diesel engines if it can be demonstrated to the Environmental Review Officer (ERO) that it is compatible with on-road or off-road engines and that emissions of ROG and NOx from the transport of fuel to the project site will not offset its NOx reduction potential. 5. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. 6. The contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. <p>B. Waivers. The ERO may waive the equipment requirements of Subsection (A)(1) if: a particular piece of off-road equipment is technically not feasible; the equipment would not produce desired emissions reduction due to expected operating modes; installation of the equipment would create a safety hazard or impaired visibility for the operator; or, there is a compelling emergency need to use other off-road equipment. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the table below.</p>	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-2 (cont.)		<p>The ERO may waive the equipment requirements of Subsection (A)(2) if: a particular piece of off-road equipment with an engine meeting Tier 4 Final emission standards is not regionally available to the satisfaction of the ERO. If seeking a waiver from this requirement, the project sponsor must demonstrate to the satisfaction of the ERO that the health risks from existing sources, project construction and operation, and cumulative sources do not exceed a total of 10 µg/m³ or 100 excess cancer risks for any onsite or offsite receptor.</p> <p>The ERO may waive the equipment requirements of Subsection (A)(3) if: an application has been submitted to initiate on-site electrical power, portable diesel engines may be temporarily operated for a period of up to three weeks until on site electrical power can be initiated or, there is a compelling emergency.</p> <p>C. Construction Emissions Minimization Plan. Before starting onsite construction activities, the contractor shall submit a Construction Emissions Minimization Plan to the ERO for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the requirements of Section A, Engine Requirements.</p> <ol style="list-style-type: none"> 1. The Construction Emissions Minimization Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. 2. The project sponsor shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The plan shall include a certification statement that the contractor agrees to comply fully with the plan. 3. The contractor shall make the Construction Emissions Minimization Plan available to the public for review onsite during working hours. The contractor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. <p>D. Monitoring. After start of construction activities, the contractor shall submit quarterly reports to the ERO documenting compliance with the Construction Emissions Minimization Plan. After completion of construction activities and prior to receiving a final certificate of occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-2 (cont.)		<p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications</p> <p>To reduce NOx associated with operation of the proposed project, the project sponsor shall implement the following measures.</p> <p>A. All new diesel backup generators shall:</p> <ol style="list-style-type: none"> 1. Have engines that meet or exceed California Air Resources Board Tier 4 off-road emission standards which have the lowest NOx emissions of commercially available generators; and 2. Be fueled with renewable diesel, if commercially available¹, which has been demonstrated to reduce NOx emissions by approximately 10 percent. <p>B. All new diesel backup generators shall have an annual maintenance testing limit of 50 hours, subject to any further restrictions as may be imposed by the Bay Area Air Quality Management District in its permitting process.</p> <p>C. For each new diesel backup generator permit submitted to Bay Area Air Quality Management District for the project, the project sponsor shall submit the anticipated location and engine specifications to the San Francisco Planning Department environmental review officer for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generator is located shall be required to maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and to provide this information for review to the planning department within three months of requesting such information.</p> <p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products</p> <p>The project sponsor shall provide educational programs and/or materials for residential and commercial tenants concerning green consumer products. Prior to receipt of any certificate of final occupancy and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to residential and/or commercial tenants of each building on the project site that encourages the purchase of consumer products that generate lower than typical VOC emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and website links to SF Approved (www.sfapproved.org). This website also may be used as an informational resource by businesses and residents.</p>	

¹ Neste MY renewable Diesel is available in the Bay Area through Western States Oil.

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-2 (cont.)		<p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks</p> <p>The project sponsor shall ensure that loading docks for retail, light industrial, or warehouse uses that will receive deliveries from refrigerated transport trucks incorporate electrification hook-ups for transportation refrigeration units to avoid emissions generated by idling refrigerated transport trucks.</p> <p>Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Impact TR-5, above)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures</p> <p>The following Mobile Source Control Measures from the Bay Area Air Quality Management District's 2010 Clean Air Plan shall be implemented:</p> <ul style="list-style-type: none"> Promote use of clean fuel-efficient vehicles through preferential (designated and proximate to entry) parking and/or installation of charging stations beyond the level required by the City's Green Building code, from 8 to 20 percent. Promote zero-emission vehicles by requesting that any car share program operator include electric vehicles within its car share program to reduce the need to have a vehicle or second vehicle as a part of the TDM program that would be required of all new developments. <p>Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions</p> <p>Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the Environmental Review Officer (ERO), shall either:</p> <p>(1) <i>Directly fund or implement a specific offset project within San Francisco</i> to achieve equivalent to a one-time reduction of 12 tons per year of ozone precursors. This offset is intended to offset the combined emissions from construction and operations remaining above significance levels after implementing the other mitigation measures discussed. To qualify under this mitigation measure, the specific emissions offset project must result in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsors shall notify the ERO within six (6) months of completion of the offset project for verification; or</p> <p>(2) <i>Pay mitigation offset</i> fees in two installments to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than five percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor and the air district, and be based on the type of projects</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.) Impact AQ-2 (cont.)		<p>available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions that may total up to 16 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.</p> <p>The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted 13 tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.</p> <p>The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NOX (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NOX emissions offsets required.</p> <p>(3) Additional mitigation offset fee. The need for an additional mitigation offset payment shall be determined as part of the performance standard assessment of Mitigation Measure M-TR-5. If at that time, it is determined that implementation of Mitigation Measure M-TR-5 has successfully achieved its targeted trip reduction at project buildout, or the project sponsor demonstrates that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOX, then no further installment shall be required. However, if the performance standard assessment determines that the trip reduction goal has not been achieved, and the project sponsor is unable to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOX, then an additional offset payment shall be made in an amount reflecting the difference in emissions, in tons per year of ROG and NOX, represented by the shortfall in trip reduction. Documentation of mitigation offset payments, as applicable, shall be provided to the planning department.</p> <p>When paying a mitigation offset fee, the project sponsor shall enter into a memorandum of understanding (MOU) with the Bay Area Air Quality Management District Clean Air Foundation. The MOU shall include details regarding the funds to be paid, the administrative fee, and the timing of the emissions reductions project. Acceptance of this fee by the air district shall serve as acknowledgment and a commitment to (1) implement an emissions reduction project(s) within a time frame to be determined, based on the type of project(s) selected, after receipt of the mitigation fee to achieve the emissions reduction objectives specified above and (2) provide documentation to the planning department and the project sponsor describing the project(s) funded by the mitigation fee, including the amount of emissions of ROG and NOX reduced (tons per year) within the San Francisco</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-2 (cont.)		Bay Area Air Basin from the emissions reduction project(s). To qualify under this mitigation measure, the specific emissions reduction project must result in emission reductions within the basin that are real, surplus, quantifiable, and enforceable and would not otherwise be achieved through compliance with existing regulatory requirements or any other legal requirement. The requirement to pay such mitigation offset fee shall terminate if the project sponsor is able to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx.	
Impact AQ-3: During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	S	<p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2)</p> <p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)</p> <p>Mitigation Measure M-TR-5, Implement Measure to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions (see Impact AQ-2, above)</p>	SUM
Impact AQ-4: Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, which could expose sensitive receptors to substantial pollutant concentrations.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)</p> <p>Mitigation Measure AQ-4: Siting of Uses that Emit Toxic Air Contaminants For new development including R&D/life science uses and PDR use or other uses that would be expected to generate toxic air contaminants (TACs) as part of everyday operations, prior to issuance of the certificate of occupancy, the project sponsor shall obtain written verification from the Bay Area Air Quality Management District either that the facility has been issued a permit from the air district, if required by law, or that permit requirements do not apply to the facility. However, since air district could potentially issue multiple separate permits to operate that could cumulatively exceed an increased cancer risk of 10 in one million, the project sponsor shall also submit written verification to the San Francisco Planning Department that increased cancer risk associated with all such uses does not cumulatively exceed 10 in one million at any onsite receptor. This measure shall be applicable, at a minimum, to the following uses and any other potential uses that may emit TACs: gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; appliance repair shops; mechanical assembly cleaning; printing shops; medical clinics; laboratories, and biotechnology research facilities.</p>	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact AQ-6: The proposed project could conflict with implementation of the Bay Area 2017 Clean Air Plan.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)</p> <p>Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-4: Siting of Uses that Emit Toxic Air Contaminants (see Impact AQ-4, above)</p> <p>Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets</p> <p>The project sponsor shall include dissemination of information on Spare The Air Days within the San Francisco Bay Area Air Basin as part of transportation welcome packets and ongoing transportation marketing campaigns. This information shall encourage employers and employees, as allowed by their workplaces, to telecommute on Spare The Air Days.</p>	LTS
Impact AQ-6: The proposed project would not create objectionable odors that would affect a substantial number of people.	LTS	No mitigation required.	NA
Impact C-AQ-1: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)</p> <p>Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2f: Offset Operational Emissions (see Impact AQ-1, above)</p>	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.G Air Quality (cont.)			
Impact C-AQ-2: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, could contribute to cumulative health risk impacts on sensitive receptors.	S	Mitigation Measures M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)	LTS
EIR Section 4.H Wind and Shadow			
Impact WS-1: Full build out of the proposed project would not alter wind in a manner that substantially affects public areas on or near the project site.	LTS	Improvement Measure I-WS-1: Wind Reduction Features for Block 1 As part of the schematic design of building(s) on Block 1, the project sponsor and the Block 1 architect(s) should consult with a qualified wind consultant regarding design treatments to minimize pedestrian-level winds created by development on Block 1, with a focus on the southwest corner of the block. Design treatments could include, but need not be limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building facade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. If recommended by the qualified wind consultant, the project sponsor should subject the building(s) proposed for this block to wind tunnel testing prior to the completion of schematic design. The goal of this measure is to improve pedestrian wind conditions resulting from the development of Block 1. The project sponsor should incorporate into the design of the Block 1 building(s) any wind reduction features recommended by the qualified wind consultant.	NA
Impact WS-2: The phased construction of the proposed project could alter wind in a manner that substantially affects public areas on or near the project site.	S	Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts Prior to the approval of building plans for construction of any proposed building, or a building within a group of buildings to be constructed simultaneously, at a height of 85 feet or greater, the project sponsor (including any subsequent developer) shall submit to the San Francisco Planning Department for review and approval a wind impact analysis of the proposed building(s). The wind impact analysis shall be conducted by a qualified wind consultant. The wind impact analysis shall consist of a qualitative analysis of whether the building(s) under review could result in winds throughout the wind test area (as identified in the EIR) exceeding the 26-mph wind hazard criterion for more hours or at more locations than identified for full project buildout in the EIR. That is, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. The analysis shall compare the exposure, massing, and orientation of the proposed building(s) to the same building(s) in the representative massing models for the proposed project and shall include any then-existing buildings and those under construction. The wind consultant shall review the proposed building(s) design taking into account feasible wind reduction features including, but not necessarily limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building facade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. Comparable	SUM

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.H Wind and Shadow (cont.)			
Impact WS-2 (cont.)		<p>temporary wind reduction features (i.e., those that would be erected on a vacant site and removed when the site is developed) may be considered. The project sponsor shall incorporate into the design of the building(s) any wind reduction features recommended by the qualified wind consultant.</p> <p>If the wind consultant is unable to determine that the building(s) under consideration would not result in a net increase in hazardous wind hours or locations under partial buildout conditions compared to full buildout conditions, the building(s) under review shall undergo wind tunnel testing. The wind tunnel testing shall evaluate the building(s) to determine whether an adverse impact would occur. An adverse wind impact is defined as an aggregate net increase of 1 hour during which, and/or a net increase of 2 locations at which, the wind hazard criterion is exceeded, compared to full buildout conditions identified in the EIR, and based on the existing conditions at the time of the subsequent wind tunnel test. As used herein, the existing conditions at the time of the subsequent testing shall include any completed or under construction buildings on the project site. As with the qualitative review above, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. Accordingly, wind tunnel testing, if required, would include the same test area and test points as were evaluated in the EIR.</p> <p>If the building(s) would result in an adverse impact, as defined herein, additional wind tunnel testing of mitigation strategies would be undertaken until no adverse effect is identified, and the resulting mitigation strategies shall be incorporated into the design of the proposed building(s) and building site(s). All feasible means as determined by the Environmental Review Officer (such as reorienting certain buildings, sculpting buildings to include podiums and terraces or other wind reduction treatments noted above or identified by the qualified wind consultant, or installing landscaping) to eliminate hazardous winds, if predicted, shall be implemented.</p>	
Impact WS-3: The proposed project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.	LTS	No mitigation required.	NA
Impact C-WS-1: The proposed project at full buildout, when combined with other cumulative projects, would not alter wind in a manner that substantially affects public areas.	LTS	No mitigation required.	NA
Impact C-WS-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the project vicinity, would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.I Biological Resources			
Impact BI-1: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	S	<p>Mitigation Measure M-BI-1: Nesting Bird Protection Measures</p> <p>The project sponsor shall require that all construction contractors implement the following measures for each construction phase to ensure protection of nesting birds and their nests during construction:</p> <ol style="list-style-type: none"> To the extent feasible, conduct initial project activities outside of the nesting season (January 15–August 15). These activities include, but are not limited to: vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may impact nesting birds or the success of their nests (e.g., controlled rock fragmentation, blasting, or pile driving). For construction activities that occur during the bird nesting season, a qualified wildlife biologist² shall conduct pre-construction nesting surveys within 14 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 14 days or more. Surveys shall be performed for suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 100 feet of the project site to locate any active raptor (birds of prey) nests, waterbird nesting pairs, or colonies. If active nests protected by federal or state law³ are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests and if so, the following measures would apply: <ol style="list-style-type: none"> If construction is not likely to affect the active nest, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. The qualified biologist would determine spot-check monitoring frequency on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise his/her determination at any time during the nesting season in coordination with the Environmental Review Officer (ERO). If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. 	LTS

2. Typical experience requirements for a "qualified biologist" include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

3. These would include species protected by FESA, MBTA, CESA, and California Fish and Game Code and does not apply to rock pigeon, house sparrow, or European starling. USFWS and CDFW are the federal and state agencies, respectively, with regulatory authority over protected birds and are the agencies who would be engaged with if nesting occurs onsite and protective buffer distances and/or construction activities within such a buffer would need to be modified while a nest is still active.

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.1 Biological Resources (cont.)			
Impact BI-1 (cont.)		<p>Given the developed condition of the site, initial buffer distances are 100 to 250 feet for passerines and 100 to 500 feet for raptors; however, the qualified biologist may adjust the buffers based on the nature of proposed activities or site specific conditions.</p> <p>c. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the ERO, who would notify CDFW.</p> <p>d. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If the qualified biologist observes adverse effects in response to project work within the buffer that could compromise the active nest, work within the no-disturbance buffer(s) shall halt until the nest occupants have fledged.</p> <p>e. With some exceptions, birds that begin nesting within the project area amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels. Exclusion zones around such nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the ERO, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly impacted.</p>	
Impact BI-2: Operation of the proposed project would not have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	LTS	No mitigation required.	NA
Impact BI-3: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modification on bats identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	S	<p>Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats</p> <p>A qualified biologist⁴ who is experienced with bat surveying techniques (including auditory sampling methods), behavior, roosting habitat, and identification of local bat species shall be consulted prior to demolition or building rehabilitation activities to conduct a pre-construction habitat assessment of the project site (focusing on buildings to be demolished or rehabilitated under the project) to characterize potential bat habitat and identify potentially active roost sites. No further action is required should the pre-construction habitat assessment not identify bat habitat or signs of potentially active bat roosts within the project site (e.g., guano, urine staining, dead bats, etc.).</p>	LTS

⁴ Typical experience requirements for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.1 Biological Resources (cont.)			
Impact BI-3 (cont.)		<p>The following measures shall be implemented should potential roosting habitat or potentially active bat roosts be identified during the habitat assessment in buildings to be demolished or rehabilitated under the proposed project:</p> <ol style="list-style-type: none"> 1. In areas identified as potential roosting habitat during the habitat assessment, initial building demolition or rehabilitation shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, to the extent feasible. These dates avoid the bat maternity roosting season and period of winter torpor.⁵ 2. Depending on temporal guidance as defined below, the qualified biologist shall conduct pre-construction surveys of potential bat roost sites identified during the initial habitat assessment no more than 14 days prior to building demolition or rehabilitation. 3. If active bat roosts or evidence of roosting is identified during pre-construction surveys, the qualified biologist shall determine, if possible, the type of roost and species. A no-disturbance buffer shall be established around roost sites until the qualified biologist determines they are no longer active. The size of the no-disturbance buffer would be determined by the qualified biologist and would depend on the species present, roost type, existing screening around the roost site (such as dense vegetation or a building), as well as the type of construction activity that would occur around the roost site. 4. If special-status bat species or maternity or hibernation roosts are detected during these surveys, appropriate species- and roost-specific avoidance and protection measures shall be developed by the qualified biologist in coordination with the California Department of Fish and Wildlife. Such measures may include postponing the removal of buildings or structures, establishing exclusionary work buffers while the roost is active (e.g., 100-foot no-disturbance buffer), or other avoidance measures. 5. The qualified biologist shall be present during building demolition or rehabilitation if potential bat roosting habitat or active bat roosts are present. Buildings with active roosts shall be disturbed only under clear weather conditions when precipitation is not forecast for three days and when daytime temperatures are at least 50 degrees Fahrenheit. 6. The demolition or rehabilitation of buildings containing or suspected to contain bat roosting habitat or active bat roosts shall be done under the supervision of the qualified biologist. When appropriate, buildings shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost, likely in the evening and after bats have emerged from the roost to forage. Under no circumstances shall active maternity roosts be disturbed until the roost disbands at the completion of the maternity roosting season or otherwise becomes inactive, as determined by the qualified biologist. 	

⁵ Torpor refers to a state of decreased physiological activity with reduced body temperature and metabolic rate.

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.I Biological Resources (cont.)			
<p>Impact BI-4: Construction of the proposed project could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration.</p>	S	<p>Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving</p> <p>Prior to the start of any in-water construction that would require pile driving, the project sponsor shall prepare a National Marine Fisheries Service-approved sound attenuation monitoring plan to protect fish and marine mammals, and the approved plan shall be implemented during construction. This plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities (if required based on projected in-water noise levels), and describe best management practices to reduce impact pile-driving in the aquatic environment to an intensity level less than 183 dB (sound exposure level, SEL) impulse noise level for fish at a distance of 33 feet, and 160 dB (root mean square pressure level, RMS) impulse noise level or 120 dB (RMS) continuous noise level for marine mammals at a distance of 1,640 feet. The plan shall incorporate, but not be limited to, the following best management practices:</p> <ul style="list-style-type: none"> • All in-water construction shall be conducted within the established environmental work window between June 1 and November 30, designed to avoid potential impacts to fish species. • To the extent feasible vibratory pile drivers shall be used for the installation of all support piles. Vibratory pile driving shall be conducted following the U.S. Army Corps of Engineers "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California." U. S. Fish and Wildlife Service and National Marine Fisheries Service completed section 7 consultation on this document, which establishes general procedures for minimizing impacts to natural resources associated with projects in or adjacent to jurisdictional waters. • A soft start technique to impact hammer pile driving shall be implemented. at the start of each work day or after a break in impact hammer driving of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area. • If during the use of an impact hammer, established National Marine Fisheries Service pile driving thresholds are exceeded, a bubble curtain or other sound attenuation method as described in the National Marine Fisheries Service-approved sound attenuation monitoring plan shall be utilized to reduce sound levels below the criteria described above. If National Marine Fisheries Service sound level criteria are still exceeded with the use of attenuation methods, a National Marine Fisheries Service-approved biological monitor shall be available to conduct surveys before and during pile driving to inspect the work zone and adjacent waters for marine mammals. The monitor shall be present as specified by the National Marine Fisheries Service during impact pile driving and ensure that: <ul style="list-style-type: none"> – The safety zones established in the sound monitoring plan for the protection of marine mammals are maintained. – Work activities are halted when a marine mammal enters a safety zone and resumed only after the animal has been gone from the area for a minimum of 15 minutes. 	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.I Biological Resources (cont.)			
Impact BI-4 (cont.)		This noise level limit shall be coordinated with vibration limits required under Mitigation Measures M-NO-4a, Construction Vibration Monitoring, M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving, and M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment, to ensure that the lowest of the specified vibration limits is ultimately implemented.	
Impact BI-5: Operation of the proposed project would not have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service.	LTS	No mitigation required.	NA
Impact BI-6: Construction and operation of the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service.	LTS	No mitigation required.	NA
Impact BI-7: Construction of the proposed project could have a substantial adverse effect on San Francisco Bay through direct removal, filling, hydrological interruption, or other means.	S	Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters The project sponsor shall provide compensatory mitigation for placement of fill associated with maintenance or installation of new structures in the San Francisco Bay as further determined by the regulatory agencies with authority over the bay during the permitting process. Compensation may include onsite or offsite shoreline improvements or intertidal/subtidal habitat enhancements along San Francisco's waterfront through removal of chemically treated wood material (e.g., pilings, decking, etc.) by pulling, cutting, or breaking off piles at least 1 foot below mudline or removal of other unengineered debris (e.g., concrete-filled drums or large pieces of concrete).	LTS
Impact BI-8: Operation of the proposed project would not have a substantial adverse effect on state and federal waters through direct removal, filling, hydrological interruption, or other means.	LTS	No mitigation required.	NA
Impact BI-9: The proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	S	Mitigation Measure M-BI-1: Nesting Bird Protection Measures (see Impact BI-1, above) Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving (see Impact BI-4, above)	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.I Biological Resources (cont.)			
Impact BI-10: The proposed project would not conflict with any local policies or ordinances protecting biological resources; and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	LTS	No mitigation required.	NA
Impact C-BI-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, could result in a cumulatively considerable contribution to significant impacts on biological resources.	S	Mitigation Measure M-BI-1: Nesting Bird Protection Measures (See Impact BI-1, above.) Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats (See Impact BI-3, above.) Mitigation Measures M-BI-4, Fish and Marine Mammal Protection during Pile Driving (See Impact BI-4, above.) Mitigation Measure M-BI-7, Compensation for Fill of Jurisdictional Waters (See Impact BI-7, above.)	LTS
EIR Section 4.J Hydrology and Water Quality			
Impact HY-1: Construction of the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality.	LTS	No mitigation required.	NA
Impact HY-2: Operation of the proposed project would not violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality, and runoff from the proposed project would not exceed the capacity of a storm drain system or provide a substantial source of stormwater pollutants.	LTS	No mitigation required.	NA
Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on or off site.	LTS	No mitigation required.	NA
Impact HY-4: Operation of the proposed project would not place housing within a 100-year flood zone or place structures within an existing 100-year flood zone that would impede or redirect flood flows.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.J Hydrology and Water Quality (cont.)			
Impact HY-5: Operation of the proposed project would not place structures within a future 100-year flood zone that would impede or redirect flood flows.	LTS	No mitigation required.	NA
Impact HY-6: The proposed project would not expose people or structures to substantial risk of loss, injury, or death due to inundation by seiche, tsunami, or mudflow.	LTS	No mitigation required.	NA
Impact C-HY-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a considerable contribution to cumulative impacts on hydrology and water quality.	LTS	No mitigation required.	NA
EIR Section 4.K Hazards and Hazardous Material			
Impact HZ-1: Construction and operation of the proposed project would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	No mitigation required.	NA
Impact HZ-2: Demolition and renovation of buildings during construction would not expose workers or the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, di (2-ethylhexyl) phthalate (DEHP), and mercury, or result in a release of these materials into the environment.	LTS	No mitigation required.	NA
Impact HZ-3: Project development within the Power Station and PG&E sub-areas would be conducted on a site included on a government list of hazardous materials sites, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	NA
Impact HZ-4: Construction and operation of developments within the Port, City, and Southern sub-areas could encounter hazardous materials in the soil and groundwater, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
EIR Section 4.K Hazards and Hazardous Material (cont.)			
Impact HZ-5: The proposed project would not handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Although construction activities would emit diesel particulate matter and naturally occurring asbestos, these emissions would not result in adverse effects on nearby schools.	LTS	No mitigation required.	NA
Impact HZ-6: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving fires, nor would it impair implementation of or physically interfere with and adopted emergency response plan or emergency evacuation plan.	LTS	No mitigation required.	NA
Impact C-HZ-1: The proposed project, in combination with other past, present or reasonably foreseeable future projects in the project vicinity, would not result in a considerable contribution to significant cumulative impacts related to hazards and hazardous materials.	LTS	No mitigation required.	NA
Initial Study E.3 Cultural Resources			
Impact CR-1: The project could cause a substantial adverse change in the significance of an archeological resource.	S	Mitigation Measure M-CR-1: Archeological Testing Based on a reasonable presumption that archeological resources may be present within the project site in locations determined to have moderate or high archeological sensitivity, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the San Francisco rotational Department Qualified Archeological Consultants List maintained by the San Francisco Planning Department archeologist. The project sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the list. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the City's appointed project Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO. Archeological monitoring and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the review officer, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 (a) and (c).	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.3 Cultural Resources (cont.) Impact CR-1 (cont.)		<p>Consultation with Descendant Communities: On discovery of an archeological site⁶ associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an appropriate representative⁷ of the descendant group and the review officer shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the review officer regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.</p> <p>Archeological Testing Program. The archeological consultant shall prepare and submit to the review officer for review and approval an archeological testing plan. The archeological testing program shall be conducted in accordance with the approved archeological testing plan. The archeological testing plan shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.</p> <p>At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the review officer. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the review officer in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the review officer or the planning department archeologist. If the review officer determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:</p> <p>A. The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or</p> <p>B. A data recovery program shall be implemented, unless the review officer determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.</p>	

⁶ The term archeological site is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

⁷ An appropriate representative of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.3 Cultural Resources (cont.)			
Impact CR-1 (cont.)		<p>Archeological Monitoring Program. If the review officer in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:</p> <ul style="list-style-type: none"> The archeological consultant, project sponsor, and review officer shall meet and consult on the scope of the archeological monitoring plan reasonably prior to any project-related soils disturbing activities commencing. The review officer in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context; The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the project sponsor, archeological consultant, and the Environmental Review Officer (ERO) until the review officer has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving or deep foundation activities (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving or deep foundation activities may affect an archeological resource, the pile driving or deep foundation activities shall be terminated until an appropriate evaluation of the resource has been made in consultation with the review officer. The archeological consultant shall immediately notify the review officer of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. <p>Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.3 Cultural Resources (cont.) Impact CR-1 (cont.)		<p>Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan. The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the archeological data recovery plan prior to preparation of a draft plan. The archeological consultant shall submit a draft plan to the ERO. The archeological data recovery plan shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.</p> <p>The scope of the archeological data recovery plan shall include the following elements:</p> <ul style="list-style-type: none"> • <i>Field Methods and Procedures.</i> Descriptions of proposed field strategies, procedures, and operations. • <i>Cataloging and Laboratory Analysis.</i> Description of selected cataloging system and artifact analysis procedures. • <i>Discard and Deaccession Policy.</i> Description of and rationale for field and post-field discard and deaccession policies. • <i>Interpretive Program.</i> Consideration of an onsite/offsite public interpretive program during the course of the archeological data recovery program. • <i>Security Measures.</i> Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • <i>Final Report.</i> Description of proposed report format and distribution of results. • <i>Curation.</i> Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. <p>Human Remains, Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable state and federal laws, including immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco and in the event of the medical examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission who shall appoint a Most Likely Descendant (Public Resource Code section 5097.98). The ERO shall also be immediately notified upon discovery of human remains. The archeological consultant, project sponsor, ERO, and a most likely descendant shall have up to but not beyond six days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or</p>	

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.3 Cultural Resources (cont.)			
Impact CR-1 (cont.)		<p>unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of a most likely descendant. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects as specified in the treatment agreement if such as agreement has been made or, otherwise, as determined by the archeological consultant and the ERO. If no agreement is reached, state regulations shall be followed including the reburial of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (Public Resource Code section 5097.98).</p> <p>Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.</p> <p>Once approved by the ERO, copies of the Final Archeological Resources Report shall be distributed as follows: California Historical Resource Information System Northwest Information Center shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the report to the Northwest Information Center. The San Francisco Planning Department Environmental Planning Division shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the report along with copies of any formal site recordation forms (California Department of Parks and Recreation 523 form) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.</p>	
Impact CR-2: The project could disturb human remains, including those interred outside of dedicated cemeteries.	S	Mitigation Measure M-CR-1: Archeological Testing (see Impact CR-1, above)	LTS
Impact CR-3: The project could result in a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074.	S	<p>Mitigation Measure M-CR-1: Archeological Testing (see Impact CR-1, above)</p> <p>Mitigation Measure M-CR-3: Tribal Cultural Resources Interpretive Program</p> <p>If the ERO determines that a significant archeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the review officer determines that the resource constitutes a tribal cultural resource and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible.</p>	LTS

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.3 Cultural Resources (cont.)			
Impact CR-3 (cont.)		If the ERO, in consultation with the affiliated Native American tribal representatives, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program of the tribal cultural resource in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to implement the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.	
Impact C-CR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project site, would not result in cumulative impacts to archeological resources, tribal cultural resources, and human remains.	LTS	No mitigation required	LTS
Initial Study E.7 Greenhouse Gas Emissions			
Impact C-GG-1: The proposed project, in combination with past, present and future projects would not generate GHG emissions at levels that would result in a significant impact on the environment but may conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	No mitigation required.	NA
Initial Study E.9 Recreation			
Impact RE-1: The project would increase the use of existing neighborhood parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated or such that the construction of new or expanded facilities would be required.	LTS	No mitigation required.	NA
Impact C-RE-1: The proposed project, in combination with other past, present, and reasonably foreseeable development within approximately 0.5 mile of the project site, would not increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated or such that the construction of new or expanded facilities would be required.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.10 Utilities and Service Systems			
Impact UT-1: The City's water service provider would have sufficient water supply available to serve the proposed project from existing entitlements and resources. The proposed project would not require new or expanded water supply resources or entitlements or the construction of new or expanded water treatment facilities.	LTS	No mitigation required.	NA
Impact UT-2: The proposed project would not exceed wastewater treatment requirements of the Southeast Water Pollution Control Plant.	LTS	No mitigation required.	NA
Impact UT-3: The proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, nor would the project result in a determination by the SFPUC that it has inadequate capacity to serve the project's projected demand in addition to its existing commitments.	LTS	No mitigation required.	NA
Impact UT-4: The proposed project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS	No mitigation required.	NA
Impact UT-5: Project construction and operation would result in increased generation of solid waste but would be served by a landfill with sufficient capacity to accommodate the proposed project's solid waste disposal needs.	LTS	No mitigation required.	NA
Impact UT-6: The construction and operation of the proposed project would comply with all applicable statutes and regulations related to solid waste.	LTS	No mitigation required.	NA
Impact C-UT-1: The proposed project, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on utilities and service systems.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.11 Public Services			
Impact PS-1: Construction of the project would not result in an increase in demand for police protection, fire protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities.	LTS	No mitigation required.	NA
Impact PS-2: The operation of the proposed project would not result in an increase in demand for police protection, fire protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities.	LTS	No mitigation required.	NA
Impact C-PS-1: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would not have a substantial cumulative impact to public services.	LTS	No mitigation required.	NA
Initial Study E.13 Geology and Soils			
Impact GE-1: The proposed project would not exacerbate the potential for the project to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, seismic ground shaking, seismically induced ground failure, or seismically induced landslides.	LTS	No mitigation required.	NA
Impact GE-2: The proposed project would not result in substantial erosion or loss of topsoil.	LTS	No mitigation required.	NA
Impact GE-3: The project site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the proposed project.	LTS	No mitigation required.	NA
Impact GE-4: The proposed project would not create substantial risks to life or property as a result of locating buildings or other features on expansive or corrosive soils.	LTS	No mitigation required.	NA
Impact GE-5: The proposed project would not substantially change the topography or any unique geologic or physical features of the site.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E-13 Geology and Soils (cont.)			
Impact GE-6: The proposed project could directly or indirectly destroy a unique paleontological resource or site.	S	<p>Mitigation Measure M-GE-6: Paleontological Resources Monitoring and Mitigation Program</p> <p>Prior to issuance of a building permit for construction activities that would disturb the deep fill area, where Pleistocene-aged sediments, which may include Colma Formation, bay mud, bay clay, and older beach deposits (based on the site-specific geotechnical investigation or other available information) may be present, the project sponsor shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a Paleontological Resources Monitoring and Mitigation Program. The program shall specify the timing and specific locations where construction monitoring would be required; inadvertent discovery procedures; sampling and data recovery procedures; procedures for the preparation, identification, analysis, and curation of fossil specimens and data recovered; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. The program shall be consistent with the Society for Vertebrate Paleontology Standard Guidelines for the mitigation of construction-related adverse impacts to paleontological resources and the requirements of the designated repository for any fossils collected.</p> <p>During construction, earth-moving activities that have the potential to disturb previously undisturbed native sediment or sedimentary rocks shall be monitored by a qualified paleontological consultant having expertise in California paleontology. Monitoring need not be conducted when construction activities would encounter artificial fill, Young Bay Mud, or non-sedimentary rocks of the Franciscan Complex.</p> <p>If a paleontological resource is discovered, construction activities in an appropriate buffer around the discovery site shall be suspended for a maximum of 4 weeks. At the direction of the Environmental Review Officer (ERO), the suspension of construction can be extended beyond four (4) weeks if needed to implement appropriate measures in accordance with the program, but only if such a suspension is the only feasible means to prevent an adverse impact on the paleontological resource.</p> <p>The paleontological consultant's work shall be conducted at the direction of the City's environmental review officer. Plans and reports prepared by the consultant shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.</p>	LTS
Impact C-GE-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on geology and soils or paleontological resources.	LTS	No mitigation required.	NA

TABLE S-2 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROPOSED PROJECT—DISCLOSED IN THIS EIR

Environmental Impact	Level of Significance prior to Mitigation	Improvement/Mitigation Measures	Level of Significance after Mitigation
Initial Study E.16 Mineral and Energy Resources			
Impact ME-1: The project would not result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	No mitigation required.	NA
Impact C-ME-1: The project, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on energy resources.	LTS	No mitigation required.	NA
Initial Study E.17 Agriculture and Forest Resources			
NA	NA	NA	NA
IMPACT CODES: NA Not Applicable NI No Impact LTS Less than significant or negligible impact; no mitigation required S Significant SU Significant and unavoidable adverse impact, no feasible mitigation SUM Significant and unavoidable adverse impact, after mitigation			

TABLE S-3
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Historic Architectural Resources							
Impact CR-4: Historic architecture, individual resources (SUM)	Same as project, SUM	LSM	LSM	Less than project but still SUM	Less than project but still SUM	Less than project but still SUM	Less than project but still SUM
Impact CR-5: Demolition and alteration effects on Third Street Industrial District (SUM)	Same as project, SUM	LSM	LSM	LSM	LSM	LSM	LSM
Impact C-CR-2: Cumulative effects on Third Street Industrial District (SUM)	Same as project, SUM	LSM	LSM	LSM	LSM	LSM	LSM
Transportation and Circulation							
Impact TR-4: Muni ridership (SUM)	LTS	Less than project but still SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
Impact TR-5: Muni operations (SUM)	LTS	LTS	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact TR-7: Pedestrian impacts (LSM)	LTS	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)
Impact C-TR-4: Cumulative Muni ridership (SUM)	LTS	Less than project but still SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
Impact C-TR-5: Cumulative transit operations (SUM)	LTS	LTS	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
Noise and Vibration							
Impact NO-2: Construction-related increases in ambient noise levels at noise-sensitive receptors (SUM)	Less than project but still SUM (impacts on future Pier 70 receptors, only)	Less than project but still SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM
Impact NO-4: Construction-related vibration impacts on existing buildings (LSM)	Less than project but still LSM	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact NO-8: Operational off-site traffic noise increases (SUM)	Less than project but still SUM (fewer affected roadway segments)	Less than project but still SUM (fewer affected roadway segments)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)

TABLE S-3 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Noise and Vibration (cont.)							
Impact C-NO-1: Cumulative construction traffic noise increases (SUM)	Less than project but still SUM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact C-NO-2: Cumulative operational traffic noise increases (SUM)	Less than project but still SUM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Air Quality							
Impact AQ-2: Construction-related plus overlapping operational criteria air pollutant emissions. (SUM)	LSM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact AQ-3: Operations-related criteria air pollutant emissions. (SUM)	LSM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact AQ-4: Toxic air contaminants, cancer risk and PM _{2.5} concentration at offsite receptors and onsite receptors (LSM)	Offsite (LSM) Onsite (N)	Less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact C-AQ-1: Cumulative regional air quality (SUM)	LSM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact C-AQ-2: Cumulative health risk (LSM)	Less than project (LSM)	Less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Wind and Shadow							
Impact WS-1: Wind impacts at build-out (LTS)	Less than the project	Same as or less than project	SUM (conservative in the absence of testing)	Similar to the project	Same as project	SUM (conservative in the absence of testing)	SUM (conservative in the absence of testing)
Impact C-WS-1: Cumulative wind impacts (LTS)	Less than the project	Same as or less than project	SUM (conservative in the absence of testing)	Similar to the project	Same as project	SUM (conservative in the absence of testing)	SUM (conservative in the absence of testing)
Impact WS-2: Interim wind hazards or changes in building layout or massing (SUM)	LTS	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM

TABLE S-3 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Biological Resources							
Impact BI-4: Construction impacts on special-status fish and marine mammals (LSM)	LTS (no dock, so no in-water pile driving)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)

¹ See Chapter 4 for complete impact statements. CEQA significance determination: NI = No impact; LTS = Less than significant; LSM = Less than significant with mitigation; SUM = Significant and unavoidable with mitigation; SU = Significant and unavoidable.

All SUM and SU impacts are shown in **bold**.

Dark shading indicates a substantial change in impact significance from the proposed project, from SU or SUM to LTS. **Medium shading** indicates a noticeable change in impact significance from the proposed project, from SUM to LSM or from LSM to LTS. **Light shading** indicates a slight change in impact severity from the proposed project but no change in significance determination.

CHAPTER 1

Introduction

1.A Project Summary

This environmental impact report (EIR) analyzes potential environmental effects associated with the Potrero Power Station Mixed-Use Development project (proposed project). California Barrel Company LLC is the project sponsor and proposes the redevelopment of an approximately 29-acre site along San Francisco's central waterfront with a variety of residential, commercial and open space land uses. These uses include office, research and development (R&D)/life science, retail, hotel, entertainment/assembly, and production, distribution, and repair (PDR), parking, and community facilities. The project site encompasses the location of the former Potrero Power Plant and certain adjacent parcels. Further details regarding the proposed project are discussed in Chapter 2, Project Description.

1.B Purpose of this EIR

This EIR analyzes the physical environmental effects associated with implementation of the proposed project. The San Francisco Planning Department has prepared this EIR in compliance with the provisions of the California Environmental Quality Act (CEQA) and the CEQA Guidelines (California Public Resources Code sections 21000 et seq., and California Code of Regulations Title 14, sections 15000 et seq., "CEQA Guidelines"), and San Francisco Administrative Code Chapter 31. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project.

As described by CEQA and in the CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non - environmental characteristics.

As defined in CEQA Guidelines section 15382, a "significant effect on the environment" is:

... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

CEQA requires that before a discretionary decision can be made to approve a project that may cause a significant effect on the environment that cannot be mitigated, an EIR must be prepared. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, to identify mitigation measures to lessen or eliminate significant adverse impacts, and to examine feasible alternatives to the project. Thus, prior to taking an approval action on the proposed project, the City and County of San Francisco must consider the information in this EIR and make certain findings with respect to each significant effect that is identified. The information contained in this EIR, along with other information available through the public review processes, will be reviewed and considered by the decision-makers prior to a decision to approve, disapprove, or modify the proposed project, or to adopt an alternative to the proposed project.

This EIR evaluates the whole of the proposed action, including project-level impacts (offsite, onsite, construction-related, operational, direct, and indirect) and cumulative impacts. This is an informational document that does not determine whether a project will be approved, but instead aids in the planning and decision-making process by disclosing the potential environmental impacts associated with construction and operation of the proposed project.

The planning department has prepared this EIR with a degree of analysis that provides decision-makers with sufficient information to enable them to make a decision that accounts for the environmental consequences of the proposed project. The evaluation of the environmental impacts of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure (CEQA Guidelines section 15151).

1.C Type of EIR

This document is a project-level EIR pursuant to the CEQA Guidelines section 15161. A project-level EIR focuses on the changes in the environment that would result from construction and operation of a specific development project. Furthermore, this EIR is also a focused EIR, in accordance with CEQA Guidelines section 15063(c). In accordance with section 15128, an initial study on the proposed project was prepared (see Appendix B of this EIR) to identify which of the proposed project's effects would result in less-than-significant impacts and do not require further analysis, and which topics warrant more detailed environmental analysis in the EIR. The initial study is being published concurrently with the EIR, and comments will be accepted on the initial study during the public review period for the EIR.¹ Thus, this EIR focuses the environmental analysis on those topics identified in the initial study with the potential to have significant impacts.

¹ Under CEQA Guidelines section 15128, the EIR must contain a brief statement indicating the reasons why certain effects were determined not to be significant and thus were not discussed in the EIR.

1.D CEQA Environmental Review Process

CEQA Guidelines sections 15080 to 15097 set forth the EIR process, which includes multiple phases involving notification and input from responsible agencies and the public. The main steps in this process are described below.

1.D.1 Notice of Preparation of an Environmental Impact Report and Scoping

California Barrel Company LLC filed an Environmental Evaluation application with the planning department on September 15, 2017. This filing initiated the environmental review process. The EIR process includes an opportunity for the public to review and comment on the proposed project's potential environmental effects and to further inform the environmental analysis.

On November 1, 2017, the planning department issued the Notice of Preparation (NOP) of an EIR on the proposed Potrero Power Station Mixed-Use Development project and made the NOP available on its website. The NOP was sent to governmental agencies, organizations, and persons interested in the proposed project, and publication of the NOP initiated the 30-day public scoping period for this EIR, which started on November 1, 2017 and ended on December 1, 2017. The NOP included a description of the proposed project and a request for agencies and the public to submit comments on the scope of environmental issues that should be addressed in the EIR. The NOP and public comments received thereon are included as Appendix A of this document.

The planning department held a public scoping meeting on Wednesday, November 15, 2017 at the project site, 420 23rd Street, San Francisco, to receive oral comments on the scope of the EIR. In total, during the scoping period the planning department received comments from two agencies, three non-governmental organizations, and three individuals. These comments received in response to the NOP during the public scoping period, both written and oral,² are included in Appendix A and are available for review at the San Francisco Planning Department as part of Case File No. 2017-011878ENV. The planning department has considered all of these comments in preparing the EIR for the proposed project. See Section 1.D.2 below, for a table summarizing the scoping comments received during the scoping period.

1.D.2 Scoping Comments

The planning department has considered the comments made by the public and agencies in preparation of this EIR, as summarized in **Table 1-1, Summary of Scoping Comments**. Comments on the NOP that relate to environmental issues are addressed and analyzed throughout this EIR and initial study (see Appendix B for the initial study). The table lists the commenter and in which section of the initial study or EIR each comment is addressed. The scoping comments, as summarized in this table, also indicate areas of controversy known to the lead agency and issues to be resolved, per CEQA Guidelines section 15123.

² A transcript of the oral comments received at the November 15, 2017 public scoping meeting is included in Appendix A.

TABLE 1-1
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	EIR Section where Comment is Addressed
Federal and State Agencies		
Patricia Maurice, District Branch Chief, California Department of Transportation (CA DOT)		
	Multimodal system planning. To further maximize transit use as part of the project, Caltrans suggests adding the Muni T Third Street light rail to the proposed Transportation Demand Management program. The project should maintain a low parking ratio.	<ul style="list-style-type: none"> Chapter 2, Project Description Chapter 4, Section E, Transportation and Circulation
	Vehicle trip reduction. The project site is identified as Place Type 1: Urban Core. The project should include a robust Transportation Demand Management (TDM) Program to reduce vehicle miles traveled (VMT) and greenhouse gases emissions, and Caltrans includes a long list of potential measures that can be included in the TDM program. TDM program should include annual monitoring reports by an onsite TDM coordinator.	<ul style="list-style-type: none"> Chapter 2, Project Description Chapter 4, Section E, Transportation and Circulation
	Travel demand analysis. Please submit the project's VMT analysis for Caltrans to review. Caltrans also lists information to be included in the travel demand analysis.	<ul style="list-style-type: none"> Appendix C, Transportation Supporting Information
	Mitigation measures. The project's fair share contribution, financing, scheduling, and implementation responsibilities should be fully discussed, including City's responsibilities.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	The Draft EIR should be submitted to both the Metropolitan Transportation Commission and the Association of Bay Area Governments for review and comments.	<ul style="list-style-type: none"> EIR mailing list
Tinya Hoang, Coastal Program Analyst, San Francisco Bay Conservation and Development Commission (BCDC)		
	Project consistency with McAteer-Petris Act, Bay Plan, Coastal Zone Management Act. BCDC jurisdiction, include the bay and 100-foot shoreline band.	<ul style="list-style-type: none"> Chapter 3, Plans and Policies
	BCDC permits required for construction, dredging, dredged material disposal, fill placement, and substantial changes within its jurisdiction.	<ul style="list-style-type: none"> Chapter 2, Project Description, under Permits and Approvals
	BCDC will require information on the proposed bay fill and how the fill would be consistent with applicable requirements. This would apply to the proposed fishing pier, floating dock, outfall, and shoreline protection.	<ul style="list-style-type: none"> Chapter 2, Project Description Chapter 4, Section J, Hydrology and Water Quality
	BCDC permits required for Pacific Gas and Electric Company (PG&E) remediation, any associated dredging activities, remediation cap or revetment.	<ul style="list-style-type: none"> Chapter 2, Project Description, under Existing Site Conditions Chapter 4, Section K, Hazards and Hazardous Materials
	Mitigation measures for adverse impacts, including bay fill.	<ul style="list-style-type: none"> Chapter 4, Section I, Biological Resources Chapter 4, Section J, Hydrology and Water Quality
	Consistency with the San Francisco Bay Plan policies on shoreline protection. Information should include cross-sections of the shoreline protection that shows the elevation of the 100-year flood plus the projected sea level rise for the expected life of the project.	<ul style="list-style-type: none"> Chapter 3, Plans and Policies Chapter 2, Project Description

TABLE 1-1 (CONTINUED)
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	EIR Section where Comment is Addressed
Federal and State Agencies (cont.)		
Tinya Hoang, Coastal Program Analyst, San Francisco Bay Conservation and Development Commission (BCDC) (cont.)		
	Public access, consistency with McAteer-Petris Act. BCDC will require an estimate of the anticipated capacity of the site for residents, workers, and visitors. A delay in providing public access benefit may not be consistent with maximum feasible public access. BCDC staff recommends constructing a connection between the proposed project and the Pier 70 Mixed-Use District project prior to Phase 3.	<ul style="list-style-type: none"> • Chapter 3, Plans and Policies • Initial Study
	Public access, description. In addition to the locations of public access, BCDC will need to know if there are areas that would not be available to public at all time for active and passive recreation due to other uses, such as private events.	<ul style="list-style-type: none"> • Chapter 2, Project Description
	Compatibility of adjacent uses with public access uses, including potential conflicts with pedestrian and bicycle access adjacent to truck traffic.	<ul style="list-style-type: none"> • Chapter 4, Section E, Transportation and Circulation
	Suitability and public safety of remediation in public access areas.	<ul style="list-style-type: none"> • Chapter 4, Section K, Hazards and Hazardous Materials
	Type of anticipated water activities and whether the site would meet water quality criteria for human contact related to fishing, kayaking and swimming.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Chapter 4, Section J, Hydrology and Water Quality
	BCDC permit application and review of project by the BCDC Design Review Board for the public access components.	<ul style="list-style-type: none"> • Chapter 2, Project Description, under Permits and Approvals
	Appearance, design, and scenic views, consistency with San Francisco Bay Plan policies. The project design should consider view corridors across the site to minimize visual impacts and enhance views to the bay and shoreline.	<ul style="list-style-type: none"> • Chapter 3, Plans and Policies
	Sea level rise. Information is needed on the resilience and adaptability of all public access and open space areas and any structures in the bay that could be subject to flooding throughout the life of the project.	<ul style="list-style-type: none"> • Chapter 2, Project Description • Chapter 4, Section J, Hydrology and Water Quality
Non-Governmental Organizations		
Paula C. Kirlin, Holland & Knight, representing FC Pier 70 LLC		
	Pier 70 Mixed-Use District project assumptions.	<ul style="list-style-type: none"> • Chapter 4, Section A, Impact Overview
	We anticipate that the Pier 70 Mixed-Use District project will be under construction and that residents, employees, and visitors to the Pier 70 Mixed-Use District project will be impacted by construction and operation of the project.	<ul style="list-style-type: none"> • Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, under relevant resource topics
	Traffic/transportation. We anticipate that the EIR will analyze impacts associated with vehicle, pedestrian, and bicycle trips from the project that will travel via 22nd Street, and that appropriate mitigation and improvement measures be identified to address such impacts.	<ul style="list-style-type: none"> • Chapter 4, Section E, Transportation and Circulation

TABLE 1-1 (CONTINUED)
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	EIR Section where Comment is Addressed
Non-Governmental Organizations (cont.)		
Paula C. Kirlin, Holland & Knight, representing FC Pier 70 LLC (cont.)		
	Transit. We anticipate that the project will consider project and cumulative impacts to Muni routes (T-Third, 22 Fillmore, 48 Quintara/24th Street lines) and that appropriate mitigation measures be identified.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	Utilities. We anticipate that the EIR's analysis of utilities impacts (water supply, wastewater, stormwater) will account for the Pier 70 Mixed-Use District project and that appropriate mitigation and improvement measure be identified.	<ul style="list-style-type: none"> Initial Study
	Air Quality. We anticipate that the EIR and health risk assessment will carefully identify the location of sensitive receptors located within the Pier 70 Mixed-Use District project to ensure that air quality and health risk impacts associated with project construction and operation are identified, and appropriate mitigation and improvement measures are identified. We also anticipate that the air quality impacts will be quantified consistent with the methodology used to identify air quality impacts in the Pier 70 Mixed-Use District project EIR.	<ul style="list-style-type: none"> Chapter 4, Section G, Air Quality
	Noise. We anticipate that construction-related noise and vibration could impact sensitive receptors and historic structures located with the Pier 70 Mixed-Use District project. Project construction would include pile driving to bedrock adjacent or in proximity to Pier 70 Mixed-Use District parcels that may contain residential buildings that could be occupied. Pile driving would also occur in close proximity to historic buildings on the Pier 70 Mixed-Use District site.	<ul style="list-style-type: none"> Chapter 4, Section F, Noise and Vibration
	Hazards. How the EIR will analyze and mitigate offsite impacts associated with site remediation or management of soils during project implementation. We trust offsite impacts both project specific and cumulative will be addressed in the EIR.	<ul style="list-style-type: none"> Chapter 4, Section K, Hazards and Hazardous Materials
	Shadow. The project could have shadow impacts on publicly accessible open spaces and/or outdoor recreation facilities located within the Pier 70 Mixed-Use District project.	<ul style="list-style-type: none"> Chapter 4, Section H, Wind and Shadow
	Wind. The project's wind impacts could potentially affect the Pier 70 Mixed-Use District project. We anticipate that the wind analysis would include existing and baseline buildings within the Pier 70 Mixed-Use District project site to determine whether the project would alter wind in a manner that substantially affects public areas on an interim basis and at buildout.	<ul style="list-style-type: none"> Chapter 4, Section H, Wind and Shadow
	Land Use. Analysis of flex land uses on the project parcels abutting Pier 70 Mixed-Use District may be one way to ensure compatibility of land uses along the shared project boundary.	<ul style="list-style-type: none"> Chapter 4, Section B, Land Use
Allison Heath, Grow Potrero Responsibly		
	Alternatives. The EIR should study a reduced height and density alternative.	<ul style="list-style-type: none"> Chapter 6, Alternatives
	Shadow and Wind. The EIR should study shadow and wind impacts on existing and proposed open and recreation space, including the shoreline and the bay. Include the project's contribution to cumulative shadow on Irish Hill and playground.	<ul style="list-style-type: none"> Chapter 4, Section H, Wind and Shadow

TABLE 1-1 (CONTINUED)
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	EIR Section where Comment is Addressed
Non-Governmental Organizations (cont.)		
Allison Heath, Grow Potrero Responsibly (cont.)		
	<p>The EIR should study jobs/housing balance of the project to impacts on transportation, traffic, air quality, pedestrian and bike safety, and noise with respect to neighboring areas, throughout San Francisco, and greater Bay Area.</p> <p>VTM analysis should look at neighborhood, local, and regional conditions. Transportation analysis must use accurate mode analysis reflecting current data. Analysis of impacts of specific commercial uses must be considered in detail.</p>	<ul style="list-style-type: none"> • Chapter 4, Section C, Population and Housing • Chapter 4, Section E, Transportation and Circulation • Chapter 4, Section G, Air Quality • Chapter 4, Section F, Noise
	Historic Resources. Existing buildings should be considered together as a cultural landscape representing the city's history and industrial heritage. The analysis should consider mitigation of impacts through adaptive reuse.	<ul style="list-style-type: none"> • Chapter 4, Section D, Historic Architectural Resources • Chapter 6, Alternatives
	Sea Level Rise. The EIR should focus on impacts of more realistic sea level rise projections of 8 to 11 feet of sea level rise and storm surge by 2100.	<ul style="list-style-type: none"> • Chapter 4, Section J, Hydrology and Water Quality
Peter Linenthal, Potrero Hill Archives Project		
	The destruction of these historic structures (Meter House, Compressor House, Station A, and the Gate House) would be a huge mistake. Station A, built in 1911, is the only structure which gives a sense of the impressive collection of big brick industrial buildings once clustered there. Station A and the other 19 buildings slated for destruction are irreplaceable and historic. Their preservation and possibilities for reuse should be carefully considered.	<ul style="list-style-type: none"> • Chapter 4, Section D, Historic Architectural Resources • Chapter 6, Alternatives
	Concerned that brick buildings will not be retained. Recommends creative re-use to transform and preserve historic structures.	<ul style="list-style-type: none"> • Chapter 4, Section D, Historic Architectural Resources • Chapter 6, Alternatives
Individuals		
Janet Carpinelli		
	Proposed height and density in historic waterfront area. The heights should not exceed those granted to the Pier 70 project, particularly the proposed 300 foot tower or any new building over 70 feet.	<ul style="list-style-type: none"> • Chapter 4, Section D, Historic Architectural Resources
	All or most of the historic buildings should be preserved, restored and reused.	<ul style="list-style-type: none"> • Chapter 4, Section D, Historic Architectural Resources • Chapter 6, Alternatives
	More affordable and middle income housing should be provided at a rate of at least 30% affordable, 30% middle income, and 30% market rate.	<ul style="list-style-type: none"> • Chapter 4, Section C, Population and Housing
	No more office space/retail, unbalance exists today of more jobs than housing, and we do not have reliable or adequate public transportation.	<ul style="list-style-type: none"> • Chapter 4, Section C, Population and Housing • Chapter 4, Section E, Transportation and Circulation

TABLE 1-1 (CONTINUED)
SUMMARY OF SCOPING COMMENTS

Commenter	Summary of Comment	EIR Section where Comment is Addressed
Individuals (cont.)		
Yoram Meroz		
	Job Balance. Increase in permanent jobs, direct and indirect, and associated housing. Highly paid employees will live nearby and lower-paid employees will commute from further away.	<ul style="list-style-type: none"> Chapter 4, Section C, Population and Housing
	The EIR needs to estimate the number of employees in various income brackets, and model their expected mode of commute and its effect on VMT and transit.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	The traffic analysis must account for current trends in San Francisco Municipal Transportation Agency and Caltrain decreasing ridership as well as current trends in increasing traffic on freeways.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	The EIR must evaluate the traffic effects with an alternative eliminating most private car parking spots.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	The EIR should consider a variety of different PDR components within the project.	<ul style="list-style-type: none"> Chapter 2, Project Description
	Housing/jobs balance. San Francisco is suffering from a lack of housing. A no-office, no-hotel alternative has to be evaluated. A metric of net gain or loss of housing space needs to accompany all the project alternatives.	<ul style="list-style-type: none"> Chapter 4, Section C, Population and Housing Chapter 6, Alternatives
	Traffic. The EIR should compare the effect on traffic of services and retail catering to local residents, as opposed to businesses aimed at outside traffic, such as destination shopping or a hotel.	<ul style="list-style-type: none"> Chapter 4, Section E, Transportation and Circulation
	The effect on shorebird populations should be evaluated.	<ul style="list-style-type: none"> Chapter 4, Section I, Biological Resources
	The project should accommodate future sea level rise while providing habitat for wildlife. The EIR should consider a graded artificial marsh at the shoreline.	<ul style="list-style-type: none"> Chapter 4, Section J, Hydrology and Water Quality Chapter 4, Section I, Biological Resources
	The EIR should include at least a low-elevation (no height rezoning) alternative, with mixed-use limited to residences, PDRs, and local-servicing businesses, with minimal private parking.	<ul style="list-style-type: none"> Chapter 6, Alternatives
Rodney Minott		
	Historic resources. The City and project sponsor should commit to preserving and rehabilitating all four of the historic buildings proposed to be demolished.	<ul style="list-style-type: none"> Chapter 4, Section D, Historic Architectural Resources
	Sea level rise. Impacts of sea level rise should address levels beyond the stated 3 to 7 feet.	<ul style="list-style-type: none"> Chapter 4, Section J, Hydrology and Water Quality
	The EIR should analyze the visual impact of a 300-foot high building in the context of a historically and culturally significant area of the San Francisco waterfront.	<ul style="list-style-type: none"> Chapter 2, Section 4A, Impact Overview Chapter 4, Section D, Historic Architectural Resources
Public Scoping Meeting		
Peter Linenthal, Director of the Potrero Hill Archive Project		
	The brick buildings on the project site represent an important history because there are not many structures from that period of power generation following the 1906 earthquake, and the EIR should consider these buildings as they are older than the Stack and Unit 3.	<ul style="list-style-type: none"> Chapter 6, Alternatives Chapter 4, Section D, Historic Architectural Resources

1.D.3 Assembly Bill 900

The project sponsor has filed an application with the Governor's Office of Planning and Research for certification of the proposed project as an environmental leadership development project under the Jobs and Economic Improvement through Environmental Leadership Act of 2011 (Assembly Bill 900 or AB 900, as updated to comply with Senate Bill 734 and Assembly Bill 246). The application is available online, and was subject to public review from July 18, 2018 through August 16, 2018.³

AB 900⁴ provides streamlining benefits under CEQA for environmental leadership development projects and defines an environmental leadership development project as the following:

- the project is residential, retail, commercial, sports, cultural, entertainment, or recreational in nature;
- the project, upon completion, will qualify for LEED gold certification or better;
- the project will achieve at least 15 percent greater transportation efficiency than comparable projects;
- the project is located on an infill site and in an urbanized area; and
- for projects within a metropolitan planning organization's jurisdiction for which a sustainable communities strategy or alternative planning strategy is in effect, the infill project is consistent with the general use designation, density, building intensity and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the California Air Resources Board has accepted that the strategy would achieve the greenhouse gas emission reduction targets.⁵

In order for the Governor to certify a leadership project, the project (or project applicant) must: (1) result in a minimum investment of \$100 million dollars in California upon completion of construction; (2) create high-wage, highly skilled jobs that pay prevailing wages and living wages and provide construction jobs and permanent jobs for Californians, and help reduce unemployment; (3) not result in any net additional greenhouse gas emissions; (4) comply with requirements for commercial and organic waste recycling; (5) have a binding agreement with the lead agency establishing the requirements set forth in Public Resources Code sections 21183(e) and

³ Governor's Office of Planning and Research, California Jobs (AB 900), *Submitted Applications, 2017112005, Potrero Power Station Mixed-use Project*, <http://opr.ca.gov/ceqa/california-jobs.html>, accessed September 6, 2018. This document (and all other documents cited in this report, unless otherwise noted) is available for review at 1650 Mission Street, Suite 400, San Francisco, CA, as part of Case No. 2017-011878ENV.

⁴ California Public Resources Code 21178 et. seq. and Governor's Office of Planning and Research, California Jobs (AB 900), *Governor's Guidelines for Streamlining Judicial Review Under the California Environmental Quality Act Pursuant to AB 900, Updated to Comply with Senate Bill 734 and Assembly Bill 246*. Available online at <http://opr.ca.gov/ceqa/california-jobs.html>, accessed September 6, 2018.

⁵ California Public Resources Code section 21180(b).

(g); and (6) agree to pay the costs of the Court of Appeal in hearing and deciding any case.^{6,7} Multifamily residential projects certified as environmental development leadership projects are also required to provide unbundled parking, such that private vehicle parking spaces are priced and rented or purchased separately from dwelling units.

On August 31, 2018, the California Air Resources Board determined the proposed project would not result in any net additional greenhouse gas emissions for purposes of certification under AB 900.⁸

In accordance with the requirements of AB 900, the planning department has provided a record of proceedings for the proposed project that can be accessed and downloaded from the following website: <http://www.PPSmixeduse.com>. The record of proceedings includes the EIR and all other documents and materials submitted to, or relied upon by, the lead agency in the preparation of the EIR or the approval of the project. In addition, a document prepared by the lead agency or submitted by the applicant after the date of the release of the Draft EIR that is a part of the record of proceedings, and comments received on the Draft EIR, will be made available to the public on this same website in a readily accessible electronic format within the timeframes specified by this act. Comments on this Draft EIR should be emailed to CPC.PotreroPowerStation@sfgov.org.

Within 10 days of the governor certifying the proposed project as an environmental leadership development project, the planning department is required to issue a public notice stating that the applicant has elected to proceed under Chapter 6.5 (commencing with section 21178) of the Public Resources Code, which provides, among other things, that any judicial action challenging the certification of the EIR or the approval of the project described in the EIR is subject to the procedures set forth in sections 21185 to 21186, inclusive, of the Public Resources Code.

As required by Section 21185 of the Public Resources Code, the Judicial Council adopted rules of court that establish procedures applicable to actions or proceedings brought to attack, review, set aside, void, or annul the certification of the environmental impact report for an environmental leadership development project (certified by the governor pursuant to this act) or the granting of any project approvals that require the actions or proceedings, including any potential appeals therefrom, be resolved, to the extent feasible within 270 days of the filing of the certified record of proceedings with the court. This creates an accelerated timeframe for CEQA litigation. The procedures can be found in California Rules of Court rules 3.2220 to 3.2231.

The provisions of AB 900 apply to projects that have been certified by the governor as environmental leadership development projects by January 1, 2020. This act remains in effect until January 1, 2021.

⁶ California Public Resources Code section 21183.

⁷ California Barrel Company, LLC, July 2018. AB900 Application, Potrero Power Station Mixed-use Project. Attachment 5, Letter dated June 20, 2018 from Enrique Landa, California Barrel Company, LLC to John S. Rahaim, Planning Director, San Francisco Planning Department, regarding Potrero Power Station Mixed-Use Project, Acknowledgment of Obligations under Public Resources Code sections 21183(d), (e), and (f).

⁸ California Air Resources Board, *Executive Order G-18-080 Relating to Determination of No Net Additional Greenhouse Gas Emissions Under Public Resources Code section 21183, subdivision (c) for Potrero Power Station Mixed-Use Project*. August 31, 2018

1.D.4 Draft EIR and Initial Study Public Review and Opportunities for Public Participation

The CEQA Guidelines and San Francisco Administrative Code Chapter 31 encourage public participation in the planning and environmental review processes. The San Francisco Planning Department provides opportunities for the public to present comments and concerns regarding this EIR and its appendices, including the initial study (Appendix B), throughout the environmental review process. These opportunities include a public review and comment period and a public hearing on the Draft EIR and initial study before the San Francisco Planning Commission.

The public review period for the Draft EIR and initial study is from October 4, 2018, through November 19, 2018. The planning commission will hold a public hearing on the Draft EIR and initial study during the 45-day public review and comment period to solicit public comment on the information presented in the Draft EIR and initial study. The public hearing will be held on November 8, 2018, at City Hall, Dr. Carlton B. Goodlett Place, Room 400, San Francisco, California, beginning at **12:00 p.m. or later** (call 415.588.6422 the week of the hearing for a recorded message giving a more specific time).

The EIR and all attachments (including the initial study, Appendix B) are available on the San Francisco Planning Department's Negative Declarations and EIRs web page (<http://sf-planning.org/environmental-impact-reports-negative-declarations>). CDs and paper copies are also available at the Planning Information Center counter on the first floor of 1660 Mission Street, San Francisco. Documents referenced in this EIR are available for review at the Planning Department's office on the fourth floor of 1650 Mission Street in Case File No. 2017-011878ENV (call 415.575.9028), as well as online at <http://www.PPSmixeduse.com>.

Governmental agencies, interested organizations, and other members of the public are invited to submit written comments on the Draft EIR and initial study during the public review period. Written public comments may be submitted by mail to:

San Francisco Planning Department
Attention: Rachel Schuett, PPS EIR Coordinator
1650 Mission Street, Suite 400
San Francisco, CA 94103

or by email to:

CPC.PotreroPowerStation@sfgov.org

Members of the public are not required to provide personal identifying information when they communicate with the San Francisco Planning Commission. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the department's website or in other public documents.

1.D.5 Final EIR and EIR Certification

Following the close of the public review and comment period, the planning department will prepare and publish a document entitled “Responses to Comments on the Draft EIR.” This document will contain copies of all written, email, and recorded oral comments received on the Draft EIR as well as the planning department’s written responses to substantive comments and any necessary revisions to the Draft EIR. Together, the Draft EIR and the Responses to Comment document will constitute the Final EIR. Not less than ten days prior to the San Francisco Planning Commission hearing to consider certification of the Final EIR, the planning department will issue the Final EIR to persons commenting on the Draft EIR and to any board(s), commission(s) or department(s) that will carry out or approve the proposed project. During an advertised public meeting, the planning commission will consider the documents and, if found adequate, will certify the Final EIR. Certification of the Final EIR by the commission represents that the document: (1) has been completed in compliance with CEQA; (2) was presented to the San Francisco Planning Commission and the commission reviewed and considered the information contained in the Final EIR prior to taking an approval action on the proposed project; and (3) reflects the lead agency’s independent judgment and analysis.

CEQA requires that agencies shall neither approve nor implement a project unless the project implements all feasible mitigation measures that would reduce significant environmental impacts to a less-than-significant level, essentially avoiding or substantially lessening the potentially significant impacts of the project, except when certain findings are made. If an agency approves a project that would result in the occurrence of significant adverse impact(s) that cannot feasibly be mitigated to less-than-significant levels (that is, significant and unavoidable impacts), the agency must state the reasons for its action in writing, demonstrate that even with implementation of all feasible mitigation, the impact would still exceed significance thresholds based on the EIR or other information in the record, and adopt a statement of overriding considerations.

At the time of project approval, CEQA and the CEQA Guidelines require lead agencies to adopt a mitigation monitoring or reporting program that it has made a condition of project approval in order to mitigate or avoid significant impacts on the environment (CEQA Guidelines section 21081.6; CEQA Guidelines section 15097). This EIR identifies and presents the project-specific mitigation and improvement measures that if the proposed project is approved, would be included in the Mitigation Monitoring and Reporting Program for the Potrero Power Station Mixed-Use Development project as a condition of project approval.

1.E Contents and Organization of this EIR

Consistent with CEQA Guidelines section 15120 to 15132, this EIR describes the proposed project, required approvals, and existing land use plans and policies applicable to the proposed project; identifies potential environmental impacts of the proposed project, mitigation measures where those impacts are significant, and cumulative adverse impacts to which the proposed project could make a substantial contribution; discusses growth-inducing and significant unavoidable effects of the project; and evaluates alternatives to the project that could avoid or reduce significant impacts while still meeting most of the project’s objectives.

This EIR is organized as follows:

- **Chapter 5, Summary.** This chapter summarizes the contents of the entire EIR, including an overview of the project description and, in a tabular format, a summary of the environmental impacts that would result from project implementation and the mitigation measures identified to reduce or avoid significant impacts. It also briefly describes the alternatives to the proposed project and the areas of controversy.
- **Chapter 1, Introduction.** This chapter describes the purpose of the EIR, the environmental review process, the public and agency comments received on the scope of the EIR, and the organization of the EIR.
- **Chapter 2, Project Description.** This chapter provides a detailed description of the proposed project—including project background, objectives, location, existing site land use characteristics, project components and characteristics, development schedule (including anticipated construction activities)—and identifies required project approvals.
- **Chapter 3, Plans and Policies.** This chapter provides a summary of the plans and policies of local, regional, state, and federal agencies that could be applicable to the proposed project and identifies if the proposed project would be inconsistent with any of those plans and policies.
- **Chapter 4, Environmental Setting, Impacts and Mitigation Measures.** This chapter covers a comprehensive range of environmental resource topics that have a potential for significant adverse impacts and/or known sensitivity. Each environmental topic is discussed in a separate section within this chapter, and each section describes the existing and/or baseline conditions relative to that resource; applicable regulatory framework; significance criteria used to assess the severity of the impacts; approach to and methodologies used in the impact analysis; and individually numbered impact statements and associated discussion of project-specific and cumulative impacts of the proposed project and a determination of the significance of each impact. For impacts determined to be significant, mitigation measures that would reduce or avoid those impacts are presented. This chapter contains the following sub-sections and environmental resource topics:

<ul style="list-style-type: none"> A. Impact Overview B. Land Use and Land Use Planning C. Population and Housing D. Cultural Resources E. Transportation and Circulation F. Noise and Vibration 	<ul style="list-style-type: none"> G. Air Quality H. Wind and Shadow I. Biological Resources J. Hydrology and Water Quality K. Hazards and Hazardous Materials
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- **Chapter 5, Other CEQA Issues.** Pursuant to section 15126.2 of the CEQA Guidelines, this chapter summarizes any growth-inducing impacts that could result from the proposed project, irreversible changes to the environment, and significant and unavoidable environmental impacts, and this chapter presents areas of controversy to be resolved.
- **Chapter 6, Alternatives.** This chapter presents and evaluates alternatives to the proposed project that could feasibly attain most of the project objectives as well as reduce identified significant adverse impacts of the project. It also identifies the environmentally superior alternative and describes other alternatives that were considered but rejected. Alternatives evaluated in this chapter include the following:

- Alternative A: No Project Alternative/Code Compliant Alternative
- Alternative B: Full Preservation Alternative/Reduced Program Alternative
- Alternative C: Full Preservation/Similar Program Alternative
- Alternative D: Partial Preservation 1 Alternative
- Alternative E: Partial Preservation 2 Alternative
- Alternative F: Partial Preservation 3 Alternative
- Alternative G: Partial Preservation 4 Alternative
- **Chapter 7, Report Preparers.** This chapter lists the EIR authors and consultants; project sponsor and consultants; and agencies and persons consulted.
- **Appendices.** The appendices include the Notice of Preparation, the initial study, and supporting technical information for the EIR. The following appendices are included in this EIR:
 - Appendix A: Notice of Preparation and Scoping Comments
 - Appendix B: Initial Study (includes analysis of: archeological resources, human remains, and tribal resources; greenhouse gas emissions; recreation; utilities and service systems; public services; geology and soils; mineral and energy resources; and agriculture and forest resources)
 - Appendix C: Transportation Supporting Information
 - Appendix D: Noise Supporting Information
 - Appendix E: Air Quality Supporting Information
 - Appendix F: Wind and Shadow Supporting Information
 - Appendix G: Biological Resources
 - Appendix H: Water Supply Assessment
 - Appendix I: Cultural Resources Supporting Information

CHAPTER 2

Project Description

2.A Project Overview

The Potrero Power Station Mixed-Use Development project (proposed project) is located on an approximately 29-acre site along San Francisco's central waterfront, encompassing the site of the former Potrero Power Plant that closed in 2011. California Barrel Company LLC, the project sponsor, seeks to redevelop the site for a proposed multi-phased, mixed-use development and to activate a new waterfront open space.

The proposed project would rezone the site, establish land use controls, develop design standards, and provide for development of residential, commercial [including office, research and development (R&D)/life science, retail, hotel, entertainment/assembly, and production, distribution, and repair (PDR)], parking, community facilities, and open space land uses. **Figure 2-1, Project Location**, shows the project location.

The proposed project would include amendments to the San Francisco General Plan, potentially including the Central Waterfront area plan, and San Francisco Planning Code, creating a new Potrero Power Station Special Use District (SUD). The proposed rezoning would modify the existing height limits of 40 and 65 feet to various heights ranging from 65 to 300 feet.

Overall, the proposed project would construct up to approximately 5.4 million gross square feet (gsf), of uses, including between approximately 2.4 and 3.0 million gsf of residential uses (about 2,400 to 3,000 dwelling units), between approximately 1.2 and 1.9 million gsf of commercial uses (office, R&D/life science, retail, hotel, and PDR), approximately 922,000 gsf of parking, approximately 100,000 gsf of community facilities, and approximately 25,000 gsf of entertainment/assembly uses. Most new buildings would range in height from 65 to 180 feet, with one building at 300 feet. Approximately 6.2 acres would be devoted to publicly accessible open space. A more detailed breakdown of proposed land uses is described below under "Project Characteristics and Components," p. 2-12.

The proposed project would include transportation and circulation improvements, shoreline improvements, and utilities infrastructure improvements. Transportation and circulation improvements would include: a continuous street network, connection to the planned Pier 70 Mixed-Use District project directly north of the project site; a new bus stop and shuttle service; and the installation of traffic signals at the intersections of Illinois Street at 23rd and Humboldt streets. The roadway network would be accessible for all modes of transportation and would include vehicular, bicycle and pedestrian improvements. In addition to the development of waterfront parks, proposed

shoreline improvements would include construction of a floating dock extending out and above the tidal zone to provide access from the site to the bay for fishing and suitable recreational vessels, and stormwater drainage outfalls. The proposed project would construct infrastructure and utilities improvements to serve the proposed development, including potable, non-potable, and emergency water facilities; wastewater and stormwater collection and conveyance; and natural gas and electricity distribution.

Project construction would likely occur in seven overlapping phases (Phases 0 through 6), with each phase lasting approximately three to five years. Following the initial demolition, site preparation and rough grading for the entire site, the first phase of construction is anticipated to start on the southeast portion of the site and the last phase of construction would end in the northwest portion of the site. Construction is estimated to occur over a 15-year period, beginning in 2020 and ending in 2034, but could occur over a longer or shorter period depending on market conditions and permitting requirements. Each phase would construct a portion of the transportation and circulation improvements, utilities infrastructure improvements, open space improvements, and other aspects of the project (including bicycle and automobile parking), in conjunction with the construction of new buildings within each phase. The project characteristics presented below (including the total number of residential units, square footage of commercial use, acres of open space, bicycle and automobile spaces) are totals based on the completion of full buildout of all phases of the proposed project.

The project sponsor has filed an application for the proposed project to be certified as an environmental leadership development project by the Governor of California. The approval of this application would make the project subject to streamlined judicial review under the Jobs and Economic Improvement Through Environmental Leadership Act of 2011 (California Public Resources Code section 21178 *et seq.*) (see Chapter 1, Section 1.D.3, Assembly Bill 900, p. 1-9, for further description). Pursuant to the requirements of this act, the San Francisco Planning Department has provided a record of proceedings for the proposed project that can be accessed and downloaded from the following website: <http://www.PPSmixeduse.com>. The record of proceedings contains all reference documents and other materials submitted to, or relied upon by, the lead agency in the preparation of this EIR.

2.B Project Objectives

The sponsor seeks to achieve the following objectives by undertaking the proposed project:

- Redevelop the former power plant site to provide a mix of residential, retail, office, Production, Distribution, and Repair (PDR), R&D space, a hotel, and activated waterfront open spaces to support a daytime population in a vibrant neighborhood retail district and to provide employment opportunities within walking distance to residents of the surrounding neighborhood.
- Provide access to San Francisco Bay and create a pedestrian- and bicycle- friendly environment along the waterfront, by opening the eastern shore of the site to the public and extending the Bay Trail and the Blue Greenway.

- Provide active open space uses such as playing fields and a playground to improve access to sports, recreational, and playground facilities in the Dogpatch, Potrero Hill, and Bayview-Hunters Point neighborhoods and complement other nearby passive open space uses and parks in the Central Waterfront.
- Increase the city's supply of housing to contribute to meeting the San Francisco General Plan Housing Element goals, and the Association of Bay Area Governments' Regional Housing Needs Allocation for San Francisco by optimizing the number of dwelling units, particularly housing near transit.
- Attract a diversity of household types by providing dense, mixed-income housing, including below-market rate units.
- If Pacific Gas and Electric Company (PG&E) relocates its facilities in the PG&E sub-area, it would be redeveloped with community facilities, PDR, and housing in a fashion that provides continuity with the remainder of the project site and vicinity.
- Build a neighborhood resilient to projected levels of sea level rise and earthquakes.
- Incorporate the project and the anticipated adjacent Pier 70 Mixed-Use District project into a single neighborhood, by creating a network of streets and pedestrian pathways that connect to the street and pedestrian network.
- Create an iconic addition to the city's skyline as part of the Dogpatch neighborhood and the Central Waterfront.
- Provide opportunities for outdoor dining and gathering and create an active waterfront in the evening hours by encouraging ground floor retail and restaurant uses with outdoor seating along the waterfront.
- Build adequate parking and vehicular and loading access to serve the needs of project residents, workers, and visitors.
- Construct a substantial increment of new PDR uses in order to provide a diverse array of commercial and industrial opportunities in a dynamic mixed use environment.
- Create a circulation and transportation system that emphasizes transit-oriented development and promotes the use of public transportation and car-sharing through an innovative and comprehensive demand management program.
- Demonstrate leadership in sustainable development by constructing improvements intended to reduce the neighborhood's per capita consumption of electricity, natural gas, and potable water, and generation of wastewater.
- Create a development that is financially feasible and that can fund the project's capital costs and on-going operation and maintenance costs relating to the redevelopment and long-term operation of the property.
- Construct a waterfront hotel use in order to provide both daytime and nighttime activity on the waterfront promenade.

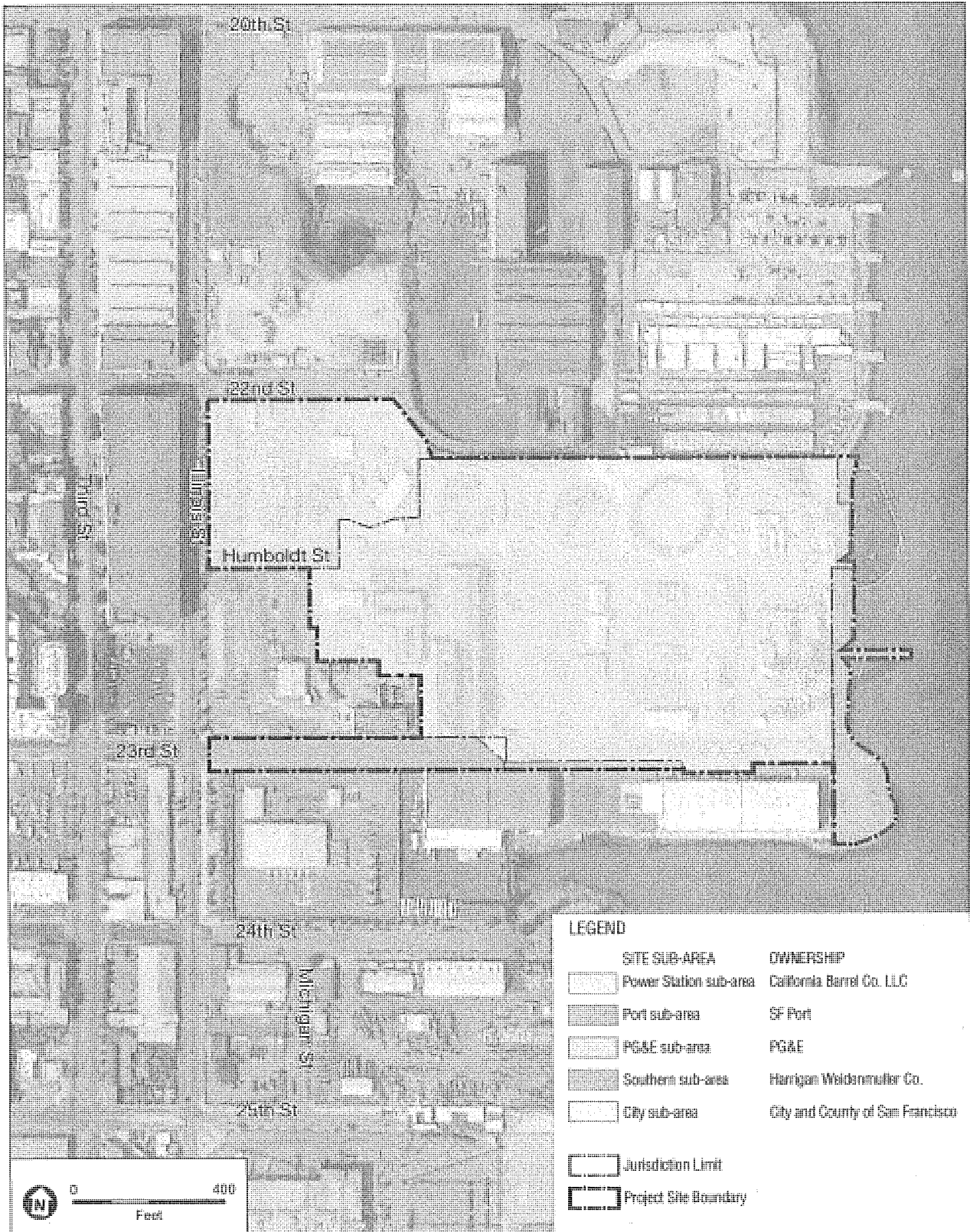
2.C Project Location

The project site is generally bounded by 22nd Street to the north, the San Francisco Bay to the east, 23rd Street to the south, and Illinois Street to the west. The approximately 29.0-acre site is comprised of the following five sub-areas, shown in **Figure 2-2, Project Site Sub-Areas and Ownership**, and described below. The sub-areas are designated based on current ownership and control.

- **Power Station sub-area**—approximately 21.0 acres, consisting of Assessor’s Block 4175/Lot 002 and Lot 017, and Block 4232/Lot 001 and Lot 006; currently owned by the project sponsor. This sub-area includes a large portion of the site of the former power station formerly owned and operated by PG&E and by NRG Potrero LLC and their predecessors.
- **PG&E sub-area**—approximately 4.8 acres, consisting of a portion of Assessor’s Block 4175/Lot 018 and owned by PG&E, located in the northwest corner of the project site, and also a portion of the site of the former power station.
- **Port sub-area**—approximately 2.9 acres owned by the City and County of San Francisco (the City) through the Port of San Francisco (Port), consisting of three noncontiguous areas. The largest area is 1.6 acres located between the Power Station sub-area and the bay, and also includes the area of the proposed recreational dock; the second largest is 1.3 acres, located along 23rd Street between the Power Station sub-area and Illinois Street; and the smallest piece is less than one tenth of an acre, located on the northeast corner of the site next to the bay.¹
- **Southern sub-area**—approximately 0.2 acres consisting of a portion of Assessor’s Block 4232/Lot 010 and owned by Harrigan Weidenmuller Company, located south of the Power Station sub-area along 23rd Street.
- **City sub-area**—The City owns a triangular-shaped area less than one tenth of an acre between the Power Station and Port sub-areas along 23rd Street.

Note that currently the project sponsor is only able to control the development of the Power Station sub-area because the other sub-areas are owned and controlled by different entities. The project sponsor is seeking approval by the Port as part of the proposed project to construct open space and street improvements on the Port sub-area. The project sponsor has received letters of authorization from the Port, PG&E, and Harrigan Weidenmuller Company to study the proposed project on their respective properties, but those entities have not determined whether to develop their properties as part of the project. In particular, PG&E has not determined the feasibility of relocating the utility facilities in the PG&E sub-area, or whether PG&E will sell the PG&E sub-area to any other entity to be redeveloped. PG&E’s decision regarding relocating facilities and a possible sale will require regulatory review and approval by the California Public Utilities Commission and Federal Energy Regulatory Commission. This document, and the description of development within the PG&E sub-area contained herein, reflects a blueprint for potential development that provides continuity across the entire project site and analyzes the potential environmental impacts of the project as a whole as required under CEQA.

¹ The Port sub-area, and City sub-area described below, are not assessed properties, and therefore do not have assigned Assessor’s Block numbers.



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 2-2
Project Site Sub-Areas and Ownership

2.D Existing Land Uses and Site History

2.D.1 Existing Site Characteristics and Site History

Existing structures at the project site consist primarily of vacant buildings and facilities, as shown in **Figure 2-3, Existing Structures on Project Site**. The project site currently has little vegetation other than occasional ruderal weeds, unmaintained vegetation, and a row of street trees along Illinois Street at the western boundary of the site and on a short segment of the north side of 23rd Street (recently planted as part of PG&E's substation work on 23rd Street). Current uses on the Power Station sub-area include warehouses, parking, vehicle storage, and office space. Twenty-four structures remain on the site, all are associated with the former power plant. The most visually prominent of these are: (1) the Unit 3 Power Block (including a 128-foot tall steel frame boiler structure [highest point is 143 feet at the top of the elevator shaft] and 40-foot tall turbine-generator-condenser structure, see Figure 2-3, Building Key No. 25) and the four-story concrete control room building (Key No. 22); (2) the adjacent 300-foot tall concrete boiler exhaust stack (referred to herein as either the "Stack" or "Boiler Stack" – Key No. 23); and (3) the Station A buildings (including the four-story, unreinforced masonry turbine hall building, see Key No. 16) and adjoining concrete with brick façade switching center building (see Key No. 15). Please see discussion of existing historic resources on the project site below under "Historic Resources," p. 2-11 below.

Three large fuel oil storage tanks in the Power Station sub-area (see Key No. 6) were demolished and removed in mid-2017. PG&E is currently performing remediation of contaminants at the Power Station sub-area, as discussed further below under "Summary of Site Conditions," p. 2-9 below.

PG&E is currently using the PG&E sub-area for storage, offices, as a headquarters for San Francisco utility maintenance operations, gas and electric transmission, and an electrical transmission substation. The sections of the Port sub-area on the east side of the project site consist primarily of vacant land with unmaintained landscaping surrounded by a fence, rip rap,² and some shoreline improvements. The sections of the Port and City sub-areas in the southern portion of the project site, and the privately owned Southern sub-area, are currently part of 23rd Street, a public right-of-way, and are paved.

The project site is located within the Central Waterfront neighborhood.³ Adjacent land uses in the general vicinity of the project site feature industrial and warehouse uses, many of which are vacant. Directly to the north of the project site is the 35-acre Pier 70 Mixed-Use District project site; a portion of this recently approved project commenced construction in May 2018. This area consists of historic shipyard property being used for a variety of temporary uses, including event venues, artist studios, storage, warehouse, parking, recycling yard, and office space. The Pier 70 Mixed-Use District project has been approved for development of up to approximately 4.2 million gsf of residential, commercial, retail/arts/light-industrial, and open space uses and improvements to existing structures; construction is planned to occur over several development phases from 2018 through 2029. San Francisco Bay lies directly east of the project site. To the south of the project site,

² Rip rap is rock or chunks of concrete placed along the shoreline to prevent erosion.

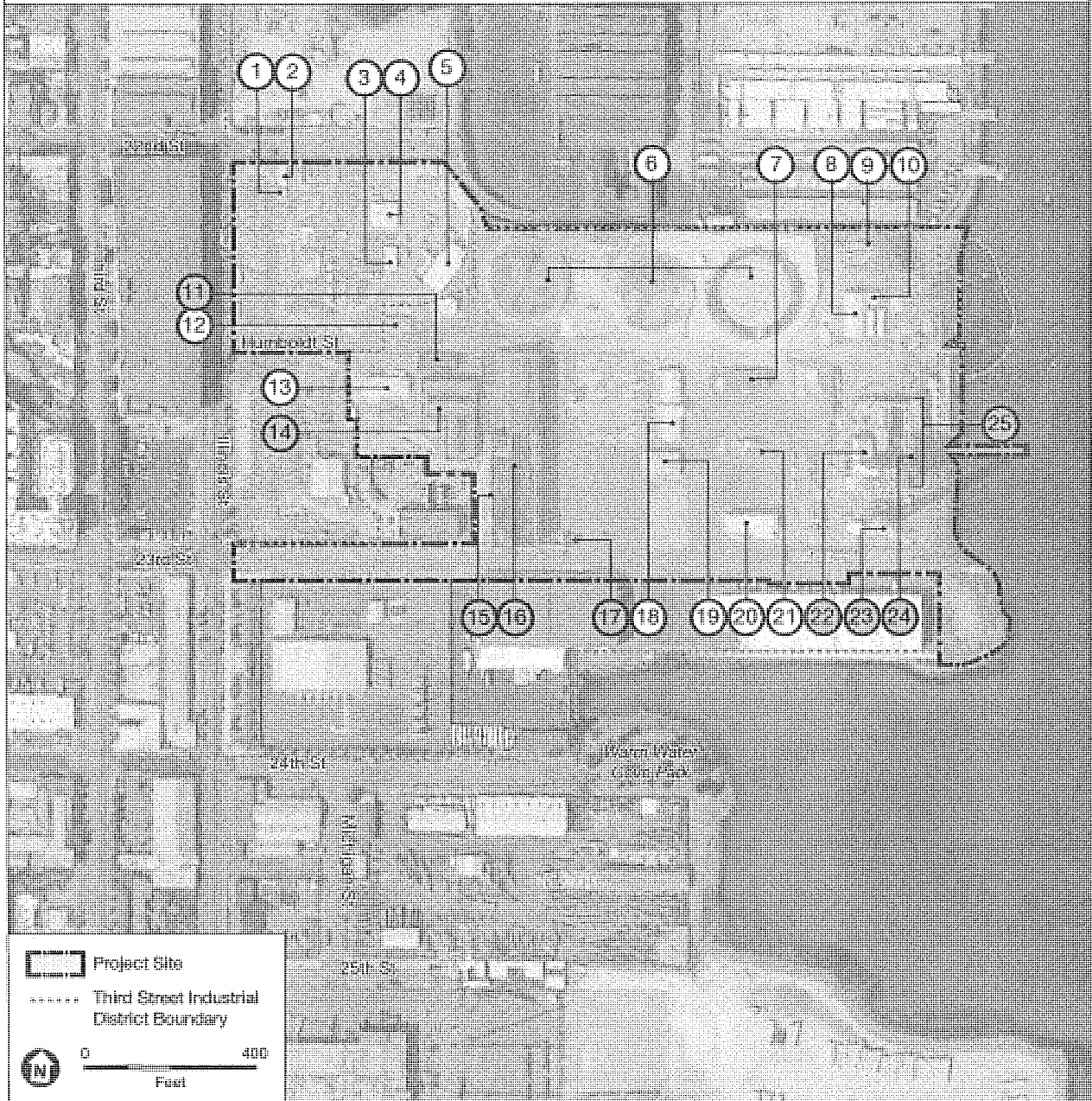
³ The Central Waterfront neighborhood includes the entire Dogpatch neighborhood and the eastern portion of the Potrero Hill neighborhood.

- 1 Electric Control Building
- 2 Electric Control Building
- 3 VAR Compensator Control Bldg.
- 4 Gas Load Center Building
- 5 Evidence Building
- 6 Fuel Oil Storage Tanks (demolished 2017)
- 7 Station A Office
- 8 Boat House
- 9 Rainwater Collection and Discharge Equip.

- 10 Oil Room
- 11 Gas Meter Shop*
- 12 Fire Pump House
- 13 Steam Heat Shop Building
- 14 Gas Compressor Building*
- 15 Station A Switching Center Bldg.*
- 16 Station A Turbine Building*
- 17 Station A Gate House*

- 18 Machine Shop
- 19 Electric Shop
- 20 Abrasive Blast Building
- 21 Little House
- 22 Unit 3 Control Room Building*
- 23 Unit 3 Boiler Exhaust (The Stack)*
- 24 Unit 3 Power Block Main Office Bldg.*
- 25 Unit 3 Power Block Equipment*

* Existing Contributors to the Third Street Industrial District



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 2-3
Existing Structures on Project Site

across 23rd Street, are commercial warehouses housing DHL Express and SF Storage, among other tenants, and the PG&E Transbay Cable converter station. Farther to the south along the bay shore is Warm Water Cove Park. To the west of the project site, across Illinois Street from the PG&E sub-area, is the American Industrial Center, a large, multi-tenant light industrial building. Adjacent to the project site to the west of the Power Station sub-area is PG&E's Potrero Substation, a functioning high-voltage transmission substation serving San Francisco. Farther west, beyond the American Industrial Center, are the residential areas of the Potrero Hill and Dogpatch neighborhoods. The nearest existing residential uses are located on Third Street, approximately 600 feet west of the project site.

2.D.2 Zoning and Land Use Designations

Zoning

Figure 2-4, Existing Zoning on Project Site, shows the existing zoning designations for the project site. The Power Station sub-area is zoned M-2 (Heavy Industrial) and is located in a 40-X Height and Bulk District. The portions of the Port sub-area along the shoreline are zoned M-2 (Heavy Industrial) and PDR-1-G (Production, Distribution and Repair – General) and are located in a 40-X Height and Bulk District. The PG&E sub-area is zoned M-2 (Heavy Industrial) and is located in the 40-X and 65-X Height and Bulk districts. The City and Southern sub-areas and the portion of the Port sub-area on 23rd Street consist of rights-of-way and, consequently are not within zoning or height and bulk districts.

General Plan Land Use Designations

The project site is centrally located within the eastern portion of the Central Waterfront Area Plan area (shown on Figure 2-1), which is one of the five plan areas included in the Eastern Neighborhoods Area Plan, adopted in 2009.

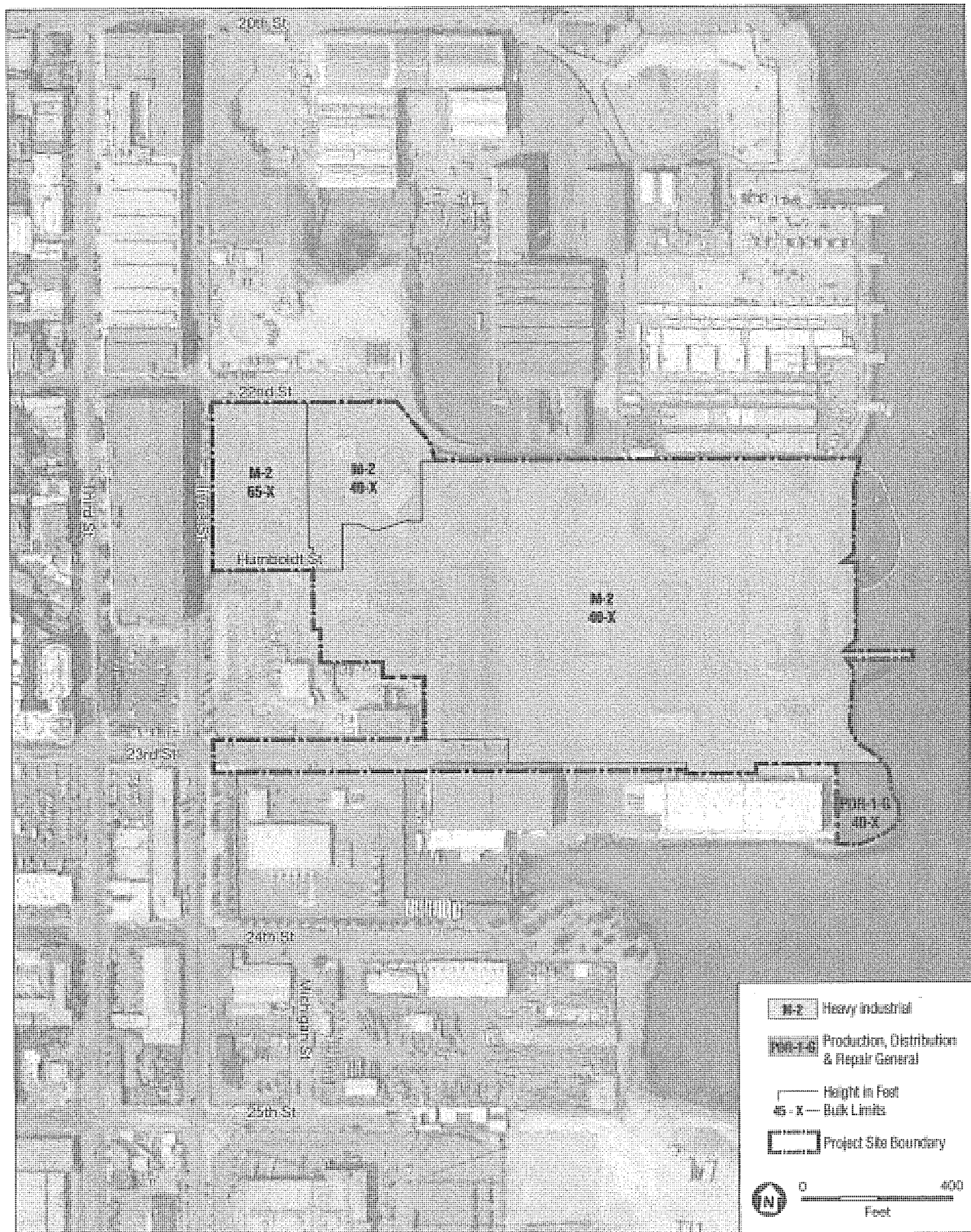
Port Waterfront Land Use Plan

The waterfront portion of the Port sub-area is located within the southern waterfront in the Port's Waterfront Land Use Plan, which was adopted in 1997 and is currently being updated.

2.D.3 Summary of Site Conditions

The project site has been used for various power producing and industrial activities since the mid-1800s.⁴ Starting in the 1870s and continuing until the 1930s, PG&E and its predecessors used the northeastern portion of the site for manufactured gas plant operations. Around 1910, PG&E began operating a power plant on the site, which continued to be operated by NRG Potrero LLC and its predecessors after PG&E sold the site in 1999. The power plant ceased operations in 2011. Hazardous materials from these and other industrial operations have been identified in the soils and groundwater at the project site. When PG&E sold the power station (Power Station sub-area),

⁴ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016. This document (and all other documents cited in this report, unless otherwise noted) is available for review at 1650 Mission Street, Suite 400, San Francisco, CA, as part of Case No. 2017-011878ENV.



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 2-4
Existing Zoning on Project Site

it retained the responsibility to characterize and remediate soil, soil vapors, and groundwater to a commercial/industrial use standard. Remediation of a majority of that property has been completed to allow commercial/industrial uses, and remediation of the remainder is currently underway under the oversight of the San Francisco Regional Water Quality Control Board. PG&E has completed remediation of the portion of the project site still under PG&E ownership (PG&E sub-area). Other areas immediately adjacent to the project site that have been or will be subject to remediation by PG&E include the PG&E switchyards to the west between Humboldt and 22nd streets, property within the Pier 70 Mixed-Use District project site to the north, and an offshore area immediately east of the project site. The remediation by PG&E of all areas on and adjacent to the project site is being conducted as directed by the regional board, irrespective and independent of the proposed project.

The remediation process for each of these areas includes conducting sampling; preparing a risk assessment; implementing appropriate remediation measures; preparing a risk management plan; and executing deed restrictions for current and future land owners. In general, PG&E's remediation plans involve removal of affected soils in some areas, in-place stabilization with cement mix of other areas where affected soils are deeper, and installation of a durable cover across the site. PG&E is undertaking environmental remediation activities to achieve a commercial/industrial land use standard at the project site, as required by the regional board. If PG&E finds that its utility facilities can feasibly be relocated and the California Public Utilities Commission and Federal Energy Regulatory Commission both approve of any such relocation, then additional onsite remediation may be required to be implemented by the project sponsor as part of the project to accommodate proposed residential uses, and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. Please see Section 2.F, Project Construction, p. 2-50 below, for a description of potential additional remediation activities that would be part of the proposed project.

The remaining portions of the project site that are not currently or previously owned by PG&E (i.e., the Port, City, and Southern sub-areas) are not subject to remediation by PG&E. However, the entire project site is subject to the conditions of Articles 21 and 22 of the San Francisco Health Code (including the Maher Ordinance), and other regulations governing handling hazardous materials and wastes. Please see Chapter 4, Section 4.K, Hazards and Hazardous Materials, for additional detail.

2.D.4 Historic Resources

A large portion of the project site is located within the Third Street Industrial District, which is eligible as an historic district on the California Register of Historical Resources, as identified in the Central Waterfront Historic Resources Survey Summary Report in 2008. This district, shown on Figure 2-1, encompasses the highest concentration of light industrial and processing properties remaining in the Central Waterfront District. The district is significant for association with the San Francisco's industrial development and includes good examples of the late 19th and early 20th century American industrial design.⁵

⁵ Page & Turnbull, 2017, *Potrero Power Station Historic Resource Evaluation—Part One. San Francisco, CA. Prepared for Associate Capital*, February 8, 2018. See Appendix I.

The project site contains six buildings determined to be contributors to the Third Street Industrial District. Station A (ca. 1901-02; 1930-31), the Meter House (ca. 1902) and the Compressor House (ca. 1924) were determined to be individually eligible for the California Register based on their associations with the PG&E gas manufacturing facility and their significance in the history of gas manufacturing in Northern California. The Gate House (ca. 1901) was also determined to be a contributor to the Third Street Industrial District, but this building was found not to be an individual resource due to its impacted integrity. These buildings were primarily constructed of brick in the American Commercial style. The Unit 3 Power Block (ca. 1965) and the Boiler Stack (ca. 1965) were also determined to be contributors to the Third Street Industrial District because they contribute to the industrial history of the Third Street area and they are prominent industrial features and visual icons of the Central Waterfront Area. Neither the Unit 3 Power Block nor the Boiler Stack is considered to be individually significant.

No buildings on the project site are listed in the National Register of Historic Places. Please see additional discussion of existing historic resources on the project site, below, in Chapter 4, Section 4.D, Cultural Resources.

2.E Project Characteristics and Components

The Potrero Power Station Mixed-Use Development project would rezone and establish development controls for a multi-phased, mixed-use development at the project site. The project would include amendments to the general plan, potentially including the Central Waterfront area plan, and planning code and create a new Potrero Power Station SUD. The SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development document (D for D). The Zoning Maps would be amended to change the current zoning to the proposed SUD zoning. These amendments would also modify the existing height limits on the portions of the project site not owned by the Port. The proposed project would include market-rate and affordable residential uses, commercial mixed uses, community facilities uses, and parking. Commercial uses could include office, research and development/life science, retail, hotel, entertainment/assembly, or PDR uses. The proposed project would also include public access areas and open space, playing fields and other active open space uses, shoreline improvements, an internal grid of public streets, shared public ways, and utilities infrastructure. Overall, the proposed project could construct up to approximately 5.4 million gsf of development. The project would pursue LEED Gold certification for each proposed building.⁶

The proposed project incorporates several options associated with four of the project elements. First, as further described under Section 2.E.1, Proposed Land Use Plan, in the next section below, the proposed project incorporates a flexible land use program in which certain blocks on the project site are designated for either residential or commercial uses (referred to as “flex blocks”), where future market conditions would ultimately determine the type and amount of land uses to be developed on

⁶ Leadership in Energy and Environmental Design (LEED) is a green building certification program developed by U.S. Green Building Council (USGBC). LEED v4 is the newest version of the program. LEED uses a green building rating system designed to reduce the negative environmental impacts of buildings and improve occupant health and well-being. Building projects satisfy prerequisites and earn points to achieve different levels of certification. Based on the number of points achieved, a project then earns one of four LEED rating levels: Certified, Silver, Gold or Platinum.

those blocks. Second, the existing Unit 3 Power Block could be repurposed through conversion to a hotel or it could be demolished and the site would be developed as a hotel or residential uses. Third, there are different options for the location of the proposed district parking garage and the soccer field that would be located on the parking garage rooftop. Fourth, as described below under Section 2.E.9, Infrastructure and Utilities, p. 2-33, there are two options for graywater treatment at the project site. Fifth, also as described below under Section 2.E.9, Infrastructure and Utilities, there are two options for wastewater and stormwater collection at the project site. Sixth, also as described below under Section 2.E.9, Infrastructure and Utilities, there is an option for a thermal energy system to serve the project. Lastly, as described below under Section 2.E.8, Transportation and Circulation Plan, p. 2-24, there are different possible widths for Humboldt Street under the proposed project, depending on when the PG&E sub-area is developed. Please refer to Chapter 4, Section 4.A, Impact Overview, for how this EIR analyzes the project option(s) that would reflect the worst-case impact analysis for each affected resource.

This EIR project description defines the “preferred project” amongst these proposed project options, as summarized below.

- Preferred Project Residential and Commercial Development: 2.7 million gsf of residential uses (2,682 residential units), and approximately 1.6 million square feet of commercial uses;
- Preferred Project Use for Unit 3: Repurpose and convert the Unit 3 Power Block into a hotel;
- Preferred Project District Parking Garage Location: The preferred location of the district parking garage, and the soccer field that would be located on the parking garage rooftop, would be on Block 5;
- Preferred Project Graywater Diversion, Treatment, and Reuse System: System would provide non-potable water to the project site;
- Preferred Project Wastewater/Storm Water Collection System: Dual system (combined sewer/separated sewer) option for the project site; and
- Preferred Project Humboldt Street Width: Expand the width of Humboldt Street from 26 to 70 feet along its entire extent across the project site.

In this project description and throughout the EIR, the term “proposed project” is used interchangeably with “preferred project” when describing project features, as outlined above, except where one of the possible project options is explicitly discussed.

Table 2-1, Potrero Power Station Mixed-Use Development Preferred Project Characteristics, summarizes the preferred project’s characteristics, including a description of the types and amounts of proposed land uses, details regarding proposed dwelling units, building heights, vehicle and bicycle parking, and other features. As shown in Table 2-1, the preferred project includes approximately 2.7 million gsf of residential uses (2,682 residential units), and approximately 1.6 million square feet of commercial uses. In addition, approximately 922,000 gsf parking, approximately 100,000 gsf of community facilities, approximately 25,000 gsf of entertainment/assembly uses and approximately 6.2 acres of open space would be provided. Approximately 20 existing structures on the project site would be demolished; please see further discussion under Section 2.E.1, Proposed Land Use Plan, below.

TABLE 2-1
POTRERO POWER STATION MIXED-USE DEVELOPMENT PREFERRED PROJECT CHARACTERISTICS^a

Project Characteristic	Metric	
Project Site Size and Shape	Dimensions	
Area	29.0 acres	
Maximum Length and Width	Approximately 1,650 feet by 950 feet	
Proposed Land Use Program^b	Area (gsf)	
Residential	2,682,427	
Commercial (Retail)	107,439	
Commercial (Office)	597,723	
Commercial (R&D/life science)	645,738	
Commercial (Hotel)	241,574 ^c	
Commercial (PDR)	45,040	
Community Facilities	100,938	
Entertainment/Assembly	25,000	
Parking	921,981	
Total Building Area	5,367,860 gsf	
Proposed Dwelling Units	Number	Percentage (approximate)
Studio	388	14.5%
1-Bedroom	1,159	43.2%
2-Bedroom	867	32.3%
3-Bedroom	268	10.0%
Total Dwelling Units	2,682	100%
Proposed Parking	Number	
Vehicle Parking Spaces ^d	2,622	
Car Share Spaces	38	
Bicycle Parking ^e		
Bicycle Parking class 1	1,577	
Bicycle Parking class 2	373	
Total Bicycle Parking	1,950	
Open Space	Area (gsf)	
Publicly Accessible Open Space	Approximately 6.2 acres	
Private Open Space	36 square feet per unit if located on balcony, or 48 square feet per unit if commonly accessible to residents	
Building Characteristics	Area (gsf)	
Stories	5 to 30 stories	
Height	65 to 180 feet; one building at 300 feet	
Ground Floor	All blocks would include ground floor active/retail/production space	
Basements	All development blocks would allow but not require one below-grade level of vehicle parking spaces ^f	

NOTES: gsf = gross square feet; R&D = research and development; PDR = production, distribution, and repair

^a All numbers in this table are approximate.

^b The proposed project includes a number of flex blocks, for which either residential or certain commercial uses may ultimately be selected. The numbers shown in this table show the anticipated development of the flex blocks, assuming a targeted amount/type of residential and commercial development at each flex block. The EIR addresses the potential for variation in the total amount of residential and amount and type of commercial development on the flex blocks.

^c The hotel would have 220 hotel rooms.

^d Per the proposed Design for Development document, the number of vehicle parking spaces is based on 0.6 space per residential unit; one space per 1,500 square feet of commercial office, R&D/life science, or PDR uses; three spaces per 1,000 square feet of grocery store use; and one space per each 16 hotel guest rooms. Dedicated car share spaces would be as required by planning code section 166. The number of car share spaces is based on one car share space per residential building with 50 to 200 dwelling units; for residential buildings with over 200 dwelling units, two car share spaces plus one for every 200 dwelling units over 200; for non-residential buildings, providing between 25 and 49 parking spaces, one car share space; for non-residential buildings providing 50 or more parking spaces, one car share space plus one for every 50 parking spaces over 50.

^e Per the proposed D for D, the number of bicycle parking spaces reflects Planning Code requirements, as follows.

- Residential: One class 1 bicycle parking space for each dwelling unit up to 100 plus one space for every four units in excess of 100; one class 2 bicycle parking space for every 20 dwelling units.
- Office: One class 1 bicycle parking space for every 5,000 square feet of occupied floor area; two class 2 bicycle parking spaces up to 5,000 square feet of OFA plus one for each 50,000 square feet of OFA in excess of 5,000 square feet.
- PDR, R&D/life science: One class 1 bicycle parking space for every 12,000 square feet of OFA; two class 2 bicycle parking spaces up to 50,000 square feet of OFA, and an additional two for spaces in excess of 50,000 square feet of OFA.
- Retail: One class 1 bicycle parking space per 7,500 square feet of OFA; minimum two class 2 bicycle parking spaces with a rate of one per 2,500 square feet up to 50,000 square feet and an additional space for each additional 10,000 square feet.
- Hotel: One class 1 space per 30 rooms; one class 2 space per 30 rooms and one class 1 space per 5,000 square feet of conference space.

^f Basement parking is accounted for in the above line item for parking.

SOURCE: California Barrel Company, EEA PPA Application Package, Potrero Power Station Mixed Use Development, October 2017, with 2018 updates

2.E.1 Proposed Land Use Plan

Figure 2-5, Proposed Land Use Plan, presents the proposed land use plan that identifies the general layout of proposed land uses. As the plan shows, the project site would be divided into 14 development blocks, numbered 1 through 14, with general land use types identified for each block. Blocks 1, 6, 7, 8 and 13 would have a “Residential” land use designation. Blocks 2 and 3 would have an “R&D” land use designation. Blocks 10 and 11 would have an “Office and/or R&D” land use designation. Block 5 would be designated as “Residential and District Parking Garage.” The remaining blocks (Blocks 4, 9, 12 and 14) would be flex blocks. As shown in Figure 2-5, Blocks 4 and 12 would have a “Flex Residential or R&D or Office” land use designation, Block 9 would have a “Flex Hotel or Residential” land use designation, and Block 14 would be designated as “Flex Residential or Office” (see additional detail on flex blocks, below). Future market conditions would ultimately determine the type and amount of land uses to be developed on these flex blocks. Accordingly, the proposed project could include between approximately 2.4 and 3.0 million gsf of residential uses (between about 2,400 and 3,000 dwelling units), and between approximately 1.2 and 1.9 million gsf of commercial uses. Areas designated “Publicly Accessible Open Space” would be located along east-west and north-south axes within the interior of the project site and along the waterfront, adjacent to the bay.

Development of land uses within the PG&E sub-area, or some portion thereof, would only occur when and if PG&E determines it is feasible to relocate the existing utility infrastructure and operations, and then receives the necessary regulatory approvals to allow for any such relocation. Once the facilities are relocated, then PG&E would be able to seek regulatory approvals to divest the PG&E sub-area for development. Within the PG&E sub-area are a portion of Block 1, the entirety of Blocks 13 and 14, the proposed new Georgia Street and the proposed improvements along the westernmost segment of Humboldt Street. To the extent the project would seek to install or expand utility, transportation, and/or other infrastructure and improvements within the PG&E sub-area, this would require agreement(s) from PG&E as well as any necessary regulatory approvals.

The proposed “R&D” land use designation is envisioned to accommodate a range of life science, laboratory, and research and development uses, consistent with those allowed under Planning Code sections 102, 890.52 and 890.53.⁷ The proposed entertainment/assembly space is expected to include uses that would fall under the Entertainment, Arts and Recreation land use category, including both

⁷ Consistent with planning code 890.52, life science uses involve the integration of natural and engineering sciences and advanced biological techniques using organisms, cells, and parts thereof for products and services. This includes the creation of products and services used to analyze and detect various illnesses, the design of products that cure illnesses, and/or the provision of capital goods and services, machinery, instruments, software, and reagents related to research and production. Life Science uses may utilize office, laboratory, light manufacturing, or other types of space. As a subset of Life Science uses, Life Science laboratories typically include biological laboratories and animal facilities or vivaria, as described in the Laboratory definition.

Consistent with planning code 890.53, laboratory uses are uses intended or primarily suitable for scientific research. The space requirements of uses within this category include specialized facilities and/or built accommodations that distinguish the space from Office uses, Light Manufacturing, or Heavy Manufacturing. Examples of laboratories include the following: (a) Chemistry, biochemistry, or analytical laboratory; (b) Engineering laboratory; (c) Development laboratory; (d) Biological laboratories including those classified by the Centers for Disease Control (CDC) and National Institutes of Health (NIH) as Biosafety level 1, Biosafety level 2, or Biosafety level 3; (e) Animal facility or vivarium, including laboratories classified by the CDC/NIH as Animal Biosafety level 1, Animal Biosafety level 2, or Animal Biosafety level 3; (f) Support laboratory; (g) Quality assurance/Quality control laboratory; and (h) Core laboratory.



General Entertainment and Nighttime Entertainment as defined by Planning Code section 102. The use would include musical, dramatic and artistic performances; meeting / conference room(s); and a bona fide eating place.⁸ The proposed community facilities would contain a variety of community-serving uses; however, they are largely anticipated to have recreation and community center-type facilities. Other community facility uses could include a library and childcare facilities.

The proposed project would demolish about 20 existing structures on the project site, including three historic buildings in the Power Station sub-area—Station A, the Meter House, and the Compressor House—which as discussed above have been identified as eligible for the California Register. One other historic property in the Power Station sub-area—the Gate House—would also be demolished as part of the proposed project; as discussed above, this property has been identified as a contributor to the historic Third Street Industrial District but is not considered an individual resource because of its lack of integrity.

The Unit 3 Power Block and the Boiler Stack have also been identified as contributors to the Third Street Industrial District although they are not individual resources. Under the preferred project land use program, the project would repurpose and convert the Unit 3 Power Block into a hotel, which would involve the removal of obsolete mechanical equipment, including the boiler.⁹ The repurposed structure would not exceed the existing height of the 143-foot concrete elevator shaft, although two additional floors would be added, creating a 10-story building. In some areas, the building envelope would grow to create a floor plate suitable for a hotel. However, under the proposed flexible land use program, a residential land use or new hotel could be developed on Block 9 instead of a hotel in the repurposed structure, in which case the Unit 3 Power Block would be demolished or repurposed differently. In either case, the Boiler Stack would be retained and repurposed as a ground floor retail space occupying approximately 1,000 square feet.¹⁰ Proposed improvements to the Boiler Stack include perforations for a secondary means of egress and interior enclosures to provide a roof and any necessary structural support. Seismic retrofit or other necessary improvement of the Boiler Stack may obstruct the hollow flue.¹¹

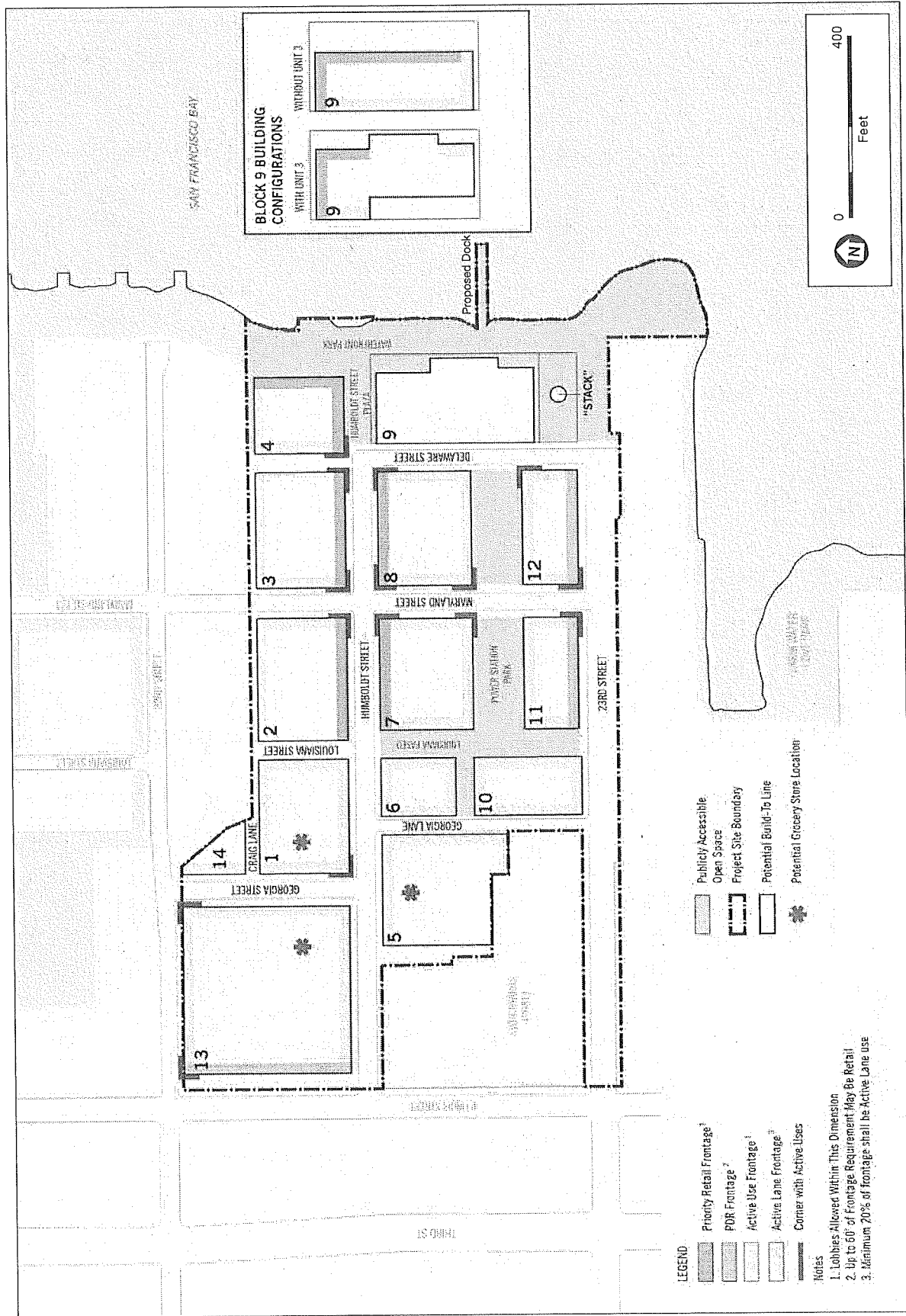
Figure 2-6, Proposed Ground Floor Land Use Plan, presents the proposed ground floor use plan at the project site. Ground floor frontages along Illinois and 23rd streets would host predominantly PDR uses. The waterfront-facing side of Block 4 and portions of Humboldt Street would contain primarily retail ground floor uses. All other blocks would contain predominantly active ground floor uses (e.g., neighborhood retail or residential units). Block 5 is a potential location for a grocery store, as are Blocks 1 and 13. Select building corners on Humboldt, 22nd, 23rd, Georgia, Maryland, Delaware, and Illinois streets could include retail/cultural/community facility frontages. All development blocks could include one below-grade level of vehicle parking. As shown in Table 2-1, the proposed project could provide up to approximately 2,622 accessory off-street vehicle parking spaces, some portion of which would be located in these below-grade parking areas.

⁸ Consistent with planning code section 102, a “bona fide eating place” is regularly and in a bona fide manner used and kept open for the service of meals to guests for compensation and that has suitable kitchen facilities connected therewith, containing conveniences for cooking of an assortment of foods that may be required for ordinary meals.

⁹ Given the potential to create new openings in the outer walls of the Boiler Stack, restoration of the Boiler Stack is not assumed to be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

¹⁰ Allowable uses for the Boiler Stack include retail and entertainment, arts and recreation uses.

¹¹ Given the potential to create new openings in the outer walls of the Boiler Stack, rehabilitation of the Boiler Stack is not assumed to be consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.



Potrero Power Station Mixed-Use Development Project
Figure 2-6
 Proposed Ground Floor Land Use Plan

SOURCE: Perkins+Will, 2018

There is the potential for rooftop uses on all project blocks. These could include enclosed recreational spaces up to 16 feet in height on the rooftops of residential buildings. One square foot of privately-owned public open spaces (POPOS) would be provided for each square foot of enclosed rooftop space on non-residential buildings. In addition, enclosed Retail Sales and Service Use and Entertainment, Arts and Recreation uses (examples of uses include bars/restaurant, spa, yoga studio, entertainment venue, or childcare facility) up to 16 feet in height, not-to-exceed 5,000 square feet each, would be allowed on the rooftops on non-residential buildings. The proposed hotel on Block 9 is proposed to have rooftop bar/restaurant and hotel amenity uses, and would not be subject to the POPOS requirement. See also the proposed outdoor soccer field on a portion of the roof of the parking structure on Block 5, described under Section 2.E.5, "Open Space Improvements," p. 2-22 below. There would be the potential for outdoor amplified noise sources at rooftop commercial uses.

The district parking garage proposed on Block 5 would likely be occupied by visitors to the district's office buildings during business hours, and in the evenings the parking garage would function as a public parking garage, open to residents and visitors of the district. Alternate locations for the district parking garage, in order of preference, are Block 13 and Block 1. Because vehicular access to a district parking garage on Block 1 or 13 would be directly from the adjacent streets, the design of the garage at either location would include two separate access points from different streets with two entry lanes and two entry control mechanisms. At each access point the entry control equipment would be set back into the garage by a minimum of 40 feet to accommodate at least two vehicles queuing within the garage at each entry lane.

The project proposes 15-foot building setbacks on Blocks 1 through 4 from the southern site boundary of the Pier 70 Mixed-Use District project. The Pier 70 Mixed-Use District project Design for Development requires that the Pier 70 project also create a 15-foot setback from the Potrero Power Station project along these blocks, resulting in a minimum 30-foot setback between buildings on the two project sites. This area would be improved by the proposed Craig Lane between Blocks 1 and 14. Block 13 would be separated from the Pier 70 site by 22nd Street. On the northeast side of Block 14, where there is no intervening street between the project site and the Pier 70 project site, there could be no setback between buildings on the two project sites.

The proposed project includes a dock to be used for recreational vessel berthing and fishing. Please see additional detail for this project element under "Infrastructure and Utilities, Proposed Dock," p. 2-44 below.

2.E.2 Building Heights

Figure 2-7, Proposed Height District Plan, presents the proposed height district plan. The proposed project would amend the Zoning Map (except with respect to portions of the project site owned by the Port) to modify the existing height limits of 40 and 65 feet to heights ranging from 65 to 300 feet. As shown in Figure 2-7, proposed height limits would generally step up from east to west across the project site and then step down again towards Illinois Street. Block 9 and the eastern portion of Block 4 would each have a proposed height limit of 65 feet. The western portion of Block 1, and Blocks 5 and 7 would have height limits of 180 feet, and Block 6 would have a 300-foot height limit. Several of the project site blocks (No. 1, 5, 6, and 7) would allow for podium structures with

height limits (65 to 85 feet) lower than the upper level heights¹²; and other blocks (1, 4, and 8) would have split height limits.¹³

2.E.3 Project Wind Attenuating Features

The project model tested in the wind tunnel evolved through an iterative process in which various building layouts and setbacks were tested to identify a scenario that met the project sponsor's overall goal for development envelope and also resulted in no adverse effects on pedestrian winds. The testing began with an initial massing concept consistent with the proposed height and bulk map and including basic building setbacks above a base height, generally 65 or 85 feet. Based on the tunnel test results for the massing concept, features were incorporated to ameliorate adverse pedestrian wind conditions at specific locations on the project site. The features included in the final wind-tunnel model were a canopy between buildings on Blocks 6 and 10 and a porous wind screen surrounding the proposed rooftop soccer field on Block 5.

2.E.4 Design for Development

The proposed SUD that would establish land use controls for the project site and would also incorporate design standards and guidelines in the Design for Development document (D for D). The D for D would set forth the underlying vision, standards, and guidelines for development of the project site and would be adopted as part of the proposed SUD. The standards and guidelines would cover building design, land coverage, density, setbacks, open space character, and the public realm, along with other design controls for development. In addition, the architectural detail and surface treatments of the buildings would be guided by the D for D. Certain massing and architecture requirements would apply project-wide and others would be location-specific. The D for D would require street trees to be planted in appropriate locations with grasses and other plantings to create a new landscape compatible with the proposed project.

Standards in the D for D would be mandatory, measurable, and quantitative design specifications. Guidelines in the D for D would be more qualitative and flexible. The proposed planning code amendments (included in the SUD) and the D for D would, together, guide and control all development within the SUD after project entitlements are obtained. Subsequent submittals of proposed building designs would be evaluated for consistency with both the SUD and the D for D.

The D for D would establish controls for bulk restriction, articulation and modulation, building materials and treatment, building frontage utilization, design parameters for open space, streets, and parking and loading standards.

The proposed D for D would include chapters that set forth controls and guidance with respect to land use, open space, the street network and character of project streets, and building design and massing. The chapters on buildings includes subsections on site-wide massing and architecture,

¹² Blocks No. 6, 7 and 8 would have height limits for the podium structure, and a separate height limit for the tower that rises above the podium; both height limits are measured from finished grade.

¹³ Blocks No. 1, 4 and 5 would have split zoning heights, where one half of each block would be subject to a separate height limit (or height limits, in the case of a podium structure plus tower above).

architectural character, and parking and loading. With respect to historic architectural resources, the proposed D for D would include both site-wide standards and guidelines, applicable to the entire project site, as well as certain location-specific standards and guidelines that would be applicable to new construction adjacent to historical resources on the project site (i.e., internal portions of the project site facing the Boiler Stack and, if it is retained, the Unit 3 Power Block) and other such location-specific standards and guidelines for new construction facing offsite portions of the Third Street Industrial District. The proposed D for D also includes both site-wide and location-specific standards and guidelines applicable to project sustainability.

2.E.5 Open Space Improvements

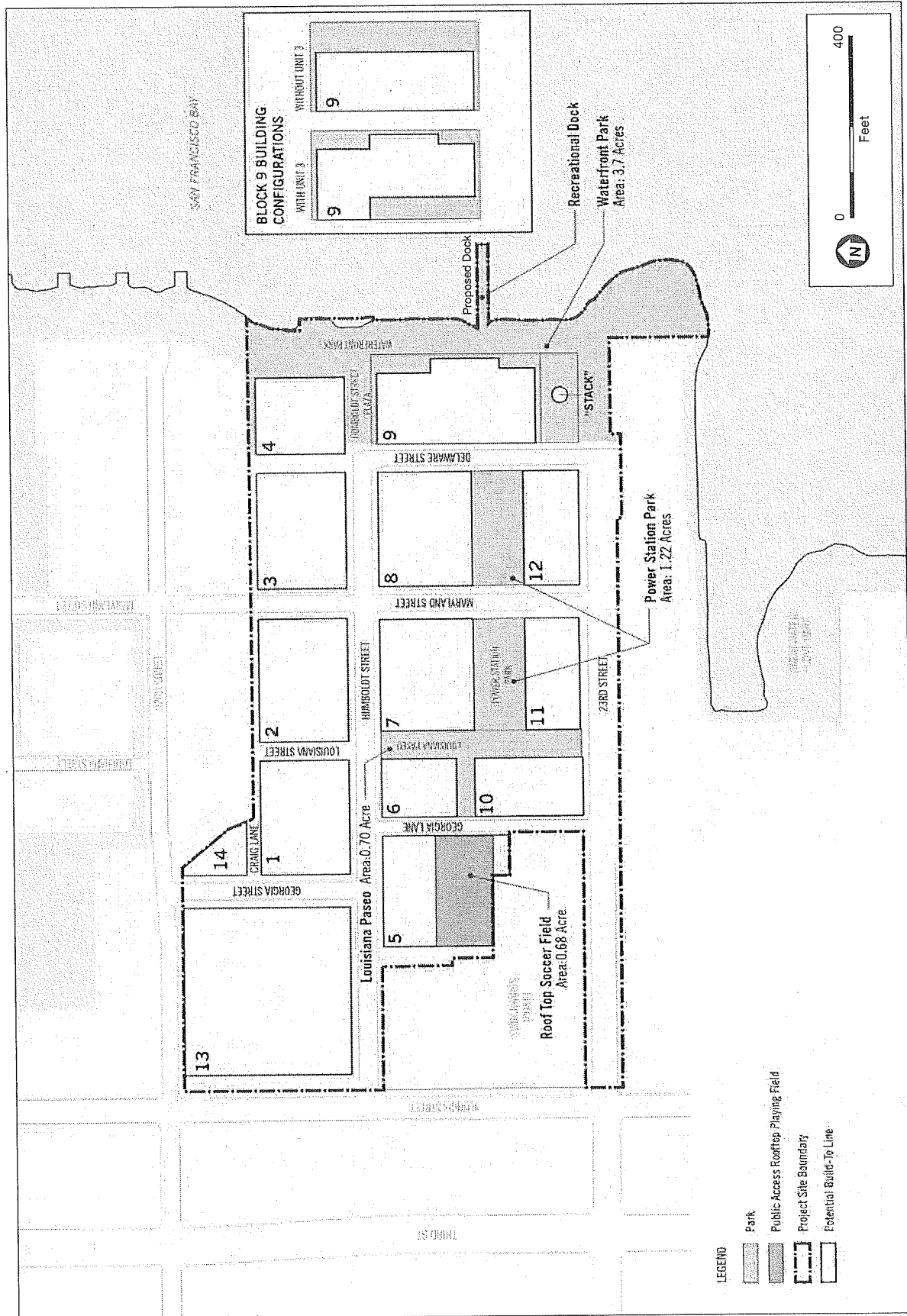
As shown in **Figure 2-8, Proposed Park and Open Space Plan**, the proposed project would provide approximately 6.2 acres of publicly accessible open space. These improvements are intended to complement the planned Pier 70 Mixed-Use District project waterfront improvements; extend the Blue Greenway and Bay Trail through the project site; and create an urban waterfront space, activated by the proposed uses in the buildings adjacent to the waterfront-facing open spaces. Key components of the open space program area are described below:

- **Waterfront Park.** This proposed approximately 3.6-acre waterfront park would extend the Blue Greenway and Bay Trail from the Pier 70 Mixed-Use District project through the project site, and provide spill-out spaces for retail, quiet spaces, and waterfront viewing terraces and recreational area. Additional amenities could include trellis structures, a recreational dock, and public art.
- **Louisiana Paseo.** This proposed 0.7-acre plaza-type open space adjacent to Blocks 6 and 10 could have gardens, wind canopy/trellis structures, and seating areas.
- **Power Station Park.** This proposed 1.22-acre central green space would extend east-west through the interior of the project site and connect the Louisiana Paseo to the waterfront. This park could contain play or fitness structures, art, trellis structures, barbecues, and outdoor dining areas. The eastern portion of the park would contain a flexible lawn area suitable to accommodate two U-6 soccer fields.¹⁴ The western portion of the park between the Louisiana Paseo and Maryland Street is intended for community-centered activities and active recreation.
- **Rooftop Soccer Field.** A public open space is proposed on a portion of the roof of the parking structure on Block 5. This rooftop open space would include a screened 0.68-acre U-10 soccer field.¹⁵

Temporary events would be allowed in all open spaces on site. Events could include movie nights in the park, farmers markets, fairs, performances, food trucks, block parties, and weddings, any of which would be allowed in all open space areas.

¹⁴ U-6 soccer fields refer to soccer fields for children under six years old, and generally measure approximately 20 yards in width by 30 yards in length.

¹⁵ U-10 soccer fields refer to soccer fields for children under 10 years old, and generally measure approximately 40 yards in width by 60 yards in length.



Potrero Power Station Mixed-Use Development Project
Figure 2-8
 Proposed Park and Open Space Plan

SOURCE: Perkins+Wili, 2018

2.E.6 Vehicle Parking and Loading

Figure 2-9, Potential Off-street Parking Supply, illustrates the proposed locations of off-street parking.¹⁶ As shown in Table 2-1, the proposed project would provide a total of approximately 2,622 off-street vehicle parking spaces.¹⁷ A centralized parking facility would be located at the intersection of Humboldt Street and Georgia Street and would contain approximately 819 parking spaces. The remaining 1,803 off-street parking spaces would be dispersed in below-grade or podium-level parking structures on other development blocks. All parking would be accessory to principal uses. No off-street parking would be provided for proposed retail uses on the project site. Approximately 25 on-street passenger loading spaces would be provided along the internal streets and approximately 54 commercial vehicle loading spaces would be provided, either through in-building loading docks or on-street loading zones along the internal streets. Additionally, the project would be designed with about 55 on-street parking spaces, including 11 Americans with Disabilities Act (ADA) accessible parking spaces.

All development blocks would allow—but not require—parking one level below-grade or parking within above-grade podium levels wrapped with active uses. The proposed project would include car-share parking spaces as required by the planning code, located off-street in buildings with podium/underground parking and in the proposed centralized parking facility.

2.E.7 Bicycle Parking

At least 1,577 class 1 bicycle parking spaces would be located either on the ground floor of each building or in the first sub-grade level of each building, in locations compliant with Planning Code section 155.1(a). The proposed project would include at least 373 class 2 bicycle parking spaces, all of which would be located in the right-of-way adjacent to each building or in the publicly accessible open space.^{18,19}

2.E.8 Transportation and Circulation Plan

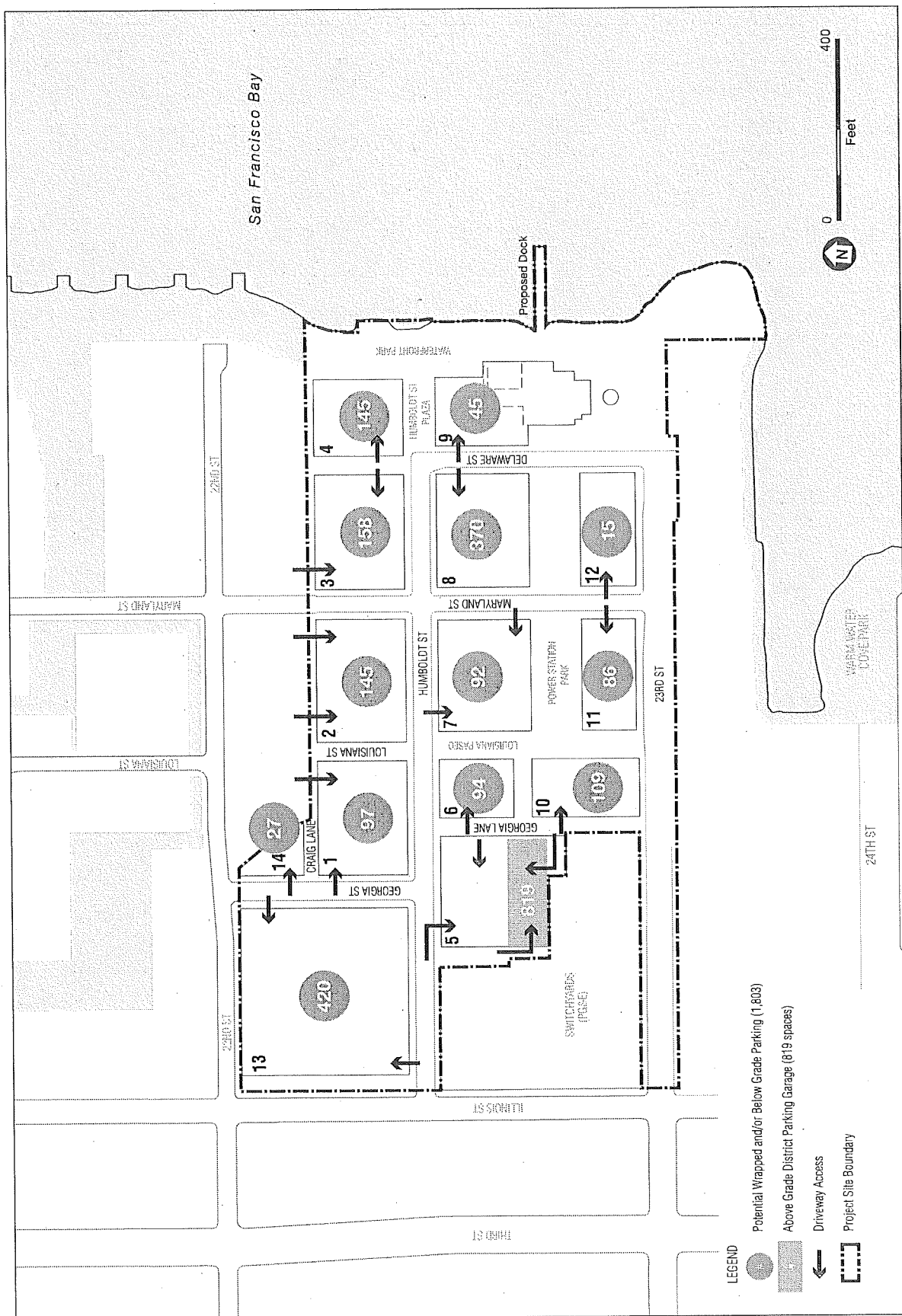
Figure 2-10, Proposed Street Type Plan, shows the proposed street plan. The primary east-west streets would be Humboldt and 23rd streets, which would provide access between Illinois Street to the west and Delaware Street to the east. The primary north-south streets would include Georgia, Maryland, and Delaware streets. Georgia Street would connect to 22nd Street to the north. Maryland Street would connect at grade to a planned extension of Maryland Street within the planned Pier 70 Mixed-Use District project to the north. Louisiana Street would extend north from Humboldt Street, and may or may not ultimately continue into the Pier 70 Mixed-Use District project. Louisiana and Delaware streets would connect to Craig Lane - a proposed one-way westbound service lane along the north boundary of the project site, straddling the property line with the Pier 70 Mixed-Use District project. To the south, Georgia Lane and Maryland and Delaware streets would connect to, and terminate at, 23rd Street.

¹⁶ Figure 2-9 shows the potential number of parking spaces per block for illustrative purposes.

¹⁷ The actual number of off-street parking spaces would vary based on the selected use of each flex block.

¹⁸ The actual number of bicycle parking spaces would vary based on the selected use of each flex block.

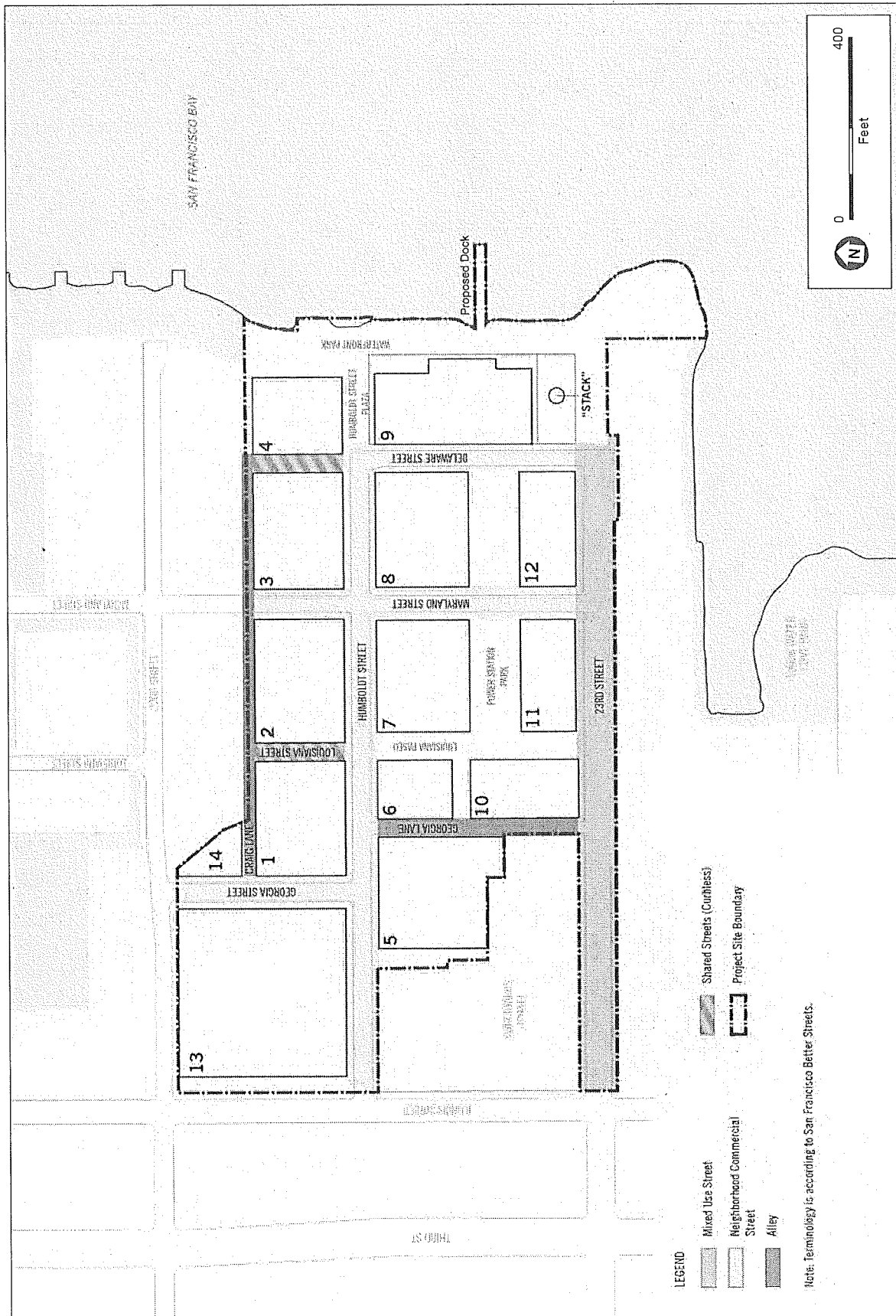
¹⁹ Section 155.1(a) of the planning code defines class 1 bicycle spaces as “spaces in secure, weather-protected facilities intended for use as long-term, overnight, and work-day bicycle storage by dwelling unit residents, nonresidential occupants, and employees” and defines class 2 bicycle spaces as “spaces located in a publicly accessible, highly visible location intended for transient or short-term use by visitors, guests, and patrons to the building or use.”



Potrero Power Station Mixed-Use Development Project

Figure 2-9 Potential Off-Street Parking Supply

SOURCE: Perkins+Will, 2018



Potrero Power Station Mixed-Use Development Project

Figure 2-10

Proposed Street Type Plan

SOURCE: Perkins+Will, 2018

As shown in Figure 2-10, Humboldt Street, Maryland Street, Delaware Street south of Humboldt Street, and Georgia Street north of Humboldt Street are proposed as neighborhood commercial streets; and 23rd Street is proposed as a mixed-use street. Louisiana Street and Delaware Street north of Humboldt Street are proposed as shared streets or alleys. Georgia Lane and Craig Lane are proposed as alleys. These proposed street types are consistent with the corresponding street types included in the San Francisco Better Streets Plan.²⁰

The preferred project would expand the width of Humboldt Street from 26 to 70 feet along its entire extent across the project site. If, however, PG&E finds that it is not feasible to relocate utility facilities and/or PG&E is unable to obtain the necessary regulatory approvals for any such relocation, then the roadway would remain in its existing condition along this westernmost segment.

The proposed connection of the project street improvements to the planned development in the Pier 70 Mixed-Use District project would create a continuous street network in the Central Waterfront area. Similarly, the planned extended Blue Greenway and Bay Trail would provide pedestrian and bicycle access along the waterfront between the Pier 70 Mixed-Use District project and the project site. See also Pedestrian and Bicycle Network, below.

The proposed new streets would provide access for emergency vehicles, on-street parking, on- and off-street passenger and commercial vehicle loading. Humboldt, 23rd, and Delaware streets would be designed as primary on-street loading corridors.

The proposed project would reconstruct the sidewalk along the east side of Illinois Street between Humboldt Street and 22nd Street, improving the pedestrian experience and aesthetics of the Illinois Street corridor along the project frontage. See also discussion of Illinois Street tree changes on under "Street Tree Plan," p. 2-30 below.

Additionally, traffic signals would be installed at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, and would include pedestrian countdown signals and pedestrian crosswalks consistent with the continental design.²¹ Accessible ramps would be provided at each corner of these intersections.

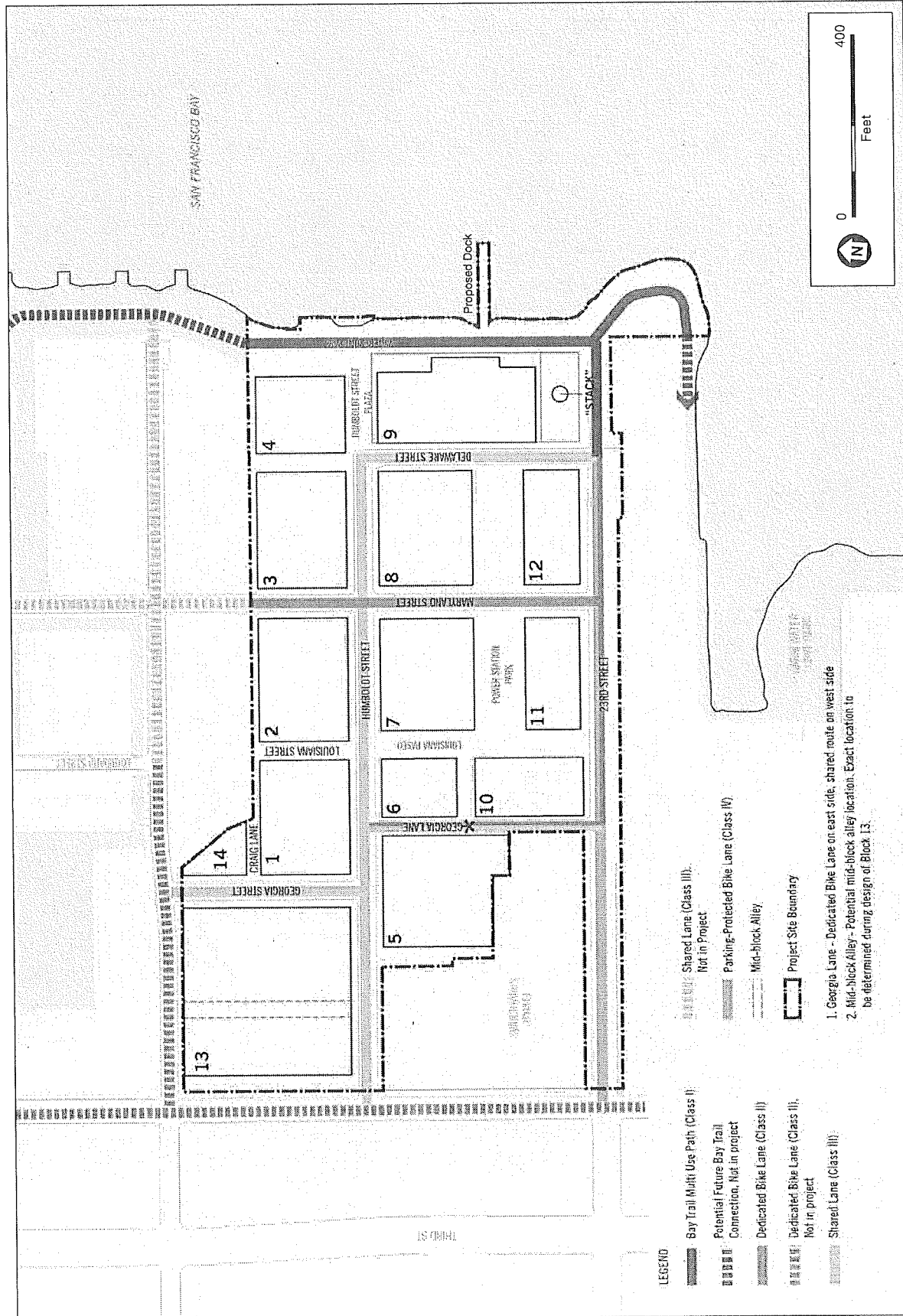
Pedestrian and Bicycle Network

The proposed project would include a pedestrian and bicycle network. As shown in **Figure 2-11, Proposed Bicycle Facilities Plan**, the proposed bicycle circulation plan includes *class I, II, III and IV* bicycle facilities.²² *Class I* bike lanes are proposed on the Bay Trail multi-use path that would extend through Waterfront Park. *Class II* bike lanes are proposed on Georgia Lane and Maryland Street. *Class III* facilities (signed routes) are proposed on Humboldt, Georgia, and Delaware streets. The north side of 23rd Street would include a *Class IV* parking-protected bike lane.

²⁰ San Francisco Better Streets Plan, adopted December 2010.

²¹ Crosswalks with a continental design have parallel markings that are the most visible to drivers.

²² Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists. Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles. Class III bikeways are signed bike routes that allow bicycles to share the travel lane with vehicles. Class IV bikeways, often referred to as cycle tracks, are for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking.



Potrero Power Station Mixed-Use Development Project

Figure 2-11

Proposed Bicycle Facilities Plan

SOURCE: Perkins+Will, 2018

Figure 2-12, Proposed Pedestrian Network, illustrates the proposed pedestrian network. All proposed streets and open space areas would include pedestrian walkways. These facilities would contribute to the continuous Blue Greenway/Bay Trail to provide continuous waterfront access from the Embarcadero, including Crane Cove Park, Slipways Commons, and Warm Water Cove.

Transit

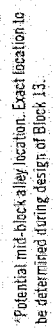
Bus service into the project site is not proposed as part of the project, however, the project could accommodate future bus service on Maryland, Humboldt, Delaware and 23rd Streets. **Figure 2-13, Potential Future Transit Service**, presents the proposed plan to accommodate the potential expansion of a SFMTA bus route into the project site. A bus layover would be provided at the north curb of 23rd Street east of Maryland Street. The proposed bus layover would accommodate two, 40-foot-long buses and would provide a bathroom facility for drivers. The potential SFMTA bus route is currently envisioned to enter the project site on Maryland Street from the Pier 70 Mixed-Use District project, and could leave the site via 23rd Street or loop back into the Pier 70 project site. A variant of this potential route extension could include interim service to the project site via 23rd Street, depending on actual buildout of the transportation network and development within the project site and the Pier 70 project site.

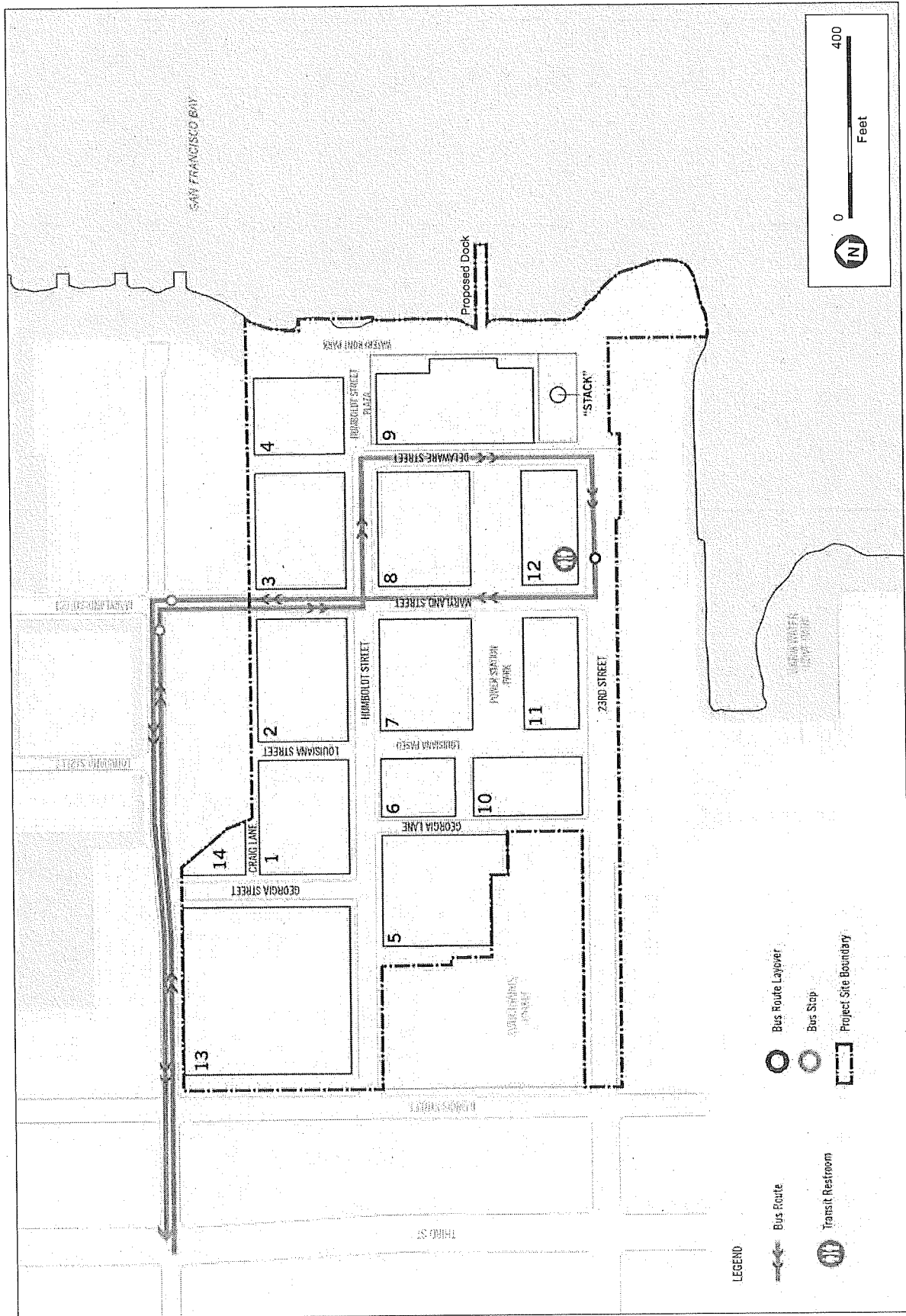
As part of the proposed Transportation Demand Management Plan (TDM) for the project, a shuttle service program would be provided as part of the proposed project. The shuttle would run during peak periods 7 a.m. to 8 p.m. on weekdays and at a minimum frequency of 15-minute intervals during weekday morning and evening peak periods. The shuttle would provide access to the 16th Street Bay Area Rapid Transit (BART) station and the 22nd Street Caltrain station. The shuttle service may or may not connect with the shuttle service to be provided under the Pier 70 Mixed-Use District project. **Figure 2-14, Proposed Transit Shuttle Plan**, presents the proposed shuttle route on and near the project site. See additional discussion of the TDM plan below, and in Section 4.E, Transportation and Circulation.

Transportation Demand Management Plan

The project sponsor has developed a proposed Transportation Demand Management (TDM) plan to support sustainable land use development, and would implement a final approved TDM plan. It would prioritize pedestrian and bicycle access and implement measures to encourage alternative modes of transportation and to support a dense, walkable, mixed-use, transit-oriented development that prioritizes safety, especially for bicyclists and pedestrians.

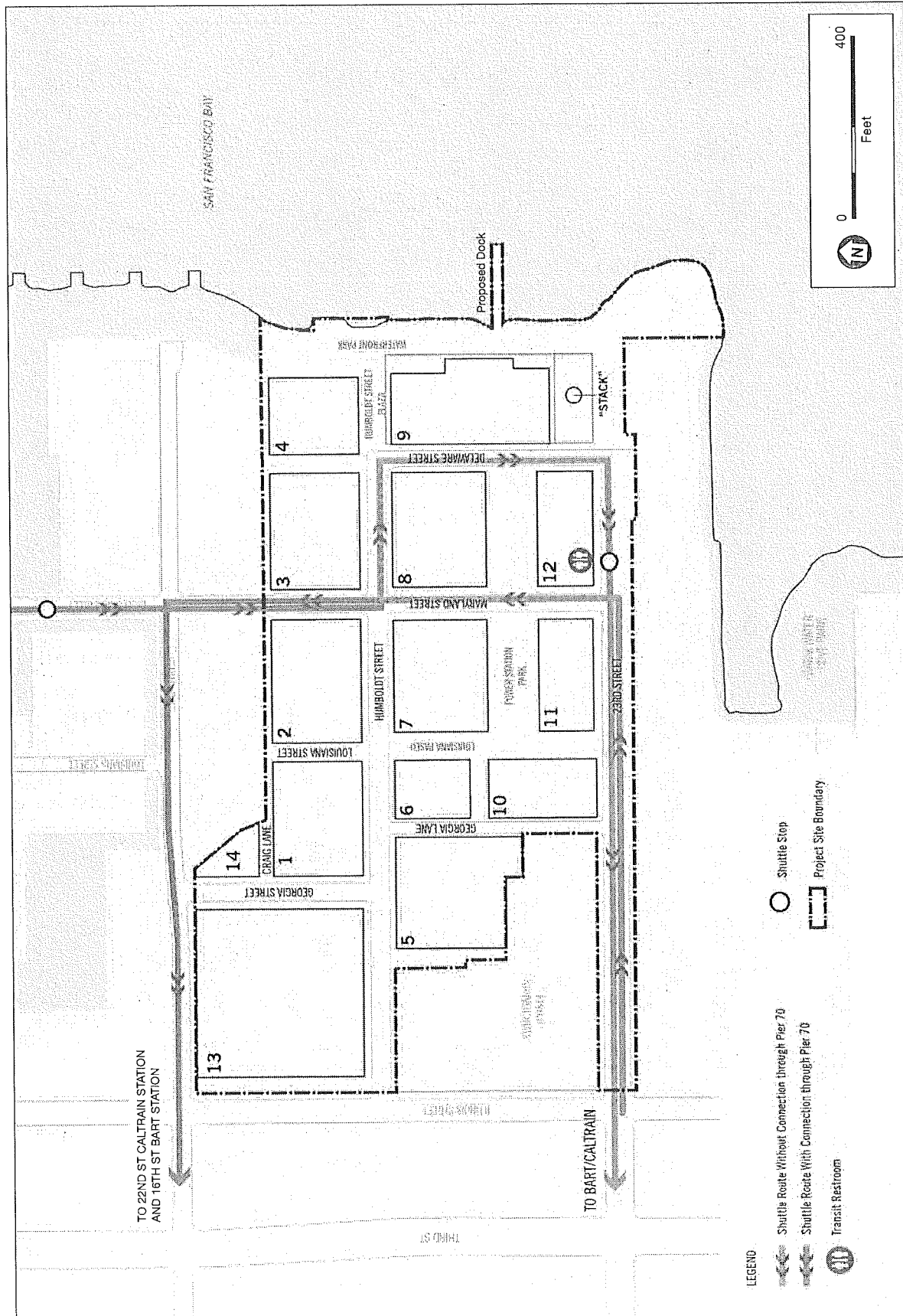
Key strategies in the TDM plan include improved walking conditions and bike lanes, unbundled parking, car-share parking, and other approaches to discourage use of single-occupant private vehicles. The proposed project would implement amenities and education strategies regarding transportation choices, including real-time transportation information displays and production of brochures and newsletters. See additional discussion of the TDM plan in Section 4.E, Transportation and Circulation.





Potrero Power Station Mixed-Use Development Project
Figure 2-13
 Preliminarily Proposed Transit Bus Plan

SOURCE: Perkins+Will, 2018



Potrero Power Station Mixed-Use Development Project
Figure 2-14
 Proposed Transit Shuttle Plan

SOURCE: Perkins+Will, 2018

As discussed under “Transit,” p. 2-29 above, the proposed TDM Plan includes a shuttle service program.

Street Tree Plan

Figure 2-15, Proposed Street Tree Plan, illustrates the proposed street tree plan. As illustrated in Figure 2-15, depending on street type and location, deciduous, semi-deciduous or evergreen trees of varying heights (ranging from 40 to 50 feet tall at maturity) would be planted along pedestrian walkways.

As discussed above, there is currently a row of street trees along the east side of Illinois Street at the western boundary of the site between Humboldt Street and 22nd Street, and on a short segment of the north side of 23rd Street. As shown in Figure 2-15, the existing street trees on Illinois Street adjacent to the project would be removed outside of the nesting season and replaced. The short segment of existing trees on the north side of 23rd Street would be retained under the project.²³

2.E.9 Infrastructure and Utilities

The proposed project would include upgrades to infrastructure and utility systems to support the proposed uses.

Potable Water

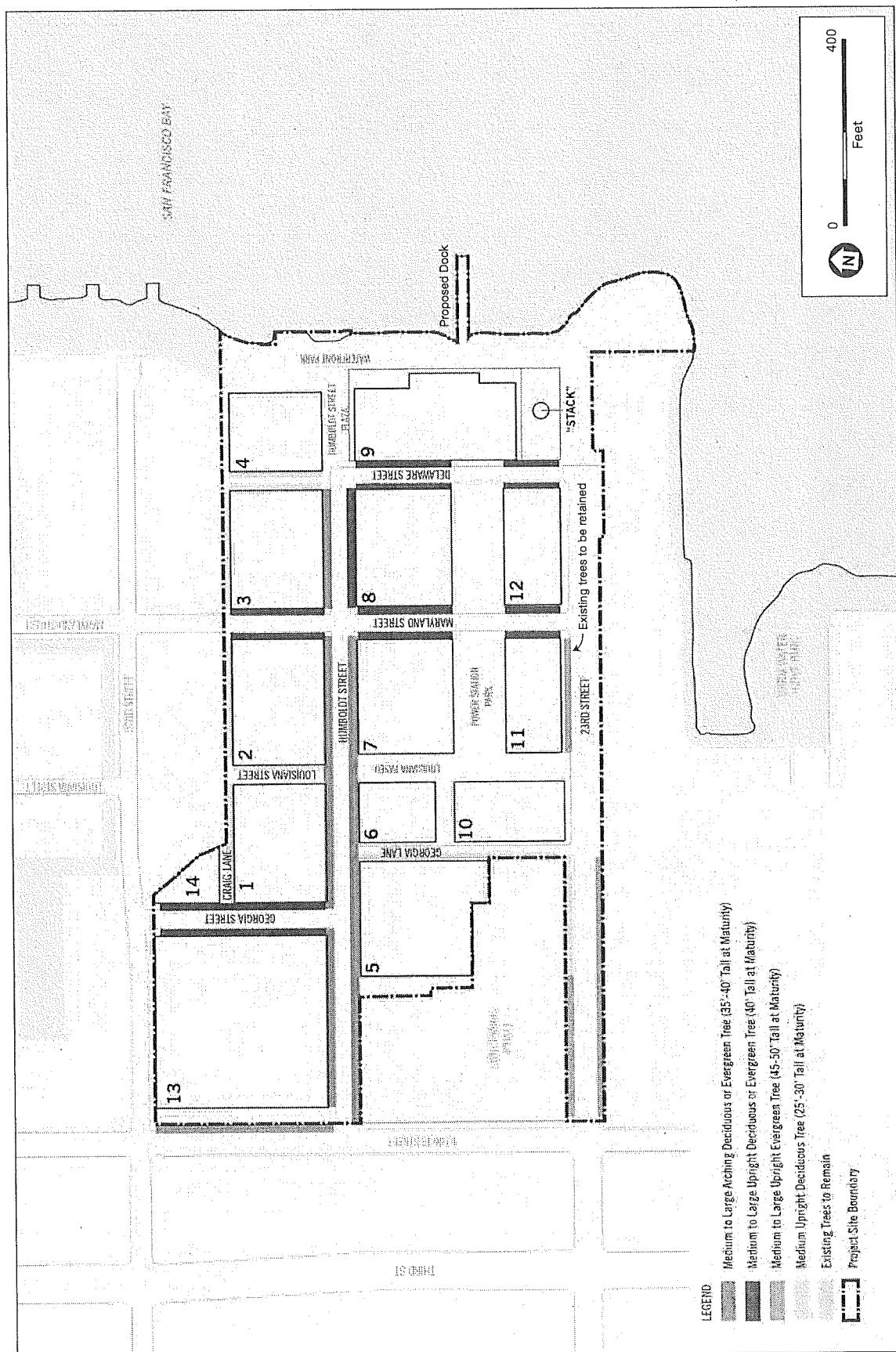
Figure 2-16, Proposed Potable Water Plan, illustrates the proposed onsite potable water²⁴ distribution system that would serve the project from the City’s existing water supply system. As shown in Figure 2-16, the project would construct new potable water distribution pipelines within Humboldt, Georgia, Maryland, and Delaware streets, and Georgia Lane, and realign an existing potable water pipeline in 23rd Street, if needed. The potable water lines in Humboldt and 23rd streets would connect to an existing offsite potable water line in Illinois Street.

The potable water line in Georgia Street would connect either to an existing or new offsite potable water line in 22nd Street, depending on timing of development of the adjacent Pier 70 Mixed-Use District project.²⁵ The potable water line in Maryland Street would extend north to a planned new potable water line in the adjacent Pier 70 Mixed-Use District project. To reduce potable water demand, high-efficiency fixtures and appliances would be installed in all new buildings.

²³ If PG&E finds that it is feasible to relocate its utility facilities; it obtains the necessary regulatory approvals for any such relocation; and then once the facilities are relocated and PG&E receives regulatory approval to divest the PG&E sub-area for future development on its property along 23rd Street, then PG&E (or the new property owner, as may be applicable) would be responsible for landscaping and maintaining that project’s frontage.

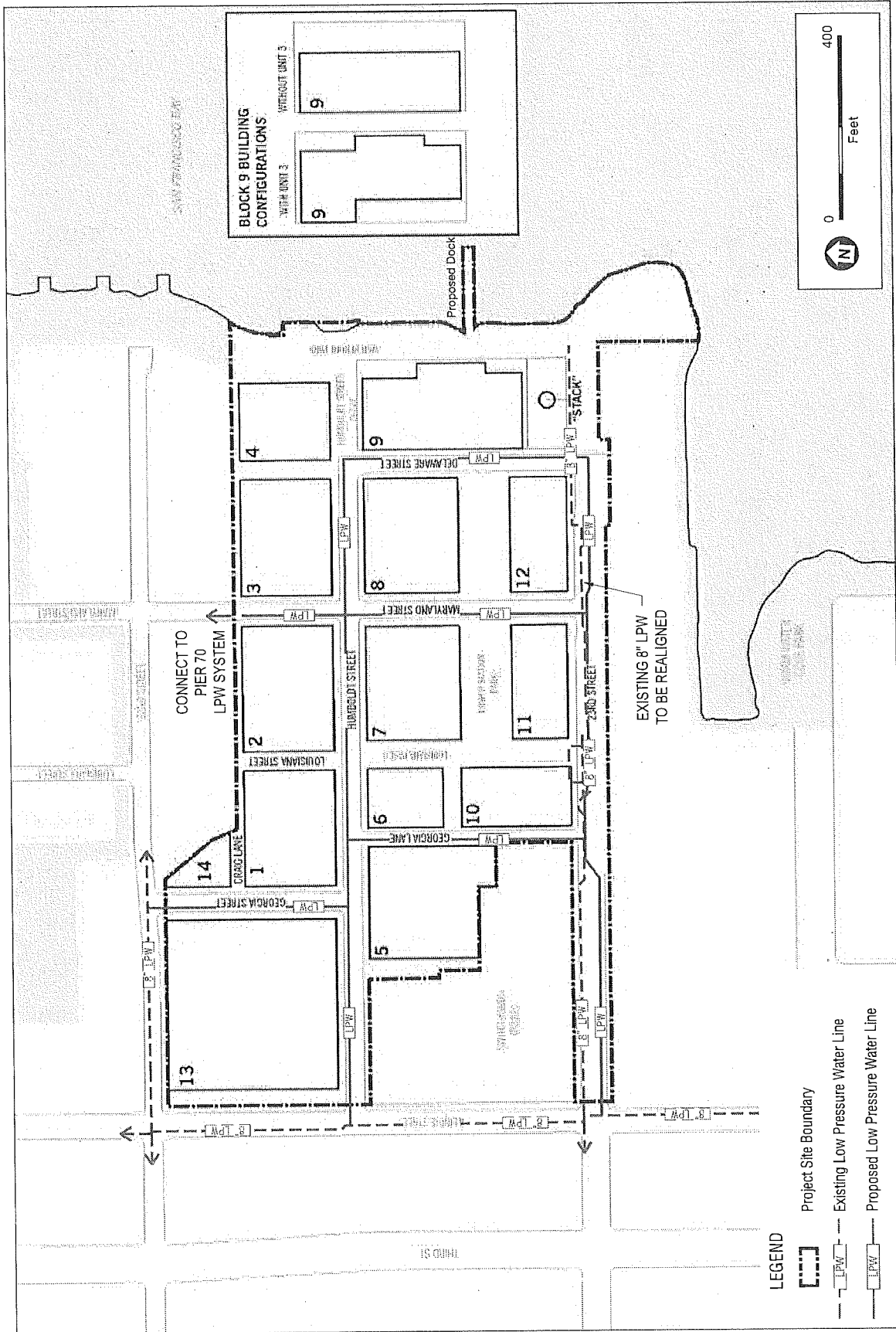
²⁴ Potable water is water that is safe for drinking or for food preparation.

²⁵ If the adjacent Pier 70 project precedes this project and has already established a potable water distribution line in 22nd Street, then the proposed project would connect to that line.



Potrero Power Station Mixed-Use Development Project

SOURCE: Perkins+Will, 2018



Potrero Power Station Mixed-Use Development Project
Figure 2-16
 Proposed Potable Water Plan

SOURCE: Perkins+Will, 2018

Non-Potable Water

As shown in **Figure 2-17, Proposed Non-Potable Water Plan**, the preferred project includes a graywater²⁶ diversion, treatment, and reuse system that would provide non-potable water to the project. Blocks 1, 5, 6, 7, and 8 would include localized graywater collection (e.g., from showers and washing machines), storage and treatment facilities that would distribute the treated graywater via pressurized non-potable water distribution lines to all project site buildings for toilet and urinal flushing, irrigation in landscaped areas and potentially cooling towers and other non-potable uses. It is anticipated that each block providing a graywater treatment system would include approximately 500 square feet of space to accommodate a proposed graywater treatment unit, two 25,000-gallon graywater collection tanks, booster pumps and associated equipment. The graywater treatment systems would be fully enclosed and use mechanical filtration, minimizing potential for odor. All waste from the graywater treatment system would be flushed directly to the combined sewer system. As shown in **Figure 2-17**, non-potable water distribution lines are proposed within Humboldt, Georgia, Maryland, and Delaware streets, and Georgia Lane.

The project would pursue one of the following two options for complying with the City's Non-Potable Water Ordinance:²⁷

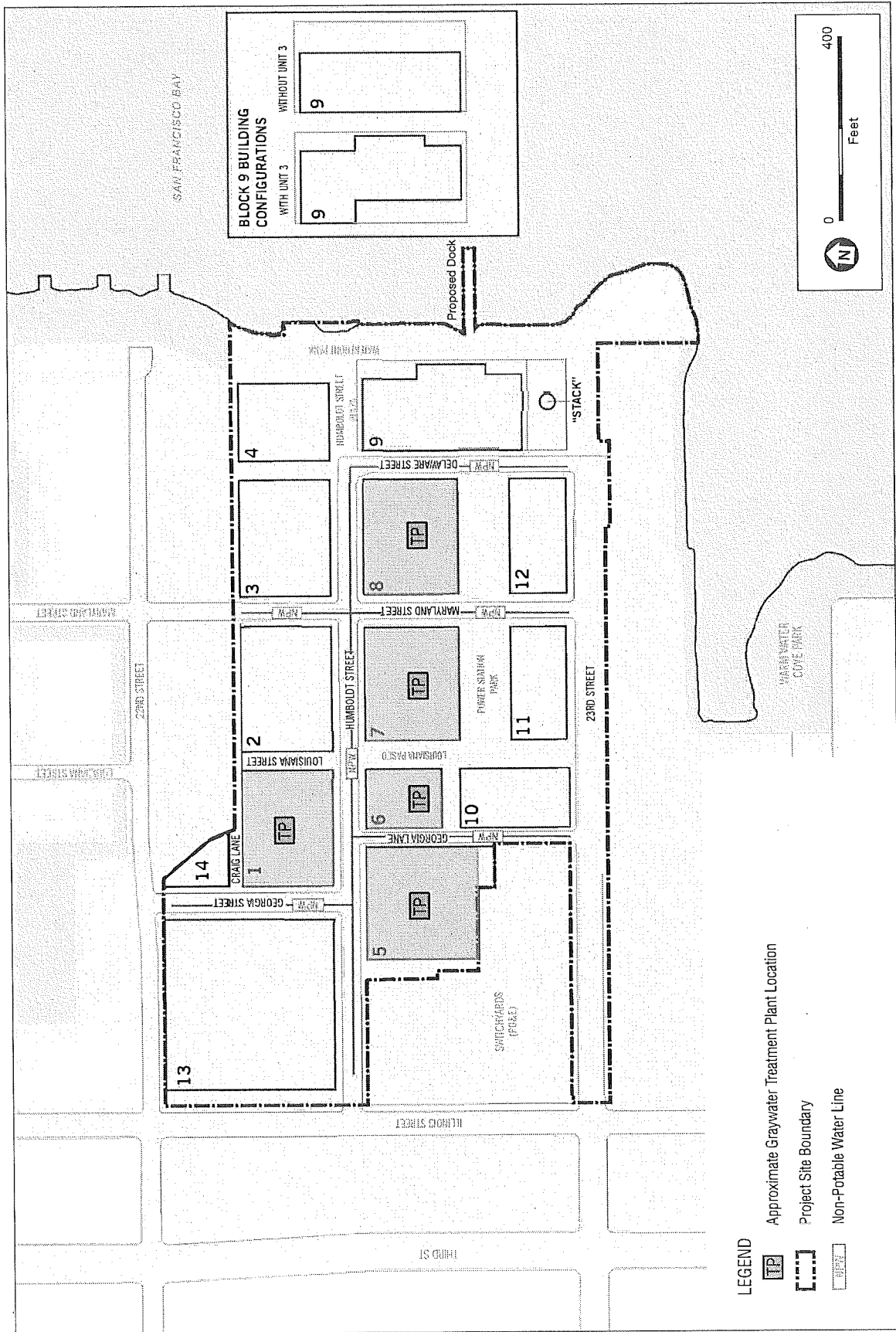
- Graywater collection and treatment plants, as described above; or
- In the event the City constructs a regional non-potable water facility that provides non-potable water to the project site, the proposed project may elect to connect to this system, delivering non-potable water to development parcels through a new public non-potable water distribution system within the public right-of-way. In this case, the project would not construct a separate graywater diversion, treatment and reuse systems on private parcels.

Auxiliary Water Supply System Plan

Figure 2-18, Proposed Auxiliary Water Supply System Plan, illustrates the proposed high pressure auxiliary water supply system (AWSS) distribution lines that would serve the project primarily for firefighting and other emergency uses. As shown in **Figure 2-18**, the proposed project would include the extension of the AWSS distribution line to the project site by connecting to an existing 14-inch AWSS line in Third Street at its intersection with 23rd Street. The line would be installed in 23rd Street east of the intersection with Maryland Street, and hence northerly in Maryland Street, and connect to the offsite AWSS system planned within the Pier 70 Mixed-Use District project.

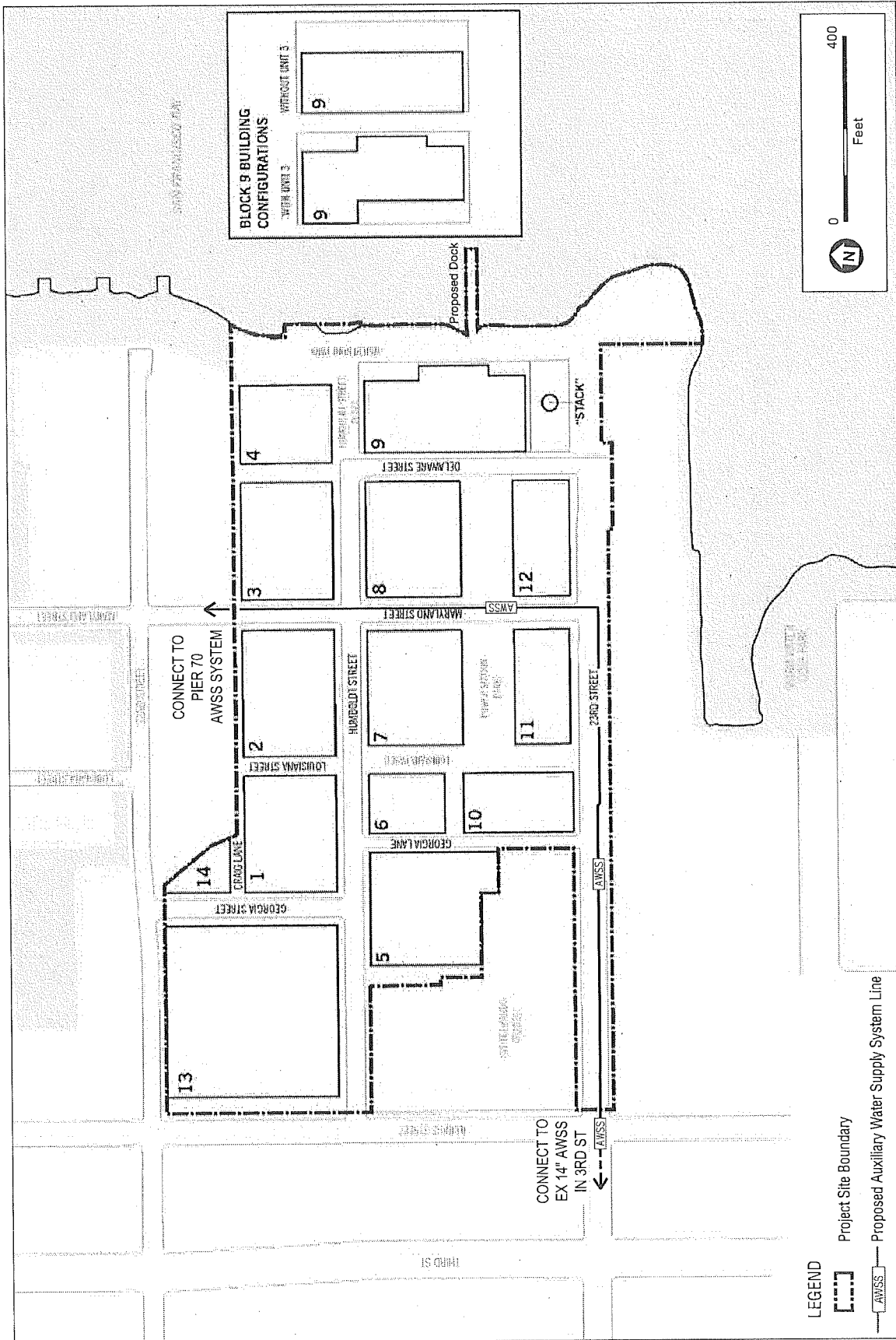
²⁶ Graywater is wastewater generated from wastewater sources, excluding toilets, which can be diverted, treated and reused for non-potable water purposes; please see examples provided.

²⁷ Article 12C of the San Francisco Health Code.



Potrero Power Station Mixed-Use Development Project
Figure 2-17
 Proposed Non-Potable Water Plan

SOURCE: Perkins+Will, 2018



Potrero Power Station Mixed-Use Development Project
Figure 2-18
 Proposed Auxiliary Water Supply System Plan

SOURCE: Perkins+Will, 2018

Wastewater (Sanitary Sewer) and Stormwater Plan

The proposed project is considering two options for wastewater and stormwater collection at the project site: 1) a dual system [combined sewer (i.e., combined sanitary sewage plus storm water flows)/separated sewer (i.e., separated sanitary sewage and storm flows) system] configured to maintain existing drainage patterns (preferred option), and 2) a project-wide combined sewer system. The dual system option is part of the preferred project. Each option is described below:

Dual System (Combined Sewer/Separated Sewer) Option (Preferred Project)

As shown in Figure 2-19, **Dual System (Combined Sewer/Separated Sewer) Option (Preferred Project)**, under the preferred dual system (combined sewer/separated sewer) option, new combined sewer system pipelines would be installed in the portions of the streets within the western watershed of the project site and new separate sanitary sewer and storm drain lines would be installed within the remainder of the project site in the eastern watershed.

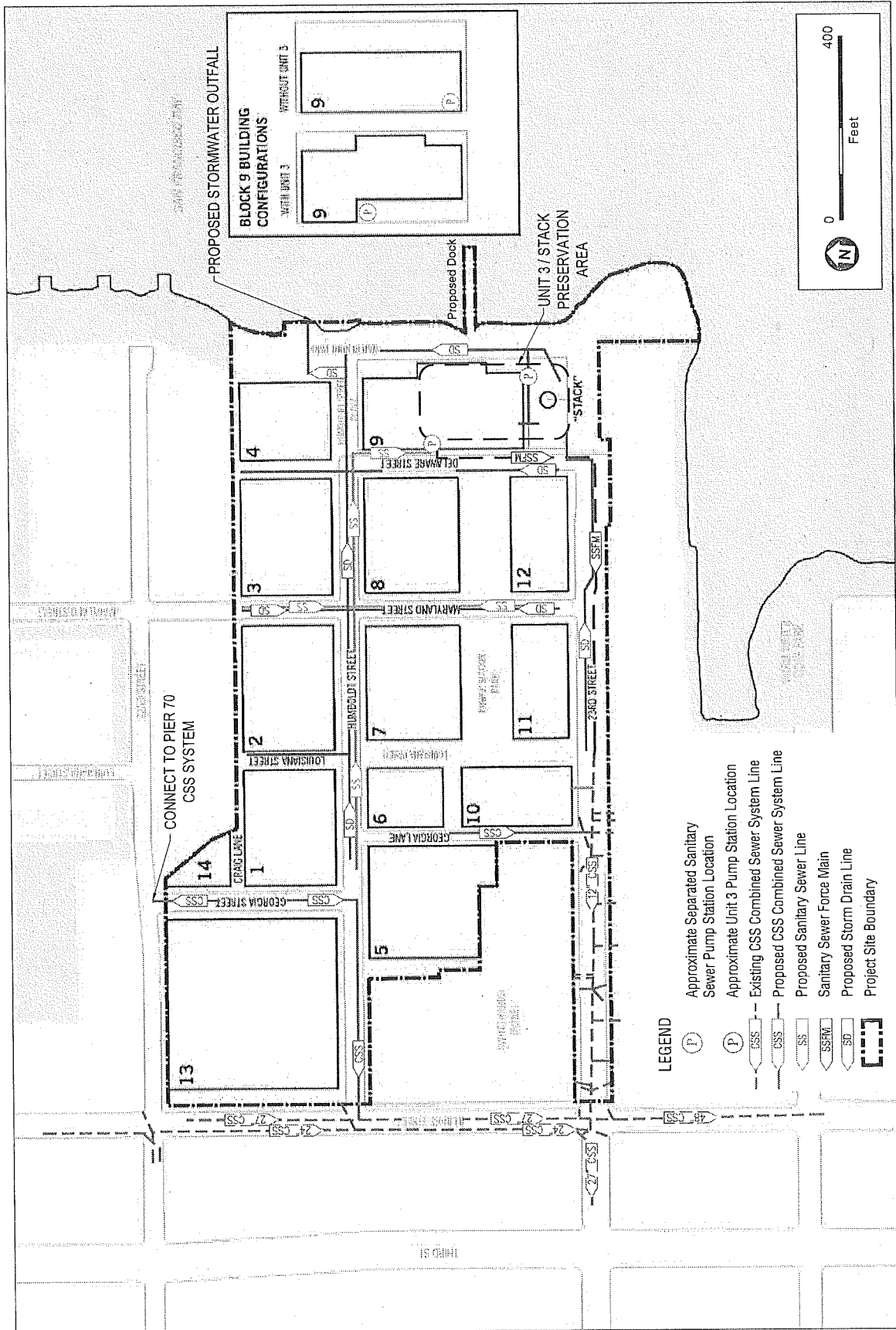
The proposed site grading would maintain existing drainage patterns and provide a clear differentiation of the two watersheds within the project site to protect from any potential overflow discharges from the combined sewer system to the bay.

Sanitary sewer flows from the eastern watershed of the project site would be collected by a proposed separated sewer system and conveyed to a proposed 3.5 cubic-foot-per-second (cfs) sanitary sewer pump station with backup emergency generator to be installed onsite near the Unit 3 Power Block. The sanitary sewer pump station would convey these sanitary sewer flows via a force main²⁸ in Delaware and 23rd streets to an existing combined sewer system line in the west side of 23rd Street,²⁹ and hence offsite to the existing combined sewer system line in Illinois Street. Project sanitary sewer flows collected from Block 10 would be conveyed directly to the 12-inch combined sewer system line in 23rd Street, and then similarly offsite to the combined sewer system line in Illinois Street. Stormwater flows from the eastern watershed would be collected by new onsite separated storm drain pipelines. Storm flows collected by this system would be conveyed to a new outfall located on the east side of the project in the vicinity of the former Unit 3 Power Block intake, and then discharged to the bay.

Stormwater runoff and sanitary flows from the western watershed would be collected by the proposed combined sewer pipelines and conveyed to the existing combined facilities in Illinois Street, 22nd Street, and 23rd Street. This would include Block 5, Block 10, and the western portions of Block 13. Additionally, flows from the segment of Georgia Street north of Craig Lane and Block 14 would be conveyed to the combined sewer system in 22nd Street proposed by the Pier 70 project. All project-generated sanitary sewage would be conveyed to and treated at the existing Southeast Water Pollution Control Plant.

²⁸ Force mains move wastewater under pressure; in this case from pressure from the proposed pump station.

²⁹ This existing 12-inch sewer line is planned to be replaced by the San Francisco Public Utilities Commission as part of its ongoing pavement renovation and sewer replacement project.



Potrero Power Station Mixed-Use Development Project
Figure 2-19
 Dual System (Combined Sewer / Separated Sewer) Option (Preferred Project)

SOURCE: Perkins+Will, 2018

Project-Wide Combined Sewer System Option

As shown in **Figure 2-20, Project-Wide Combined Sewer System Option**, under the project-wide combined sewer system option, new combined sewer system lines would be installed throughout the project site within the public street network. The combined sewer system option would maintain the existing drainage patterns of the project site. Project-generated combined sewer flows within the eastern watershed would be collected and conveyed to a proposed combined sewer pump station³⁰ to be installed along Delaware Street near the Unit 3 Power Block. The pump station facility would be connected to storage facilities, consisting of either pipelines or a vault, located near the pump station to accommodate the infrequent peak storm flows and prevent overflow discharges to the bay. The combined sewer storage facilities would be installed underground adjacent to the pump station, in the open space between Delaware Street and Unit 3 Power Block, and would provide approximately 65,000 cubic feet of active storage.

The combined sewer pump station would convey these combined sewer flows via a force main to the 12-inch combined sewer system line in Delaware and 23rd streets, then to an existing combined sewer system line in the west side of 23rd Street, and hence offsite to the existing combined sewer system line in Illinois Street. The existing 12-inch combined sewer system line in 23rd Street would need to be increased in size to accommodate the wastewater and stormwater flows from the entire project.

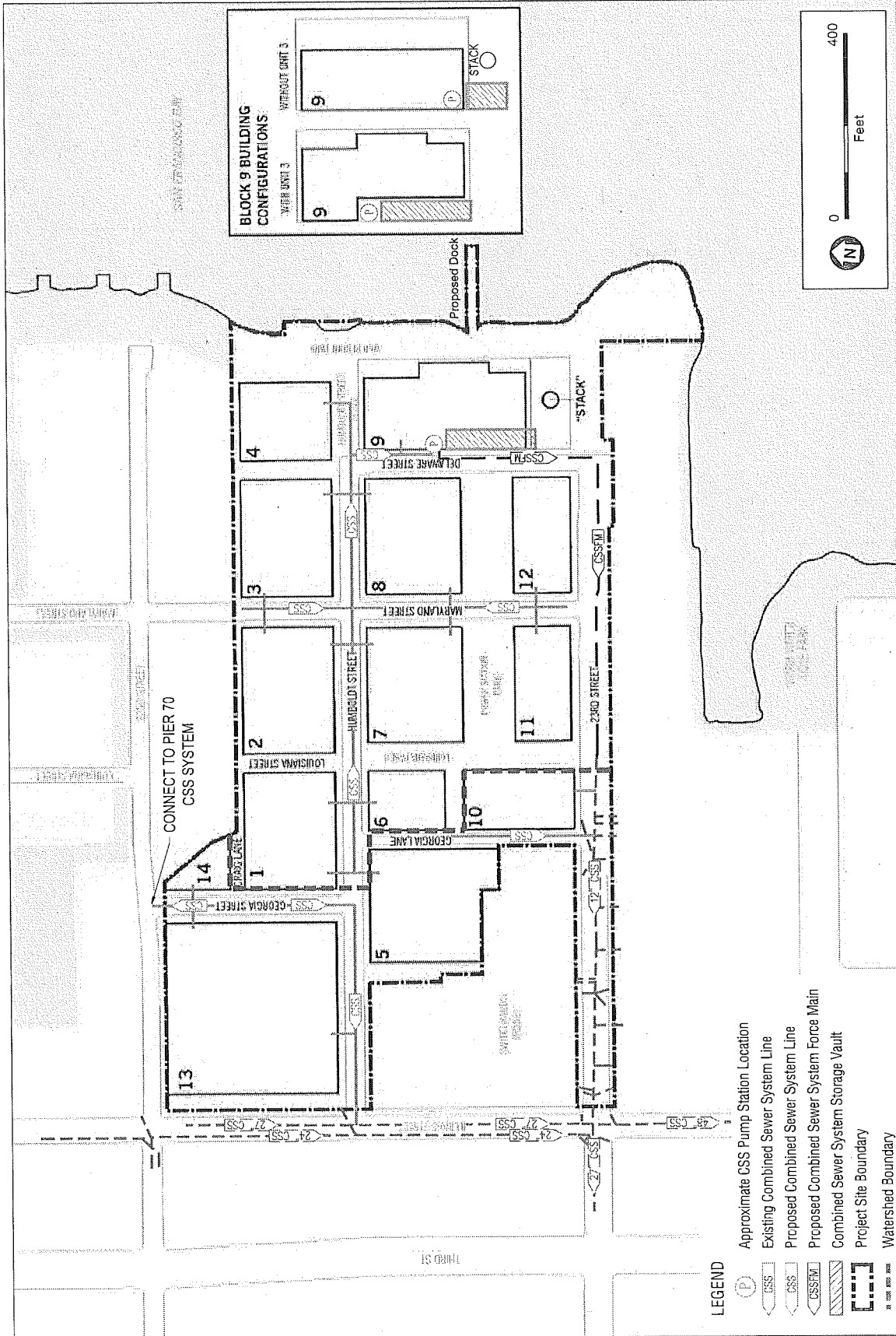
Project-generated combined sewer flows collected within the western watershed would be conveyed directly to the existing combined systems surrounding the project site. Flows from Blocks 5 and 10 would be conveyed directly to the combined sewer system line in 23rd Street, and then similarly offsite to the combined sewer system line in Illinois Street. Project-generated combined sewer flows collected from Block 13 would be conveyed directly offsite via a reconstructed connection to the combined sewer system line in Illinois Street. Other project combined sewer flows collected from the northwest portion of the project site would be collected and conveyed directly to a reconstructed combined sewer line in the west side of Humboldt Street, and hence offsite to the combined sewer system line in Illinois Street.

All project-generated combined stormwater/sewage would be conveyed to and treated at the existing Southeast Water Pollution Control Plant. The combined sewer flows from the portion of Georgia Street north of Craig Lane and from Block 14 would be conveyed to the combined sewer system in 22nd Street, which is to be constructed as part of the Pier 70 Mixed-Use District project.

Stormwater Management

Under either the dual system (combined sewer/separated sewer) or project-wide combined sewer option, the proposed project would include a stormwater management system that would comply with the City's stormwater management ordinance. The stormwater management system would incorporate low-impact design concepts, as follows: project buildings would incorporate rainwater harvesting and reuse systems, bio-filtration treatment flow-through planters, and use green roofs where feasible. Open space and waterfront areas would include bio-filtration treatment (including

³⁰ The combined sewer pump station would be enclosed and include two pumps rated at 2,000 gpm each, an emergency generator, electrical and control panels, and odor control equipment.



Potrero Power Station Mixed-Use Development Project
Figure 2-20
 Project-Wide Combined Sewer System Option

SOURCE: Perkins+Will, 2018

bioretention basins, rain gardens, and flow-through planters), rain water harvesting and reuse, and permeable surfaces. As required, proposed streets would also incorporate bio-filtration via bioretention planters and basins, and make use of permeable surfaces where feasible.

Electricity and Natural Gas

The project site has existing electrical service from overhead power lines adjacent to the site. The proposed project would extend underground electrical distribution lines to serve each proposed building. Other existing underground high voltage lines in 23rd Street would be retained. The existing electrical facilities along Illinois Street would also be retained. Existing electrical facilities that serve areas to the north bisect the project site near the planned alignment of Georgia Street. These facilities would be relocated. Other existing electrical facilities within the site would either be retained or relocated.

There is existing natural gas service to the project site in Humboldt Street. The proposed project would extend natural gas distribution lines throughout the project site, connecting to the existing facilities on both Illinois and 23rd streets.

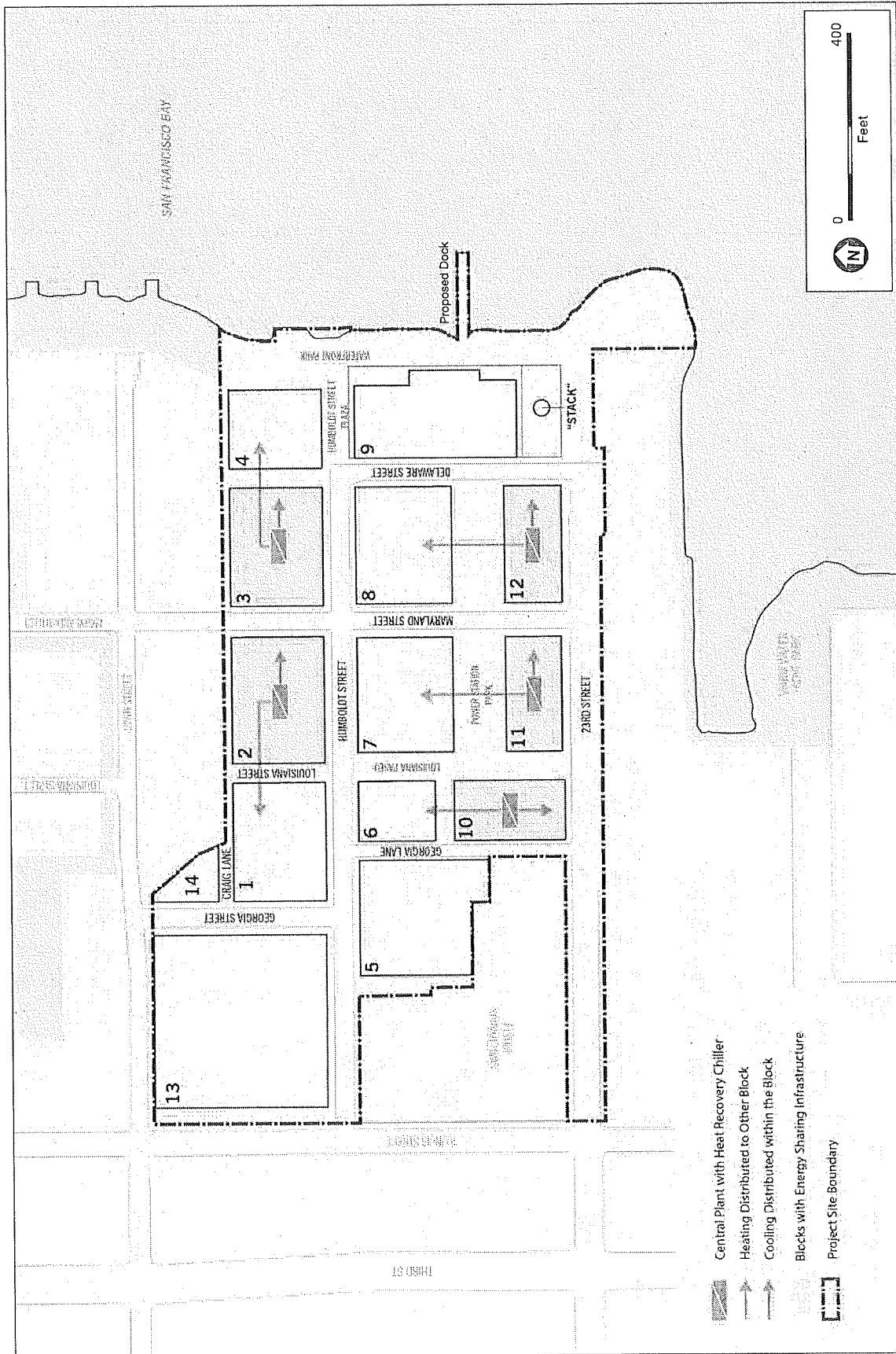
Fourteen backup emergency generators are proposed to serve the building uses on Blocks 1 through 3, 5 through 12, and 14, in addition to the backup emergency generator proposed for the sewer pump station.

Optional Thermal Energy Plan

As illustrated in **Figure 2-21, Thermal Energy Plan**, a thermal energy system may serve the project. The thermal energy system would recover waste heat and utilize it for heating and cooling, further reducing the project energy demands and water demands for mechanical uses. The heat recovery equipment would consist of the use of heat recovery cooling equipment installed in the commercial buildings in Blocks 2, 3, 10, 11, and 12. Examples include the use of chiller systems with heat reclaiming capabilities that would generate cooling of water for use in the commercial buildings, but the systems would also recover hot water as a by-product of the chilled water system. The recovered hot water would then be pumped to adjacent residential buildings in Blocks 1, 4, 6, 7, and 8 for use in space heating and for domestic hot water. The system would not cross public rights of way. Because the thermal energy system may not be implemented (the system would be installed at the project sponsor's discretion), this EIR does not assume implementation of the thermal energy system for purposes of the air quality analysis or in calculating the proposed project's energy demands.

Sustainability Plan

The project sponsor is including sustainability elements within both the Design for Development and Infrastructure Plan documents addressing renewable energy considerations. The proposed project would, at minimum, comply with the state's Title 24 energy efficiency requirements, the San Francisco Green Building Requirements for renewable energy, the Better Roof Requirements for Renewable Energy Standards, and the City's Non-potable Water Ordinance, Recycled Water Ordinance and LEED Gold v4 certification for all buildings.



Potrero Power Station Mixed-Use Development Project
Figure 2-21
 Thermal Energy System

SOURCE: Perkins+Will, 2018

Proposed Dock and Other Shoreline Features

The proposed project would include the construction of a dock along the shoreline in the vicinity of the Unit 3 Power Block, to be used for recreational vessel³¹ berthing, and fishing. The facility would consist of a fixed wharf structure, gangway, and floating dock (see **Figure 2-22, Proposed Recreational Dock**).

A proposed pile-supported wharf would protrude from landside over the sloped bank and water. The wharf deck would be constructed of reinforced concrete, and measure approximately 65 feet in length (parallel to the shoreline) and 35 feet in width. The wharf would be supported on nine 24-inch concrete piles. The piles would be driven approximately 5 feet into the soil to the underlying rock formation. Three of the nine piles would be driven in water, while the other six piles would be on land above mean higher high water elevation (MHHW). The height of the wharf deck would be approximately 17.5 feet North American Vertical Datum of 1988 (NAVD88) to account for sea level rise in the future. Please also see discussion of "Proposed Improvements to Address Sea Level Rise," Section 2.E.10, p. 2-47 below.

A proposed gangway would span between the wharf and the floating dock, and measure approximately 80 feet in length by 3 feet in width. The prefabricated gangway would consist of an aluminum walkway deck, beams and handrails. The floating dock would be composed of composite boxes with foam infill or reinforced concrete and measure approximately 120 feet in length and 15 feet in width. The floating dock would be held in place by guide piles, consisting of either four 36-inch diameter steel piles, or 14 24-inch diameter concrete piles, extending approximately 70 feet into the soil. Please see also Section 2.F.1, "Construction Overview and Schedule, Construction Equipment," p. 2-50 below, for detail on construction equipment associated with the transport and installation of the wharf, gangway and floating dock.

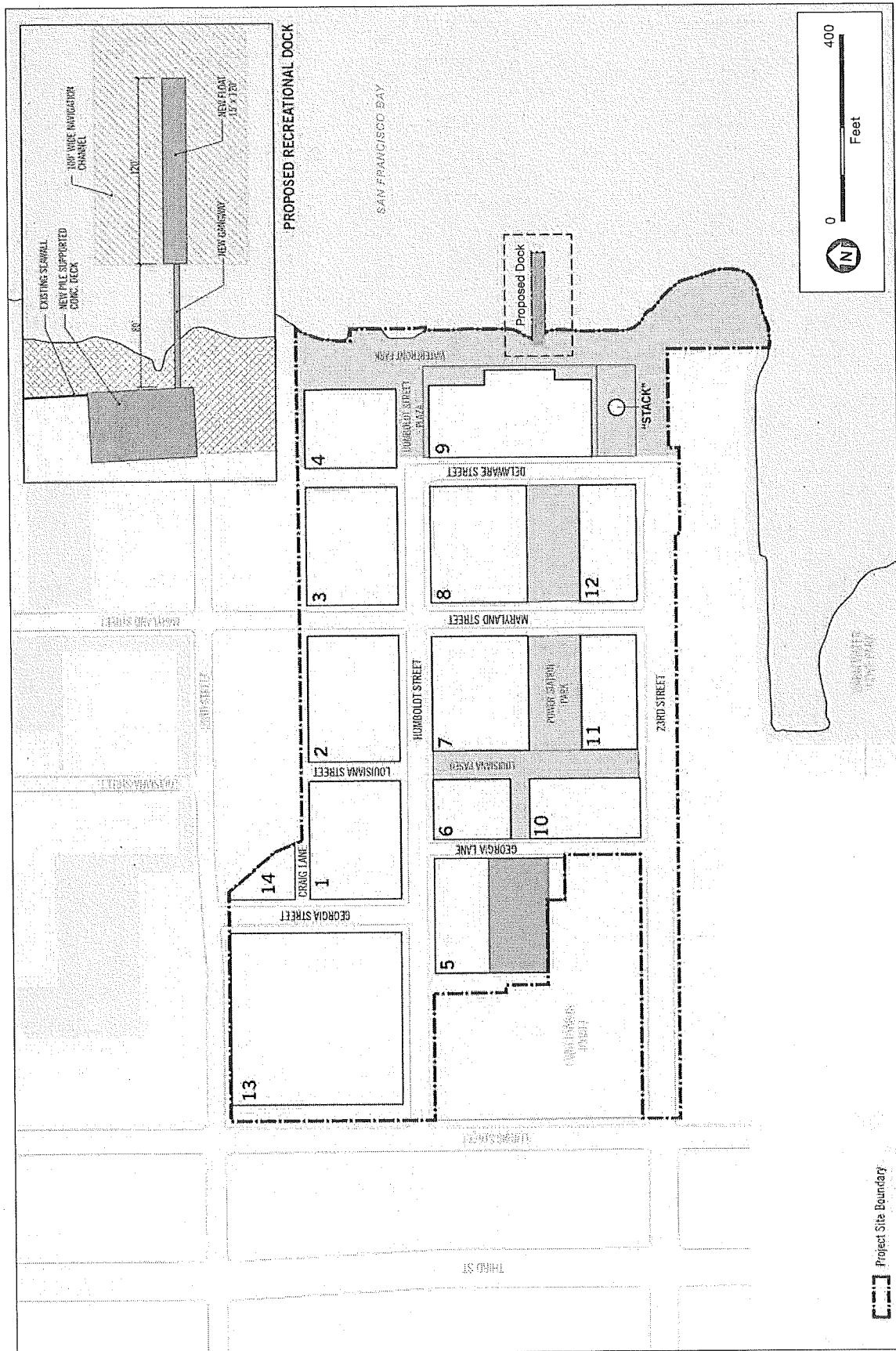
The dock is proposed to be constructed on the shoreline just south of the existing Unit 3 Power Block outfall, at the south end of an existing seawall.

Preliminary evaluation by the sponsor indicates that the existing water depth at this location, even at extremely low tides, is sufficient to accommodate safe navigation and berthing of vessels of up to 45 feet in length at the proposed dock, without the need for initial dredging.^{32,33} The dock would have a 100-foot wide navigation corridor. The northernmost boundary of the navigation corridor would be located a minimum of 10 feet to the south of the nearest offshore remediation cell (PG&E

³¹ Recreational vessels can be classified as two sub groups: powerboats and sailboats. Powerboats are all vessels that provide propulsion under their own power through a jet type engine or propeller. Sailboats are all crafts that require wind for propulsion.

³² At this location of the Unit 3 Power Block outfall, the shoreline is relatively steep leading to a deep water channel that extends from the proposed berth area into a deep navigation channel in the Bay. It is believed that the deep channel was created by washing action from the outfall cooling water discharge when it was in operation (ceasing in 2011). Simpson Gumpertz & Heger, *Feasibility Assessment of Recreational Dock in the Potrero Power Plant Project*, November 7, 2017.

³³ The general water depth requirements for accommodating a 45-foot vessel (either a sailboat or a powerboat) is 6 feet. It is estimated that the proposed berthing area, and the navigation channel, should maintain a minimum 6-foot water depth at MLLW. The required navigation channel width to accommodate two-way vessel traffic would be 100 feet, in accordance with the Unified Facilities Criteria (UFC) 4-152-07 "Design: Small Craft Berthing Facilities," U.S. Department of Defense, September 2012. Simpson Gumpertz & Heger, *Feasibility Assessment of Recreational Dock in the Potrero Power Plant Project*, November 7, 2017.



Potrero Power Station Mixed-Use Development Project
Figure 2-22
 Proposed Recreational Dock

SOURCE: Perkins+Will, 2018

Sediment Remediation Zone Cell 16) so as to avoid disturbance of the natural sediment cover in that cell. The minimum water depth at the berth and navigation corridor is 6 feet at the mean lower low water (MLLW) elevation.

However, occasional future maintenance dredging is anticipated to maintain the minimum water depth required for vessel access during project operation. Maintenance dredging is not expected to be required until 2050.

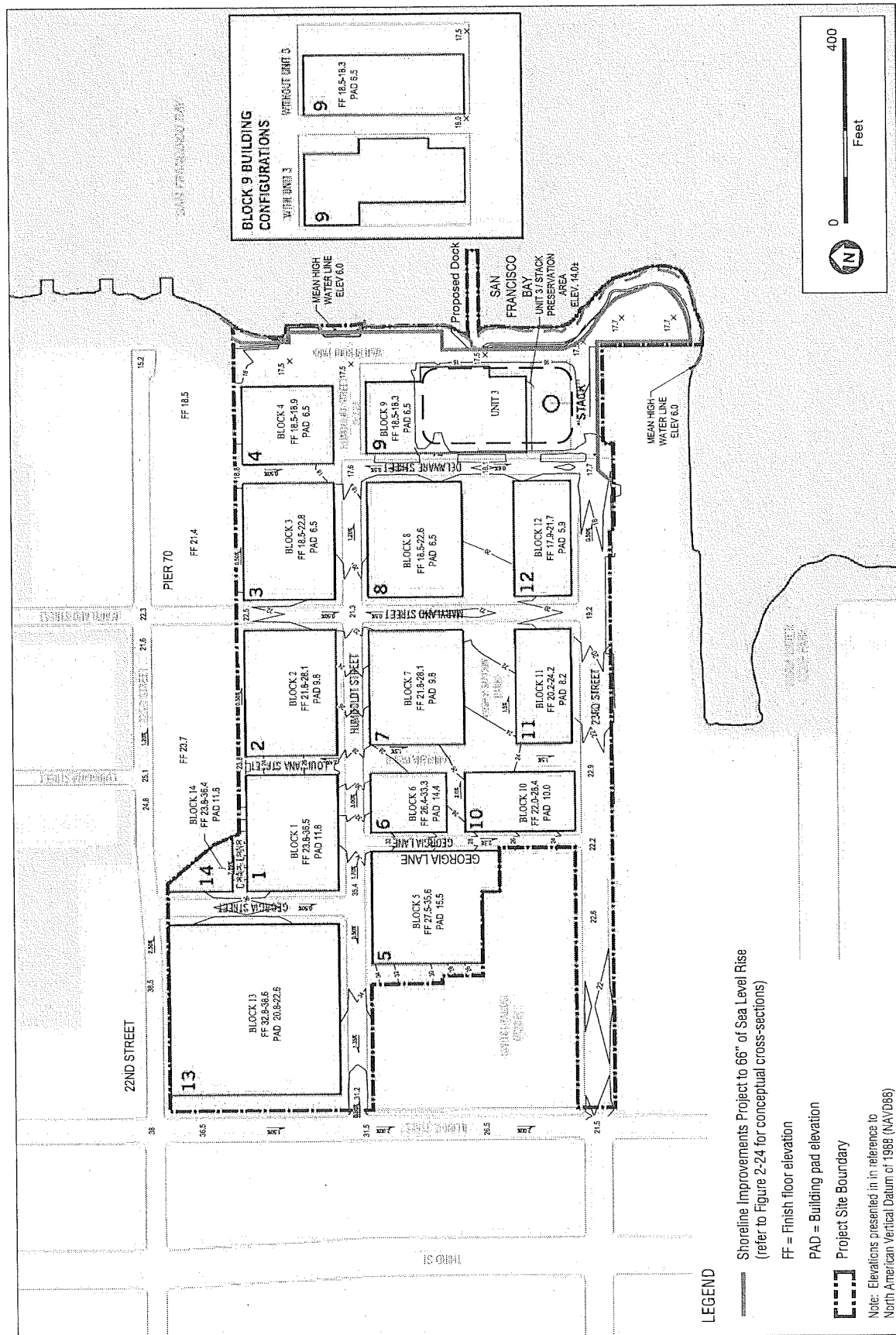
Construction of the dock and future maintenance dredging operations would take place during the approved work windows set forth by the appropriate regulatory agencies. Refer to "2.F.3, In-Water Construction Avoidance and Minimization Measures," p. 2-57 below, along with Section 4.I, Biological Resources, subsections "Project Features," p. 4.I-32, for additional information.

In addition to the dock, the proposed project may include in-water work related to the demolition, stabilization or structural improvement of the existing Unit 3 Power Block outfall structure, the cooling water intake structure (located approximately 250 feet north of the outfall structure), and the Station A intake structure (located to the south of the outfall structure). Also, as discussed under "Dual System (Combined Sewer/Separated Sewer) Option (Preferred Project)," above, under the preferred project, a stormwater outfall for discharging runoff from the project site would be installed in the vicinity of the existing Unit 3 Power Block intake structure. Removal of fill as mitigation for new bay fill created by the project would be provided.

2.E.10 Proposed Improvements to Address Sea Level Rise

To address the potential flooding due to future sea level rise in combination with storm and high tide conditions, the proposed project would make physical improvements to the shoreline, including rock slope revetments, berms and bulkheads; and grade elevation inland. **Figure 2-23, Proposed Grading Plan and Location of Shoreline Improvements**, presents the proposed grading plan and location of shoreline improvements. **Figure 2-24, Conceptual Shoreline Improvements Cross-sections**, presents conceptual waterfront cross-sections (at Block 4, Block 9, Unit 3 Power Block, and Waterfront Park) illustrating potential shoreline improvements.

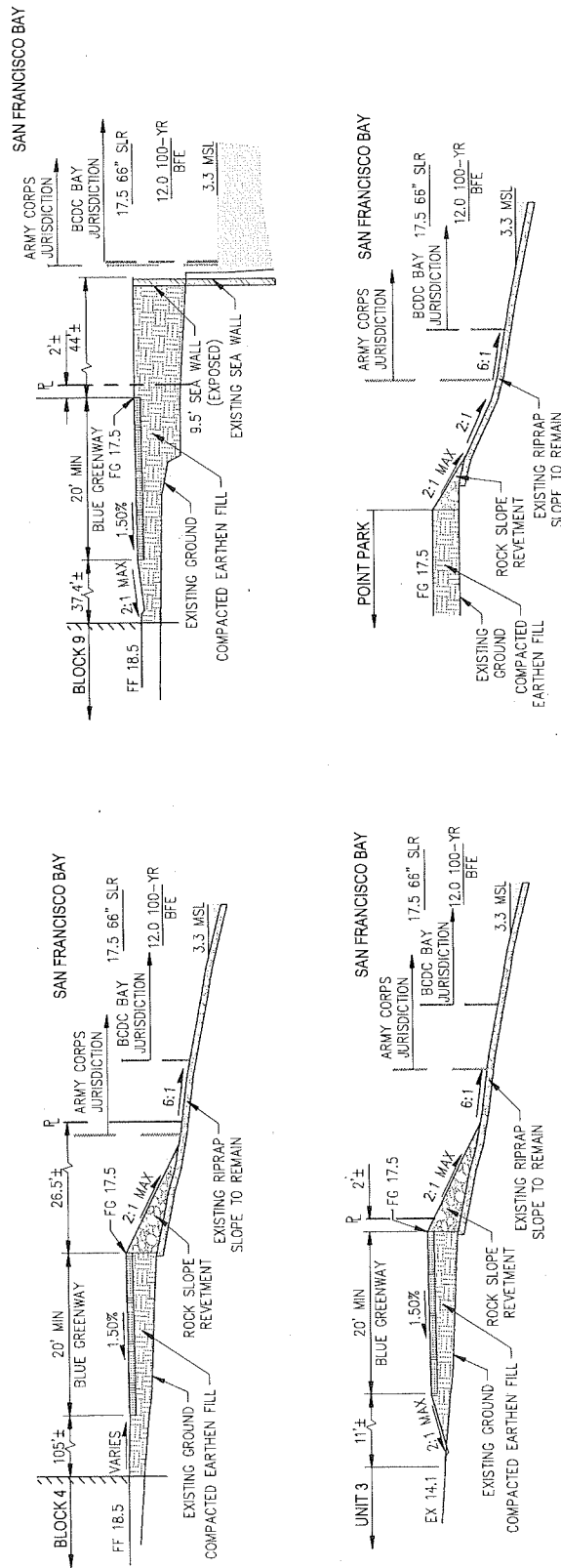
During Phase 1 of construction (see discussion of construction phases under 2.F, "Project Construction," below), elevations at the shoreline would be increased by approximately 3 to 7 feet to address flood risk due storms, extreme tides, and wave run-up. The finished floor elevations for the ground floors of buildings on Blocks 3, 4, 8 and 12 and Block 9 (with the exception of the ground floor area within the Unit 3 Power Block should it be repurposed), would be constructed at least 2 feet above the projected 100-year flood elevation with future sea level rise of up to 66 inches. If the Unit 3 Power Block is repurposed into a hotel, the finished floor elevation would stay at the existing elevation, which provides for approximately 24 to 30 inches of sea level rise protection. Additional flood and stormwater measures, including a pump and backflow, would be incorporated into the design of the Unit 3 Power Block to protect this low lying area in the case sea level rise exceeds 24 inches.



SOURCE: CBG, 2018

Potrero Power Station Mixed-Use Development Project

Figure 2-23
Proposed Grading Plan and Location of Shoreline Improvements



Potrero Power Station Mixed-Use Development Project

SOURCE: CBG, 2018

Figure 2-24
Conceptual Shoreline Improvements Cross-sections

2.E.11 Site Remediation

Another potential element of the proposed project is environmental remediation activities beyond those currently being conducted by PG&E, if deemed necessary by the Regional Water Quality Control Board. As stated above, PG&E is undertaking environmental remediation activities to achieve a commercial/industrial land use standard. Institutional controls³⁴ regulating the portions of the site where remediation has been completed specify that residential or other sensitive land uses are prohibited without prior approval from the regional board. The regional board-approved Risk Management Plan for these portions of the property includes a framework that must be followed to allow residential or other sensitive land uses on the site. The project sponsor would be required to implement the framework and obtain regional board approval to allow the residential and hotel components of the development as proposed. In considering its approval, the regional board may require that the project sponsor implement an additional human health risk evaluation, additional media-specific mitigation, and/or additional institutional and engineering controls, to ensure the health and safety of current and future site users, maintenance and construction workers, and the public. Additional mitigation and engineering controls may include localized soil excavation and offsite disposal, localized in-situ soil stabilization, soil vapor mitigation (e.g., sub-slab venting systems), more robust durable cover specifications, and/or more robust monitoring and maintenance activities. Such additional mitigation and engineering controls would be considered part of the proposed project.

2.F Project Construction

2.F.1 Construction Overview and Schedule

Figure 2-25, Proposed Project Phasing Plan, shows the proposed construction phasing on the project site, and **Table 2-2, Approximate Construction Schedule by Phase**, presents the anticipated approximate construction schedule for each phase. As shown in Table 2-2, construction of the proposed project is anticipated to occur in phases over the course of 15 years, from the beginning of 2020 to the end of 2034.

The initial phase of construction (Phase 0), from 2020 to approximately 2022,³⁵ would include demolition, site stabilization work (e.g., soil surcharging³⁶ and deep soil mixing³⁷), site preparation and rough grading for the entire project site, including construction of interim surface parking improvements for use by construction vehicles and other site users prior to the construction of permanent parking facilities.

³⁴ Institutional controls are administrative and legal controls, such as a land use covenant imposing land use or activity restrictions or a site management plan, that help minimize the potential for exposure to contamination and/or ensure the integrity of the remedial action over time.

³⁵ An exception would be in the location of the former tank farm area, which is subject to future remediation by PG&E (as may be required by applicable laws and regulations) that could extend beyond 2022.

³⁶ During surcharge programs, wick drains are installed in soft/compressible soil to accelerate drainage. A surcharge fill is then applied over the area of installed drains, and surface settlements and pore pressures within the soft/compressible material are monitored before additional soil surcharge is placed.

³⁷ Deep Soil Mixing (DSM) mixes soil, cement and water to create individual or overlapping columns of cement-treated soil with specified strengths and stiffness. A mixing rig with either single or multiple mixing augers is advanced to specified depths, and the cement and water are added during initial auger advancement, and also during auger withdrawal. DSM work will require use of a dry cement batch plant at the project site.

TABLE 2-2
APPROXIMATE CONSTRUCTION SCHEDULE BY PHASE^a

Construction Phase	Start	Finish	Duration
Phase 0 ^b	2020	2022	3 years
Phase 1	2022	2025	4 years
Phase 2	2024	2026	3 years
Phase 3	2025	2028	4 years
Phase 4	2027	2031	5 years
Phase 5	2030	2032	3 years
Phase 6	2030	2034	5 years

^a All start/finish dates in Table 2-2 are approximate and could be affected by market conditions, PG&E's remediation process (as may be required by applicable laws and regulations), the City's permitting process, among other factors.

^b Phase 0 includes a subphase (Phase 0.1) that involves site preparation activities in the future PG&E remediation area (the "Tank Farm Area"). The schedule for Phase 0.1 is likely to extend beyond 2022, depending on the PG&E remediation schedule (as may be required by applicable laws and regulations).

SOURCE: California Barrel Company, 2018

After Phase 0, there would be six construction phases (Phases 1 through 6) corresponding to six areas on the project site, with each phase consisting of two to three blocks and associated areas for streets and open spaces. Within each of these phases, there would be subphases for land development, vertical construction, and open space improvements. Land development activities would include, but not be limited to, excavation activities to remove, relocate, or install utilities, site stabilization work, temporary utility improvements, and construction of streets and sidewalks. Vertical construction activities would include, but not be limited to, finish grading, excavation for subgrade parking, installation of foundation footings and pile supports, construction of building foundations and concrete podiums, building construction, and architectural coatings. Project-related site remediation may also occur during the land development and vertical construction phases to the extent required by the regional water board to approve residential use or to address previously unknown contaminants discovered during the course of development pursuant to the Risk Management Plan(s). Open space improvements would include hardscaping and landscaping improvements in open space areas.

Construction duration in each phase area would generally range from three to five years, with construction activities occurring up to seven days a week, including holidays, between 7 a.m. and 8 p.m., consistent with section 2908 of the San Francisco Police Code. Nighttime construction activities, between the hours of 8 p.m. and 3 a.m., would be limited to 23rd Street during Phase 1, before there is residential occupancy on the project site, and would only include operation of the types of equipment associated with the construction of 23rd Street, including utility installation and street improvements. Nighttime construction activities would not involve construction activities or equipment that could produce substantial noise and vibration, such as controlled rock fragmentation, impact or vibratory pile drivers, jackhammers, impact hammers, or rock drills.

As shown in Figure 2-25, the majority of the proposed project shoreline open space improvements would be constructed in Phase 1. A small subset of the shoreline improvements (between the proposed Bay Trail extension and Block 4) would be constructed in Phase 3 to allow for this portion

of open space to be designed in conjunction with the design of Block 4. Since portions of Phase 5, and all of Phase 6, would be within the PG&E sub-area, construction within these areas and the adjacent street improvements would only occur when and if PG&E finds that it can feasibly relocate its utility facilities and obtains the necessary regulatory approvals for any such relocation. Once the facilities are relocated, then PG&E would be able to seek the necessary regulatory approvals to divest itself of the PG&E sub-area for redevelopment.

The following provides additional detail on project-related ground-disturbing activities during construction, including demolition; soil excavation, project remediation, and grading; blasting/controlled rock fragmentation; building foundations; and dewatering.

Demolition

As noted above, the project would require demolishing about 20 structures, encompassing about 100,000 square feet. It is expected that there may be onsite recycling (crushing and reusing) of existing concrete materials during demolition and construction.

Soil Excavation, Project Remediation, and Grading

Soil excavation would occur during construction of the proposed project, including, but not limited to the installation of underground utility infrastructure and subgrade parking garages. In addition, site stabilization activities could include deep soil mixing, surcharge and placement of lightweight fill. Preliminary estimates indicate that up to 454,000 cubic yards of soil may be excavated, of which approximately 25,000 cubic yards would be re-used onsite; and an additional 21,000 cubic yards of new fill could be imported to the project site. The depth of excavation would range between 0 and approximately 25 feet below grade, with the maximum depth of excavation anticipated on Blocks 1 and 14.

As described in greater detail in above, under "Summary of Site Conditions," p. 2-9, PG&E has completed remediation of the PG&E sub-area, and a majority of the Power Station sub-area to a commercial/industrial use standard and is currently remediating the remainder of the Power Station sub-area to the same standard. PG&E's environmental remediation activities are independent of the project, but the project may require additional remediation activities to permit residential uses at the project site. This would include excavation by the project sponsor of contaminated soil and other remedial measures and engineering controls to the extent the regional board requires such activities to allow residential use or to address previously unknown contaminants discovered during the course of project construction. Soil excavation would also occur during construction of the proposed project, including, for example, to install utilities and allow construction of subterranean parking garages. Soil excavation, movement, stockpiling, and transportation for offsite disposal would be in accordance with the requirements specified in the Risk Management Plan(s) that apply to the project site. Such requirements include soil management protocols, dust control best management practices, stockpile management protocols, storm water pollution prevention best management practices, worker health and safety measures, field screening, and sampling/testing of soil samples. Following completion of the improvements, a durable cover would be re-established over the entire site in accordance with the Risk Management Plan(s).

The proposed grading plan is presented in Figure 2-23, above. The proposed grading plan would maintain the existing drainage patterns of the project site, with elevations sloping gently west to east toward the waterfront. The proposed elevations of the proposed buildings and public access areas along the waterfront, would include protection from sea level rise.

There is currently up to 14.5 feet of grade change between the project site and the Pier 70 Mixed-Use District project site. The Pier 70 Mixed-Use District project will be raising the grade along the property line between 7 and 10.5 feet. In order to match this future grade, the proposed project intends to lower grades up to 5 feet along the property line. This would allow for a contiguous north-south connecting street at Maryland Street and a shared east-west alley along the property line shared by the two projects.

Blasting/Controlled Rock Fragmentation

It is anticipated that the Greywacke bedrock underlying the project site, located primarily inland of the historic 1851 shoreline, as shown on Figure 2-25, may be resistant to earthwork equipment.³⁸ It is expected that most rock excavation, particularly in the upper 10 feet of the rock at the project site, would be achievable with conventional large excavators, but deeper excavations of rock may require blasting. An alternative to blasting that is being considered, where appropriate, is controlled rock fragmentation, by either injecting expansive materials³⁹ or pulse plasma injection.⁴⁰

Building Foundations

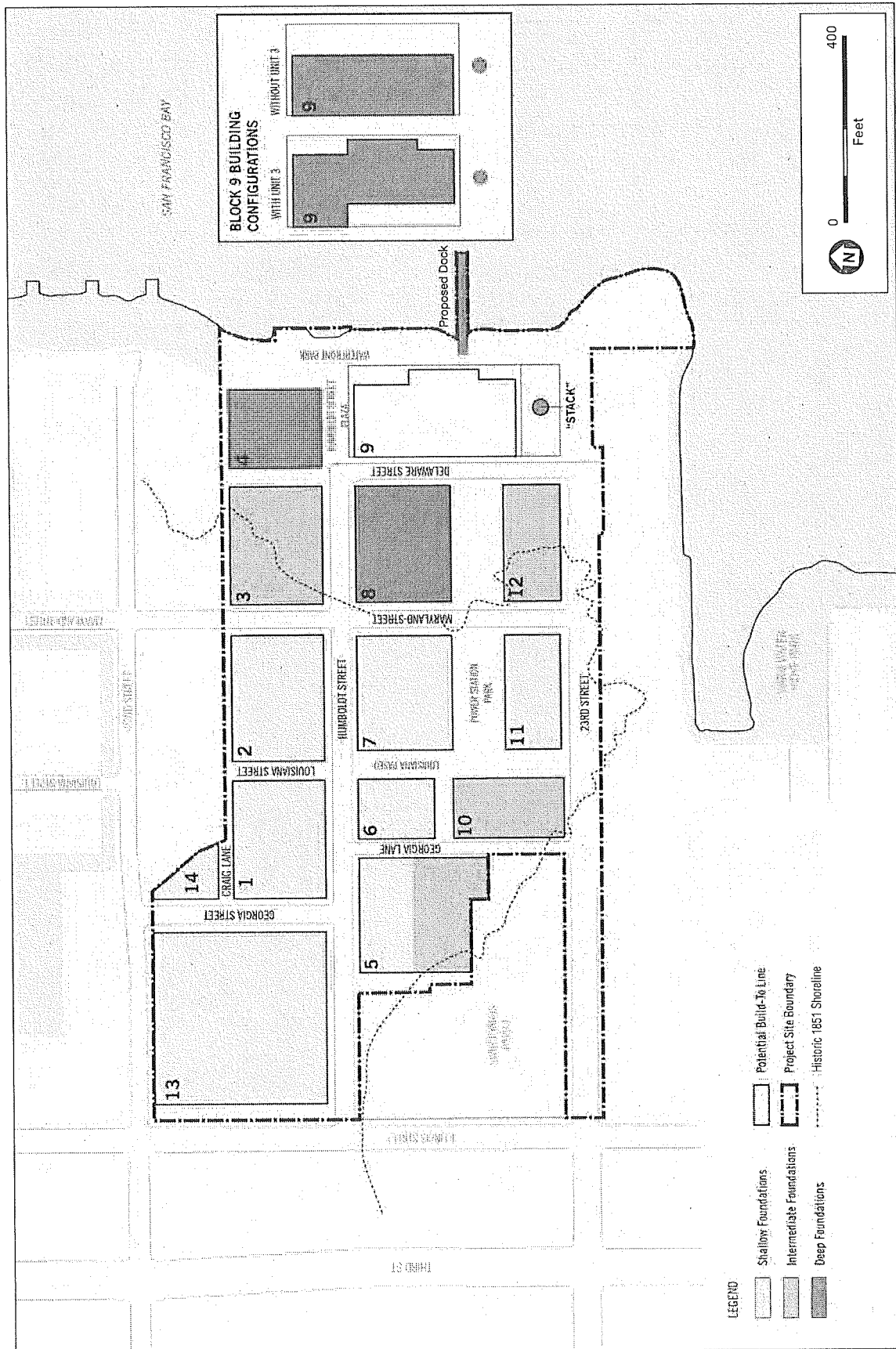
Figure 2-26, Proposed Foundation Type Plan, illustrates the proposed foundation type plan for the project site. Construction of the proposed project would require deep foundations using piles for moderately to heavily loaded structures built in areas outside (bayward) of the historic 1851 shoreline, whereas shallow foundations made with spread footings with slab-on-grade or a structural mat foundation may be used inland of the historic 1851 shoreline. Structures in the vicinity of the historic 1851 shoreline may be founded on intermediate foundations (shallow foundations with ground improvement on the fill side), or a dual foundation system (shallow foundations on the bedrock side, and piles on the fill side). Deep foundations are anticipated during Phases 1 and 3. Phases 1, 3, and 4 may involve intermediate foundations. Shallow foundations are anticipated for Phases 2, 3, 4, 5 and 6.

As shown in Figure 2-26, deep foundations are proposed in Blocks 4, 8, and 9. Deep foundations would be comprised of steel pipe-piles driven to bedrock beneath these blocks. Pile driving operations would likely be performed over a maximum duration of six weeks per block, with about

³⁸ Based on a study of rock hardness conducted in support of the adjacent Pier 70 project, where similar rock to the bedrock at the project site exists.

³⁹ Using controlled foam injection, a high-pressure foam is injected into a predrilled hole. Fracturing is achieved by controlling the pressure of the foam. This method produces almost no fly rock or airblast and the pressures needed to break rock with this method are substantially less than those needed for methods using small explosive or propellant charges.

⁴⁰ Pulse plasma rock fragmentation uses a pulsed electrical discharge to produce shocks or pressure waves. The blasting probe is placed into a water-filled cavity and the pulse propagates into the rock, leading to fracture. Compared with conventional blasting methods, pulse plasma rock fragmentation causes less vibration, noise, and dust, and uses no chemical substances.



Potrero Power Station Mixed-Use Development Project
Figure 2-26
 Proposed Foundation Type Plan

SOURCE: Perkins+Will, 2018

two piles installed per hour, on average, and approximately 400 to 500 piles per block, for a total of 1,200 to 1,500 piles. The maximum pile length for the project is anticipated to be 70 feet, and pile diameters are anticipated to range from 14 to 16 inches in diameter. Intermediate foundations requiring piles on Block 3, 5, 10, and 12 would account for about 650 additional piles, with construction ranging between one and four weeks per block. In total, between 1,850 and 2,100 piles would be installed for foundations at the project site.

The proposed dock would also require piles; please see discussion of pile installation for this project feature under "Proposed Dock and Other Shoreline Features," p. 2-45 above.

Dewatering

Depending on excavation depths, water levels, and permeability of materials excavated, various measures by the contractor may be employed to lower groundwater to 3 feet below excavation depths. Dewatering during construction would likely be required for Blocks 3, 4, 8, 9, 12, and to a lesser extent, for Blocks 5 and 10. Dewatering may also be required during utility trenching/construction. (Please see Chapter 4, Section 4.J, Hydrology, Water Quality, and Sea Level Rise for additional detail.)

The project sponsor is also considering approaches to address potential long-term groundwater infiltration to proposed below grade facilities should they be located below or near static groundwater levels, including designing basement walls to accommodate hydrostatic pressures, and a permanent waterproofing design. Permanent waterproofing and hydrostatic pressures would be incorporated into the building design so that permanent dewatering would not be required.

Construction Employment

Table 2-3, **Project Daily Construction Workers, by Year**, summarizes the estimated project construction jobs. As shown in Table 2-3, the number of daily construction workers present onsite daily would vary over the course of construction, depending on the specific construction activities being performed, and overlap between construction phases.

TABLE 2-3
PROJECT DAILY CONSTRUCTION WORKERS, BY YEAR^a

Year	Peak Number of Daily Workers	Year	Peak Number of Daily Workers
2020	102	2028	377
2021	228	2029	135
2022	282	2030	401
2023	180	2031	312
2024	317	2032	233
2025	398	2033	42
2026	200	2034	102
2027	149		

SOURCE: California Barrel Company, 2018

2.F.2 Construction Equipment

A variety of mobile and stationary construction equipment would be used at the project site during construction. It is expected that track-mounted cranes and pile hammer and/or drill rigs would be used at the project site for landside pile installation for the deep foundations. Track/tire-mounted cranes and/or tower cranes would also be used for building construction, including but not limited to, steel and precast erection, and building façades. Other mobile equipment such as excavators, graders, backhoes, loaders, dump trucks, compactors, pavers and forklifts would be used at the project site for a range of other construction tasks on the project site, including excavation, site clearing and grading, building construction, and/or hardscape and landscape materials installation. Project construction would also generate offsite truck trips for deliveries of concrete and other building materials, transportation of construction equipment to and from the site, hauling soils and debris from the site, and street sweepers. Miscellaneous stationary equipment would include generators, crushing and processing equipment and cement and mortar mixers. A variety of other, smaller, mechanical equipment would also be used at the project site during the construction period, such as jackhammers/pavement breakers, saw cutters, chopping saws, tile saws, stud impact guns, impact drills, torque wrenches, welding machines, and concrete boom pumps.

With respect to proposed in-water and overwater construction activities, a variety of landside and waterside equipment would be used. It is anticipated that a landside track-mounted crane with pile hammer and/or other appropriate installation device would be used to install the piles over the shoreline slope to support the proposed wharf. The proposed concrete wharf deck would be constructed over the piles by way of either a cast-in-place reinforced deck, or cast-in-place concrete pile caps with precast concrete deck panel and cast-in-place concrete overlay. The proposed prefabricated floating dock and gangway would be transported to the project site on barges towed by tugboats. A landside track-mounted crane would be used to lift the gangway off the barge and set it onto the pile-supported wharf and the floating dock, after which the gangway would be structurally connected. A track-mounted crane fitted with pile hammer and/or other appropriate installation device atop a deck barge (maneuvered by a tugboat) would be used to install the off-shore guide piles for the floating dock. See also proposed Section 2.F.3, "In-Water Construction Avoidance and Minimization Measures," below.

2.F.3 In-Water Construction Avoidance and Minimization Measures

The project sponsor would require that contractors employ general best management practices for pollution prevention and construction management during construction. In order to avoid and/or minimize potential impacts to jurisdictional waters and water quality, the following standard construction best management practices (BMPs) shall be included in the construction contract specifications for in-water construction. These measures would be subject to modification and additions based upon regulatory and resource agency review:

- In-water construction activities (i.e., dredging and pile installation) shall be restricted to the National Oceanic and Atmospheric Administration approved seasonal work window (June 1

to November 30), which encompasses the California Department of Fish and Wildlife seasonal work window for Pacific herring.

- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction-related materials or wastes, oil, or petroleum products shall be allowed to enter into or placed where it would be subject to erosion by rain, wind, or waves and enter into jurisdictional waters.
- Protective measures, such as having designated secondary containment areas, shall be utilized to prevent accidental discharges to waters during fueling, cleaning, and maintenance.
- Floating booms shall be used to contain debris discharged into waters and any debris shall be removed as soon as possible, and no later than the end of each workday.
- Machinery or construction materials not essential for project improvements shall not be allowed at any time in the intertidal zone. The construction contractors shall be responsible for checking daily tide and current reports.
- The sponsor shall have a spill contingency plan for hazardous waste spills into the San Francisco Bay.

To reduce potential effects to biological resources, the following measures shall be implemented by the project for in-water construction, subject to agency review and approval:

- To reduce potential impacts from noise due to pile-driving, the contractor shall implement one or more of the following as needed:
 - Use vibratory methods for installation of steel piles to the extent practicable
 - Use cushion blocks between hammer and piles
 - Implement a “soft start” technique⁴¹

2.G Graphic Exhibits of Proposed Project

A number of graphic exhibits depicting the proposed project development are presented in Figures 2-27 to 2-31 at the end of this chapter for informational purposes.

2.H Required Project Approvals

The proposed project is subject to review and approvals by several local, regional, state, and federal agencies. Certification of the Final EIR by the San Francisco Planning Commission, which would be appealable to the San Francisco Board of Supervisors, is required before any other discretionary approval or permits would be issued for the proposed project. The proposed project may require major project approvals and/or plan amendments from the agencies listed in the following sections.

⁴¹ Whereby the impact hammer contacts the pile by gravity alone, which allows marine mammals to safely vacate the work area prior to pressure-driven use of the hammer.

2.H.1 Federal Agencies

U.S. Army Corps of Engineers

- Possible Clean Water Act section 404/Rivers and Harbors Act section 10 permit
- Dredged Material Management Office Permit

U.S. Fish and Wildlife

- Approval and/or permits for potential impacts to federally listed species under the federal Endangered Species Act

National Marine Fisheries Service

- Possible Essential Fish Habitat consultation
- Possible Federal Endangered Species Act consultation

Federal Energy Regulatory Commission

- Approval(s) relating to the relocation of PG&E operations, including, without limitation, any required approvals with respect to cost, land conveyance, and benefit/necessity determination(s)

2.H.2 State and Regional Agencies

San Francisco Bay Conservation and Development Commission

- Approval of permits for improvements and activities within the commission's jurisdictions, including a major use permit

Regional Water Quality Control Board - San Francisco Bay Region

- Approval of section 401 water quality certification
- Approval of requests for residential or other sensitive uses in areas with a land use covenant restricting such uses without regional board approval
- Site-specific approval of soil disturbance activities under the applicable Risk Management Plan
- General Construction Stormwater Permit

Bay Area Air Quality Management District

- Approval of any necessary air quality permits (e.g., Authority to Construct and Permit to Operate) for individual air pollution sources, such as boilers and emergency diesel generators

California Public Utilities Commission

- Approval to evaluate the benefit to PG&E customers from relocating PG&E operations to proceed with the proposed project in the PG&E sub-area
- Approval of proposed cost and plan to relocate PG&E operations
- Approval of an easement on PG&E land to others
- Approval of property sale, including price, terms and benefit to rate payers.

California Department of Fish and Wildlife

- Approval and/or permits for potential impacts to state-listed and California Department of Fish and Wildlife managed species under the California Endangered Species Act

2.H.3 Local Agencies

San Francisco Board of Supervisors

- Approval of general plan amendments, potentially including the Central Waterfront Plan
- Approval of planning code amendments and associated zoning map amendments
- Approval of a development agreement
- Approval of final subdivision map
- Approval of street vacations, dedications and easements for public improvements, and acceptance (or delegation to Public Works Director to accept) of public improvements, as necessary

San Francisco Planning Commission

- Certification of the Final EIR
- Approval of "Proposition M" office allocation per San Francisco Planning Code section 321, to the extent applicable
- Approval of Design for Development
- Initiation and recommendation to the San Francisco Board of Supervisors to approve amendments to the San Francisco General Plan, potentially including the Central Waterfront Plan
- Initiation and recommendation to the San Francisco Board of Supervisors to approve planning code amendments adopting a special use district and associated zoning map amendments
- Recommendation to the San Francisco Board of Supervisors to approve a development agreement

San Francisco Port Commission

- Adoption of findings regarding public trust consistency, if applicable
- Consent to a development agreement and recommendation to the San Francisco Board of Supervisors to approve, if applicable
- Approval of project construction-related permits for property within Port of San Francisco jurisdiction
- Approval of Construction Site Stormwater Runoff Control Permit

San Francisco Department of Building Inspection

- Issuance of demolition, grading, and site construction permits

San Francisco Public Utilities Commission

- Consent to development agreement

- Approval of stormwater management plan
- Approvals of the landscape plan per the Water Efficient Irrigation Ordinance
- Water Budget Application, Water Use Calculator, and Non-potable Implementation Plan per the Non-potable Water Ordinance
- Use of dewatering wells per Article 12B of the San Francisco Health Code (joint approval with the San Francisco Department of Public Health)
- Approval of vacation of public service utility easements (if necessary)

San Francisco Public Works

- Review of subdivision maps and presentation to the San Francisco Board of Supervisors for approval
- Consent to development agreement
- Issuance of public works street vacation order, if applicable

San Francisco Municipal Transportation Agency

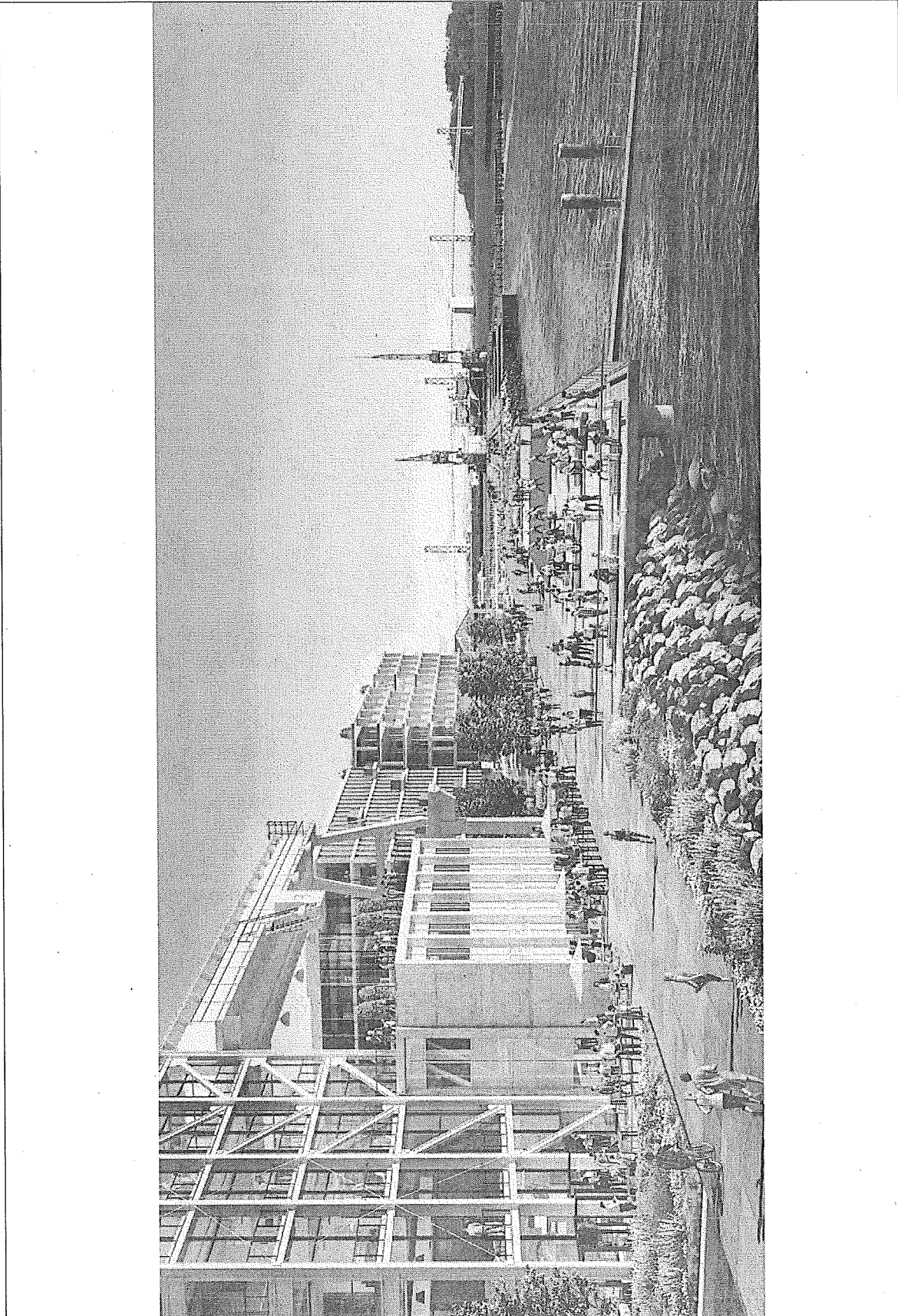
- Approval of transit improvements, public improvements and infrastructure, including certain roadway improvements, bicycle infrastructure and loading zones, to the extent included in the project, if any
- Consent to development agreement

San Francisco Fire Department

- Consent to development agreement

San Francisco Department of Public Health

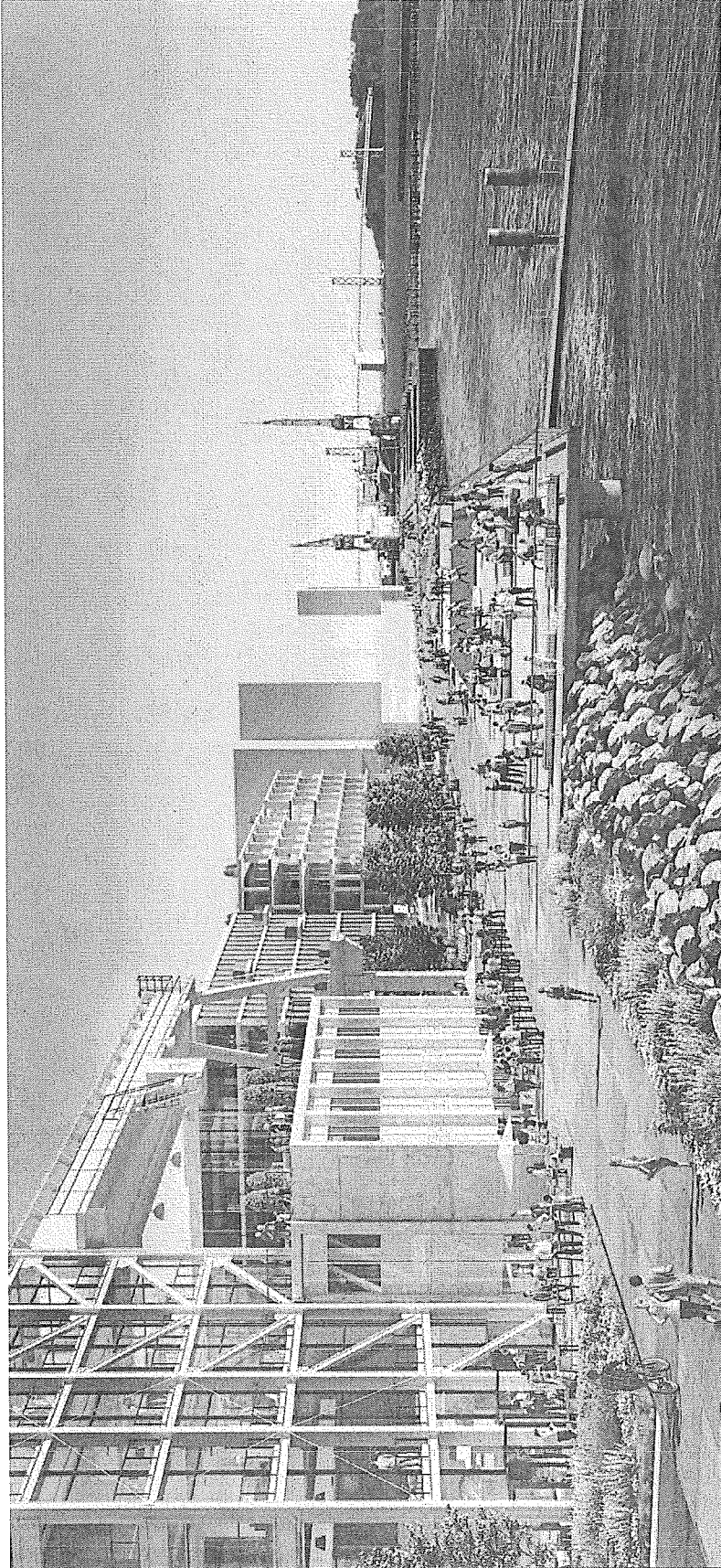
- Oversee compliance with San Francisco Health Code Article 22A (Maher Ordinance)
- Permit to operate under the Non-Potable Water Ordinance



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

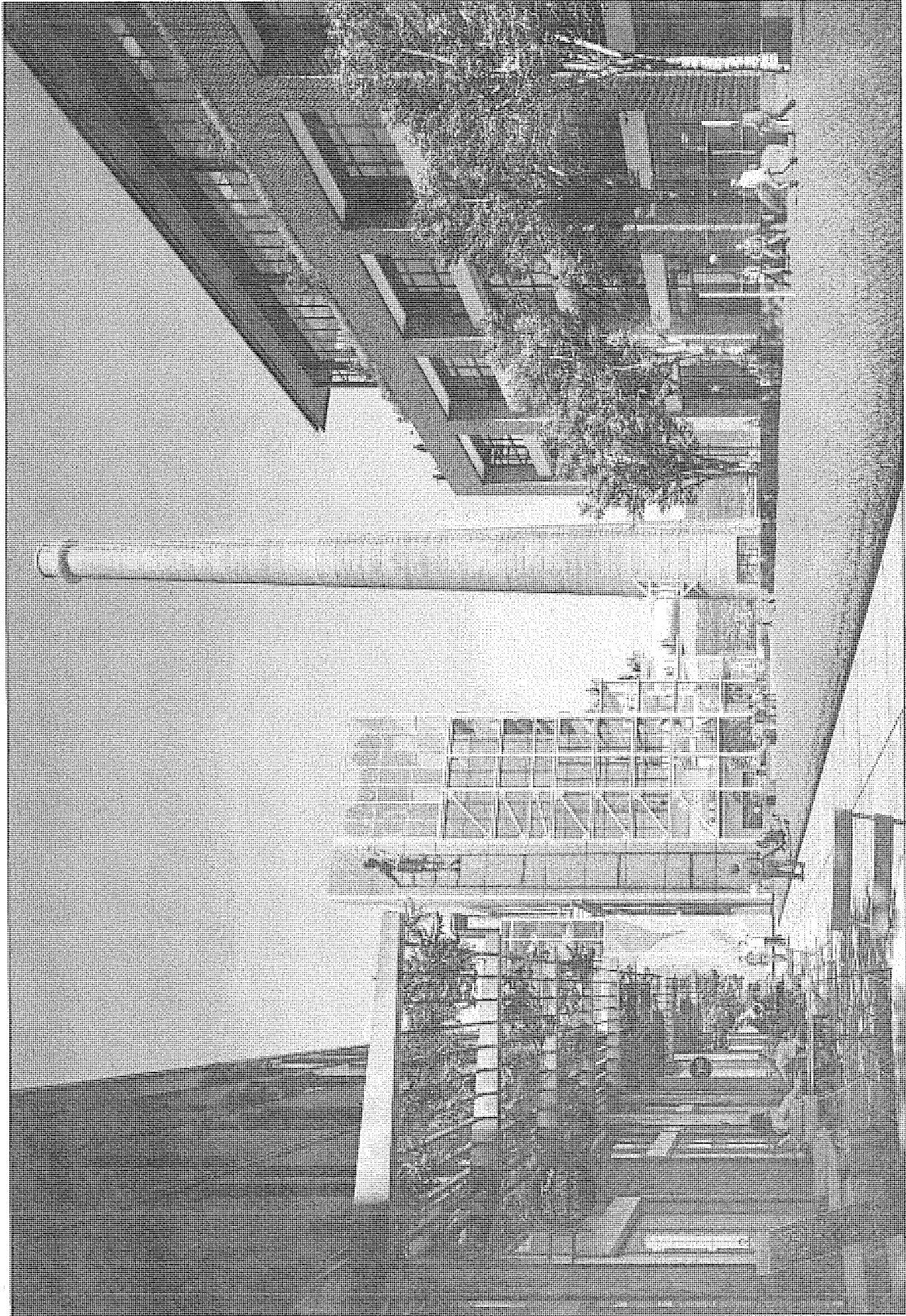
Figure 2-27
Rendering Looking North Along Proposed Waterfront Park



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

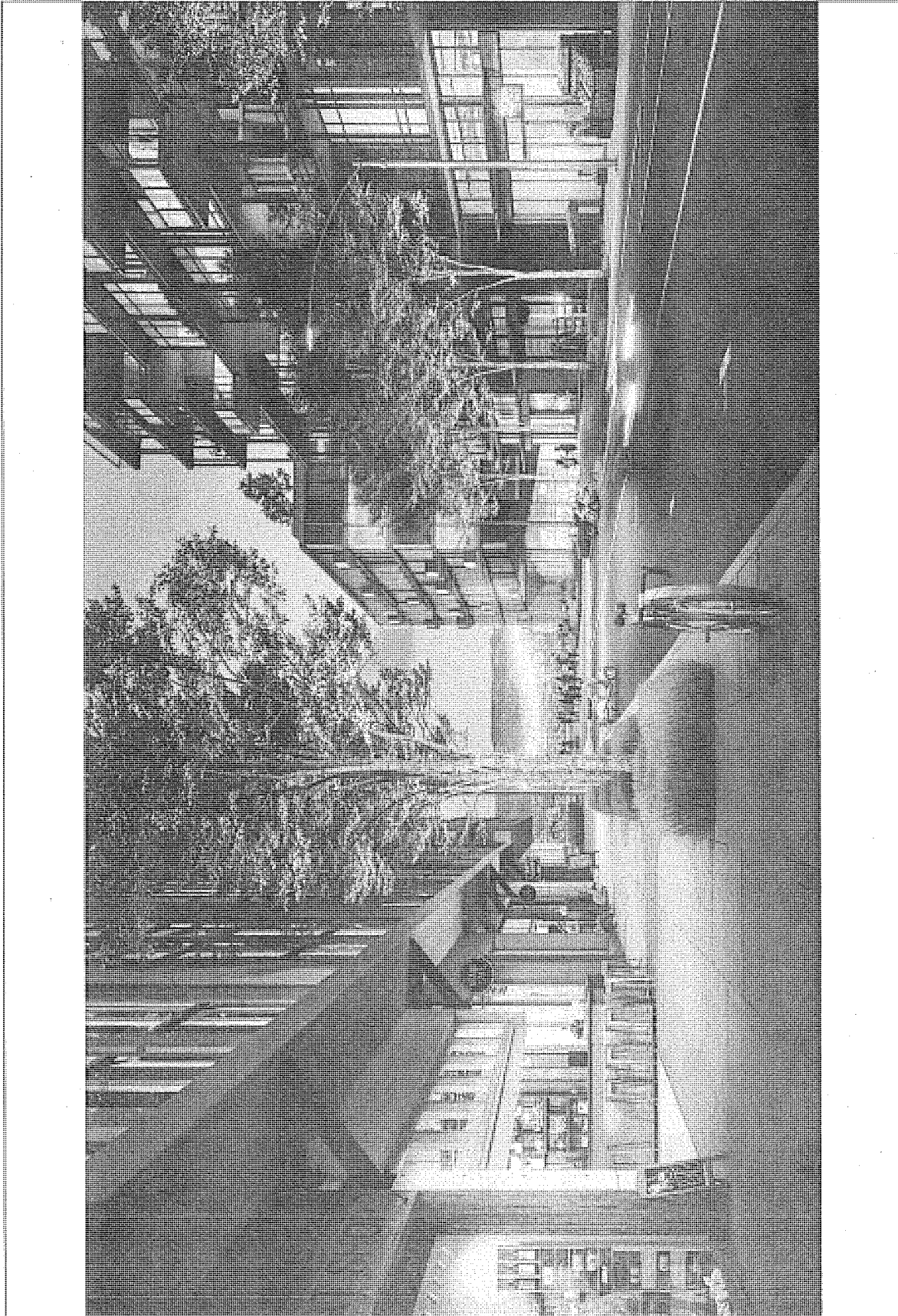
Figure 2-28
Rendering Looking North Along Proposed Waterfront Park
With Pier 70 Mixed-Use District Project (under construction), as Massing in Distance



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

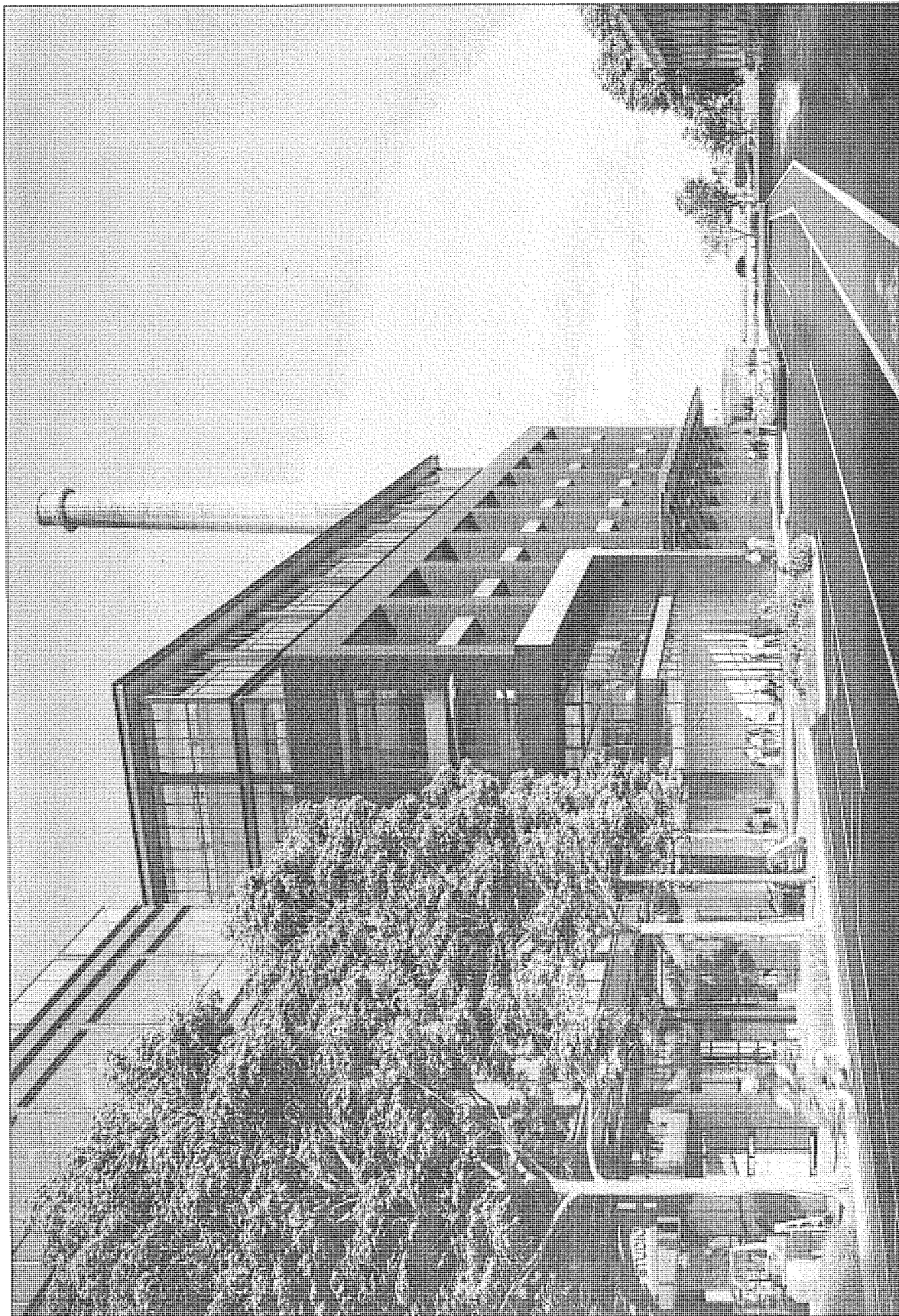
Figure 2-29
Rendering Looking East Along Proposed Power Station Park
Towards Unit 3 Power Block, the Boiler Stack, and the Bay



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 2-30
Rendering Looking East Along Proposed Humboldt Street Extension
Towards Proposed Humboldt Street Plaza and the Bay



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 2-31
Rendering Looking North Along Improved 23rd Street
Towards Proposed Waterfront Park and the Bay

CHAPTER 3

Plans and Policies

3.A Introduction

This chapter describes any inconsistencies between the proposed project and applicable plans and policies, per CEQA Guidelines section 15125(d). This analysis evaluates the objectives and policies of the San Francisco General Plan, including the Central Waterfront Area Plan that includes the project site, and other applicable local and regional plans to determine if there would be any inconsistencies with implementing the proposed project or proposed open space and street network changes. This chapter also discusses the proposed project's compliance with the San Francisco Planning Code, which implements the general plan. Where inconsistencies are identified that could result in physical effects on the environment, those effects are analyzed in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, in the appropriate topic section. In particular, regional plans pertaining to air quality (e.g., the 2017 Bay Area Clean Air Plan) are discussed in Chapter 4, Section 4.G, Air Quality.

General plans and other such policy documents typically contain numerous objectives and policies emphasizing differing legislative goals, and an interpretation of consistency requires the balancing of all relevant policies. The San Francisco Planning Commission, San Francisco Board of Supervisors, and other decision-makers will review the proposed project for consistency with the objectives, policies and principles of the San Francisco General Plan, including the Central Waterfront Area Plan, and will consider possible amendments proposed to achieve general plan conformity. The staff reports and approval motions prepared for the decision-makers as part of the project approval process would include a comprehensive project analysis and findings regarding the consistency of the proposed project with applicable plans, policies, and regulations independent of the environmental review process. The specific policy inconsistencies identified in this environmental impact report (EIR) would also be referenced in the staff reports prepared in conjunction with the proposed project's approval documentation. Plans and policies addressed in this chapter include:

- San Francisco General Plan, including the Central Waterfront Area Plan
- Port of San Francisco's Waterfront Land Use Plan
- San Francisco Bicycle Plan
- Better Streets Plan
- Transit-First policy
- San Francisco Planning Code

- Accountable Planning Initiative
- Plan Bay Area 2040
- San Francisco Bay Plan
- San Francisco Waterfront Special Area Plan
- Public Trust Doctrine

Chapter 4, Sections 4.B, Historical Architectural Resources, 4.E, Transportation and Circulation, and 4.G, Air Quality, of this EIR describe pertinent resource-specific plans and regulations in the environmental topical area analysis. In addition, specific approval requirements, as they relate to plans or policies, are described in Chapter 2, Project Description (Section 2.H, Required Project Approvals), p. 2-58.

3.B Local Plans and Policies

3.B.1 San Francisco General Plan

The San Francisco General Plan, adopted by the planning commission and the board of supervisors, is both a strategic and long-term document, broad in scope and specific in nature. The general plan is the embodiment of the City's collective vision for the future of San Francisco, and comprises a series of elements, each of which deal with a particular topic, that applies citywide. The general plan contains ten elements (Housing, Commerce and Industry, Recreation and Open Space, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts) that provide goals, policies, and objectives for the physical development of the city. In addition, a land use index cross-references the policies related to land use located throughout the general plan.

The general plan also includes area plans that outline goals and objectives for specific geographic planning areas. Among these is the Central Waterfront Area Plan, which encompasses the project site. In an area plan, "the more general policies in the General Plan elements are made more precise as they relate to specific parts of the city" (San Francisco General Plan, Introduction). The area plans contain specific policies and objectives that address land use and planning issues in the local context. As described in Chapter 2, Project Description, the project sponsor would seek amendments to the general plan, potentially including the central waterfront plan, to allow for approval of the proposed project.

Pursuant to CEQA Guidelines section 15125(d), potential conflicts with general plan policies are discussed below. A conflict between a proposed project and a general plan policy does not, in itself, indicate a significant effect on the environment within the context of CEQA. Any physical environmental impacts that could result from a conflict with general plan policies are analyzed in this EIR. In general, potential conflicts with the general plan are considered by the decision-makers (in the case of a general plan amendment, the planning commission and board of supervisors) independently of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the decision-makers consider other potential inconsistencies with the general plan as part of the decision to approve or disapprove a proposed

project. Any potential conflict not identified in this environmental document would be considered in that context and would not alter the physical environmental effects of the project and proposed street network changes and open space improvements that are analyzed in this EIR.

This chapter is not intended to provide a comprehensive analysis of general plan consistency; in particular, this section is not intended to, and does not, identify policies that the proposed project would support. Staff report(s) for planning commission and board of supervisors action(s) on the proposed project will contain a complete analysis of general plan consistency.

As discussed in detail in Chapter 4, Section 4.A, pursuant to CEQA section 21099, aesthetic impacts of a residential or mixed-use residential project on an in-fill site in a transit priority area shall not be considered significant impacts on the environment. Therefore, insofar as impacts resulting from the proposed project's conflict with the General Plan Urban Design Element are premised on underlying aesthetic concerns (such as impacts on visual and scenic resources, public views, urban design, and visual character and quality), such conflicts are not considered significant impacts for the purposes of CEQA.

Central Waterfront Area Plan

The Central Waterfront Area Plan is one of four area plans adopted in 2008 as part of the Eastern Neighborhoods Rezoning and Area Plans project. One of the primary goals of the Eastern Neighborhoods planning effort was to find a balance between growth of housing and office uses and preservation of production, distribution, and repair (PDR) uses. Toward that end, the introduction to the Central Waterfront Area Plan envisions a neighborhood that would "accommodate both new housing and neighborhood commercial services while maintaining its role as an area of important economic activity ... a neighborhood of well designed, mixed-use buildings that take advantage of transit and a place where new, cutting-edge businesses have appeared next door to more traditional light industrial uses ... better connected to the rest of the city, with an improved public realm, welcoming streets, and well preserved historic structures, providing glimpses into the area's past" (Central Waterfront Area Plan, Introduction). The following six "community-driven" goals are articulated in the Central Waterfront Area Plan:

- Encourage development that builds on the Central Waterfront's established character as a mixed-use, working neighborhood.
- Foster the Central Waterfront's role in the city's economy by supporting existing and future production, distribution, repair, and maritime activities.
- Increase housing in the Central Waterfront without impinging on or creating conflicts with identified existing or planned areas of production, [distribution,] and repair activities.
- Establish a land use pattern that supports and encourages transit use, walking, and biking.
- Better integrate the Central Waterfront with the surrounding neighborhoods and improve its connections to Port land and the water's edge.
- Improve the public realm so that it better supports new development and the residential and working population of the neighborhood.

With respect to land use, the Central Waterfront Area Plan encourages “the transition of portions of the Central Waterfront to a more mixed-use character, while protecting the neighborhood’s core PDR uses as well as the historic Dogpatch neighborhood” (Central Waterfront Plan, Objective 1.1). The Central Waterfront Area Plan identifies a “core PDR area,” generally south of 23rd Street (i.e., south of the project site) where land use controls would “protect and promote PDR activities, as well as the arts, by prohibiting construction of new housing and limiting the amount of office and retail uses that can be introduced” (Central Waterfront Area Plan, Policy 1.1.1). North of 23rd Street and generally west of Illinois Street, the Central Waterfront Area Plan calls for revised land use controls “to create new mixed use areas, allowing mixed-income housing as a principal use, as well as limited amounts of retail, office, and research and development, while protecting against the wholesale displacement of PDR uses” (Central Waterfront Area Plan, Policy 1.1.2).

With respect to the project site, the Central Waterfront Area Plan assumes that the site would continue in industrial use for the foreseeable future, pending any site-specific planning efforts, such as those now being undertaken for the project site.¹ Central Waterfront Area Plan Policy 1.1.8 calls for the power plant site, part of the project site, as potentially a location “for reuse for larger-scale commercial and research establishments.” The Central Waterfront Area Plan assumes that subsurface contamination would preclude the introduction of residential uses to the power plant site. Thus, the proposed project may be inconsistent with this aspect of the Central Waterfront Area Plan. However, as discussed in Chapter 4, Section 4.K, Hazards and Hazardous Materials, remediation undertaken to date, along with additional remediation as deemed appropriate by the Regional Water Quality Control Board, would allow for residential development as part of the proposed project, thus avoiding any physical effects of the potential plan inconsistency.

The proposed project would generally be consistent with Central Waterfront Area Plan land use objectives and policies regarding maximizing development potential in areas where housing and mixed-use development is encouraged; support for “Knowledge Sector” employment; and retention of PDR uses. However, the proposed project could conflict with the following Central Waterfront Area Plan land use objective with respect to noise:

- **Objective 1.5:** Minimize the impact of noise on affected areas and ensure General Plan noise requirements are met.

This is because, as described in Chapter 4, Section 4.F, Noise and Vibration, proposed project construction activity would cause significant effects, even with mitigation, with respect to construction-generated noise levels at both offsite and onsite receptors (primarily residences but also, potentially, childcare uses). Additionally, project and cumulative traffic volumes could cause substantial permanent increases in ambient noise levels along some streets in the project vicinity.

With respect to air quality, the proposed project could conflict with the following Central Waterfront Area Plan land use objective and policy:

- **Objective 1.6:** Improve indoor air quality for sensitive land uses in the Central Waterfront.

¹ One rezoning option evaluated in the Eastern Neighborhoods EIR assumed that housing could eventually be developed at or near the site, in anticipation that the then-extant power plant would ultimately cease operation.

- **Policy 1.6.1:** Minimize exposure to air pollutants from existing traffic sources for new residential developments, schools, daycare and medical facilities.

This is because, as described in Chapter 4, Section 4.G, Air Quality, emissions of criteria air pollutants from proposed project construction activity and project operation—primarily emissions from vehicular traffic and consumer products—would result in significant impacts, even with mitigation.

The Central Waterfront Area Plan also contains objectives and policies related to transportation. The proposed project would include a number of features responding to these objectives and policies, including:

- a new on-site pedestrian and bicycle network,
- accommodation of Muni buses anticipated to serve the site,
- shuttle service to Bay Area Rapid Transit (BART) and Caltrain,
- development of an open space network that includes public access to San Francisco Bay and extension of the planned Bay Trail through the project site,
- centralized parking in a district parking garage,
- freight loading spaces both on- and off-street, and
- a transportation demand management plan with the goal of reducing vehicle trip generation relative to existing neighborhood travel characteristics.

With the inclusion of the features enumerated above, the project would generally be consistent with Central Waterfront Area Plan objectives and policies calling for improved public transit; increasing transit ridership; improving safety for transit passengers; supporting circulation needs of PDR uses; use of streets as a multi-modal network; extending the street grid, especially to the bay, and the sidewalk network; support of walking and improvement of pedestrian safety and pedestrian and bicycle infrastructure, including the Bay Trail and Blue Greenway; and encouraging alternatives to car ownership and the reduction of private vehicle trips.

However, inasmuch as the proposed project would result in a significant impact due to project-generated transit ridership that could not be accommodated by nearby Muni transit capacity (specifically on the 22 Fillmore and the 48 Quintara Muni lines) and would result in a substantial increase in transit delay on line 22, the project could conflict with the following Central Waterfront Area Plan objective (see detailed discussion under Impacts TR-4 and TR-5 in Chapter 4, Section 4.E, Transportation and Circulation):

- **Objective 4.1:** Improve public transit to better serve existing and new development in Central Waterfront.

Mitigation for the above-noted impact would require that the San Francisco Municipal Transportation Agency add additional buses to the 22 Fillmore and the 48 Quintara, increase the capacity of buses on these lines and/or add additional Muni service, and the project sponsor to reduce

vehicle trips generated by the project to reduce transit delay; however, as stated in Chapter 4, Section 4.E, Transportation and Circulation, the feasibility of these mitigation strategies is unknown, and thus the impact on Muni capacity and service delay would remain significant even with mitigation.

The project's open space plan would also generally be consistent with Central Waterfront Area Plan objectives and policies that call for provision of public parks and open spaces that meet the needs of residents, workers and visitors; ensuring that new development includes high quality private open space; encouraging publicly accessible open space as part of new development; and ensuring that quality open space is provided in flexible and creative ways.

It is noted that much of the Central Waterfront Area Plan's policy language is geared toward areas west of Illinois Street. Moreover, the former power plant site—which comprises the largest portion of the project site—has historically been set off from the rest of the Central Waterfront area. Additionally, the proposed project would create a substantial amount of new housing, along with new jobs, in a mixed-use project that would include amenities such as open space and ground-floor retail uses while maintaining the iconic Boiler Stack. For all of these reasons, the project would, in general, not conflict with the Central Waterfront Area Plan's vision of a neighborhood with both new housing and neighborhood commercial services, along with important economic activity. However, because it would demolish several historical resources, the proposed project would result in a significant effect, even with mitigation, with respect to historic architectural resources and would be at least partially inconsistent with the following objective and policy in the Central Waterfront Area Plan:

- **Objective 8.2:** Protect, preserve, and reuse historic resources within the Central Waterfront area plan.
- **Policy 8.2.1:** Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street.

Conversely, the proposed project would be consistent with Area Plan Policy 3.1.9, which calls for, among other things preservation of “features that provide continuity with past development,” because the Boiler Stack and possibly the Unit 3 Power Block would be retained as part of the project. Also, by opening this portion of the waterfront, the proposed project could “foster public awareness and appreciation” of certain historic and cultural resources, such as the Boiler Stack and the Unit 3 Power Block. This would be consistent with Area Plan Objective 8.6.

3.B.2 Other San Francisco Plans

Waterfront Land Use Plan

The Port of San Francisco's Waterfront Land Use Plan is a land use policy document governing property under the jurisdiction of the Port of San Francisco (Port), generally from Fisherman's Wharf to India Basin. It was adopted in 1997 and the Port is currently updating the plan.

Within the project site, the Waterfront Land Use Plan applies only to the waterfront portion of the Port sub-area. This consists of 1.6 acres located between the Potrero Power Station sub-area and the bay (i.e., most of the site's bay frontage), and includes the area of the project's proposed recreational dock. The entirety of this area is proposed as publicly accessible park land, including most of the bay shoreline within the project's proposed Waterfront Park and the project's proposed Potrero Point Park, near the foot of 23rd Street and adjacent to Warm Water Cove. The plan identifies recreational boating and water use, open space, and public access as acceptable land uses, within the portion of the Southern Waterfront sub-area defined as Warm Water Cove/Pier 72. Accordingly, the proposed project would not conflict with the land use guidance in the Waterfront Land Use Plan.

The Port is working with other City agencies and the non-profit San Francisco Parks Alliance to develop the Blue Greenway, which is a project to complete the regional Bay Trail in the southern portion of San Francisco, from Mission Creek south to the county line. Planning for the Blue Greenway began in 2003, and much of the route is anticipated to be on Port property. Accordingly, the Port is actively participating in implementation of the Blue Greenway, which is anticipated to be incorporated into the update of the plan. Because the proposed project would develop a new shoreline Bay Trail/Blue Greenway route from the Pier 70 Mixed-Use District project to Warm Water Cove, it would be consistent with planning for the Blue Greenway.

San Francisco Bicycle Plan

The San Francisco Bicycle Plan includes a citywide bicycle transportation plan that describes how bicycle improvement projects identified in the plan would be implemented. The plan also includes objectives and identifies policy changes to enhance the city's bike-ability. It also describes the existing bicycle route network (a series of interconnected streets in which bicycling is encouraged), and identifies gaps within the network that require improvement. The Final EIR for the San Francisco Bicycle Plan assessed a total of 56 short-term and long-term bicycle improvement projects, including bicycle lanes on Illinois Street in the project site vicinity. These bike lanes have since been created. No other San Francisco Bicycle Plan projects are anticipated near the project site.

As described in Chapter 2, Project Description and illustrated on Figure 2-10, p. 2-26, the project proposes a network of bicycle lanes and bicycle routes within and across the project site, including a multi-use path with a bike lane along the site's bay frontage. The project would also provide both off-street and on-street bicycle parking. Therefore, the proposed project would not conflict with the San Francisco Bicycle Plan.

Better Streets Plan

The San Francisco Better Streets Plan was adopted in 2010 to support the City's efforts to enhance the streetscape and the pedestrian environment. It classifies the city's public streets and rights-of-way and creates a unified set of standards, guidelines, and implementation strategies that govern how the City designs, builds, and maintains its public streets and rights-of-way. It includes the Streetscape Master Plan and the Pedestrian Transportation Master Plan. Major project concepts applicable to the

San Francisco Better Streets Plan include (1) pedestrian safety and accessibility features, such as enhanced pedestrian crossings, corner or midblock curb extensions, pedestrian countdown and priority signals, and other traffic calming features; (2) universal pedestrian-oriented streetscape design with incorporation of street trees, sidewalk plantings, streetscape furnishing, street lighting, efficient utility location for unobstructed sidewalks, shared single surface for small streets/alleys, and sidewalk/median pocket parks; and (3) integrated pedestrian/transit functions using bus bulb-outs and boarding islands (bus stops located in medians within the street). All such streetscape improvements would require coordination with other relevant City departments, such as the San Francisco Public Utilities Commission, San Francisco Public Works, and San Francisco Fire Department, to ensure no disruption of service provision.

As described in Chapter 2, Project Description, proposed streets within the project site would comply with the Better Streets Plan. Figure 2-10, p. 2-26, depicts the project's proposed street network, including the street typologies consistent with the plan. Given the foregoing, the proposed project would not conflict with the San Francisco Better Streets Plan.

Transit First Policy

The City's Transit First policy, adopted by the Board of Supervisors in 1973, was developed in response to the damaging impacts of freeways on the city's urban character. The policy is aimed at restoring balance to a transportation system long dominated by the automobile and improving overall mobility for residents and visitors while decreasing principal reliance on the automobile. It encourages multi-modalism and the use of transit and other alternatives to the single-occupant vehicle, and gives priority to maintaining and expanding the local transit system and improving regional transit coordination.

As described in Chapter 2, Project Description, the proposed project would develop a mix of land uses (market-rate and affordable residential units; non-residential uses potentially including office, retail, restaurant, research and development, hotel, entertainment/assembly, and PDR); community facilities; publicly accessible open space; and parking (motor vehicle and bicycle). Additionally, the project would create a pedestrian and bicycle network within the project site, construct a bus layover to accommodate Muni buses anticipated to serve the site, and include a shuttle service program, anticipated to provide service 7 a.m. to 8 p.m. on weekdays and at 15-minute intervals during peak times, and provide access to the 16th Street BART station and the 22nd Street Caltrain station.² These project components would encourage the use of transit and other non-auto transportation modes and would be expected to help minimize single-person auto travel in the future, which would be consistent with the intent of the Transit First Policy.

As noted above in the discussion of Central Waterfront Area Plan transportation policies, project-generated transit demand would not be fully accommodated by existing Muni service and would result in a substantial increase in transit delay on the 22 Fillmore, which would result in a significant impact. Mitigation would require that San Francisco Municipal Transportation Agency increase transit capacity and/or add additional Muni service, and the project sponsor reduce

² The shuttle may also connect with a similar shuttle to be operated in connection with the adjacent Pier 70 Mixed-Use District project.

vehicle trips generated by the project to reduce transit delay, but the feasibility of this mitigation is uncertain. Therefore, the proposed project would be at least partially inconsistent with the Transit First Policy.

3.B.3 San Francisco Planning Code

The San Francisco Planning Code governs land uses, densities and the configuration of buildings within San Francisco. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless a project conforms to the planning code or an exception is available under the code.

Use Districts

Nearly the entirety of the project site is within a M-2 (Heavy Industrial) Use District. The southeastern most tip of the project site, which is within the Port sub-area, is within a PDR-1-G (General Production, Distribution, and Repair) Use District, while the 23rd Street right-of-way, also within the Port sub-area, has no zoning designation, as is the case for nearly all streets in San Francisco. As described in Chapter 2, Project Description, the proposed project includes amendments to the planning code and the City's zoning maps which are incorporated within it, creating a new Potrero Power Station Special Use District (SUD). If approved by the planning commission and board of supervisors, the SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development (D for D) document. While certain uses proposed under the project are not permitted under existing zoning (for example, residential use is prohibited in the PDR-1-G Use District and is permitted by Conditional Use authorization in the M-2 district), if the rezoning is approved, project uses would be permitted on the site.

Height and Bulk Districts

Most of the project site is within a 40-X Height and Bulk District (40-foot height limit, with exceptions for certain rooftop projections such as mechanical equipment and screening; no bulk limit). The western portions of the project site, along Illinois Street are within a 65-X Height and Bulk District (65-foot height limit, no bulk limit). Building heights under the proposed project are inconsistent with the existing height limits on the project site. The proposed project would amend the height and bulk map within the zoning map to change the existing height limits of 40 and 65 feet to height limits ranging from 65 to 300 feet. If the rezoning is approved with respect to height limits, building heights under the proposed project would be consistent with the revised Height and Bulk Districts applicable to the project site.

3.B.4 Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added section 101.1 to the San Francisco Planning Code to establish eight Priority Policies. These policies are: (1) preservation and enhancement of neighborhood-serving retail uses; (2) protection of neighborhood character; (3) preservation and enhancement of affordable housing

(discussed in Chapter 4, Section 4.C, Population and Housing); (4) discouragement of commuter automobiles (discussed in Chapter 4, Section 4.E, Transportation and Circulation); (5) protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership; (6) maximization of earthquake preparedness (discussed in Appendix B, Initial Study; Section E.14, Geology and Soils, Questions 14a through 14d); (7) landmark and historic building preservation (discussed in Chapter 4, Section 4.D, Cultural Resources); and (8) protection of open space (discussed in Appendix B, Initial Study; Section E.10, Recreation, Questions 10a and 10c). The Priority Policies, which provide general policies and objectives to guide certain land use decisions, contain some policies that relate to physical environmental issues.

Prior to issuing a permit for any project that requires an initial study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the general plan, the City must find that the proposed project or legislation is consistent with the Priority Policies. In evaluating general plan consistency of the proposed project, the planning commission and/or planning department would make the necessary findings of consistency with the Priority Policies. The staff report for the planning commission will analyze the proposed project's consistency with general plan policies and zoning, and will discuss in detail any modifications required in connection with plan adoption.

3.C Regional Plans

3.C.1 Plan Bay Area 2040

Plan Bay Area 2040 is the Bay Area's long-range transportation and land use/housing strategy and was approved jointly by the Association of Bay Area Governments and the Metropolitan Transportation Commission. Plan Bay Area 2040 has a horizon year of 2040. The plan is the Bay Area's Sustainable Communities Strategy pursuant to Senate Bill 375 of 2008, which requires each of the state's 18 metropolitan planning areas to develop such a strategy to accommodate future population growth and reduce vehicular greenhouse gas emissions.

Since 2002, the Association of Bay Area Governments' (and now both its and the Metropolitan Transportation Commission's) regional population, household, and job forecast has been "policy-based," meaning that it promotes growth near transit and in existing urban areas. Plan Bay Area 2040 refers to such targeted growth locales as Priority Development Areas (PDAs). A PDA is an infill location of at least 100 acres served by transit that is designated for compact land development, along with investments in community improvements and infrastructure.

The project site is primarily located within the Eastern Neighborhoods PDA (which includes East SoMa, Western SoMa, the Mission District, Showplace Square and Potrero Hill, and the Central Waterfront), as well as partially within the Port of San Francisco PDA, which includes approximately 678 acres of public waterfront lands and stretches 7.5 miles from Fisherman's Wharf to India Basin. These PDAs are two of 12 PDAs in San Francisco, in which a large share of new housing production and population growth is expected to take place. Accordingly, the proposed project would be consistent with the goals and objectives of Plan Bay Area 2040 by promoting growth in a PDA.

3.C.2 Bay Conservation and Development Commission

San Francisco Bay Plan

The San Francisco Bay Conservation and Development Commission (BCDC) is the state's coastal management agency for San Francisco Bay. The San Francisco Bay Plan, as amended through 2011, guides the protection and use of the bay and its shoreline. The commission has permit jurisdiction over portions of the nine Bay Area counties subject to tidal action up to the mean high tide line, including sloughs, tidelands, submerged lands, and certain marshlands, as well as over land lying within a 100-foot-wide shoreline band upland from the bay shoreline. The commission has permit authority over the placement of fill, extraction of materials, and substantial changes in use of land, water, or structures within its jurisdiction, and to enforce policies aimed at protecting the bay and its shoreline, as well as maximizing public access to the bay.

At the project site, the shoreline band under BCDC jurisdiction encompasses an area within 100 feet inland of the mean high tide line. The proposed project would require commission approval of activities within this shoreline band. Because only recreational, open space, and public access are proposed for the portions of the project site within the shoreline band, the project does not appear to conflict with the San Francisco Bay Plan or BCDC regulations. However, the commission will make the final determination of consistency with plan policies for the portions of the project site that are within its permit jurisdiction.

San Francisco Waterfront Special Area Plan

The San Francisco Waterfront Special Area Plan was adopted in 1975 following a collaborative process with the San Francisco Planning Department. It was amended in 2012. This plan, together with the San Francisco Bay Plan and BCDC's enabling legislation, prescribes a set of rules for shoreline development along the San Francisco waterfront. Several policies of the San Francisco Bay Plan are aimed at protecting the bay's water quality, managing safety of fills, and guiding the dredging activities of the bay's sediment.

BCDC approval would be required for project uses within the shoreline band. As noted, publicly accessible open spaces are proposed in this area, which would be consistent with the commission policy framework. The commission would also have to approve the proposed project's stormwater discharge outfall (under the preferred dual system [combined sewer/separated sewer]) and for the proposed floating pier. Additionally, the floating pier is anticipated to require maintenance dredging to maintain the minimum water depth required for vessel access during long term project operations. Dredging would be undertaken consistent with commission guidance and with regulations set forth by other agencies, potentially including the U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, California Department of Fish and Wildlife, San Francisco Bay Regional Water Quality Control Board, and the Dredged Materials Management Office. Additionally, site remediation of contaminated soil and groundwater, which is currently under way, will be completed under the oversight of the San Francisco Bay Regional Water Quality Control Board to ensure that the project will not cause harm to the public, bay resources, or the beneficial uses of the bay. Finally, as described in Chapter 2, Project Description, to address

potential flooding due to future sea level rise in combination with storm and high tide conditions, the proposed project would make physical improvements to the shoreline, including rock slope revetments, wetlands, berms and bulkheads; and would increase the elevation of portions of the site. Based on the foregoing, no conflict with the commission plans or policies is anticipated.

3.C.3 Other Regional Plans and Policies

Other regional plans and policies, such as the Bay Area Air Quality Management District's 2017 Clean Air Plan and the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan for the San Francisco Bay Basin, directly address specific environmental resources and contain objectives or standards to maintain or improve specific characteristics of the city's, as well as the region's, physical environment. These matters are discussed in the relevant resource sections of this EIR. As explained therein, the proposed project is not expected to conflict substantially with any of these objectives or standards.

3.C.4 Public Trust Doctrine

The Public Trust Doctrine is a legal doctrine that governs the use of tidal and submerged lands, including former tidal and submerged lands that have been filled. It is not a codified set of laws but a doctrine primarily established through court decisions and in decisions and interpretations by the California State Lands Commission and the state Attorney General. The purpose of the Public Trust Doctrine is to ensure that land that adjoins the State of California's waterways or is actually covered by those waters remains committed to water-oriented uses. Uses of public trust land are generally limited to waterborne commerce; navigation; fisheries; water-oriented recreation, including commercial facilities that must be located on or adjacent to water; and environmental preservation and recreation, such as natural resource protection, wildlife habitat and study, and facilities for fishing, swimming, and boating. Ancillary or incidental uses that promote Trust uses or accommodate the public's enjoyment of Trust lands are also permitted, such as hotels, restaurants, and specialty retail. Although on the bay waterfront, most of the project site is not tidelands or submerged lands, or former tidelands or submerged lands, and therefore is not subject to the Public Trust. Only the Port sub-area is subject to the Public Trust Doctrine.

CHAPTER 4

Environmental Setting, Impacts, and Mitigation Measures

4.A Impact Overview

This chapter provides a project-level impact analysis of the potentially significant, physical environmental impacts of implementing the Potrero Power Station Mixed-Use Development project (proposed project) as described in Chapter 2, Project Description. After Section 4.A are separate sections 4.B through 4.K, each presenting the impact analysis for the key resource topics identified in the initial study, as described below. Sections 4.B through 4.K in this chapter each include descriptions of the environmental setting and regulatory framework; assessments of project impacts (i.e., offsite, onsite, construction-related, operational, direct, and indirect impacts) and cumulative impacts; and identification of mitigation measures that would reduce or avoid identified significant environmental impacts. This impact overview section describes the scope of analysis in the initial study and EIR and explains the format and basis for the impact analysis for all resource topics, including the cumulative impact analysis.

4.A.1 Scope of Analysis

Initial Study

As described in Chapter 1, Introduction, the San Francisco Planning Department determined that an EIR is required for the proposed project in compliance with CEQA and published a Notice of Preparation (NOP; see Appendix A). As part of the preparation of the EIR, the planning department identified several resource topics that could be adequately addressed in an initial study. The initial study prepared for this EIR (see Appendix B) concluded that many of the physical environmental impacts of the proposed project would be less than significant, or that mitigation measures agreed to by the project sponsor and required as conditions of approval would reduce significant impacts to a less-than-significant level. CEQA does not require further assessment of the issues covered in the initial study; thus, those issues are not included in this chapter. The issues addressed in the initial study are listed below. Also shown are abbreviations for each resource topic that are used in the naming of impact statements and mitigation measures.

Section E.4: Cultural Resources (archeological resources, human remains, and tribal cultural resources) (CR)

Section E.8: Greenhouse Gas Emissions (GG)

Section E.10: Recreation (RE)

Section E.11: Utilities and Services Systems (UT)

Section E.12: Public Services (PS)

Section E.14: Geology and Soils (GE)

Section E.17: Mineral and Energy Resources (ME)

Section E.18: Agriculture and Forest Resources (AG)

Please refer to the initial study in Appendix B for a discussion and the impact analysis of the proposed project with respect to these resource topics.

EIR Topics

The resource topic areas addressed in this chapter of the EIR are listed below, and the abbreviations for each resource topic that are used in the naming of impact statements and mitigation measures are shown in parenthesis.

Section 4.B: Land Use and Land Use Planning (LU)

Section 4.C: Population and Housing (PH)

Section 4.D: Cultural Resources (Historic Architectural Resources) (CR)

Section 4.E: Transportation and Circulation (TR)

Section 4.F: Noise and Vibration (NO)

Section 4.G: Air Quality (AQ)

Section 4.H: Wind and Shadow (WS)

Section 4.I: Biological Resources (BI)

Section 4.J: Hydrology and Water Quality (HY)

Section 4.K: Hazards and Hazardous Materials (HZ)

Aesthetics and Parking Analysis

CEQA Statute section 21099(d) states that “Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment.”¹ Accordingly, aesthetics and parking are not considered in determining if a project has the potential to result in significant environmental effects for projects that meet all of the following three criteria:

- a. The project is in a transit priority area;²

¹ Refer to CEQA Statute section 21099(d)(1).

² CEQA Statute 21099(a)(7) defines a “transit priority area” as an area within 0.5 mile of an existing or planned major transit stop. A “major transit stop” is defined in CEQA Statute 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

- b. The project is on an infill site;³ and
- c. The project is residential, mixed-use residential,⁴ or an employment center.⁵

The proposed project meets each of the above three criteria because it is (1) located within one-half mile of several rail, bus, and streetcar transit routes, (2) located on an infill site that is already developed with vacant parking areas, industrial uses and adjacent to approved mixed uses; and (3) would include residential, office/R&D, and retail/restaurant uses meeting the definition of a mixed-use residential project.⁶ Thus, this EIR does not consider aesthetics and the adequacy of parking in determining the significance of project impacts under CEQA.

CEQA Statute section 21099(e) states that a lead agency may consider aesthetic impacts under local design review ordinances or other discretionary powers and that aesthetics impacts do not include impacts on historical or cultural resources. Therefore, there is no change in the planning department's methodology related to design review or impacts on historical resources.

The planning department recognizes that the public and decision-makers nonetheless may be interested in information pertaining to the aesthetic effects of a proposed project, and may desire that such information be provided as part of the environmental review process. Therefore, some of the information that would have otherwise been provided in an aesthetics section of an EIR (such as visual depictions of the proposed project) is included in Chapter 2, Project Description. However, this information is provided solely for informational purposes and is not used to determine the significance of the environmental impacts of the project, pursuant to CEQA.

Similarly, the planning department acknowledges that parking conditions may be of interest to the public and the decision-makers. Therefore, this EIR presents parking demand information in Section 4.E, Transportation and Circulation, for informational purposes and considers any secondary physical impacts associated with constrained parking supply (e.g., queuing by drivers waiting for scarce on-site parking spaces that affects the public right-of-way) as applicable in the transportation, air quality, greenhouse gas emissions, noise, and pedestrian safety analyses.

³ CEQA Statute 21099(a)(4) defines an "infill site" as a lot located within an urban area that has been previously developed, or a vacant site where at least 75 percent of the perimeter of the site adjoins, or is *separated* only by an improved public right-of-way from, parcels that are developed with qualified urban uses.

⁴ CEQA Statute 21159.28(d) defines a "mixed-use residential" project as a project where at least 75 percent of the total building square footage of the project consists of residential use or a project that is a transit priority project as defined in CEQA Statute 21155. CEQA Statute 21155 defines "transit priority project" as a project that (1) contains at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provides a minimum net density of at least 20 dwelling units per acre; and (3) is within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.

⁵ CEQA Statute 21099(a)(1) defines an "employment center" as a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and located within a transit priority area.

⁶ San Francisco Planning Department, Eligibility Checklist: CEQA Section 21099—Modernization of Transportation Analysis for the Potrero Power Station Mixed-Use Development Project, September 13, 2018. This document (and all other documents cited in this report, unless otherwise noted) is available for review at 1650 Mission Street, Suite 400, San Francisco, CA, as part of Case No. 2017-011878ENV. Additional information is also available at https://www.opr.ca.gov/s_sb743.php, accessed February 12, 2018.

Automobile Delay and Vehicle Miles Traveled

CEQA Statute section 21099(b)(1) requires that the California Governor's Office of Planning and Research develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that promote the "reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." CEQA Statute section 21099(b)(2) states that upon certification of the revised CEQA Guidelines for determining transportation impacts under section 21099(b)(1), automobile delay, as described solely by *level of service* (LOS) or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.

In January 2016, the California Governor's Office of Planning and Research published for public review and comment a *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA* (Proposed Transportation Impact Guidelines) recommending that transportation impacts for projects be measured using a *vehicle miles traveled* (VMT) metric.⁷ VMT measures the amount and distance that a project might cause people to drive, accounting for the number of passengers within a vehicle. These proposed transportation impact guidelines provide substantial evidence that VMT is an appropriate standard to use in analyzing transportation impacts to protect environmental quality and a better indicator of greenhouse gas, air quality, and energy impacts than automobile delay. Acknowledging this, San Francisco Planning Commission Resolution 19579, was issued on March 3, 2016, which:

- Found that automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall no longer be considered a significant impact on the environment pursuant to CEQA, because it does not measure environmental impacts and therefore it does not protect environmental quality.
- Directed the Environmental Review Officer to remove automobile delay as a factor in determining significant impacts under CEQA for all guidelines, criteria, and list of exemptions, and to update the Transportation Impact Analysis Guidelines for Environmental Review and Categorical Exemptions from CEQA to reflect this change.
- Directed the Environmental Planning Division and Environmental Review Officer to replace automobile delay with VMT criteria which promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses; and consistent with proposed and forthcoming changes to the CEQA Guidelines by the OPR [Office of Planning and Research.]

Planning Commission Resolution 19579 became effective immediately for all projects that had not received a CEQA determination and all projects that had previously received CEQA determinations but require additional environmental analysis. Accordingly, this EIR does not contain a discussion of automobile delay impacts based on LOS criteria. Instead, a VMT and induced automobile travel impact analysis is provided in Section 4.E, Transportation and Circulation. Nonetheless, automobile

⁷ California Governor's Office of Planning and Research, Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, January 20, 2016, http://www.opr.ca.gov/docs/Revised_VMT_CEQA_Guidelines_Proposal_January_20_2016.pdf, accessed February 13, 2018.

delay may be considered by decision-makers, independent of the environmental review process, as part of their decision to approve, modify, or disapprove the proposed project.

4.A.2 Format of the Environmental Analysis

Each of the resource areas in this chapter includes the following elements:

Introduction

This subsection provides a brief description of the overall contents of the section and a cross-section to other related resource topics.

Environmental Setting

This subsection describes the existing, physical conditions of the project site and surroundings relevant to that resource topic when the NOP was issued on November 1, 2017, (except in certain circumstances as described in 4.A.5 below) in sufficient detail and breadth to allow a general understanding of and basis for the environmental impacts of the proposed project.

Regulatory Framework

This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.

Impacts and Mitigation Measures

As described in more detail below, this subsection identifies the significance criteria specific to that resource topic, which is followed by the approach to analysis, and concludes with the impact evaluation.

Significance Criteria

This subsection lists the criteria specific to each resource topic used to identify and determine significant environmental effects of the proposed project. Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data, including the entire record for the project, and not on argument, speculation, or unsubstantiated evidence. The significance criteria used in this EIR are based on the San Francisco Planning Department's Environmental Planning Division guidance regarding the thresholds of significance used to assess the severity of environmental impacts of the proposed project. It is based on CEQA Guidelines Appendix G, with procedures as set forth in San Francisco Administrative Code chapter 31.10.

Approach to Analysis

This subsection first describes the relevant project features that are pertinent to the impact analysis of that resource topic, followed by the methodology used to analyze potential environmental impacts based on identified significance criteria and thresholds. The Approach to Analysis subsection describes the approach used to assess construction, operational, and cumulative impacts. Depending on the resource topic and applicable significance criteria, some evaluations (e.g., VMT and transit capacity in transportation and circulation) are quantitative, while the evaluations for other topics (e.g., cultural resources) are qualitative.

Impact Evaluation

This subsection evaluates the potential for the proposed project to result in direct and indirect adverse effects on the existing physical environment, with consideration of both short-term and long-term effects. The analysis covers all phases of the proposed project, including construction and operation, and is based on the significance criteria/thresholds and the approach to analysis described in the previous subsection. The impacts are grouped in individually numbered impact statements (shown in boldface type) that address each significance criterion. If the impact analysis concludes that an impact is significant and that feasible mitigation measures are available that could reduce the severity of the impact, the feasible mitigation measure(s) are presented immediately following the impact analysis, indented and numbered corresponding to the number of the impact analysis. The conclusion of each impact analysis is expressed in terms of the impact significance as no impact, less-than-significant impact, less-than-significant impact with mitigation, significant and unavoidable impact with mitigation, or significant and unavoidable impact (see Section 4.A.4, Significance Determinations, below).

The impacts of the proposed project are organized into separate categories based on the criteria listed in each topical section. Project-specific impacts are discussed first, followed by cumulative impacts (see Section 4.A.6, Approach to Cumulative Impact Analysis, for further discussion).

4.A.3 Significance Determinations

For each impact statement and analysis, the impact evaluation provides a conclusion of the impact significance, which is designated as one of the following:

- **No Impact.** A no impact conclusion is reached if there is no potential for impacts or the environmental resource does not occur within the project area or the area of potential effects.
- **Less-than-Significant Impact.** This determination applies if the impact does not exceed the defined significance criteria or would be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less-than-Significant Impact with Mitigation.** This determination applies if the project would or could potentially result in a significant effect, exceeding the defined significance criteria, but feasible mitigation is available that would reduce the impact to a less-than-significant level.
- **Significant and Unavoidable Impact with Mitigation.** This determination applies if the project would result in a significant adverse effect that exceeds the defined significance criteria, and although feasible mitigation might lessen the severity of the impact, the residual impact would still exceed the defined significance criteria. Thus, even with implementation of feasible mitigation, the impact would be significant, and therefore, unavoidable.
- **Significant and Unavoidable Impact.** This determination applies if the project would result in a significant adverse effect that exceeds the defined significance criteria, and there is no feasible mitigation available to lessen the severity of the impact. Therefore, the impact would be significant and unavoidable.

4.A.4 Mitigation Measures and Improvement Measures

Mitigation measures are identified, where feasible, for impacts considered significant consistent with CEQA Guidelines section 15126.4, which states that an EIR “shall describe feasible measures which could minimize significant adverse impacts.” CEQA requires that a mitigation measure has an essential nexus and be roughly proportional to the significant effect identified in the EIR. Pursuant to CEQA Guidelines section 15126.4, mitigation measures are not required for environmental impacts that are not found to be significant.

In some cases, the impact analysis found the proposed project’s physical environmental impact to be less than significant, but the planning department has identified feasible measures that would further lessen the already less-than-significant impacts of the project. These measures are identified as “improvement measures.” The project sponsor has agreed to implement all improvement measures identified in this EIR as conditions of approval of the project.

4.A.5 Other Considerations in the Impact Analysis

CEQA Standards of Adequacy

CEQA Guidelines section 15151 describes standards for the preparation of an adequate EIR. Specifically, the standards under section 15151 state:

- An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes into account environmental consequences.
- An evaluation of the environmental impacts of a project need not be exhaustive; rather, the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

In practice, the above points indicate that EIR preparers should use a reasonable, professionally accepted methodology to assess impacts. This approach sometimes requires making reasonable assumptions using the best information available. In some cases when information is limited or where there are possible variations in project characteristics, this EIR employs a “reasonable worst-case analysis” in order to identify the largest expected potential change from existing baseline conditions that the project may create. This approach thus identifies the most severe impact that could occur, providing a conservative analysis of potential environmental impacts.

Baseline Conditions for Evaluation of Impacts

CEQA Guidelines section 15125 provide that, in most cases, the environmental conditions at the time of publication of the NOP of the EIR constitute the appropriate baseline physical conditions by which the lead agency should evaluate project impacts. These baseline conditions are described in the Environmental Setting section of each Chapter 4 resource section. The impact analysis identifies the conditions that are anticipated to occur with implementation of the project and

compares those conditions against the baseline conditions to determine if the project would result in a significant environmental impact.

In general, this EIR uses the physical conditions in the project area at the time of NOP publication (November 2017) as the baseline conditions to evaluate all construction, operational, and cumulative impacts of the proposed project. However, in some cases, the comparison of existing conditions as of November 2017 to project conditions does not adequately capture the full range of environmental effects that could occur with project implementation, so this EIR considers alternate baseline conditions, depending on the resource topic, in order to present a reasonable worst-case analysis. For example, the EIR considers other projects within the vicinity of the proposed project that were under construction as of November 2017, but where construction is expected to be completed prior to the start of construction of the proposed project. In some cases, such as the shadow analysis, those projects currently under construction are considered to be fully completed as part of the baseline conditions, the assumption being that once a project is under construction, the construction is likely to be completed. The setting section in each environmental topic in this chapter describes the existing conditions as well as the baseline conditions appropriate for the impact analysis of that topic.

Proposed Project Flex Use Scenarios, and Other Project Options

The proposed project is described in Chapter 2, Project Description. As described in detail in subsection 2.E, Project Characteristics and Components (p. 2-12), the project would rezone and establish development controls for a multi-phased, mixed-use development at the project site. Overall, the proposed project would construct up to approximately 5.4 million gross square feet (gsf) of development. Table 2-1 (p. 2-14), summarizes the "preferred project" characteristics (as noted in Chapter 2, the term "proposed project" is used interchangeably with "preferred project" in this EIR, including a description of the types and amounts of proposed land uses, details regarding proposed dwelling units, building heights, vehicle and bicycle parking, and other features. As discussed, the proposed project includes 2.7 million gsf of residential uses (2,682 residential units), 1.6 million gsf of commercial uses, 922,000 gsf parking, approximately 100,000 gsf of community facilities, approximately 25,000 gsf of entertainment/assembly uses and approximately 6.2 acres of open space. The proposed project also assumes repurposing and converting the Unit 3 power block into a hotel.

However, the proposed project incorporates a flexible land use program (refer to discussion on p. 2-15, and Figure 2-5 on p. 2-16), in which certain blocks on the project site ("flex blocks") permit both residential and commercial uses. Future market conditions and other economic considerations may, ultimately, determine the type and amount of residential and commercial land uses to be developed on the flex blocks. Accordingly, the proposed project could include between approximately 2.4 and 3.0 million gsf of residential uses (between about 2,400 and 3,000 dwelling units), and between approximately 1.2 and 1.9 million gsf of commercial uses. Additionally, under the flexible land use program, the Unit 3 power block could be demolished, with construction of a hotel or residential uses in its place.

Due to the potential land use variation that could occur under the flex blocks and with Unit 3, implementation of the proposed project could result in a range of impacts. Therefore, in order to

provide the reasonable worst-case analysis under each impact topic, there are two scenarios that bracket the full range of potential impacts: (1) development that maximizes residential uses is considered the *maximum residential scenario*, and (2) development that maximizes office space uses is considered the *maximum office scenario*. **Table 4.A-1, Proposed Project and Flex Blocks Size and Potential Population**, presents the assumptions used for these two scenarios in comparison to the proposed project. In considering the worst-case potential impacts related to the project that could be generated under the flex use programs, this EIR considers the project and the appropriate scenario topic by topic to identify the maximum potential impact on a resource. This approach to analysis is considered and described in each resource topic of Chapter 4 under Project Features.

As described in Chapter 2, Project Description, the project description includes two potential options for wastewater and stormwater infrastructure as well as two potential options for non-potable (graywater) systems to serve the project. The project description also identifies two potential widths for the proposed Humboldt Street, and two potential alternative locations for the district parking garage. For each of these project components, this EIR analyzes the project option(s) that would reflect the worst-case impact analysis for the affected resource. If it is not clear which is the environmentally worst-case scenario, then the EIR analyzes both options. Again, this approach to analysis is considered and described in each resource topic of Chapter 4 under Project Features.

4.A.6 Approach to Cumulative Impact Analysis

Cumulative impacts, as defined in CEQA Guidelines section 15355, refer to two or more individual effects that, when taken together, are “considerable” or that compound or increase other environmental impacts. A cumulative impact from several projects is the change in the environment that would result from the incremental impact of the proposed project when added to those of other closely related past, present, or reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis, as provided in CEQA Guidelines section 15130, is presented below:

- An EIR shall discuss cumulative impacts of a project when the project’s incremental effect is “cumulatively considerable” (e.g., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project’s contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.
- The cumulative impact analysis for each individual resource topic is described in each resource section of this chapter immediately following the description of the direct project impacts and identified mitigation measures.

TABLE 4.A-1
PROPOSED PROJECT AND FLEX BLOCKS SIZE AND POTENTIAL RESIDENTIAL AND EMPLOYMENT POPULATION

Land Use Type	Population Generation Rate	Proposed Project		Maximum Residential		Maximum Office	
		Metric	Population	Metric	Population	Metric	Population
Residential Population							
Residential (units)	2.27 resident/unit ^a	2,682	6,088	3,014	6,842	2,441	5,541
Total Residents		6,088		6,842		5,541	
Employee Population							
Residential (units)	1 employee/32 units ^b	2,682	84	3,014	94	2,441	76
Hotel (rooms)	0.9 employee/ room ^c	220	198	0	0	220	198
General Office (sf)	276 sf/employee ^c	597,723	2,166	421,952	1,529	814,240	2,950
Research & Development (sf)	405 sf/employee ^d	645,738	1,594	645,738	1,594	645,738	1,594
PDR (sf)	276 sf/employee ^e	45,040	163	45,040	163	45,040	163
General Retail (sf)	350 sf/employee ^c	10,744	31	10,744	31	10,744	31
Supermarket (sf)	350 sf/employee ^c	42,975	123	42,975	123	42,975	123
Sit-down Restaurant (sf)	350 sf/employee ^c	16,116	46	16,116	46	16,116	46
Quick Service Restaurant (sf)	350 sf/employee ^c	37,604	107	37,604	107	37,604	107
Childcare (sf)	345 sf/employee ^d	15,000	43	15,000	43	15,000	43
Library (sf)	850 sf/employee ^d	10,000	12	10,000	12	10,000	12
Other Community Facilities (sf)	780 sf/employee ^d	75,938	97	75,938	97	75,938	97
Entertainment (sf)	350 sf/employee ^f	25,000	71	25,000	71	25,000	71
Public Open Space (acres)	3.9 acre/employee ^g	6.3	2	6.3	2	6.3	2
Parking (space)	270 spaces/employee ^h	2,622	10	2,691	10	2,622	10
Total Employees		4,747		3,923		5,524	

NOTES:

^a Residential population generation rate is based off of the U.S. Census 2012-2016 ACS data for San Francisco.

^b "Residential" employee rate is based off Seawall Lot 337 and Pier 48 Mixed-Use Project Draft EIR Table 4.9-C.

^c Table C-1 of the Transportation Impact Guidelines (TIG) provided the generation rates for "Hotel," "General Office," "General Retail," "Supermarket," "Sit-down," and "Composite Rate." Note, the composite rate is used over the fast food rate, as the nature of the project would not lend itself to a typical drive-through fast food establishment.

^d "Research and Development," "Childcare," "Library," and "Other Community Facilities," employee generation rates are based on Advant Consulting, April 30, 2018, Estimation of Project Travel Demand -- Appendix F, the were determined using Trip ITE estimates from the Mission Bay EIR, and are comparable to Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR rates.

^e PDR employee generation rates assume the more conservative rate of 276 sf/employee, consistent with "General Office," as opposed to "Research and Development," consistent with Pier 70 Mixed-Use District EIR.

^f "Entertainment" assumes "Eating/Drinking" generation rate of 350 sf/employee based on Table C-1 of the TIG.

^g "Public Open Space" was calculated using the Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR considered 0.26 employees per acre, equivalent to approximately 3.9 acres per employee, this is more conservative than 0.1 employees per acre considered in the Pier 70 Mixed-Use District EIR.

^h "Public Open Space" and "Parking" employee generation rate was calculated using 270 spaces per employee based on Table III.C-7 from the Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR, consistent with Pier 70 Mixed-Use District EIR.

SOURCE: California Barrel Company, Potrero Power Station – SF Allocation by Block, October 14, 2017.

Approach to Cumulative Impact Analysis

The following factors were used to determine an appropriate level for cumulative analysis in this EIR:

- **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is “reasonably foreseeable,” such as a proposed project for which an application has been filed with the approving agency and/or has approved funding.
- **Geographic Scope and Location.** A relevant project is located within the geographic area within which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects to regional air quality is the affected air basin.
- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) would likely coincide in timing with the related effects of the proposed project.

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines section 15130(b)(1): (1) the analysis can be based on a list of past, present, and reasonably foreseeable future projects producing closely related impacts that could combine with those of a proposed project, or (2) a summary of projections contained in a general plan or related planning document. The analyses in this EIR employ both the list-based approach and a projections-based approach, depending on which approach best suits the resource topic being analyzed. For example, the analysis of cumulative recreation impacts uses the list-based approach and considers individual projects that are anticipated in the project site vicinity that may affect recreational resources also affected by the proposed project. By comparison, the cumulative transportation and circulation analysis relies on a projection of overall citywide growth and other reasonably foreseeable projects, which is the typical methodology the planning department applies to analysis of transportation impacts.

For the resource topics using the list-based approach, **Table 4.A-2, Cumulative Projects in the Project Vicinity**, presents a comprehensive list of cumulative development and infrastructure projects generally located within 0.5 mile of the project site that are considered in the various cumulative analyses (though in order to consider larger projects this table considers some projects beyond 0.5 mile). The table identifies cumulative projects and their status as of the date of the Notice of Preparation (November 1, 2017), and provides a figure key, **Figure 4.A-1, Cumulative Projects in the Project Vicinity**, which shows the location of these projects relative to the proposed project site. In order to differentiate the status of these projects at the time of the Notice of Preparation, the table includes a column to list each project’s status. In general, these cumulative projects are either under construction, which means they were “Under Construction” at the date of the Notice of Preparation and will likely be completed prior to the approval/operation of the proposed project; “Planning Entitled,” which means the project is approved by the planning department but not yet approved for construction; “Building Permit Approved,” meaning the project has permits necessary to start construction but has not yet started construction; and “Under Review,” in which case, the project has an application on file with the planning department.

Each cumulative impact analysis considers the projects listed in Table 4.A-2 as appropriate to the resource topic. Each section identifies which of the cumulative projects could contribute to a cumulative impact on that specific resource and why. Not all projects on the list apply to every cumulative analysis. In some cases, as described above, projects on this list are considered as part of the baseline conditions, as described under each resource topic.

TABLE 4.A-2
CUMULATIVE PROJECTS IN THE PROJECT VICINITY

Key #	Project Name (Case File No.)	Status as of NOP	Dwelling Units	Commercial/Retail (gsf)	Office (gsf)	Industrial (gsf)	Event Center (gsf)	Public Open Space (gsf)	Child Care (students)	Total # of Employees & Residents ^a
1	Pier 70 Mixed-Use District (also referred to as the Pier 70 project) (2014-001272ENV) ^b	Planning Entitled	1,000-2,000	400,000	900,000-1,810,000			304,900		12,243
2	SF Port Re-Tenancing of Pier 70 Shipyard (2014.0713E) ^c	Planning Entitled								-
3	20th Street Historic Core at Pier 70 (2016-000346ENV)	Building Permit Approved		16,000	100,000	224,000		42,000		961
4	2420 Third Street (2013.0673E)	Building Permit Approved	9	500						22
5	901 Tennessee Street (2013.0321E)	Under Construction	40							100
6	950 Tennessee Street (2014.1434ENV)	Planning Entitled	103							234
7	888 Tennessee Street/890 Tennessee Street (2013.0975E)	Planning Entitled	128							291
8	2290 Third Street (2005.0408E)	Building Permit Approved	71							161
9	815-825 Tennessee Street (2013.0220E)	Under Construction	69							157
10	2230 Third Street (2013.0531E)	Under Review	37	2,400						91
11	777 Tennessee Street (2013.0312E)	Building Permit Approved	59							134
12	600 20th Street	Under Review	20	1,400						49
13	2171 Third Street/590 19th Street (2013.0784E)	Building Permit Approved	109	3,100						256
14	Crane Cove Park (2015-001314ENV)	Under Construction						426,900		3
15	2092 Third Street/600 18th Street (2014.0168E)	Building Permit Approved	18	3,100						50
16	595 Mariposa Street (2014.1579ENV)	Building Permit Approved	20							45
17	2051 Third Street/650 Illinois Street (2010.0726E)	Under Construction	93							211
18	Mariposa Pump Station Upgrade (2014-002522ENV) ^d	Planning Entitled								-
19	Mission Bay Ferry Landing (2017-008824ENV)	Under Review								-
20	Golden State Warriors Event Center and Mixed-Use Development (2014.1441E)	Under Construction		125,000	605,000	750,000		139,400		3,728
21	Bayfront Park (ER 919-97)	Under Construction						239,600		1

TABLE 4.A-2 (CONTINUED)
CUMULATIVE PROJECTS IN THE PROJECT VICINITY

Key #	Project Name (Case File No.)	Status as of NOP	Dwelling Units	Commercial/ Retail (gsf)	Office (gsf)	Industrial (gsf)	Event Center (gsf)	Public Open Space (gsf)	Child Care (students)	Total # of Employees & Residents ^a
22	Seawall Lot 337/Pier 48 (2013.0208E)	Planning Entitled	1,500	1,250,000	700,000			348,500		9,515
23	650 Indiana Street (2012.1574E)	Under Construction	61	1,900						144
24	800 Indiana Street (2011.1374E)	Under Construction	326							740
25	645 Texas Street (2012.1218E)	Under Construction	91							207
26	790 Pennsylvania Avenue / 1395 22nd Street (2011.0671E)	Under Construction	256			43,600				689
27	Potrero Hope SF Master Plan (2010.0516E)	Planning Entitled	1,700		10,000				40-60	3,905
28	1000 Mississippi Street (2014-001291ENV)	Building Permit Approved	28							64
29	1201-1225 Tennessee Street (2012.0493E)	Under Construction	259	2,300						595
30	1499 Illinois Street, 1401-1443 Illinois Street, & 700 25th Street (2018-000949ENV) ^e	Under Review		2,500	230,000					840
31	Central Bayside System Improvement Project (Indiana Street Channel Tunnel and Carolina Street Channel Tunnel) (2017-000181ENV) ^f	Under Review								-
Total^g			6,001-7,001	1,808,200	2,545,000-3,455,000	267,600	750,000	1,501,300	40-60	35,434

NOTES:

- ^a Employment and Residential generation rates generated using the following: Dwelling Units: 2.27 persons/unit, Commercial/ Retail: 350 sf/employee, Office: 276sf/employee, Event Center: uses values from Event Center and Mixed-Use Development at Mission Bay Blocks 29-32 Subsequent EIR of 2,728 full time equivalent employees and 1,000 day of game staff, Public Open Space: 3.8acres/employee, Child Care (students) is based on recommended staff-child ratio by the National Association for the Education of Young Children - 6 kids per employee <http://childcareaware.org/child-care-providers/management-plan/staffing>, Industrial: 405 sf/employee. Based on this methodology there would be approximately 19,538 employees and 15,863 residents.
- ^b Approved Pier 70 Mixed-Use District entails a range of development land uses, therefore the population generation assumes highest employment and population rates from highest end of project range of approved 2017 project.
- ^c SF Port Re-Tenancing of Pier 70 Shipyard project would include renewal of the lease for BAE Ship Repair facility, which calls for the removal of 12 polychlorinated biphenyl electrical transformers and demolition of three buildings: Building 38 (Pipe and Electric Shop), Building 119 (Yard Washroom), and Building 121 (Drydock Office). In addition, the project would demolish Cranes Nos. 2 and 6. The project would involve routine maintenance and repairs approximately for a six-week duration once every 18 months over a seven-year period.
- ^d Mariposa Pump Station Upgrade project will replace an existing 12-inch-diameter sewer pipe with new 24-inch-diameter high density polyethylene pipe within the same alignment of existing pipe, which runs east-west in the intersection of Terry Francois Boulevard, Mariposa Street, and Illinois Street, on the southern side of a large sub-surface concrete transport/storage sewer box. The project will also replace an existing manhole associated with the Mariposa Pump Station. Proposed modifications to an existing 20-inch force main and the Mariposa Pump Station also include a new 14-inch-diameter force main that will connect the pump station to the existing 20-inch force main.
- ^e 1499 Illinois was not submitted to SF Planning until after NOP date, however due to scale of project, and proximity to the proposed project, it is included in the cumulative table.
- ^f The Central Bayside Improvement Project will address the sewer system need; the design team is investigating a potential tunnel to provide reliable and redundant gravity conveyance and storage of wastewater flows from the Channel Pump Station to the Southeast Treatment Plant. Pump station improvements and a new pump station are also under consideration.
- ^g Transportation network improvements and development projects are not included in this table as they primarily relate to Section 4.E, and are therefore addressed in that section.

SOURCE: San Francisco Planning Department, Quarter 4, 2017 Pipeline Report, <http://sf-planning.org/pipeline-report>, and <http://developmentmap.sfplanning.org/>, accessed May 18, 2018; [The list was cross referenced with the City and County of San Francisco Pier 70 Mixed-Use District EIR, Case No. 2-14--1272ENV, August 9, 2017, and each project status and description was verified through the San Francisco Planning Department, 2018 San Francisco Property Information Map Version 6.5.7 <http://propertymap.sfplanning.org/>, accessed May 18, 2018.



SOURCE: ESA

Potrero Power Station Mixed-Use Development Project

Figure 4.A-1
Cumulative Projects in the
Project Vicinity

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4.B Land Use and Land Use Planning

4.B.1 Introduction

This section describes the existing land uses on and in the vicinity of the project site and analyzes potential project impacts with respect to land use and land use planning. The setting section documents the existing land uses, development pattern, and built environment of the project site and vicinity.¹ The impacts and mitigation section analyzes whether the proposed project would physically divide a community or conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Where inconsistencies are identified that could result in physical effects on the environment, those associated physical environmental effects are analyzed in Chapter 4, Environmental Setting, Impacts, and Mitigation Measures, in the appropriate topic section. In particular, Section 4.D, Historic Architectural Resources, evaluates physical environmental effects related to potential inconsistency with plans and policies governing historical resources. Section 4.E, Transportation and Circulation, analyzes effects related to potential conflicts with transportation policies. Section 4.F, Noise and Vibration, evaluates impacts related to potential inconsistency with policies related to noise, while physical effects related to potential conflict with the regional air quality plans and regulations (e.g., the 2017 Bay Area Clean Air Plan) are analyzed in Section 4.G, Air Quality. Section 4.H, Wind and Shadow, considers physical effects related to potential conflict with policies regarding pedestrian-level winds, while Section 4.I, Biological Resources evaluates effects related to potential inconsistency with policies governing biological resources. Finally, Initial Study Topic E.3, Cultural Resources, (Appendix B), analyzes physical effects related to potential conflict with policies regarding archeological resources, including human remains and tribal cultural resources.

4.B.2 Environmental Setting

Existing Land Uses

Project Site

As described in Chapter 2, Project Description, the project site is largely occupied by vacant buildings and facilities; much of the site consists of undeveloped areas and parking lots, covered in asphalt or concrete. Current uses in the Power Station sub-area, which encompasses the great majority of the project site (see Figure 2-2 in Chapter 2, Project Description, p. 2-6), include warehouses, surface parking, vehicle storage, and office space. There is also a small modular “demonstration house” erected to evaluate energy- and water-saving techniques.

¹ In this section, the project vicinity is generally considered the surrounding neighborhood and therefore the relevant area for consideration of land use impacts. This surrounding neighborhood, or vicinity, includes the area between San Francisco Bay and just west of the Interstate-280 freeway, and between Islais Creek north to Mariposa Street.

The PG&E sub-area currently houses a portion of the utility's Potrero substation and is also used by PG&E for storage and construction staging. The Port sub-area on the bay side of the project site consists primarily of vacant land, while other portions of the Port and City sub-areas and privately-owned Southern sub-area are currently part of 23rd Street and are paved.

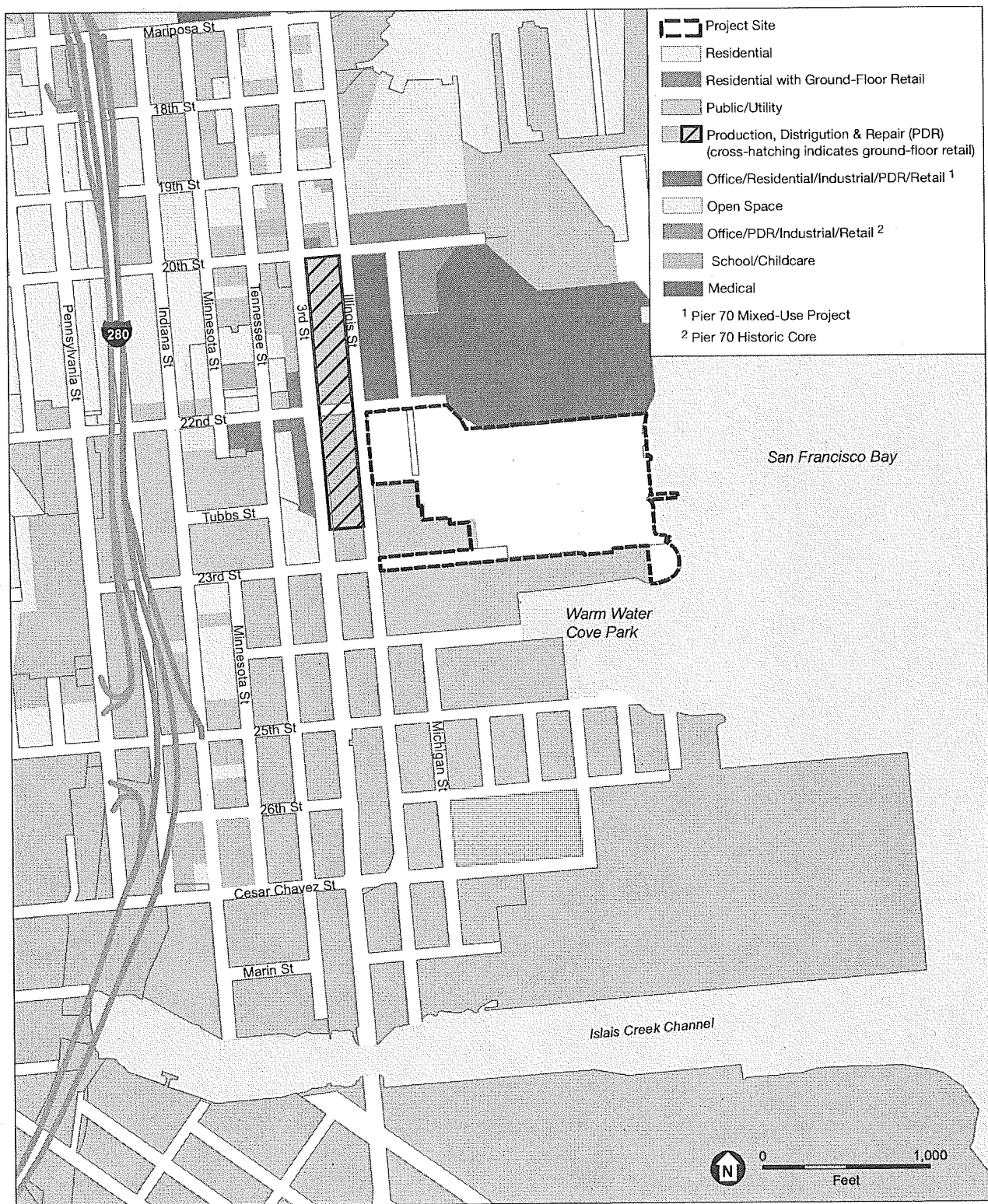
The project site has a long history of industrial land use, including manufactured gas production, electrical power generation, and sugar refining, dating from the mid-1800s (see Section 4.K, Hazards and Hazardous Materials, for details on the site history). The last major industrial operation, a power plant, closed in 2011.

Surrounding Land Uses

Adjacent land uses (see **Figure 4.B-1, Generalized Existing Land Uses in Project Vicinity**) consist of light industrial and storage uses (both classified as Production, Distribution and Repair, or PDR uses) to the south; largely vacant buildings to the north on the Pier 70 Mixed-Use District project site, approved in 2017 as a mixed-use project of a scale comparable to that of the proposed project; and, to the west, various PG&E facilities, including the existing PG&E Transbay Cable converter station and PG&E Potrero Substation (part of which occupies the project site's PG&E sub-area). West of the PG&E sub-area, across Illinois Street, is the two- to four-story American Industrial Center, whose four buildings span 865 linear feet, or most of the area between 20th and 23rd streets. This complex includes light industrial uses on the upper floors and a number of ground-floor retail stores on both Illinois and Third streets.

Farther south and southwest are Warm Water Cove Park (open space under the jurisdiction of the Port of San Francisco) and additional industrial and light industrial uses, including Muni's Metro East light rail vehicle maintenance and storage yard at 25th and Illinois streets and a diesel bus maintenance and operations facility at Cesar Chavez and Indiana streets, and the Port of San Francisco's Pier 80 container terminal bordering Islais Creek. West of the American Industrial Center is a mix of residential, retail, and light industrial uses, among them a concentration of historic mostly residential buildings that comprise the Dogpatch Historic District. There are also several historic buildings that have been rehabilitated, and new construction, including a recently completed 300-unit apartment building at 23rd and Third streets. Muni's Woods Division bus yard is farther west, at 22nd and Indiana streets, and also includes a mini-park facing 22nd Street. Finally, there is the elevated Interstate 280 (I-280) freeway, generally aligned with the Iowa Street right-of-way. The mostly residential Potrero Hill neighborhood rises to the west of the freeway.

To the northwest is a continuation of the mixed residential/retail/PDR uses of the Dogpatch neighborhood, including the area's only large City park, Esprit Park at 20th and Minnesota streets. This area also includes large new residential buildings, including some 325 units at 800 Indiana Street, at 20th Street, approximately 110 units at 650 Indiana Street, at 19th Street; and approximately 69 units at 815 Tennessee Street. As noted, the Pier 70 Mixed-Use District project is immediately north of the project site; it is approved for up to about 5.3 million square feet of residential, commercial, retail/arts/light-industrial, and open space uses, with buildout anticipated by approximately 2029. At present, the site is used for temporary events, along with artist studios, storage, warehouse, parking, a recycling yard, and office space.



SOURCE: San Francisco Property Information Map, 2018; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.B-1
Generalized Existing Land Uses in Project Vicinity

To the north beyond the Pier 70 Mixed-Use District project is the so-called “historic core” of Pier 70, along both sides of 20th Street east of Illinois Street. There, several 19th and early 20th century office and industrial buildings have recently been rehabilitated and put to reuse as office and light industrial space. Farther north is the former BAE shipyard (the subject of ongoing Port attempts to engage a new ship repair tenant); Crane Cove Park, a new Port open space anticipated to open by 2020; and several recently constructed residential buildings on Illinois Street between 20th and Mariposa streets that together include nearly 400 dwelling units. To the north of Mariposa Street is the Mission Bay Redevelopment Area, including: the new University of California, San Francisco, hospital and associated buildings; Mariposa Park; the under-construction Golden State Warriors’ arena; and other buildings devoted to office, medical, and research and development uses.

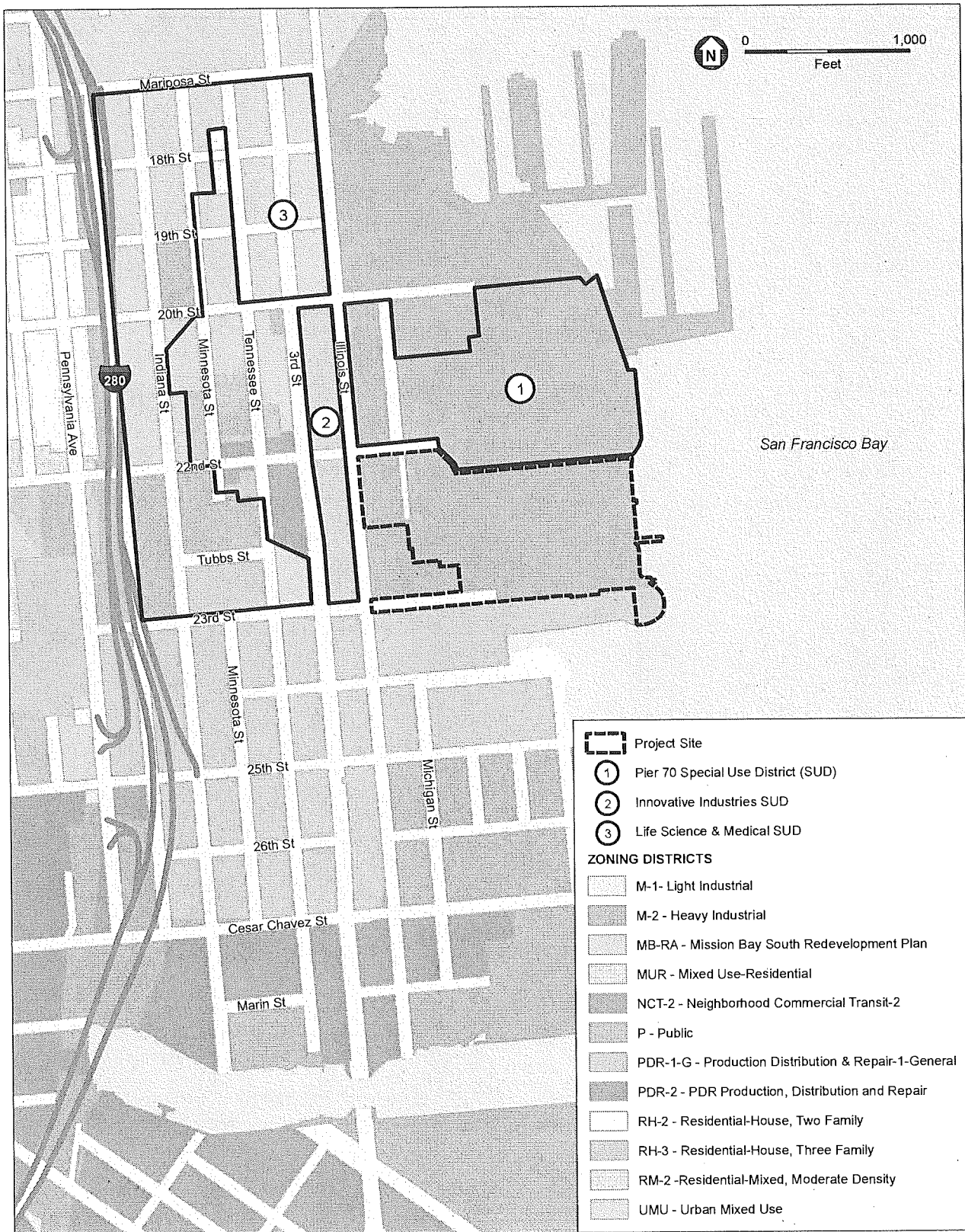
Existing Zoning

Use Districts

Nearly the entirety of the project site is within a M-2 (Heavy Industrial) Use District. The southeastern tip of the project site, which is within the Port sub-area, is within a PDR-1-G (General Production, Distribution, and Repair) Use District, while the 23rd Street right-of-way, also within the Port sub-area, has no zoning designation (as is the case for nearly all streets in San Francisco). Nearby use districts to the project site include PDR-1-G to the south, southwest, and west; PDR-2 (Core PDR) farther southwest; and M-2 to the north and south (beyond the PDR-1-G district), along most of the nearby waterfront areas. The site of the Pier 70 Mixed-Use District project, immediately north of the project site, is within the Pier 70 Special Use District (SUD), adopted in 2017 in connection with approval of that project. The Pier 70 SUD (San Francisco Planning Code section 249.79) permits various land uses, including residential, institutional (except hospital), retail, office, entertainment/arts/recreation, certain industrial, and PDR uses and parking, subject to state laws governing the Port of San Francisco.² To the west and northwest of the project site is a UMU (Urban Mixed Use) Use District, and there is a NCT-2 (Small-Scale Neighborhood Commercial Transit) Use District along Third and 22nd streets and RH-3 (Three-family Residential) on Tennessee and Minnesota streets north and south of 22nd Street. Much of the area west of the I-280 freeway is within a RH-2 (Two-Family Residential) Use District. North of Mariposa Street, finally, there are P (Public) Use Districts throughout the project site vicinity. These are home to parks, municipal facilities such as Muni streetcar and bus yards, and utility facilities. **Figure 4.B-2, Existing Use Districts in the Project Vicinity**, depicts use districts in the project vicinity.

M-2 Use Districts are the least restrictive as to permitted uses. M-2 districts permit maritime uses, shipyards, manufacturing of most types, and agriculture, along with office, retail, and entertainment uses. Student housing and single-room occupancy residential units are permitted, but other residential uses, along with hotels, are permitted only with a conditional use authorization. Certain land uses are expressly prohibited in M-2 districts, including child care, hospitals, and schools.

² The Pier 70 SUD also incorporates the Pier 70 Design for Development, which sets forth standards and guidelines with respect to land use; open space; streets and streetscapes; parking and loading; building massing, design, and compatibility with historical resources; and lighting, signage, and public art.



SOURCE: DataSF

Potrero Power Station Mixed-Use Development Project

Figure 4.B-2
Existing Use Districts in the Project Vicinity

PDR-1-G Use Districts are intended to retain and encourage PDR uses (generally, agricultural, automotive, light manufacturing, wholesale, animal hospitals and boarding, repair establishments, and business service uses, all of which are permitted). Most entertainment and recreation uses are also permitted, as is child care. Like all PDR districts, PDR-1-G districts do not permit residential or office uses, nor are schools permitted. Most retail uses are limited to 2,500 square feet per lot.

PDR-2 Use Districts are similar to PRD-1-G districts but are intended to permit more intensive industrial-type operations.

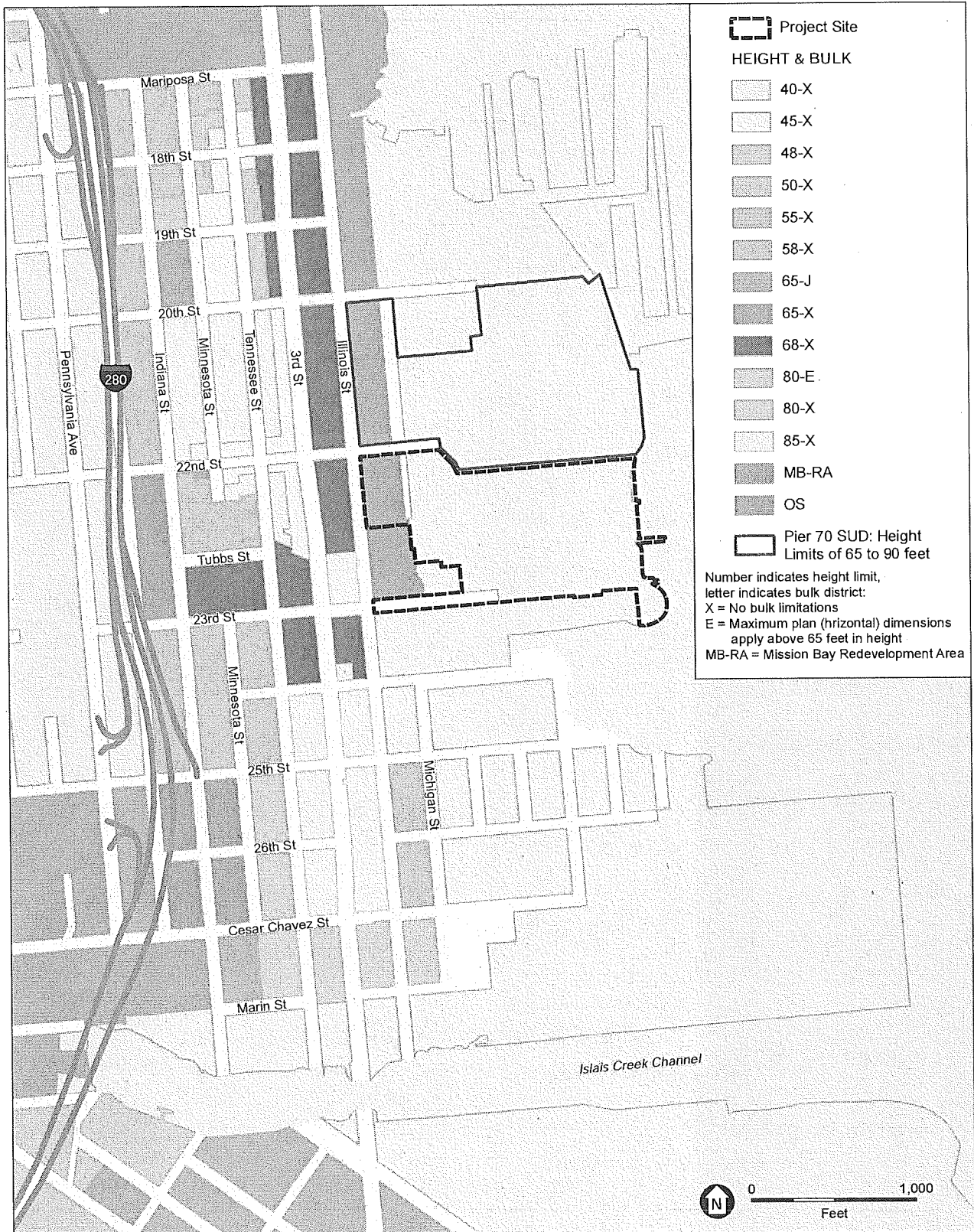
UMU Use Districts allow for a mix of uses and serve as a buffer between PDR districts and other use districts. UMU districts permit PDR, arts, entertainment, and recreation uses, along with residential uses, religious facilities, child care, and schools (post-secondary schools require a conditional use authorization). Retail use is generally limited to 25,000 square feet per lot, and a conditional use authorization is required for *formula retail* (chain stores). Office use is generally permitted at the ground floor and in designated landmark buildings.

NCT-2 Use Districts are generally intended to allow for residential uses and small retail stores that provide “convenience goods and services” to the surrounding area. Retail stores larger than 4,000 square feet require a conditional use authorization. Office use is generally limited to design professionals and offices of building, plumbing, electrical, painting, roofing, furnace, and pest control contractors, and the like. Automotive and some entertainment uses are permitted, as is child care.

RH-3 and RH-2 Use Districts permit three- and two-unit residential buildings per parcel, respectively. Child care is also permitted, but most other institutional uses, including schools, require a conditional use authorization. Retail and office uses are not permitted. Hotels may be permitted as a conditional use.

Height and Bulk Districts

Most of the project site is within a 40-X Height and Bulk District. This means that the height limit is 40 feet (certain rooftop projections such as mechanical equipment and screening are exempt) and there is no limitation on building bulk (i.e., buildings can be built to the height limit and parcel boundaries with no setbacks required). The western portions of the project site, along Illinois Street are within a 65-X Height and Bulk District (65-foot height limit, no bulk limit). In the project vicinity, height limits range from 40 feet to 85 feet, with the greatest heights being permitted generally along either side of Third Street south of 24th Street. There is also a small 85-foot height zone on 23rd Street between Third and Illinois streets. Most of the vicinity has an X bulk designation, meaning there is no bulk limit. Bulk limits are in place south of Cesar Chavez Street, west of Michigan Street, and south of 25th Street, west of Iowa Street. **Figure 4.B-3, Existing Height and Bulk Districts in the Project Vicinity**, depicts height and bulk districts in the project vicinity. In addition to the heights depicted on Figure 4.B-3, the Pier 70 SUD establishes permitted maximum building heights for new construction of 65 to 90 feet. In Open Space Districts, where buildings are typically limited to park structures, height and bulk is determined on an as-needed basis, consistent with the General Plan. Height and bulk limits in the Mission Bay Redevelopment Area are governed by the redevelopment plan and associated documents.



SOURCE: DataSF

Potrero Power Station Mixed-Use Development Project

Figure 4.B-3
Existing Height and Bulk Districts in the Project Vicinity

4.B.3 Regulatory Framework

Please refer to Chapter 3, Plans and Policies, for a discussion of the local and regional land use regulatory framework applicable to the proposed project.

4.B.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact on land use and land use planning. Implementation of the proposed project would have a significant effect on land use and land use planning if the project would:

- Physically divide an established community; or
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Approach to Analysis

Project Features

The project features relevant to the Land Use and Land Use Planning impact analysis are the buildings and infrastructure that would be permitted to be developed pursuant to the project's proposed amendments to the General Plan and Planning Code through the creation of a new Potrero Power Station Special Use District (SUD). The SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development document (D for D). The Zoning Maps would be amended to show changes from the current zoning to the proposed SUD zoning and would also increase the height limits on the project site from the existing 40 feet and 65 feet to a range of 65 to 300 feet.

Methodology for Analysis of Impacts

The evaluation of the potential for impacts related to land use and land use planning involves a qualitative assessment of the project's potential to physically divide the Central Waterfront neighborhood, or any part thereof. The impact assessment also evaluates any potential conflicts with applicable plans, policies, and regulations that have been adopted to avoid or reduce environmental impacts. As such, the policy analysis is not comprehensive, but rather is limited to policies that are intended to address physical environmental impacts, as analyzed pursuant to CEQA.

A conflict between the project and an existing plan or policy does not, in itself, indicate a significant environmental effect under CEQA, unless the project substantially conflicts with a land use plan/policy that was adopted for the purpose of avoiding or mitigating an environmental effect and also results in an adverse physical impact on the environment.³ However, such an inconsistency may potentially, at least in some cases, be indicative of an adverse physical effect. The determination of a significant impact—which, by definition, must involve a physical change—is separate from the legal determination of plan consistency. The focus of the analysis under Impact LU-2 is on the proposed project's potential for substantial conflicts with applicable plans and policies, such that a substantial adverse physical change in the environment related to land use would result from the identified conflict. Impact LU-2 does not present a complete analysis of project conformity with applicable state, regional, and local plans and policies. Chapter 3, Plans and Policies, identifies potential conflicts with plans and policies relevant to the proposed project.

However, the City will conduct a comprehensive analysis of the proposed project's consistency with the general plan and other applicable plans and policies independent of the CEQA process, as part of the decision-makers' action to approve, modify, or disapprove the project or aspects thereof. The planning commission and/or board of supervisors will ultimately determine the proposed project's overall consistency on balance with the goals and policies contained in the general plan and other City requirements and planning documents as part of the decision to approve or reject the proposed project. The staff report for the planning commission will analyze the project's consistency with general plan policies.

To the extent that physical environmental impacts may result from conflicts between the proposed project and applicable policy language, the EIR discloses and analyzes these physical impacts under the specific environmental topic sections in EIR Chapter 4 or in the initial study (see Appendix B). For example, impacts resulting from a change or intensification in the residential population and/or employment opportunities on the project site are discussed in Section 4.C, Population and Housing, and are also embodied in environmental impacts related to the capacity of existing facilities and services to adequately serve the area, including those described in EIR Chapter 4 and initial study sections related to transportation and circulation, recreation, utilities and service systems, and public services. The physical impacts of construction and/or operation of the proposed project on the environment are evaluated in the impact analysis for specific environmental topics, such as cultural resources, noise, air quality, greenhouse gas emissions, wind and shadow, hydrology and water quality, and hazards and hazardous materials.

Methodology for Analysis for Cumulative Impacts

Section 4.A.6, Approach to Cumulative Impact Analysis, describes the overall approach to the cumulative analysis for those topics using a list-based approach and summarizes past, present and reasonably foreseeable future projects in the vicinity of the Potrero Power Station project that could contribute to a cumulative impact. The geographic scope for cumulative land use impacts is the Central Waterfront area, including the Dogpatch neighborhood. This area, which comprises the area between San Francisco Bay and the eastern foot of Potrero Hill, from Islais Creek north to about 18th Street, is generally considered the surrounding neighborhood and therefore the relevant

³ CEQA Guidelines section 15358(b) states, "Effects analyzed under CEQA must be related to a physical change."

area for consideration of cumulative land use impacts. The cumulative analysis focuses, in particular, on combined land use effects of the proposed project and the approved Pier 70 Mixed-Use District project, along with the Pier 70 Historic Core projects (currently under construction), as these three developments comprise the vast majority of development projected to occur within the Central Waterfront area. It also considers the numerous recently built, under construction, and approved residential projects in the Central Waterfront area. The analysis also acknowledges the Mission Bay Redevelopment Plan area, (which is nearing buildout) to the north, the approved reconstruction and expansion of the Potrero Terrace and Potrero Annex public housing sites (Potrero HOPE SF project), as well as three large but more distant projects on the east side of San Francisco—the under-development Candlestick Point-Hunters Point Shipyard project to the south, and the approved Mission Rock project and pending Central South of Market Area (SoMa) Plan area to the north.⁴

The cumulative analysis evaluates, qualitatively, whether or not there would be a significant, adverse cumulative land use impact associated with project implementation in combination with past, present, and reasonably foreseeable future projects in the geographical area, and if so, whether or not the project's contribution to the cumulative impact would be considerable. Both conditions must apply in order for a project's contribution to cumulative effects to be deemed cumulatively considerable (i.e., significant).

Impact Evaluation

Impact LU-1: The proposed project would not physically divide an established community. *(Less than Significant)*

The physical division of an established community typically refers to the construction of a physical feature (such as a major roadway or railroad line) or removal of a means of access (such as a street or bridge) that would impair mobility within an existing community or between a community and surrounding areas. Physical divisions within a community could also result from large-scale land use changes that have the potential to isolate existing residential uses from other nearby residential neighborhoods.

Because of its industrial history, specifically the most recent use of most of the site as the Potrero Power Plant, and because of the surrounding predominantly industrial and light industrial uses, both existing and historic, to the north, west, and south, the project site is isolated from the remainder of the Central Waterfront area, including the nearby Dogpatch neighborhood. The project site is characterized by clusters of structures and large, paved but undeveloped areas. Access is limited, as the project site is gated at Humboldt Street, which extends east into the site from Illinois Street, and on the north side of 23rd Street. There is currently no street access from the north. As a result, the project site is not well integrated with the surrounding street grid. There is currently no public access to the waterfront and no visual access to the bay through the project site.

⁴ Mission Rock (aka Seawall Lot 337/Pier 48) was approved by the Planning Commission in October 2017, the Port Commission in January 2018, and the Board of Supervisors in February 2018, with legislation creating a special use district signed by the mayor in March 2018. The Central SoMa Plan is anticipated to be considered for adoption in 2018.

Given these isolating factors, the project site does not currently contain, nor does it lie within, an established community.

As a result, rather than dividing an established community, the proposed project would reconnect the project site to the established Dogpatch community and the larger Central Waterfront area. Specifically, the proposed project would improve and extend both Humboldt and 23rd streets, which would link the project site to the existing neighborhoods to the west, beyond Illinois Street. Humboldt Street, in particular, would provide for a new view corridor through the site to the San Francisco Bay. The project would also develop new north-south streets within the project site, providing for a street connection to the adjacent approved Pier 70 Mixed-Use District project to the north and further enhancing connectivity with the larger Central Waterfront area. Other transportation improvements that would increase linkages and connectivity with the surrounding neighborhoods would include a new pedestrian and bicycle network, a bus layover to accommodate Muni buses anticipated to serve the site, and the project's shuttle service to and from BART and Caltrain.

The project would provide new publicly accessible open space, including new public access to the San Francisco Bay shoreline, a link for the planned Bay Trail through the project site along the shoreline, and a floating dock and wharf along the edge of the bay. The open space component would include several publicly accessible parks and other open spaces that would be accessible not only to residents and employees of the project site but to nearby residents and workers. Street trees planted on the project site would help to visually integrate the project site with the existing street trees on Illinois Street.

Additionally, as a mixed-use project, the proposed project would provide both a substantial increase in housing, including affordable housing, as well as jobs and retail goods and services to both project residents and those from the surrounding area, further helping link the project site to the remainder of the Central Waterfront. The proposed project would not include any features, such as major roadways, that could serve as a barrier to site access, nor would it remove any features that currently provide access. Although the replacement of existing buildings and open areas with a large mixed-use development would increase the development intensity on the project site, the new buildings would not divide an established community (for example, by isolating an existing residential area), because the site is at present largely unoccupied and is not an integral part of the larger Central Waterfront neighborhood. For the same reason, the project would not constitute a barrier to access because the project site currently provides no public access, either from the rest of the Central Waterfront to the bay or from north to south through the site, as described above.

Based on the foregoing, the proposed project would have a *less-than-significant* effect related to physical division of a community.

Mitigation: None required.

Impact LU-2: The proposed project would not conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (*Less than Significant*)

Applicable local land use plans that regulate development on the project site include the San Francisco General Plan and the San Francisco Planning Code. As noted in Chapter 3, Plans and Policies, the Port's Waterfront Land Use Plan has limited applicability to the project site and is not considered further. Other applicable plans include the Bicycle Plan, the Transit First Policy, the Better Streets Plan, and the Accountable Planning Initiative. Applicable regional plans include the San Francisco Bay Conservation and Development Commission's Bay Plan, and San Francisco Waterfront Special Area Plan, and Plan Bay Area. The discussion in Chapter 3, Plans and Policies, generally describes the proposed project's potential inconsistencies with these plans.⁵

San Francisco General Plan

The proposed project would be generally consistent with the Central Waterfront Area Plan, which is the portion of the San Francisco General Plan with the most specific applicability to the project site. Text accompanying Objective 1.1 of the Central Waterfront Area Plan (adopted in 2008) notes that the power plant was anticipated to cease operations. As to future use of the project site, the text at Objective 1.1 continues:

While contamination of the soil here will preclude housing development on the site, it will be an opportunity, similar to Pier 70, for mixed-use development in the future that could include larger activities such as commercial as well as research and development uses. A future community planning process for this site will help determine exactly what should occur on the site.

The Central Waterfront Area Plan therefore called for maintaining the existing industrial zoning of Pier 70 site and the project site pending the outcome of a separate planning process for the two sites.

As called for in the Central Waterfront Plan, the project sponsor has undertaken a "community planning process," with numerous public meetings and open houses. The proposed project would include the "larger-scale commercial and research establishments" called for in the Central Waterfront Area Plan. With respect to residential use, remediation undertaken and still in progress by PG&E at the project site is being completed to achieve a commercial/industrial land use standard at the site. Therefore, as described in Chapter 2, Project Description, additional remediation as deemed appropriate by the Regional Water Quality Control Board may occur during project construction to allow for residential use and/or to address previously unknown contaminants discovered during the course of development. Implementation of this additional project-specific remediation, as required by the regional board, would avoid any physical effects that the Central Waterfront Area Plan had assumed would be associated with residential use of the

⁵ Other regional plans, such as the 2017 Clean Air Plan and the Basin Plan concerning San Francisco Bay, address specific environmental resources and are discussed in the relevant resource sections of this EIR.

site. Accordingly, in addition to commercial and research and development uses, the proposed project would include new residential development and amenities such as open space and ground-floor retail uses that would be available to both project residents and occupants and to others. While certain conforming amendments to the Central Waterfront Area Plan would likely be required as part of project approval, the project would not substantially conflict with the Central Waterfront Area Plan's environmental policy framework. Likewise, amendments to the San Francisco Planning Code and Zoning Maps would be required, but these would not, in general, implicate environmental effects.

As discussed in Chapter 3, Plans and Policies, the proposed project's 300-foot-tall tower could be seen to partially conflict with Central Waterfront Area Plan Policy 3.1.2, "Development should step down in height as it approaches the Bay to reinforce the city's natural topography and to encourage an active and public waterfront." Any such partial conflict would potentially result in aesthetic changes. As explained in Section 3.B, Local Plans and Policies, the proposed project would meet other design goals of the San Francisco General Plan, including providing orientation points for areas of activity. As explained in Section 4.A, Impact Overview, however, aesthetic impacts are not considered significant impacts under CEQA for this proposed project per CEQA Statute section 21099(d). Therefore, this potential conflict would not result in a significant environmental effect.

However, as also discussed in Chapter 3, Plans and Policies, the proposed project's demolition of historical resources would at least partially conflict with Central Waterfront Area Plan Objective 8.2, "Protect, preserve, and reuse historic resources within the Central Waterfront area plan," and Policy 8.2.1, "Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street." The physical environmental impacts associated with demolition of historical resources are analyzed in Section 4.D, Historic Architectural Resources.

Additionally, as discussed in Chapter 3, the proposed project could conflict with Central Waterfront Area Plan Objective 1.5, "Minimize the impact of noise on affected areas and ensure General Plan noise requirements are met," because project construction would cause significant effects, even with mitigation, and project and cumulative traffic volumes could cause substantial permanent increases in ambient noise levels along some streets in the project vicinity. The physical environmental noise effects of the proposed project are analyzed in Section 4.F, Noise and Vibration.

The proposed project could conflict with City policy direction with respect to pedestrian exposure to hazardous winds; these physical environmental impacts are analyzed in Section 4.H, Wind and Shadow.

Other Plans

The project site is largely outside the boundary of the Port of San Francisco's Waterfront Land Use Plan, which applies only to the 1.6-acre waterfront portion of the Port sub-area, between the Power Station sub-area and the bay (i.e., most of the project site's bay frontage). This area would be devoted to publicly accessible open space and includes the project's proposed recreational dock.

Because the Waterfront Land Use Plan identifies these as acceptable land uses, the proposed project would not conflict with the land use guidance in the plan.

The project would be undertaken within a Priority Development Area, as set forth in Plan Bay Area 2040, Final, and thus would be consistent with this regional transportation plan and Sustainable Communities Strategy. The project would not substantially conflict with the San Francisco Bay Conversation Development Commission's San Francisco Bay Plan, in that the project would provide for extensive public access, including waterfront public access, and would not develop any new structures within 100 feet of San Francisco Bay.

With respect to the City's Transit First Policy, project-generated transit demand would not be fully accommodated by existing Muni service and would result in a substantial increase in transit delay on the 22 Fillmore, which could result in a significant impact. This impact is analyzed in Section 4.F, Transportation and Circulation.

San Francisco Planning Code

As explained in Chapter 2, Project Description, the proposed project would include amendments to the Planning Code and Zoning Maps, creating a new Potrero Power Station Special Use District (SUD) and increasing height limits on the project site. If approved by the planning commission and board of supervisors, the SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development (D for D) document, while the new height and bulk map within the Zoning Map would change the existing height limits of 40 and 65 feet to height limits ranging from 65 to 300 feet.

Conclusions

If the San Francisco Board of Supervisors finds that amendments to the San Francisco General Plan and Planning Code are warranted to allow for implementation of the proposed project, conflicts between the San Francisco General Plan and Planning Code, and the project would be resolved through a legislative amendment of the San Francisco General Plan and Planning Code.

Conflicts with plans, policies, and regulations do not necessarily indicate a significant environmental land use impact under CEQA, unless the project substantially conflicts with a land use plan/policy that was adopted for the purpose of avoiding or mitigating an environmental effect, such that a substantial adverse physical change in the environment related to land use would result. To the extent that such substantial physical environmental impacts may result from such conflicts, this EIR discloses and analyzes these physical impacts under the relevant environmental topic sections, as noted above in the introduction to this section.

The proposed project would not conflict with land uses plans and policies such that a substantial adverse physical change in the environment related to land use would result. For this reason, the proposed project would have a *less-than-significant* land use effect related to conflict with a land use plan, policy, or regulation; no mitigation measures are required.

Potential conflicts with applicable San Francisco General Plan objectives and policies will continue to be analyzed and considered as part of the review of entitlement applications required for the

proposed project independent of environmental review under CEQA. They also will be considered by the decision-makers during their deliberations on the merits of the proposed project and as part of their actions to approve, modify, or disapprove the proposed project.

Mitigation: None required.

Cumulative Impacts

Impact C-LU-1: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to physical division of an established community. (*Less than Significant*)

Section 4.A, Impact Overview, identifies several foreseeable future projects that are located near the project site. In addition, several area plans have identified the southeastern part of San Francisco as the location for substantial future growth in housing and employment. These include the five Eastern Neighborhoods area plans (East SoMa, Western SoMa, Showplace Square/Potrero Hill, Mission, and Central Waterfront, where the project site is located), the Mission Bay Redevelopment Plan, the Bayview Hunters Point Area Plan, and plans for the former Hunters Point Shipyard, Candlestick Point, Visitacion Valley, and Executive Park. Additionally, the proposed Central SoMa Plan anticipates further growth in the central portion of the South of Market neighborhood. The proposed project would add to this growth (see Section 4B, Population and Housing, for further discussion).

The proposed project would combine with growth in the above areas, the approved Pier 70 Mixed-Use District project, and the approved Mission Rock project to continue the transformation of much of eastern San Francisco from a substantially industrial area to a mixed-use residential-commercial area. However, this transformation would be largely consistent with both adopted local and regional plans, including the plans noted above and Plan Bay Area 2040, Final.

As discussed above under Impact LU-1, the proposed project would extend a network of public streets through the project site and would enhance pedestrian and bicycle circulation and add new open space. All of these changes would enhance public access to and through the project site and to the waterfront. Development in the above-noted plan areas would likewise enhance circulation options and open space, as would the approved Pier 70 and Mission Rock projects. Therefore, none of these projects would divide an established community, nor would they combine to do so in a cumulative manner. Accordingly, cumulative effects related to physical division of established communities would be *less than significant*.

Mitigation: None required.

Impact C-LU-2: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to conflicts with applicable land use plans, policies, and/or regulations adopted for the purpose of avoiding or mitigating an environmental effect. (*Less than Significant*)

The proposed project's conflicts with existing land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect, discussed above under Impact LU-2, would be less than significant. To the extent that substantial physical environmental effects may result from such conflicts, this EIR discloses and analyzes these physical impacts under the relevant environmental topic areas, including Section 4.D, Historic Architectural Resources, Section 4.E, Transportation and Circulation, Section 4.F, Noise and Vibration, Section 4.G, Air Quality, Section 4.H, Wind and Shadow, and Section 4.I, Biological Resources, along with Initial Study Topic E.3, Cultural Resources, and Initial Study E.13, Geology and Soils, for both the proposed project and the cumulative projects.

For these reasons, the proposed project, in combination with past, present, and reasonably foreseeable future projects, would have *less-than-significant* cumulative land use impacts.

Mitigation: None required.

4.C Population and Housing

4.C.1 Introduction

This section describes existing population, housing, and employment characteristics and trends in San Francisco and the potential for the Potrero Power Station Mixed-Use Development project (proposed project) to induce substantial unplanned population growth, either directly or indirectly, or displace housing or residents in the project vicinity or citywide necessitating the construction of replacement housing. The impact analysis evaluates the potential population, housing, and employment impacts of the proposed project and identifies mitigation measures to avoid or reduce adverse impacts, as appropriate. In addition, the project is considered in combination with past, present and reasonably foreseeable future projects to determine potential cumulative impacts.

4.C.2 Environmental Setting

Study Area

The City of San Francisco is the primary study area that would be affected directly by potential project-related population and housing effects as well as by employment effects that could in turn result in demand for additional housing. Because project construction could draw on the regional labor pool, this section also describes employment trends in surrounding Bay Area counties. In addition, to address potential indirect and cumulative effects of the project, this Population and Housing section considers the population within approximately 0.5-miles of the project site the "project vicinity." Census tract populations, therefore, considered in the project vicinity include census tracts 226, 217.02, 604, 614, and 9809.

Regional Setting

Population

In 2010, there were 805,235 people living in San Francisco, a 4 percent increase in the city's population compared to 2000.¹ The California Department of Finance, which provides population estimates and tracks changes in housing and vacancy rates for years between the decennial census counts, estimates that the city's population in 2015 was 845,600, a 5 percent increase since 2010.² Under the Metropolitan Transportation Commission and Association of Bay Area Governments (ABAG) Plan Bay Area 2040 Final report, the city's population is projected to increase by nearly

¹ U.S. Census Bureau, American FactFinder, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, San Francisco County, California, 2010; and U.S. Census Bureau, American FactFinder, DP-1 Profile of General Demographic Characteristics: 2000, San Francisco County, California, 2000.

² State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2017, with 2010 Benchmark*. Sacramento, California, May 1, 2017. This estimate is slightly lower than the 2015 population projected in 2013 by the regional planning agency, the Association of Bay Area Governments (ABAG); the Department of Finance estimate is used here for consistency with information on vacancy rates, which are tracked by the Department of Finance and provided, herein. The difference between the population estimate and population projections (which may be attributable to more current data available for the Department of Finance estimate), is negligible (0.16 percent).

46 percent over the 30-year period between 2010 and 2040 (or approximately 1.5 percent per year) to an estimated population of 1,173,952.³

The population of the nine-county Bay Area⁴ is expected to increase at a slightly lower rate than San Francisco's population over the same 30-year period. The Bay Area's population is estimated to increase from approximately 7.2 million persons in 2010 to 9.6 million by 2040.⁵ Overall, the Bay Area's population is expected to increase by 33 percent over this 30-year period.

Housing

Households

In 2010, the Bay Area had approximately 2.6 million households, (defined by the Association of Bay Area Governments as an occupied residential unit), and by 2040, the association estimates the number of Bay Area households will increase by approximately 30 percent to 3.4 million households.⁶ In 2010, San Francisco had approximately 345,810 households comprising approximately 13 percent of Bay Area households. By 2040, the Association of Bay Area Governments estimates the number of San Francisco households will increase by 137,800 households to an estimated 483,700 households and represent approximately 11 percent of Bay Area households.⁷

According to the U.S. census, the average household size in San Francisco has fluctuated between 2.30 persons per household in 2000 to 2.26 persons per household in 2010, which is smaller than the Bay Area average household size of 2.76 persons per household in 2010.⁸ According to the Association of Bay Area Governments and Metropolitan Transportation Commission Plan Bay Area 2040 Final, San Francisco's average household size is projected to increase to 2.43 persons per household by 2040.⁹ The Bay Area average household size is expected to increase from 2.76 to 2.80 persons per household between 2010 and 2040.¹⁰

³ *Plan Bay Area 2040 Final* does not provide explicit updated population forecasts, therefore this analysis considers a parallel comparison between persons per households among the most recent data: the *2013 Draft Plan Bay Area*, forecasts 447,800 households within 469,430 housing units in 2040, with a population of 1,085,730 (Table 14, page 42), while the *Plan Bay Area 2040 Final* provides an updated forecast with San Francisco expected to have 483,700 households. Adhering to the same population generation rates, the *Final Plan Bay Area 2040* thus forecasts approximately 507,574 housing units, with an overall population of 1,173,952.

⁴ The Bay Area's nine counties are Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

⁵ Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), *Plan Bay Area 2040 Final*, July 2017, Table 3.1, p. 33.

⁶ MTC and ABAG, *Plan Bay Area 2040 Final*, July 2017, Table 3.1, p. 33.

⁷ MTC and ABAG, *Plan Bay Area 2040 Final*, Land Use Modeling Retort, July 2017. Appendix 1- Household and Employment Growth Forecasts by Jurisdiction, p. 35.

⁸ U.S. Census Bureau, American FactFinder, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, San Francisco County, California, 2010; U.S. Census Bureau, American FactFinder, DP-1 Profile of General Demographic Characteristics: 2000, San Francisco County, California, 2000. And *Final Plan Bay Area 2040*, July 2017. MTC and ABAG. Table 3.1, p. 33.

⁹ The *2013 Draft Plan Bay Area*, forecasts 447,800 households within 469,430 housing units in 2040, with a population of 1,085,730 (Table 14, page 42), while the *Final Plan Bay Area 2040* provides an updated forecast with San Francisco expected to have 483,700 households. Adhering to the same population generation rates, the *Final Plan Bay Area 2040* thus forecasts approximately 507,574 housing units, with an overall population of 1,173,952. Based on this growth ration, the 2040 Persons per Household is 2.43.

¹⁰ MTC and ABAG, *Plan Bay Area 2040 Final*, July 2017, Table 3.1, p. 33

Existing Housing Stock

San Francisco experienced marked housing growth between 2000 and 2010. About 29,600 housing units were added over this period, a 9 percent increase, for a total of 376,200 housing units in 2010; the estimated vacancy rate in 2010 was 8.3 percent.¹¹ The number of households (occupied housing units) increased over this period from 329,700 in 2000 to 345,811 in 2010, a 5 percent increase.¹² There was a net addition of 4,441 units to the City's housing stock in 2017, a 12 percent decrease from 2016's net addition. The net addition in 2017, however, is about 60 percent more than the 10-year average net addition of 2,745, and represents an upward trend in net unit production from the lowest production point of 2011. By the end of 2017, there were approximately 392,000 housing units in the city.¹³

Employment

According to the California Employment Development Department data, approximately 703,600 people worked in San Francisco in 2016, an increase of 28,400 jobs since 2015 and the City's peak annual average employment level to date.^{14,15} This estimate measures workers by place of work and includes full-time and part-time wage and salary employment; it does not include self-employed people, unpaid family workers, or private household employees.¹⁶ From 2010 following the recession through 2016, more than 160,000 jobs were added in San Francisco.¹⁷

Employment in San Francisco, as in the Bay Area region as whole, has fluctuated substantially since the mid-1990s. Both the San Francisco and Bay Area economies experienced strong growth through 2000, fueled by the "dot-com" boom in the high technology and internet sectors; 84,000 jobs were added between 1994 and 2000 for a total of almost 609,000 workers in San Francisco in 2000.¹⁸ Following the dot-com crash, San Francisco lost 90,000 jobs between 2000 and 2004. The City regained almost 48,000 jobs between 2004 and 2008 and lost about 27,000 jobs between 2008 and 2010 during the global recession.¹⁹

¹¹ U.S. Census Bureau, American FactFinder, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, San Francisco County, California, 2010; U.S. Census Bureau, American FactFinder, DP-1 Profile of General Demographic Characteristics: 2000, San Francisco County, California, 2000.

¹² U.S. Census Bureau, American FactFinder, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, San Francisco County, California, 2010; U.S. Census Bureau, American FactFinder, DP-1 Profile of General Demographic Characteristics: 2000, San Francisco County, California, 2000.

¹³ San Francisco Planning Department, *2017 San Francisco Housing Inventory*, published April 2018.

¹⁴ California Employment Development Department (EDD), Labor Market Information (LMI) for San Francisco County, California, Industry Employment Data, Annual Average Estimates 1990-2015, December 28, 2017.

¹⁵ These estimates of employment by place of work count part-time and full-time jobs equally. People who hold more than one job may be counted more than once.

¹⁶ California EDD, LMI Frequently Asked Questions, 2017, http://www.labormarketinfo.edd.ca.gov/FAQs/FAQs_DD.html, accessed on March 1, 2018.

¹⁷ There were 703,600 jobs cited in 2016, and 543,500 in 2010. Data from: California EDD, LMI for San Francisco County, California, Industry Employment Data, Annual Average Estimates 1990-2015, December 28, 2017.

¹⁸ This estimate is about 6 percent less than ABAG's estimate for 2000; ABAG's data include classes of workers that the Employment Development Department does not (self-employed workers, unpaid family workers, or private household employees).

¹⁹ California EDD, LMI for San Francisco County, California, Industry Employment Data, Annual Average Estimates 1990-2015, December 28, 2017.

Construction employment in San Francisco has generally followed the same cycle of job gains and losses, except that there was a much sharper decline in construction jobs in the city between 2008 and 2010 compared to jobs overall, and construction employment continued to decline in 2011, whereas employment as a whole in the city began to increase slowly in 2011. From 2008 to 2010, 26 percent of construction jobs in the city – roughly 5,000 jobs – were lost, compared to a 5 percent decline in all city jobs, and construction jobs declined by another 3 percent in 2011. Construction employment began to increase in 2012; in 2014, there were 16,800 construction jobs in San Francisco, a net loss of 2,400 construction jobs since 2008; and by 2016, this number increased to 20,400, a net increase of 800 jobs since 2008. In a five-county subregion of the Bay Area (San Francisco, Alameda, Contra Costa, Marin, and San Mateo counties), 37,000 construction jobs were lost between 2007 and 2010. Construction employment for the five-county region began to recover in 2011, and more than 33,000 construction jobs were added in the region between 2010 and 2016; there were 113,600 construction jobs in the five-county region in 2013, a net loss of approximately 4,000 construction jobs compared to 2007.²⁰

The Plan Bay Area 2040 Final report estimates that 296,000 new jobs will be added to San Francisco between 2010 and 2040 representing 23 percent of employment growth in the nine-county area of the Bay Area region.²¹

Local Setting

The project site is located within census tract 226, which is bounded by 16th Street to the north, I-280 to the west, 25th Street to the south, and San Francisco Bay to the east. The baseline setting for which project impacts are assessed under this section considers the November 1, 2017, Notice of Preparation publication date. At the time of the notice, there were three groups of existing employees using the project site: (1) up to 10 regular or permanent employees present at the PG&E Subarea at the General Construction Yard (currently used by PG&E for storage offices, as a headquarters for San Francisco utility maintenance operations, gas and electric transmission, and an electrical transmission substation); (2) temporary employees associated with hazardous material remediation; and (3) approximately 10 temporary employees associated with the project applicant, California Barrel Company LLC. Because remediation work is a temporary use of the site, and as remediation must be completed prior to operation of each phase of the project, this temporary population is not considered a potentially displaced population. Employees of the California Barrel Company are a newly introduced population by the project and would be relocated onsite once their current, temporary office space is required to be demolished for project construction. As such, these are not considered an existing employee population that would be displaced.

²⁰ California EDD, Industry Employment Data for San Francisco County, California December 28, 2017; California EDD, Industry Employment Data for Alameda County, California, March 1, 2018a; California EDD, Industry Employment Data for Contra Costa County, California, July 17, 2018b; California EDD, Industry Employment Data for Marin County, California, San Rafael Metropolitan Division, July 17, 2018c; and California EDD, Industry Employment Data for San Mateo County, California, July 17, 2018d. Data provided for San Francisco, Alameda, Contra Costa, and San Mateo Counties are for the industry title "Mining, Logging and Construction" and for Marin County data are provided for the industry title "Construction."

²¹ ABAG and MTC, *Plan Bay Area 2040 Final*, adopted July, 26, 2017, Map 4.3 p. 47.

According to the 2010 U.S. Census, census tract 226, for which the project site is located, had a total population of 1,534 residents.²² According to the American Community Survey's 2012-2016 five-year survey, the population of census tract 226 was 2,080, an increase of 36 percent since 2010, for 1,006 units.²³ Currently, there are no residential units on the project site.

For the purposes of this population and housing analysis, the project vicinity includes census tract 226, along with census tracts 217.02, 604, 614, and 9809, which are located, at least partially, within approximately 0.5 miles of the project. Collectively, these five parcels contained approximately 11,028 residents in 2010, and in 2016 according to American Community Survey 2012-2016 five-year estimates, contained 12,278 residents, in a total of 5,897 units.^{24,25}

4.C.3 Regulatory Framework

There are no federal regulations and only one state regulation related to population, housing, or employment that apply to the proposed project. This section discusses state, regional, and local regulations.

State Regulations

Senate Bill 375

Senate Bill 375 was enacted to encourage regions like the Bay Area to develop solutions to the challenge of growing congestion, which has disproportionately affected lower-income residents and burdened them with hours-long commutes on crowded roads, buses or trains. This bill requires regions to prepare a Sustainable Communities Strategy (or Alternative Planning Strategy) to reduce greenhouse gas emissions by linking growth to transit, resulting in a different distribution of jobs and housing growth than under pre-strategy projections.

Regional Regulations

Plan Bay Area 2040 Final

Plan Bay Area 2040 Final was necessitated by the adoption of Senate Bill 375. This plan serves as the Bay Area's Sustainable Communities Strategy and was prepared by the Association of Bay Area Governments and Metropolitan Transportation Commission. The Draft Plan Bay Area was published in 2013, and the final was published July 2017. The Plan Bay Area 2040 Final provides an update to

²² U.S. Census Bureau, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, Census Tract 226, San Francisco County, California, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_DP_DPDP1&src=pt, accessed December 29, 2017.

²³ U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, DP05 American Community Survey Demographic and Housing Estimates, Census Tract 226, 227.02, 604, 614, 9809, San Francisco, California, <https://factfinder.census.gov/faces/nao/jsf/pages/index.xhtml#none>, accessed March 1, 2018.

²⁴ U.S. Census Bureau, DP-1 Profile of General Population and Housing Characteristics: 2010, 2010 Demographic Profile Data, Census Tract 227.02, 604, 614, 9809, San Francisco, California, <https://factfinder.census.gov/faces/nao/jsf/pages/index.xhtml#none>, accessed March 1, 2018.

²⁵ U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, DP05 American Community Survey Demographic and Housing Estimates, Census Tract 226, 227.02, 604, 614, 9809, San Francisco, California, <https://factfinder.census.gov/faces/nao/jsf/pages/index.xhtml#none>, accessed March 1, 2018.

the region's long-range transportation plan and sustainable communities strategy; it projects household and employment growth in the Bay Area through 2040, provides a roadmap for accommodating expected growth, and connects it all to a transportation investment strategy that strives to move the Bay Area toward key regional goals for the environment, economy, and social equity. Plan Bay Area 2040 Final is advisory; adherence by each jurisdiction is not compulsory.

The Plan Bay Area 2040 Final estimates approximately 137,800 additional housing units and 295,700 additional jobs will be added in San Francisco between 2010 and 2040. Household growth would equate to roughly 17 percent of regional growth, while this job growth equates to roughly 23 percent of the total employment growth anticipated in the region.²⁶ Plan Bay Area 2040 Final sets out a plan to meet most of the region's growth in *Priority Development Areas*, or PDAs, as identified by local governments. Much of the eastern third of San Francisco is within various PDAs; the project site is primarily located within the Eastern Neighborhoods PDA, (which includes East SoMa, the Mission, Showplace Square and Potrero Hill, and the Central Waterfront)²⁷ as well as partially within the Port of San Francisco Waterfront PDA.

Regional Housing Need Plan for the San Francisco Bay Area: 2014-2022

The Regional Housing Need Allocation Plan is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate. As part of this process, the California Department of Housing and Community Development identifies the total housing need for the San Francisco Bay Area for an eight-year period (in the current cycle, from 2015 to 2023). The Association of Bay Area Governments must then develop a methodology to distribute this need to local governments in a manner that is consistent with the development pattern included in the Sustainable Communities Strategy. Once a local government has received its final allocation, it must revise its general plan housing element to accommodate its portion of the region's housing need.

The housing allocation is expressed not only as an overall housing production target to alleviate tight housing market conditions and reduce long-distance commuting, but also, as separate targets for production of housing affordable to various household income categories. Based on this two-fold expression, San Francisco's share of the regional housing need for 2014 through 2022 is 28,869 new units, with approximately 57 percent of the target to provide affordable to households making what is considered *above moderate*, or 120 percent of the area median income or less.²⁸ This represents a little over 15 percent of the regional total from 2014 to 2022 and amounts to a total citywide housing production goal of affordable and market rate units of about 3,609 units per year. San Francisco's share of the Regional Housing Need Allocation Plan is incorporated into the City's 2014 Housing Element (adopted in April 2015). As required by state law, the San Francisco General

²⁶ ABAG and MTC, *Plan Bay Area 2040 Final*, adopted July, 26, 2017, Maps 4.2 and 4.3 p. 47.

²⁷ City and County of San Francisco Planning Department, Eastern Neighborhoods Plan Areas, http://sf-planning.org/sites/default/files/FileCenter/Documents/1230-Eastern_Neighborhoods_Planning_Areas_Map.pdf, accessed July 18, 2018.

²⁸ Income levels are broken into four categories: very low income is 50 percent or less of area median income, low income is 51 to 80 percent of area median income, moderate income is 81 to 120 percent of area median income, and above moderate is more than 120 percent of area median income. City and County of San Francisco, General Plan Housing Element, adopted April 27, 2015, p. I.41

Plan Housing Element discusses the City's fair share allocation of regional housing needs by income as projected by the Association of Bay Area Governments.

Local Regulations

San Francisco General Plan

Housing Element

The 2014 Housing Element is a component of the San Francisco General Plan and establishes the City's overall housing policies. California State Housing Element law (California Government Code sections 65580 et seq.) requires local jurisdictions to adequately plan for and address the housing needs of all segments of its population in order to attain the region's share of projected statewide housing goals. This law requires local governments to plan for their existing and projected housing needs by facilitating the improvement and development of housing and removing constraints on development opportunities. San Francisco's 2014 Housing Element was required to plan for an existing and projected housing need of 28,869 new housing units.

The following objectives and policies of the Housing Element are relevant to the population and housing impact analysis of the proposed project:

- **Objective 1:** Identify and make available for development adequate sites to meet the City's housing needs, especially permanently affordable housing.

Policy 1.1: Plan for the full range of housing needs in the City and County of San Francisco, especially affordable housing.

Policy 1.3: Work proactively to identify and secure opportunity sites for permanently affordable housing.

Policy 1.4: Ensure community based planning processes are used to generate changes to land use controls.

Policy 1.6: Consider greater flexibility in number and size of units within established building envelopes in community based planning processes, especially if it can increase the number of affordable units in multi-family structures.

Policy 1.8: Promote mixed use development, and include housing, particularly permanently affordable housing, in new commercial, institutional or other single use development projects.

Policy 1.9: Require new commercial development and higher educational institutions to meet the housing they generate, particularly the need for affordable housing for lower income workers and students.

Policy 1.10: Support new housing projects, especially affordable housing, where households can easily rely on public transportation, walking and bicycling for the majority of daily trips.

- **Objective 4:** Foster a housing stock that meets the needs of all residents across lifecycles.

Policy 4.1: Develop new housing, and encourage the remodeling of existing housing, for families with children.

Policy 4.4: Encourage sufficient and suitable rental housing opportunities, emphasizing permanently affordable rental units wherever possible.

Policy 4.5: Ensure that new permanently affordable housing is located in all of the city's neighborhoods, and encourage integrated neighborhoods, with a diversity of unit types provided at a range of income levels.

Policy 4.6: Encourage an equitable distribution of growth according to infrastructure and site capacity.

Policy 4.7: Consider environmental justice issues when planning for new housing, especially affordable housing.

- **Objective 11:** Support and respect the diverse and distinct character of San Francisco's neighborhoods.

Policy 11.1: Promote the construction and rehabilitation of well-designed housing that emphasizes beauty, flexibility, and innovative design, and respects existing neighborhood character.

Policy 11.3: Ensure growth is accommodated without substantially and adversely impacting existing residential neighborhood character.

Policy 11.4: Continue to utilize zoning districts which conform to a generalized residential land use and density plan and the General Plan.

Policy 11.7: Respect San Francisco's historic fabric, by preserving landmark buildings and ensuring consistency with historic districts.

Policy 11.8: Consider a neighborhood's character when integrating new uses, and minimize disruption caused by expansion of institutions into residential areas.

Policy 11.9: Foster development that strengthens local culture sense of place and history.

- **Objective 12:** Balance housing growth with adequate infrastructure that serves the City's growing population.

Policy 12.1: Encourage new housing that relies on transit use and environmentally sustainable patterns of movement.

Policy 12.2: Consider the proximity of quality of life elements, such as open space, child care, and neighborhood services, when developing new housing units.

Policy 12.3: Ensure new housing is sustainably supported by the City's public infrastructure systems.

- **Objective 13:** Prioritize sustainable development in planning for and constructing new housing.

Policy 13.1: Support "smart" regional growth that locates new housing close to jobs and transit.

Policy 13.3: Promote sustainable land use patterns that integrate housing with transportation in order to increase transit, pedestrian, and bicycle mode share.

Central Waterfront Area Plan

The Central Waterfront Area Plan is part of the larger Eastern Neighborhoods Planning Area, which is composed of the Mission, Central Waterfront, East SOMA, Western SoMa, and Showplace Square/Potrero Hill neighborhoods. The Central Waterfront Area Plan was adopted by the Planning Commission in 2008. It is bounded by Mariposa Street on the north, San Francisco Bay on the east, Islais Creek on the south, I-280 on the west, and includes the project site (see Chapter 2, Project Description, Figure 2-1). The Central Waterfront Area Plan identifies the project site, as the Potrero power plant, similar to Pier 70 as playing a role in defining the Central Waterfront. However, because the project site was considered under active operation of industrial uses at the time of the Eastern Neighborhoods community planning process, the Central Waterfront Area Plan does not include changes to the zoning and height controls for the project site.²⁹

The following objectives and policies of the Central Waterfront Area Plan are relevant to the population and housing impact analysis of the proposed project:

- **Objective 2.1:** Ensure that a significant percentage of new housing created in the Central Waterfront is affordable to people with a wide range of incomes.

Policy 2.1.1: Require developers in some formerly industrial areas to contribute towards the City's very low, low, moderate, and middle income needs as identified in the Housing Element of the General Plan.

Policy 2.1.2: Provide land and funding for the construction of new housing affordable to very low and low-income households.

Policy 2.1.3: Provide units that are affordable to households at moderate and "middle incomes" – working households earning above traditional below-market-rate thresholds but still well below what is needed to buy a market priced home, with restrictions to ensure affordability continues.

- **Objective 2.3** Require that a significant number of units in new developments have two or more bedrooms except senior housing and SRO [single room occupancy] developments unless all below market rate unit are two or more bedroom units.

Policy 2.3.1: Target the provision of affordable units for families.

Policy 2.3.2: Prioritize the development of affordable family housing, both rental and ownership, particularly along transit corridors and adjacent to community amenities.

Policy 2.3.3: Require that a significant number of units in new developments have two or more bedrooms, except Senior Housing and SRO developments.

Policy 2.3.4: Encourage the creation of family supportive services, such as child care facilities, parks and recreation, or other facilities, in affordable housing or mixed-use developments.

Policy 2.3.5: Explore a range of revenue-generating tools including impact fees, public funds and grants, assessment districts, and other private funding sources, to fund community and neighborhood improvements.

²⁹ City and County of San Francisco, *Central Waterfront Area Plan*, December 2008, p. 8.

Policy 2.3.6: Establish an impact fee to be allocated towards an Eastern Neighborhoods Public Benefit Fund to mitigate the impacts of new development on transit, pedestrian, bicycle, and street improvements, park and recreational facilities, and community facilities such as libraries, child care and other neighborhood services in the area.

- **Objective 2.4** Lower the cost of the production of housing.

Policy 2.4.1: Require developers to separate the cost of parking from the cost of housing in both for sale and rental developments.

Policy 2.4.2: Revise residential parking requirements so that structured or off-street parking is permitted up to specified maximum amounts in certain districts, but is not required.

Policy 2.4.3: Encourage construction of units that are “affordable by design.”

- **Objective 2.6** Continue and expand the City’s effort to increase permanently affordable housing production and availability.

Policy 2.6.1: Continue and strengthen innovative programs that help to make both rental and ownership housing more affordable and available.

Other Local Regulations

Jobs Housing Linkage Program

The Jobs-Housing Linkage Program was first implemented in 1985 as the Office-Affordable Housing Production Program as one means by which the impacts of Downtown office employment growth would be managed and mitigated. The original exaction was limited to Downtown (C-3 Zoning Districts) office development. The program was updated and expanded in 1997. The Jobs Housing Nexus Analysis prepared in 1997 for the City demonstrated the relationship between all types of new commercial development and the need for affordable housing.³⁰ The Jobs-Housing Linkage Program analyzes the relationships among construction of new non-residential buildings, added employment, increased demand for affordable housing, and assesses fees based on the costs of addressing the additional demands for affordable housing.

Policy 1.9 of the 2014 Housing Element calls for enforcement and monitoring of the Jobs-Housing Linkage Program, requiring that new commercial development (as well as institutions of higher education) in the City provide affordable housing or pay an in-lieu fee to meet the housing need attributable to employment or student population growth and new commercial development, particularly the demand for new housing affordable to low- and moderate-income households. The current Jobs-Housing Linkage Program applies to office and other types of developments. The program is incorporated into section 413 of the planning code. This provision would apply to the project, and could be modified by the project’s development agreement.

³⁰ Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Jobs Housing Nexus Analysis, City of San Francisco*, July 1997. Prepared for the Office of Affordable Housing Production Program, City and County of San Francisco.

Residential Inclusionary Affordable Housing Program

San Francisco's Inclusionary Housing Program, requires new residential projects of 10 or more units to pay an affordable housing fee, or meet the inclusionary requirement by providing a percentage of the units as *below market rate* units at a price that is affordable to low or middle income households, either onsite within the project, or offsite at another location in the city. The program is governed by San Francisco Planning Code section 415 and the Inclusionary Housing Program Procedures Manual, and is administered by the Mayor's Office of Housing and Community Development and the Planning Department.³¹ This provision would apply to the project, and could be modified by the project's development agreement.

4.C.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact on population and housing. Implementation of the proposed project would have a significant effect on population and housing if the project would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Approach to Analysis

CEQA Guidelines section 15064(e) notes that an economic or social change by itself would not be considered a significant effect on the environment. Economic and social changes are only considered under CEQA to the extent that they may lead to adverse physical impacts on the environment, such as the construction of replacement housing necessitated by the displacement of substantial numbers of people. Moreover, population growth is considered in the context of local and regional plans and population, housing, and employment projections. The following analysis

³¹ The Inclusionary Housing Program has been in effect since 2002. On July 18, 2017, the board of supervisors unanimously approved legislation (Board File No. 161351) to significantly revise the key requirements and provisions contained in section 415 of the planning code, including as they apply to "grandfathered" projects currently in the development pipeline. The legislation was signed into law by Mayor Ed Lee on July 27, 2017 and become effective on August 26, 2017. Additional trailing legislation (Board File No. 170834) came into effect on December 3, 2017 to make a handful of technical changes to planning code section 415; including but not limited to the application of the Inclusionary Program in the Transbay Redevelopment Area and in certain areas including the Mission Plan Area, and how new requirements for feasibility studies of significant re-zoning actions will apply.

therefore considers whether the population and household growth that would occur with implementation of the proposed project (either directly or indirectly) would lead to unplanned growth that could in turn result in adverse physical environmental impacts. This analysis presents the surrounding environment, or the project vicinity of census tracts 226, 217.02, 604, 614, and 9809 for a local comparison. Much of this area is a priority development area.

Criteria Not Analyzed

Due to the project location, there would be no impact related to the following topics for the reasons described below:

- *Displace substantial numbers of existing housing units, necessitating construction of replacement housing.* The project would be located at existing, mostly vacant industrial sites that are bordered by non-residential land uses and San Francisco Bay; it would not displace any housing and therefore would not necessitate construction of replacement housing. Therefore, this criterion related to housing displacement does not apply and is not addressed further in this section.
- *Displace substantial numbers of people, necessitating construction of replacement housing.* The project would be located at existing, mostly vacant industrial sites that are bordered by non-residential land uses and San Francisco Bay; it would not displace any people and therefore would not necessitate construction of replacement housing. Therefore, this criterion related to population displacement does not apply and is not addressed further in this section.

Project Features

The population and housing impact analysis considers the proposed project as a whole; individual project components or features are not relevant to the analysis. The flexible land use program, as described in Section 4.A, Impact Overview, permits either residential or commercial uses on certain blocks on the project site (referred to as "flex blocks," see Figure 2-5 in Chapter 2, Project Description). The ultimate type and amount of land use of these blocks would depend on market conditions and feasibility of remediating to a residential standard. As indicated in Section 4.A, Impact Overview, total employment under the proposed project would be approximately 4,747 employees, with approximately 6,088 residents. When considering the range of variability with the flex blocks under a maximum residential scenario, total employment would be approximately 3,923 employees, with approximately 6,842 residents. Under a maximum office scenario, total employment would be approximately 5,524 employees, with approximately 5,541 residents; (for a summary of employment by scenario and corresponding land use, see Table 4.A-1, Proposed Project Scenarios and Potential Population). While the proposed project is the preferred breakdown of uses within the project site, because of the potential for flex blocks to result in a modified breakdown of final uses, this analysis considers the worst-case scenario on a topic-by-topic basis as follows to provide a singular conservative project analysis. As shown in Table 4.A-1, a maximum residential scenario would provide the highest residential population, while a maximum office scenario would introduce the highest number of employees.

Methodology for Analysis of Construction Impacts

The evaluation of the potential for project construction to induce substantial direct population growth (significance criteria bullet one) compares the number of construction jobs that would be generated by the project to the size of the local and regional labor force. This comparison provides a means to assess whether project construction jobs are likely to be filled primarily by the local and regional labor force or to attract substantial numbers of construction workers from outside the region. If the available local and regional labor force project construction jobs would be sufficient to fill the project construction jobs for the duration of the construction period, then construction impacts related to population growth would be less than significant. For purposes of this analysis, the size of the local and regional labor force is based on the number of people working in construction jobs in San Francisco and the four surrounding counties: San Mateo, Marin, Alameda, and Contra Costa counties.

To determine if project construction would create a demand for additional housing, this analysis assumes that the attraction of a substantial number of construction workers from outside the area would be expected to create demand for additional housing for such workers. On the other hand, workers from within the region would be expected to commute to project-generated construction jobs and not require additional housing.

Methodology for Analysis of Operational Impacts

This analysis evaluates the potential for project operations to induce substantial population growth or to create a demand for additional, off-site housing. In both cases, the analysis considers the worst-case foreseeable scenario of the total number of residents and employees generated by the project.

For the analysis of operational impacts, direct population growth refers to the residents of the newly developed housing units and the people who would be employed by the proposed land uses at the project site. Indirect or secondary growth refers to the population associated with development that could occur as infrastructure is expanded to previously unserved or underserved areas. This type of growth typically occurs in suburban and rural areas adjacent to or near undeveloped lands and is not applicable to the project site, which is located in a built-up urban environment that is already largely served by existing infrastructure.

The Association of Bay Area Governments projections are used to analyze whether the growth caused by the project would be within planned growth projections. Specifically, U.S. Census and the association projections (under the Plan Bay Area 2040 Final) for 2015 are used to represent existing (*baseline*) conditions, and projections for 2040 are used to represent future planned conditions. Population increases that substantially exceed projected growth and that could not be accommodated by existing or planned infrastructure would be considered a significant impact under CEQA. The 2010 U.S. Census 2012-2016 American Community Survey, 2014 San Francisco General Plan Housing Element, the Association of Bay Area Government's Regional Housing Need Plan for the San Francisco Bay Area: 2014-2022, and Plan Bay Area 2040 Final were used to prepare this analysis because they are the most recent data consistently available for the project site across all population, employment, and housing indices.

Residential Population Growth

Based on the project features and population generation rates, as presented in Table 4.A-1, the project would directly lead to the highest population under the maximum residential scenario, which could introduce as many as 3,014 housing units, for an estimated residential population of 6,842. This increase in residential population would result in a significant impact if the increase would substantially exceed projected or planned residential growth, and would not be accommodated by existing or planned infrastructure or services.

Employment Growth

As presented on Table 4.A-1, the project would generate the highest number of employees under a maximum office scenario, for an estimated 5,524 employees at project completion.

Project-generated employment growth would represent a significant impact if the growth would substantially exceed the employment growth anticipated by the City or region (i.e., ABAG), and would not be accommodated by existing or planned services, infrastructure or regional housing projections.

Methodology for Analysis of Cumulative Impacts

Plan Bay Area 2040 Final calls for an increasing percentage of Bay Area growth to occur as infill development in areas with good transit access and where services necessary to daily living are provided in proximity to housing and jobs. With its abundant transit service and mixed-use neighborhoods, San Francisco is expected to accommodate an increasing share of future regional growth. Consistent with CEQA Guidelines section 15130(b)(1)(B), this cumulative analysis relies on population forecasts presented in the Plan Bay Area 2040 Final, Land Use Modeling Report. The report contains an appendix with household and employment forecasts by jurisdiction and county. The Association of Bay Area Governments forecasts consider the San Francisco County PDAs, which consist of multiple parcels and developments that are currently in various stages of the entitlement process, construction, and occupation. Specifically, the project site is partially located within the Port of San Francisco PDA and Eastern Neighborhood PDA identified in Plan Bay Area 2040 Final.³² Therefore, the Plan Bay Area 2040 Final citywide projections provide the context for the population and housing cumulative analysis.

In order to assess whether a cumulative impact would occur, the analysis considers those projects within a quarter mile of the project and slightly beyond that are currently under construction, have received entitlements or building permits, or are under review, as presented in Table 4.A-2. The combined growth (residential population, employment, and housing demand) from these projects is calculated and compared to the Plan Bay Area 2040 Final citywide projections. By 2040, these projects and the residential and employee populations related to these projects would contribute to the cumulative development in the project vicinity.

The project would generate a cumulatively significant impact to cumulative population growth should the cumulative residential or employment growth substantially exceed planned growth,

³² ABAG, Plan Bay Area, Priority Development Area Showcase, <http://gis.abag.ca.gov/websitel>, accessed March 1, 2018.

and the project's contribution to that growth also be significant such that the growth could not be accommodated by existing services and infrastructure.

Jobs-Housing Balance

While regional and local governments may use jobs-housing balance as a planning tool to weigh particular policy outcomes, it does not necessarily imply a physical change to the environment or relate to any recognized criteria under CEQA. Due to comments raised during the scoping period for this EIR, jobs-housing balance is discussed following the cumulative impacts for informational purposes. For local and regional land use planning purposes, the balance between jobs and housing is assessed on citywide and regional scales, rather than on a project-by-project basis.

Impact Evaluation

Construction Impact

Impact PH-1: Construction of the proposed project would not induce substantial population growth in an area. (*Less than Significant*)

Project construction would take approximately 15 years, though the work is considered temporary, as not all workers would remain on the project through all phases. During the construction period, the average and peak number of construction workers employed daily would be 154 and 401, respectively (refer to Table 2-3 in Chapter 2, Project Description). According to the California Employment Development Department, about 20,400 people worked in construction jobs in San Francisco in 2016 and 113,600 people worked in construction jobs in San Francisco and the four surrounding counties (San Mateo, Marin, Alameda, and Contra Costa).³³ The peak number of construction jobs – 401 jobs – would represent 2.0 percent of the construction jobs in San Francisco in 2016 and 0.4 percent of the construction jobs in the five-county region in 2016; in addition, 401 jobs would be substantially fewer than the 7,170 new construction jobs that the Association of Bay Area Governments estimates will be added in San Francisco between 2010 and 2020,³⁴ a projection that is also cited in the San Francisco General Plan Housing Element.³⁵ Given the size of the regional construction work force compared to the number of workers that would be needed for project construction, even during peak construction periods, project construction workers would likely be drawn primarily from the local and regional construction work force. Project construction workers who do not live in the project vicinity would likely commute from elsewhere in the city or Bay Area rather than relocate from more distant cities or towns. Consequently, construction of the Potrero Power Station project would not induce population growth by attracting a substantial number of construction workers from outside the region to relocate to the area, and therefore, project construction would not create demand for additional housing or other facilities and services

³³ California EDD, Industry Employment Data for San Francisco County, California July 17, 2015a; California EDD, Industry Employment Data for Alameda County, California, July 17, 2015b; California EDD Industry Employment Data for Contra Costa County, California, July 17, 2015c; California EDD, Industry Employment Data for Marin County, California, San Rafael Metropolitan Division, July 17, 2015d; California EDD, Industry Employment Data for San Mateo County, California, July 17, 2015e.

³⁴ Association of Bay Area Governments, *Projections 2013*, December 2013.

³⁵ City and County of San Francisco, *San Francisco General Plan, 2014 Housing Element*, adopted April 27, 2015.

associated with growth. Therefore, the growth-inducing impact of Potrero Power Station project construction would be *less than significant*.

Mitigation: None required.

Operational Impacts

Impact PH-2: Operation of the proposed project would not induce substantial population growth in an area. (*Less than Significant*)

Residential Population Growth

Under the proposed project, the greatest population increase for purposes of CEQA environmental review would occur under the maximum residential scenario, which could result in 3,014 residential units and a population of 6,842 (see Section 4.A, Table 4.A-1). The 3,014 units would represent an approximately 51 percent increase in the total number of units compared with the estimated 5,897 units currently located in the project vicinity (based on the 2012-2016 U.S. Census, as described above in subsection 4.C.2, Local Setting). The addition of approximately 6,842 new residents would represent an approximately 56 percent increase for the project vicinity, which currently has an estimated 12,278 residents (based on the 2012-2016 U.S. Census, as described above in Section 4.C.2, Local Setting). Although the addition of approximately 6,842 new residents would be substantial for the project area, it would not be substantial for the City as a whole, as it would represent approximately 2.4 percent of the projected increase in citywide population growth of 280,465 persons between 2010 and 2040 (from 805,235 in 2010 to 1,085,700 in 2040), and less than 1 percent of the projected increase in the Bay Area-wide population growth of approximately 2.1 million persons over the same time period.

Similarly, the proposed number of residents would not be considered a substantial adverse impact in and of itself for the following reasons: the site is located in proximity to a major transit corridor and highways (I-280 and I-101) and is served by existing transportation infrastructure such as streets, light and heavy rail (Muni, Bart, Caltrain). The site is also located near major employment centers (e.g., the project site itself, the adjacent Pier 70 site, the nearby Mission Bay area, and Downtown San Francisco); the vicinity is within an area that is currently programed for higher residential densities in city and regional planning documents; and the site is identified in City and regional planning documents as an area designated to accommodate a substantial proportion of the city's future residential growth. Development of residential uses in this area would conform with the Association of Bay Area Government's and the City's designations of the Eastern Neighborhood and Port of San Francisco as two of 12 PDAs served by existing and planned utilities, infrastructure, and transit, and which have the potential to accommodate an increase in population and housing growth in the City and Bay Area. The project would have a *less-than-significant* impact on residential population growth.

Employment Growth

Total operational employment at build out by land use, as presented on Table 4.A-1, shows that the project would generate the highest number of employees under a maximum office scenario —

approximately 5,524 employees at project completion. Between 2010 and 2040, Plan Bay Area 2040 Final forecasts that the number of total jobs in the city will increase from 576,800 to 872,500, or a total growth of 295,700 new jobs. Of this growth, the report indicates that 267,700 new jobs will be located in PDAs. The projected employment increase at the project site would represent approximately 1.9 percent of this increase or a total of approximately 0.6 percent of jobs in the City in 2040. While noticeable in a local level, on a citywide basis, this incremental increase in employment would not be significant, and would not exceed the employment growth identified by the Association of Bay Area Governments. This growth is therefore, anticipated under current planning goals created for the City, and employment growth generated by the project would thus have a *less-than-significant* impact.

Under the proposed project with a maximum residential scenario, there would be fewer employees than described above, and would similarly provide employment meeting and not in excess of that planned by the City and region.

Conclusion

In summary, while operation of the proposed project would result in an increased population in the project vicinity, this growth would be consistent with the City's and regional plans for growth in the area, and as addressed elsewhere in Chapter 4 of this EIR and in Sections E. Evaluation of Environmental Effects of the attached initial study, this growth can be accommodated with existing and planned services and infrastructure. Furthermore, the project would contribute to meeting the regional housing needs goal and would provide employment consistent with Citywide and regional planning growth projections. Therefore, the growth-inducing impact of Potrero Power Station project operations would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

Impact C-PH-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to significant cumulative population and housing impacts. (*Less than Significant*)

Residential Population Growth

Up to 3,014 new residential units would be developed under a maximum residential scenario, which would result in approximately 6,842 new residents at the project site. Future residential growth from cumulative projects in the project vicinity would total approximately 15,892 residents in 7,001 units. San Francisco is expected to reach 483,700 households by 2040, with citywide growth of 137,800 new units from 2010 to 2040. Much of this growth, as identified under Impact PH-2, would take place in PDAs. Under the Plan Bay Area 2040 Final report (p.35.), of the 137,800 units, 127,700 units would be located in PDAs such as the project site.

Thus, a maximum residential scenario in combination with cumulative projects would provide approximately 7.3 percent (approximately $3,014 + 7,001 = 10,015$ units) of the total number of units

required to meet the regional housing need (137,800 new units) and an estimated 22,734 (6,842 + 15,863) new residents. The proposed project in combination with past, present, and reasonably foreseeable future projects in the vicinity would therefore be within the planned growth and would not contribute to significant unplanned population growth.

Employment Growth

Total project operational employment at build out would generate the highest number of employees under a maximum office scenario, which would result in approximately 5,524 employees at project completion. Future employment growth by cumulative projects would total approximately 19,542 jobs. Together, the cumulative employment is estimated to be 25,066 jobs.

Between 2010 and 2040, ABAG Plan Bay Area 2040 forecasts that the number of total jobs in the City will increase from 576,800 to 872,500, or a total growth of 295,700 jobs. Of this growth, Plan Bay Area indicates that 267,700 new jobs will be located in PDAs. The proposed project under the maximum office scenario, in addition to the cumulative projects would generate approximately 25,066 jobs, which represents nearly 8.5 percent of the anticipated employment growth in San Francisco through 2040 (296,000 jobs). Thus, the proposed project in combination with past, present, and reasonably foreseeable future projects in the vicinity would be within the planned growth and would not contribute to significant unplanned employment growth.

Therefore, the population and housing impact of the Potrero Power Station project operations to cumulative growth would be *less than significant*.

Mitigation: None required.

Supplemental Information

Jobs-Housing Balance

The balance between jobs and housing is assessed on citywide and regional scales, rather than on a project-by-project basis. The proposed project would result in 4,747 new jobs and 2,682 new housing units. This would result in a 0.0067 percent increase in jobs, and 0.0068 percent increase in housing within San Francisco.³⁶ This relatively equal increase in number of jobs and housing units would not substantially change, or worsen an imbalance of jobs to housing.

While regional and local governments may use jobs-housing balance as a planning tool to weigh particular policy outcomes, it does not necessarily imply a physical change to the environment or relate to any recognized criteria under CEQA. Due to comments raised during the scoping period for this EIR, the jobs-housing balance is discussed here for informational purposes.

The non-residential development at the project site would be subject to San Francisco's Jobs-Housing Linkage Fee (Planning Code section 413 et seq.) and could be modified by the project's

³⁶ Employment growth is based on EDD LMI data of 703,600 jobs, and housing growth is based upon 2017 *San Francisco Housing Inventory* report of 392,000 housing units, refer to section Setting for additional description.

development agreement. The fee would apply to the gross square feet of new office, retail, and restaurant uses to mitigate the impact of employment growth on housing supply and affordability. The Jobs-Housing Linkage Fee revenue would be deposited in the Citywide Affordable Housing Fund to be used to increase the supply of affordable housing in San Francisco. For the reasons stated above, a maximum office scenario would not create a substantial demand for housing that could not be accommodated by on-site residential development and by anticipated citywide and regional development, including affordable housing that would be developed as a result of Jobs-Housing Linkage Fee revenue.

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4.D Historic Architectural Resources

4.D.1 Introduction

Section 4.D, Historic Architectural Resources, describes historic architectural resources on the project site, identifies potential historic architectural resources near the project site, evaluates potential direct and indirect impacts to historic architectural resources that could result from the proposed project, and identifies mitigation measures to avoid or reduce potential adverse impacts. Project-related impacts to archeological resources, human remains, and tribal cultural resources are addressed in Appendix B, Initial Study, of this environmental impact report (EIR). Supplemental supporting information on historic architectural resources is contained in Appendix I of this EIR.

4.D.2 Environmental Setting

Definitions and Data Sources

An *historical resource* is defined in CEQA Guidelines section 15064.5(a) as one that is listed in, or determined to be eligible for listing in, the California Register of Historical Resources (California Register). In addition, a resource that (i) is identified as significant in a local register of historical resources, such as article 10 and/or article 11 of the San Francisco Planning Code or (ii) is deemed significant due to its identification in a historical resources survey meeting the requirements of California Public Resources Code section 5024.1(g) is presumed to be a historical resource “unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant.” CEQA section 21084.1 also permits a lead agency to determine that a resource constitutes a historical resource even if the resource does not meet the foregoing criteria.

For the purposes of this EIR, the term, *historic architectural resource*, is used to distinguish such resources from archeological resources, which may also be considered historical resources under CEQA. Archeological resources, including archeological resources that are potentially historical resources under to CEQA Guidelines section 15064.5, are addressed in Appendix B, Initial Study, of this EIR.

The information and analysis included in this section are based on the Potrero Power Station Mixed-Use Development Project Archeological Sensitivity Assessment (ASA) prepared by ESA;¹ the Potrero Power Station Final Historic Resource Evaluation, Parts 1 and 2 (HRE) prepared by Page & Turnbull;² and the Historic Resource Evaluation Response (HRER) prepared by the San Francisco Planning Department.³ The HRE and HRER are included with this EIR in Appendix I, Historic Resource Evaluation.

¹ ESA, *Potrero Power Station Mixed-Use Development Project, City and County of San Francisco, Archeological Sensitivity Assessment*, 2018.

² Page & Turnbull, *Potrero Power Station Final Historic Resource Evaluation, Parts 1 and 2*, 2018.

³ San Francisco Planning Department, *Historic Resource Evaluation Response: Potrero Power Station Development Project*, August, 2018 (see Appendix I).

Historical Background

Site History: Early Industries at Potrero Point

Initial recorded development of the project site occurred in the years following the Gold Rush. The discovery of gold in the Sierra Nevada in 1848 produced a major population increase in northern California as immigrants poured into the territory seeking gold or associated opportunities. Before the Gold Rush, San Francisco was a small community with a population of approximately 800. With the discovery of gold and the sudden influx of thousands of newcomers, a city of canvas and wood sprang up around Yerba Buena Cove and on the surrounding sand dunes and hills.

To accommodate the growing population, the city spread out in all directions. During the Gold Rush period, Potrero Point—a hilly peninsula on San Francisco Bay that would later be graded and filled and would be the location of the project site—was far south of the sparsely populated southern edge of development, which was concentrated to the north around Yerba Buena Cove and Mission Bay. According to G.R. Dow:

“Since the promontory of Potrero Point rose steeply from the waters of San Francisco Bay, it was one of the few places along San Francisco’s bay-side shoreline where deep water lay close to shore. This natural advantage was hindered by the lack of level land at Potrero Point, thus slowing the development of the area until other alternatives had been exhausted.”⁴

Historical maps and charts of San Francisco indicate that, at the time of the Gold Rush and in the decade following, land reclamation off-shore of Potrero Point had not yet begun, and the eastern and southwestern portions of the project site remained submerged in San Francisco Bay.

Gunpowder Production

The combination of distance from the populated areas of San Francisco to the north and lack of level ground resulted in the project site remaining largely undeveloped throughout the 1850s. From the 1850s through 1881, buildings located at Potrero Point were used to store black gunpowder, which was used for hard rock mining in the Sierra Nevada and street grading in San Francisco. The project site’s isolation and deep-water access made it an ideal location for storing such a dangerous commodity as gunpowder. Powder magazines operated by the E.I. du Pont de Nemours and Hazard Powder companies may have employed Chinese laborers.

Hazard Powder Company’s two-story storage building, constructed in 1855 or 1856 south of the Gibbons and Lammot facility, measured 30 by 50 feet and could hold nearly 400 tons of gunpowder. The company also built a wharf that ultimately extended some 500 feet into San Francisco Bay. As depicted on the 1869–1872 tidelands map, only a portion of the Hazard Powder magazine was located within the project site. The majority of the magazine, as well as its adjacent wharf, were located south of the project site. After 1881, both gunpowder manufacturers sold their plants to industrialist Claus Spreckels and moved east to Contra Costa County.

⁴ Dow, Gerald Robert, *Bay Fill in San Francisco: A History of Change*, Master’s Thesis, Department of History, California State University, San Francisco, CA, 1973, p. 145.

Rope-Making

In 1856 the San Francisco Cordage Manufactory (renamed the Tubbs Cordage Company in 1889) established the West Coast's first rope-making facility, known as a ropewalk, immediately west of the project site. Alfred L. Tubbs built a manufacturing plant near the present-day intersection of Indiana and Tubbs streets, several blocks inland from the water's edge and outside the project site. The facility initially included a 1,000-foot ropewalk (an enclosed building used for making rope) that extended to the bay shore and ended in a short wharf that did not extend into the project site. A later extension of the ropewalk and wharf did extend into the southwest corner of the project site.

By 1867, the ropewalk had been extended to more than 1,500 feet in length, and it projected well into San Francisco Bay and into the southwest corner of the project site on 23rd Street. Where the ropewalk crossed Third Street, a block west of the project site, a bridge was constructed over it. In 1900, the Tubbs Cordage Company's ropewalk remained about 1,400 feet long, as it had since the late 1860s, and it still extended into the southwest corner of the project site along 23rd Street. As the city grade gradually increased and fill was placed in the vicinity, the ropewalk was nearly buried. The ropewalk was covered with wood planks and pavement where it crossed Third Street and built on piles where it extended into the bay. The ropewalk extended into the project site until at least 1905. By 1913, the Sanborn map indicates the Tubbs Cordage Company ropewalk had been shortened so that it no longer extended east past Third Street, and a concrete cap was constructed on the building's east side. The 1913 Sanborn map shows that the entire length of 23rd Street had been filled by that time as well.

Shipbuilding

By the early 1860s, the City's early wood shipbuilders had abandoned the crowded shoreline along Steamboat Point in San Francisco's South of Market district for the deep waters and vacant lands around Potrero Point. John North, a Norwegian shipbuilder who immigrated to San Francisco in 1848, was the first shipbuilder to relocate in 1861, and he was followed by others. A portion of North's shipyard was located within the northern part of the project site.

North's shipyard at Potrero Point, located at the foot of what is now 22nd Street, built many kinds of vessels, but was primarily focused on building wood-hulled steamers for use in San Francisco Bay and inland waterways. In total, 53 steamers and 273 other vessels were built there. Sometime before 1869, North sold the shipyard and returned to Norway. North's shipyard continued to operate under new ownership at the same location until the 1890s.

North's shipyard is depicted on a number of historical maps of Potrero Point. The 1869 U.S. Coast Survey (the predecessor to the U.S. Coast and Geodetic Survey) chart shows a structure and marine railway associated with North's shipyard just north of the project site, at the foot of present-day 22nd Street. The 1869 salt marsh and tidelands map also identifies North's wharf and shipyard, including an engine house, marine railway and wharf just north of the project site, and a structure labeled as "North's Shop" just within the northern boundary of the project site.

When shipbuilders began to move from Steamboat Point to Potrero Point in the early 1860s, it attracted a significant residential labor force to the area. The influx of immigrant laborers accelerated after the completion of the Long Bridge in 1867 and the opening of the Pacific Rolling

Mills north of the project site in 1868. A large number of the workers attracted to the area were Irish immigrants, and the residential neighborhood that evolved around the industrial complex on Potrero Point became known as Irish Hill. Irish Hill was crowded with boardinghouses, saloons, and hotels. The 1869 U.S. Coast Survey map is the first to depict the Irish Hill residential neighborhood, which included the northwest portion of the project site.

Barrel Production

The California Barrel Company's first factory was constructed on the project site in 1883.⁵ The company's principal consumer was the adjacent California Sugar Refinery to the east (described below under Site History: Sugar Refinery); it also served a variety of San Francisco breweries, wineries, and distilleries. The barrel factory is depicted on the 1886 Sanborn map and consisted of the factory itself, a boiler room, and three large warehouses for cooperage stock.

At the turn of the twentieth century, the California Barrel Company moved its facility to the corner of 23rd and Illinois streets, in the northwest corner of the project site, but buildings at the former location west of the sugar refinery were still present in 1900. The 1900 Sanborn map shows the California Barrel Company occupying only the northern portion of the parcel, while the southern half of the parcel was occupied by the Pacific Refining and Roofing Company, which advertised roofing materials including building paper, tarred felts, roof paints, roofing pitch, and coal tar. By 1905, the California Barrel Company had expanded to occupy the roofing company space. The California Barrel Company was present there from 1900 to 1956, after which the factory was demolished.

Site History: Sugar Refinery

The California Sugar Refinery (renamed Western Sugar Refinery in 1891) opened a new plant at Potrero Point in 1881 to take advantage of the deep water immediately offshore to accommodate ships arriving with sugar cane from Hawaii. The refinery was built by Claus Spreckels, a prominent West Coast industrial capitalist. The new refinery occupied five blocks inclusive of the project site and was located immediately south of the San Francisco Gas Light Company, described below under "Site History: Power Generation." At least three of the blocks were tidelands that were filled for the construction project. The main refinery facilities included a large plank wharf along the bay shore on its eastern edge; a number of large warehouses and sheds, a melt/filter house, a sugar refinery, a wash house, a char house, a battery of 22 coal-fired steam boilers to power the facility, and a large coal bunker along the northern boundary supplied by an elevated tramway from the wharf. The western part of the facility included storage facilities, a pipe and boiler shop, a tin and sheet iron shop, a blacksmith, a machine shop, and a carpenter and pattern shop. Water was supplied to the refinery from a 1.7-million-gallon reservoir set on a bluff to the northwest of the refinery.

Residential dwelling units (a small portion of the Irish Hill residential neighborhood) remained in the northwest portion of the project site throughout the remainder of the nineteenth century.

⁵ The historical California Barrel Company, although the namesake of the project sponsor, is unrelated to the sponsor.

The 1883 U.S. Coast and Geodetic Survey map depicts the residences just northwest of the San Francisco Gas Light Company gas holders, and the 1886 Sanborn map provides a detailed view of the dwellings adjacent to the northern side of the California Sugar Refinery reservoir, south of Sierra (22nd) Street. These dwellings persisted into the twentieth century but were eventually demolished, and the area was excavated to make way for a Pacific Gas and Electric Company (PG&E) gas holder, built in the 1920s to replace the sugar refinery reservoir.

The northwestern portion of the project site underwent significant changes during the 1910s and 1920s. During this period, the Western Sugar Refining Company's 1.7-million-gallon water reservoir was demolished, along with the remnants of the southernmost portion of the Irish Hill residential neighborhood located within the project site. The last remaining residences on Irish Hill were removed by 1920. In their place, a 10-million-cubic-foot gas holder was constructed, which dominated this part of the project site until the 1980s when it was demolished.

Additional changes were made in the early twentieth century to the Western Sugar Refinery, which occupied the entire southeastern part of the project site. Between 1900 and 1913, the large coal bunker on the northern edge of the sugar refinery was replaced by a large warehouse. In 1915, a new ten-story sugar refinery building was built west of the existing refinery building, which came to be known as the Sugar House. It had a 16,300 square-foot footprint and a below-grade basement. Although numerous changes were made to operations at the Western Sugar Refinery during the twentieth century, the facility itself was never modernized and was eventually allowed to deteriorate. In the 1920s, several of the older wood-frame sugar warehouses were demolished and were replaced with modern concrete warehouses—two of which still survive at 435 23rd Street, across 23rd Street from the project site.

In 1949, the California and Hawaiian (C&H) Sugar Refining Corporation bought out Spreckels's plant and concluded that the existing sugar refinery facilities were too antiquated to be profitably modernized. The 1950 Sanborn map reflects the change in ownership to C&H and depicts the plant just prior to its near-complete demolition in the 1950s. When C&H shut down the refinery around 1950, PG&E purchased the site to expand its power plant operations.

Site History: Power Generation

The City Gas Company was one of the first industries to take advantage of newly-reclaimed land within the project site. It started construction on a gas works (a facility used to produce flammable gas by heating coal, a product known as manufactured gas) in the northeast portion of the project site in 1870 and opened the facility in 1872. According to Dow, the facility:

"was located on an area the size of four city blocks at the foot of Humbolt [sic] Street in the southeastern portion of the peninsula, including two blocks covered by water. The record is not clear whether these two blocks were filled at the time of the building of the gasworks; however, it seems likely that a pier of that size would have been constructed in preference to filling the land and building on it."⁶

⁶ Dow, Gerald Robert, *Bay Fill in San Francisco: A History of Change*, Master's Thesis, Department of History, California State University, San Francisco, CA, 1973, p. 148.

In 1873, the City Gas Company merged with two other San Francisco gas works companies to form the San Francisco Gas Light Company, which occupied almost the entire northern half of the project site. The gas works included, among other facilities, coal sheds adjacent to San Francisco Bay for convenient unloading of coal from cargo ships, retort houses used to heat coal and produce gas, a purifying house, and two gas holders (large, above-ground tanks) that could contain a half million cubic feet of gas each. The 1886 Sanborn fire insurance map indicates that the two gas holders had been constructed on a level area excavated from the original hillside.

Historical maps indicate that relatively minor physical changes occurred on Potrero Point between the publishing of the 1886 and 1900 Sanborn maps. The 1900 Sanborn map indicates that the San Francisco Gas Light Company (later renamed San Francisco Gas and Electric Company) and the Western Sugar Refining Company facilities had expanded slightly within the footprints previously depicted on the 1886 Sanborn map.

A notation on the 1900 Sanborn map indicates the former location of the California Barrel Company on the west side of the Western Sugar Refinery was being excavated for the Independent Electric Light and Power Company's electric generating plant. In 1901, Claus Spreckels purchased the California Barrel Company site adjacent to the Western Sugar Refinery and demolished the buildings to construct an electric generating station operated by his Independent Gas and Power Company. The gas-fired, steam-powered station (later to be called "Station A") consisted of turbine and boiler halls, as well as accessory shops and offices. It also had two large gas holders along Michigan Street on its western edge.

By the end of 1903, the purchase and consolidation of various corporations, including Spreckels's Independent Electric Light and Power Company and Independent Gas and Power Company, resulted in the San Francisco Gas and Electric Company owning Potrero Point's Station A, along with the gas works. PG&E was formed in October 1905 through a merger of the San Francisco Gas and Electric Company and the California Gas and Electric Company. The relatively new Station A was PG&E's largest steam plant, providing most of the electrical power for the City of San Francisco from 1902 to 1915. Station A underwent many renovations throughout the twentieth century, and was in operation until 1983 when PG&E removed it from service.

Beginning in 1951, PG&E demolished the antiquated buildings of the C&H Sugar Refining Corporation sugar refinery and sold machinery parts for scrap. It then built the new buildings and structures necessary for its expanding power station. Although PG&E demolished all other sugar refinery buildings on the project site, it retained the 1915 Sugar House building, which was used throughout the latter half of the twentieth century for office space and records storage. The ten-story Sugar House was demolished in 1995, following damage sustained during the 1989 Loma Prieta earthquake.

In 1965, PG&E built a new steam plant on the eastern portion of the project site that included the Unit 3 Power Block and its accompanying Boiler Stack near the water's edge. In that same year, the Station A Boiler Hall was demolished, which removed more than fifty percent of the original Station A plant. PG&E's expansion eastward onto the former sugar refinery site during the 1960s also included demolition of its outmoded gas manufacturing buildings and gas holders located

north of Station A and the sugar refinery buildings. PG&E constructed three large fuel oil tanks (Fuel Storage Tanks 3, 4, and 5) on the former site of the gas works in the 1960s. These were demolished in 2017.

Description of the Potrero Power Station

As noted, when built, Station A included both a Turbine Hall and a Boiler Hall, as well as other smaller structures. The Turbine Hall is a four-story, unreinforced brick structure some 65 feet in height (nearly 80 feet to the peaked rooftop) that extends 433 feet from 23rd Street north to Humboldt Street and has a width of 60 feet. The Turbine Hall was originally joined to a larger (both in height and width) five-story brick building (the “Boiler Hall”), such that the combined structure extended 130 feet along 23rd Street and reached a maximum height of more than 100 feet. The Turbine Hall is extant, although a large portion of its roof covering has been removed, leaving only the skeletal roof truss system. The Boiler Hall was torn down in 1983, although the lowest approximately 15 feet of its north and south walls remain, including most of the large double doors on 23rd Street. Another remaining component of the early power generating station is a small gate house (the “Gate House”), located on 23rd Street east of the Turbine Hall. The Gate House is visually connected to the Turbine Hall by the remaining portion of the former Boiler House wall. The Gate House is a single-story unreinforced brick building, rectangular in plan, with a flat roof, decorative brick cornice, and rectangular wood-sash windows. It was apparently built some time before 1914.⁷

In 1930, a three-story Switching Center was added to the west side of the Turbine Hall. The Switching Center, which remains extant, is a brick-clad concrete structure that abuts approximately the southern 60 percent of the Turbine Hall. Together, the two buildings display a four-story brick-clad façade along 23rd Street for about 105 feet. The south façade features classical detailing in the form of brick pilasters (which resemble columns affixed to the façade), as well as a slightly projecting brick frieze and, on the Switching Center façade, a brick cornice and parapet. The Switching Center has rectangular multi-lite steel-sash windows. The other facades are largely unornamented, including on the eastern façade, which was originally an interior wall dividing the Turbine Hall from the boiler hall. The northern façade has arched windows, which are now boarded up.

Immediately north of the Switching Center and west of the Turbine Hall is a single-story concrete Machine Shop. Built in 1915 this structure is clad in brick. It includes classical details including brick pilasters and a brick frieze, cornice, and parapet. Finally, north of the Machine Shop is a small, single-story concrete Machine Shop Office, which faces Humboldt Street. Unlike the other buildings described here, the office building, constructed in 1911, is not clad in brick. Instead, it is designed in the Greek Revival style, with a large pediment at the roof and a centrally located entrance surmounted by a semi-circular pediment and flanked by two windows, each with a pedimented hood. Pilasters frame the windows and doorway, which is reached by a concrete stair that is parallel to the façade.

⁷ Although the 2008 historic district documentation gives the Gate House construction date as 1901, coinciding with the construction of the Turbine Hall and Boiler Hall, the HRE opines that it was added somewhat later, because the building is not depicted on the 1905 Sanborn fire insurance map. It is shown on the 1914 Sanborn map.

The four extant buildings comprising the Station A complex—the Turbine Hall, Switching Center, the Machine Shop, and the Machine Shop Office—are interconnected and therefore essentially form a single unit. They are referred to together as Station A in the remainder of this analysis.

West of Station A along Humboldt Street, another building was built around 1902 as part of the original power station—the single-story unreinforced brick Meter House. Like most of the other structures described, the Meter House, which is extant, is classical in style, with arched multi-lite wood-sash windows, brick pilasters, a brick cornice, and a gable roof. Around 1924, PG&E constructed the single-story Compressor House, directly west of Station A. This extant unreinforced brick structure, some 30 feet tall, is also designed in the classical style, with multi-lite steel-sash windows, brick pilasters, and a low-pitched gable roof. The Compressor House was built on the site of a former Purifying House for the manufactured gas plant. A metal-framed Pump House, built in 1930 east of the other buildings, was demolished in 2010 to make way for the Transbay Cable project, through which PG&E now supplies a portion of San Francisco's electricity, which is transmitted under San Francisco Bay from conventional aboveground high-voltage lines in Pittsburg.

At the east end of the project site, the Unit 3 Power Block is an approximately 128-foot, steel-frame structure that includes a boiler, steam compressor, turbine generator, control room and offices, and supporting equipment including piping, valves, pumps, a lubrication system, and other appurtenances; a concrete elevator tower rises approximately 15 feet above the height of the steel frame for a total height of 143 feet at the top the elevator shaft. Skeletal in appearance and filled with equipment and appurtenances, the Unit 3 Power Block displays a starkly functional industrial aesthetic, in marked contrast to the solid brick exterior of the Station A Turbine Hall. The facility, designed to run on either natural gas or fuel oil, has been decommissioned and idle since 2011. Adjacent to the Unit 3 Power Block on the east (bay) side is a three-story concrete office building. It is modernist in design, with exposed concrete elements, large aluminum-framed windows, and green metal panel cladding. The reinforced concrete Boiler Stack (adjacent to the Unit 3 Power Block, to the south), at 300 feet in height, is the tallest structure on the southern waterfront, except for the waterfront crane at the former Hunters Point shipyard. The Boiler Stack is recognizable by its height, slender profile, smooth concrete exterior, and open flue.

In addition to the above structures, the project site contains about 15 other buildings, all utilitarian in nature and largely of metal siding or concrete block construction, that have been built since World War II, with most of these constructed after 1967.

Historic Architectural Resources Located on the Project Site

Individually Eligible Historical Resources

There are three extant buildings on the project site that have previously been determined to be individually eligible for listing on the California Register. These are Station A, the Meter House, and the Compressor House. Each of these buildings is eligible under Criterion 1 (association with important events; see discussion of California Register under Regulatory Framework, p. 4.D-22, below) for their link to early power generation in San Francisco and, more generally, to industrial

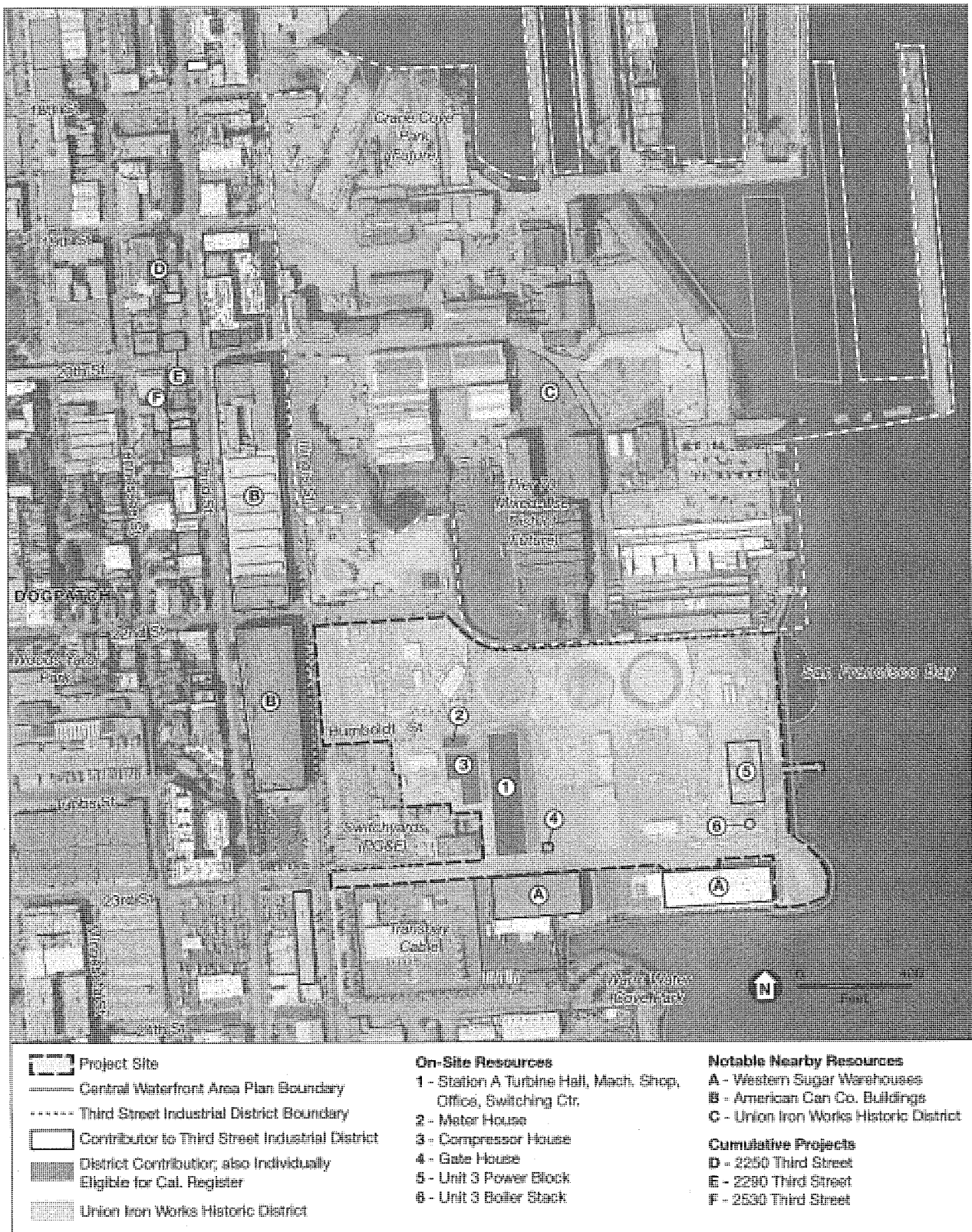
uses in the Central Waterfront. Accordingly, each of these three buildings is a historical resource under CEQA. **Figure 4.D-1, Historical Resources**, depicts the location of each building. **Figure 4.D-2, Photos of Historical Resources**, presents photographs of each building. All three buildings were surveyed in 1999, at which time only the Meter House and the Compressor House were found significant under Criterion 1 for their association with PG&E's gas manufacturing facility. Station A was subsequently identified as individually eligible under Criteria 1 and 3 as part of expert testimony on behalf of the City and County of San Francisco in 2002, and the HRER states that the San Francisco Planning Department "finds that Station A is an individually significant historic resource under Criterion 1" due to its association with the early history of PG&E and power generation in San Francisco. Although the boiler hall was demolished in 1983, the planning department believes that the remainder of Station A possesses sufficient integrity to convey its historical significance.⁸ Character-defining features of the individually eligible historical resources on the project site were identified in the HRE and are listed below.⁹

- **Station A**

- Turbine Hall
 - Rectangular plan
 - Built out to lot lines between 23rd and Humboldt streets
 - Four stories tall
 - Massive brick masonry construction
 - Classical decorative brick quoin patterning
 - Multi-lite steel-sash windows at the north façade, deeply recessed
 - Multi-lite steel-sash windows at the south façade
 - Symmetrical window pattern at north and south façades; irregular window pattern at east façade (west façade not visible)
 - Slightly-pitched gable roof with steel trusses; corrugated metal roof material at northern portion
 - High volume and industrial character of interior
- Switching Center
 - Rectangular plan
 - Four stories tall
 - Concrete construction with brick cladding
 - Multi-lite steel-sash windows
 - Flat roof
 - Corbelled brick detailing at parapet
 - Decorative quoin patterning
 - Engraved signage reading "Station A" and "Pacific Gas and Electric Company"

⁸ The planning department took no position as to whether Station A is also historically significant for its design (Criterion 3).

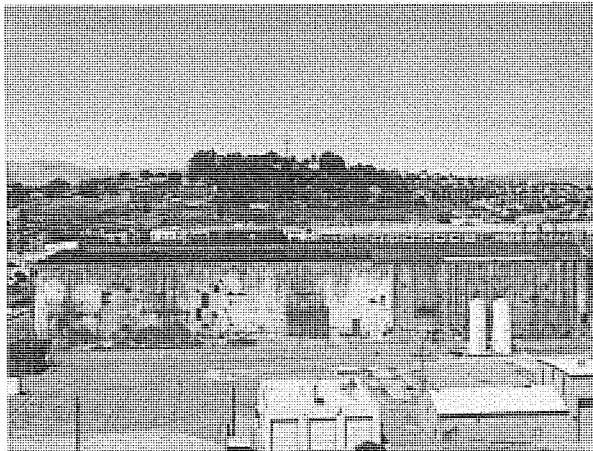
⁹ The non-publicly accessible interior features of the historic resources within the project site are not subject to CEQA review.



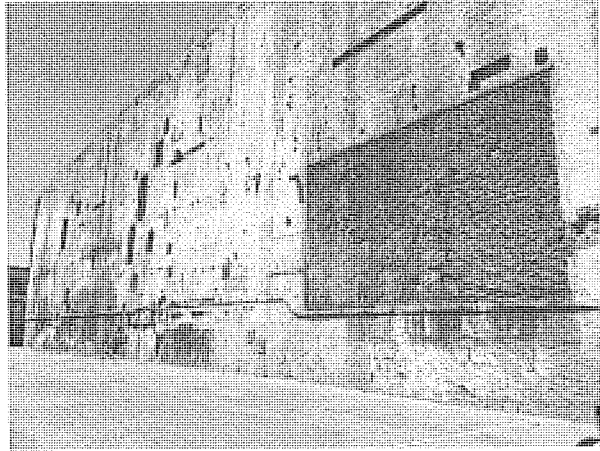
SOURCE: Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.D-1
Historical Resources On and Near the Project Site



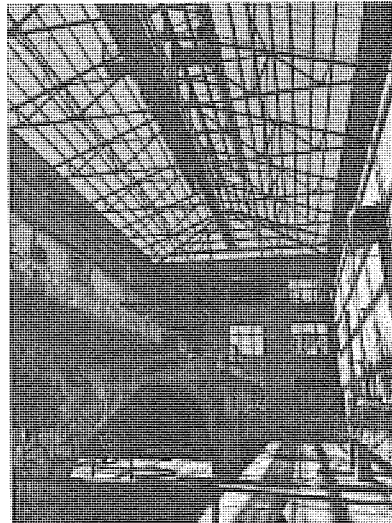
Station A Turbine Hall (east façade), distant view



Station A Turbine Hall (east façade), near view



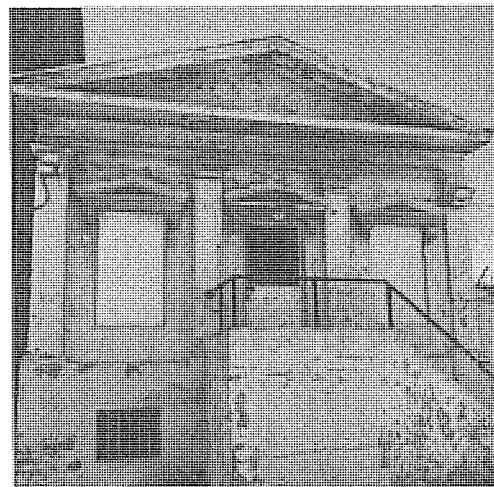
Station A Turbine Hall (south façade); two bays at left are the Switching Center (south façade)



Station A Turbine Hall (roof structure)



Station A Machine Shop (north façade)

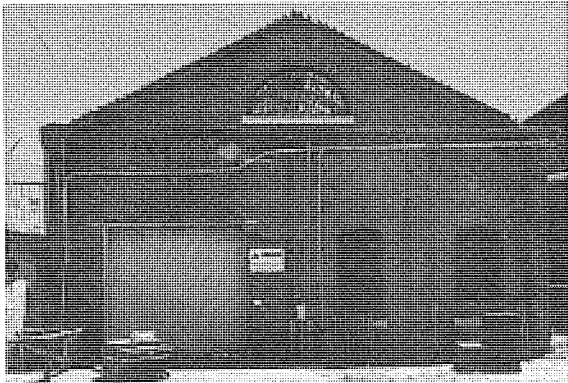


Station A Machine Shop office (north façade)

SOURCE: Page & Turnbull, 2018; ESA, 2018

Potrero Power Station Mixed-Use Development Project

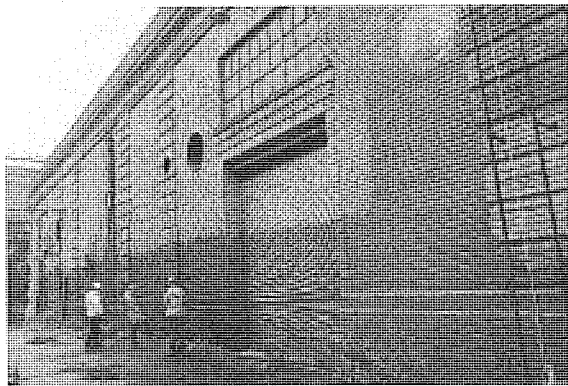
Figure 4.D-2
Historical Resources On and Near the Project Site



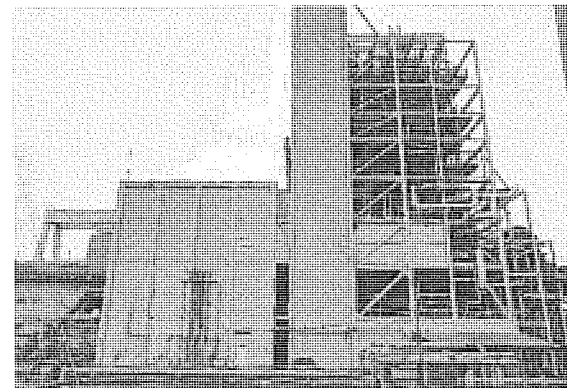
Meter House (west façade)



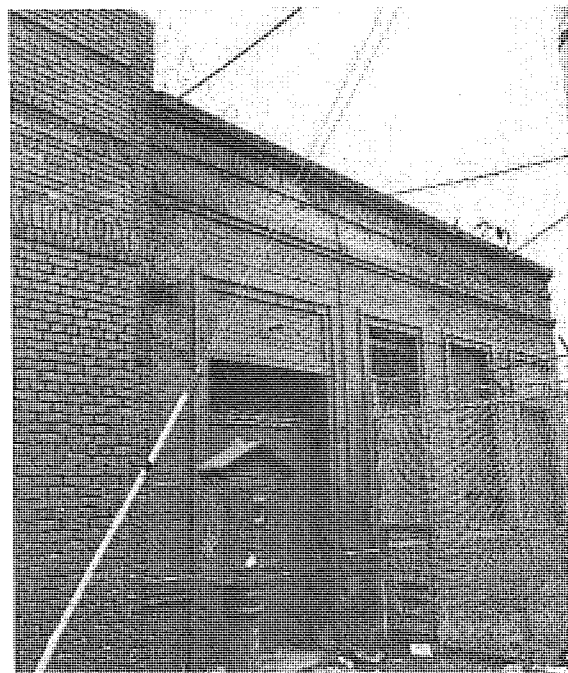
Meter House (south façade)



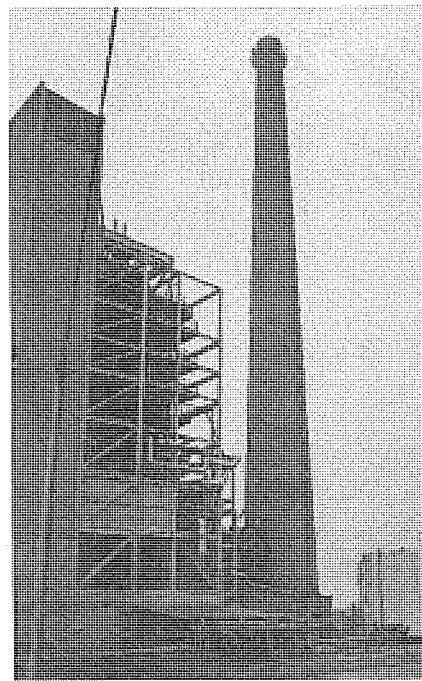
Compressor House (north façade)



Unit 3 Power Block



Gate House (south façade)



Unit 3 Boiler Stack

SOURCE: Page & Turnbull, 2018; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.D-2 (cont.)
Historical Resources On and Near the Project Site

- Machine Shop
 - Irregular plan
 - Tall single story
 - Reinforced concrete construction with brick cladding
 - Corbelled brick detailing at parapet
 - Decorative brick quoin patterning
 - Flat roof
- Machine Shop Office
 - Rectangular plan
 - One story tall
 - Reinforced concrete construction
 - Flat roof
 - Greek Revival-style features at the primary façade including: gabled pediment, pedestrian entrance and full-height windows with corbels and triangular and arched pedimented hoods, pilasters topped with Doric capitals and egg and dart molding, and dentil cornice
 - Concrete stairs parallel to façade
- **Meter House**
 - Rectangular plan
 - One story
 - Brick masonry construction
 - Multi-lite wood-sash windows with concrete sill and brick arched lintel
 - Multi-lite wood-sash lunette windows at the gable peaks of the west and east façades
 - Rhythmic brick pilasters and cornice
 - Dentil cornice
 - Steel truss gable roof with a raised central monitor
 - Partially glazed metal pedestrian doors
 - Loading door opening at the west façade (metal roll-up door is not historic)
 - Volume and industrial character of interior
 - Shortened north façade due to raised street grade
- **Compressor House**
 - L-shaped plan
 - Tall one story
 - Brick masonry construction
 - Multi-lite steel-sash windows with decorative brick surround
 - Brick parapet (partial stepped at the east façade)
 - Corbeled brick cornice
 - Brick quoin patterning

- Round openings
- Loading door openings at all façades (metal roll-up doors are not historic)
- Slightly pitched concrete gable roof with steel trusses
- Two monitor roof skylights
- Volume and industrial character of interior

Third Street Industrial District

The project site is within San Francisco's Central Waterfront area, which extends from Mariposa Street south to Islais Creek and from I-280 east to San Francisco Bay. The historic Dogpatch residential neighborhood is located at the center of the Central Waterfront area and is surrounded by a mix of Production, Distribution, and Repair (PDR) uses, newer residential buildings, industrial and institutional facilities (e.g., a PG&E substation, Muni storage yards), and retail uses.

A large portion of the project site is located within the Third Street Industrial District, a historic district initially identified in the 2001 Central Waterfront Historic Resources Survey Summary Report and fully documented and found eligible for listing in the California Register in 2008. Because it is eligible for the California Register, the Third Street Industrial District is considered a historical resource under CEQA. Figure 4.D-1 shows the boundaries of the Third Street Industrial District and the buildings that contribute to the district's historical significance, including the contributors on the project site. Each of the three buildings identified above as being individually eligible for the California Register—Station A, the Meter House, and the Compressor House—are also contributors to the district. In addition, although not individually eligible, the Gate House, the Boiler Stack, and the Unit 3 Power Block are contributors to the district because of their association with the industrial history of the Central Waterfront. The character-defining features of these buildings identified in the HRE are listed below.

- **Gate House**
 - Rectangular plan
 - Single story
 - Brick masonry construction
 - Flat roof
 - Simple decorative brick cornice
 - Rectilinear wood-sash transomed windows
 - Brick window and door surrounds
- **Boiler Stack**
 - Reinforced concrete construction
 - Tapered form
 - 300-foot height
 - Crow's nest walkway
 - Exterior metal ladder

- **Unit 3 Power Block**

- Eight-story steel-frame structure, primarily exposed
- Concrete elevator shaft
- Control room and offices of concrete construction
- Metal panel cladding and glazing of south office portion
- Industrial character with remnants of equipment infrastructure

The boundary of the Third Street Industrial District extends west from the project site along 23rd Street and runs north along Third and Illinois streets roughly between 18th and 24th streets. The district encompasses the highest concentration of light industrial and processing properties remaining in the larger Central Waterfront area. At the time that the Third Street Industrial District was documented in 2008, it included 51 properties, 27 of which were contributing resources (approximately 53 percent) and 24 of which were non-contributing resources (approximately 47 percent).¹⁰ When the Central Waterfront area was fully documented in 2008, the Potrero Point Historic District was identified, with three sub-areas: the Third Street Industrial District, the Dogpatch Historic District, and Pier 70 (later renamed the Union Iron Works Historic District).¹¹ The following is an excerpt from the 2008 District Record for the Potrero Point Historic District:

The boundaries of the Third Street Industrial District encompass the highest concentration of significant light industrial and processing properties remaining in the Central Waterfront district. The linear character of the district boundaries is dictated by the separation of heavy maritime industrial uses along the waterfront from the residential enclave of Dogpatch. The intermediate zone between the two areas gradually developed with light industrial, repair, warehousing and food processing businesses, as well as some wholesale businesses, such as oil distribution companies, that needed to have proximity to rail lines along Third Street as well as a local labor force of blue collar workers. Historically, the blocks between Third and Illinois streets have been occupied by manufacturing operations and warehouses, most notable of which is the vast American Can Company plant.

The Third Street Industrial Historic District links Pier 70 and Dogpatch and provides a sense of historical and geographical continuity between the two areas. Potentially, these three districts could be conceived as a single entity, San Francisco's only historic district that recognizes the remaining infrastructure of a mixed-use industrial and residential community, once the most important industrial zone on the West Coast.

Many [buildings] are good examples of late-19th and early 20th-century American industrial design, justifying the district's eligibility for listing in the California Register under Criterion 3 (Design/Construction).¹²

¹⁰ One of the contributing resources is the original basalt block pavement (cobblestones) along 20th and Illinois streets, although most of the extant cobbles have been paved over with asphalt. The remaining contributors are buildings or other structures.

¹¹ The Dogpatch Historic District was designated a local historic district under article 10 of the planning code in 2003.

¹² Kelley & VerPlanck and Page & Turnbull, "State of California Department of Parks and Recreation District Record: Potrero Point Historic District," March 20, 2008, pp. 11-12.

The original period of significance of the Third Street Industrial District was 1872 to 1958, with the end date being 50 years prior to the district designation.¹³ The HRE identified, and the HRER concurred with, an extension of the period of significance for the Third Street Industrial District to an end date of 1965, which the HRER notes was “the start of the decline in manufacturing and industry in the area and therefore marks another potential date for the district’s period of significance.” The change in end date resulted in the addition to the district of two contributing buildings that were not previously evaluated: the Unit 3 Power Block and the Boiler Stack, both constructed in 1965. With these additions, there are six buildings on the project site that contribute to the Third Street Industrial District. This is depicted in **Table 4.D-1, Onsite Contributors to the Third Street Industrial District**.¹⁴

**TABLE 4.D-1
ONSITE CONTRIBUTORS TO THE THIRD STREET INDUSTRIAL DISTRICT**

Resource Name	Construction Date	Applicable Criteria ²
Station A ²	1901-02; 1930-31	Individually eligible CRHR Criterion 1 (Events); Contributor to Third Street Industrial District
Meter House	ca. 1902	Individually eligible CRHR Criterion 1 (Events); Contributor to Third Street Industrial District
Compressor House	ca. 1924	Individually eligible CRHR Criterion 1 (Events); Contributor to Third Street Industrial District
Gate House	ca. 1914	Contributor to Third Street Industrial District
Unit 3 Power Block	1965	Contributor to Third Street Industrial District
Boiler Stack	1965	Contributor to Third Street Industrial District

NOTES:

¹ CRHR – California Register of Historical Resources

² As described in the text, Station A includes the Turbine Hall, the Switching Center, the Machine Shop, and the Machine Shop Office.

SOURCE: San Francisco Planning Department HRER, 2018. See Appendix I.

According to the HRER, four contributing buildings to the district have been demolished or substantially altered since 2008; therefore, these are no longer considered contributing resources. One of these was the 1930 Pump House on the project site, identified as a district contributor in 2008 but demolished by 2010. With the extended period of significance, the inclusion of two additional contributing buildings, and the removal of four contributing buildings, the Third Street Industrial District currently includes 25 contributing resources (approximately 47 percent) and 28 non-contributing resources (approximately 53 percent). The project site occupies 29 acres and accounts for approximately half of the land within the boundary of the Third Street Industrial District. Beyond the buildings on the project site, four of the other district contributors stand out for their scale and thus their relative importance in visually anchoring the historic

¹³ The 1872 start date is based on the earliest known date of construction within the overall Potrero Point Historic District, that of the Thompson House at 718 22nd Street. This building is not within the Third Street Industrial District, but rather within the Dogpatch Historic District. The oldest extant building in the Third Street Industrial District is the Station A Turbine House.

¹⁴ The 1930 Pump House was originally identified as a district contributor but, as noted above, was demolished in 2010.

district. Primary among these are the two former American Can Co. buildings (now the American Industrial Center), at 2301 and 2501 Third Street. Together, these two structures, which range in height from about 55 feet to 70 feet, occupy the entirety of the 866-foot-long block bounded by 20th, Illinois, 22nd, and Third streets and most of the block to the south—a total length of more than 0.25-mile. The other two largest buildings in the district are the two former Western Sugar Refinery warehouses across 23rd Street from the project site. The other 14 remaining district contributors are mostly one- and two-story buildings with considerably smaller footprints than the four largest structures. According to the HRER, character-defining features of the Third Street Industrial District include:

- important industrial facilities along the waterfront, including PG&E's Station A complex and the Western Sugar Refinery warehouses;
- a high concentration of manufacturing, repair, and processing plants and warehouses dependent on road and railroad distribution systems;
- building heights between one and four stories;
- taller ground floors with mezzanines;
- concrete, stucco, brick, or corrugated metal cladding;
- ornamented parapets;
- steel-sash and wood-sash windows;
- rectilinear and arched window openings; and
- flat roofs.

Historic Architectural Resources Located Adjacent to the Project Site

Most of the contributing resources within the Third Street Industrial District are outside the project site. However, that district is described above because it encompasses much of the land area of the project site and because the site contains the six district contributors that are also described above.

Immediately north of the project site is the Union Iron Works Historic District (Pier 70), which is listed on the National Register of Historic Places (National Register).¹⁵ The Union Iron Works Historic District occupies 66 acres (as listed on the National Register) north of 22nd Street. The Union Iron Works Historic District contains 44 contributing features that “are widely recognized as constituting the most intact industrial complex west of the Mississippi that represents the industrialization of the western United States.”¹⁶ Features include buildings, piers, slips, cranes, historic rail features, and the remnants of what is known as Irish Hill, a former shipyard workers' neighborhood. The district also includes 10 non-contributors. Union Iron Works Historic District “maintains exceptional integrity in terms of location, design, setting, materials, workmanship, feeling, and association,” and is historically significant in relation to both events (National Register

¹⁵ Properties listed on the National Register are automatically listed on the California Register.

¹⁶ San Francisco Planning Department, *Pier 70 Mixed-Use District Project Final EIR* (Case No. 2014-001272ENV; Final EIR certified August 24, 2017); p. 2-9.

Criterion A) and design (Criterion C) for its association with the development of steel shipbuilding in the United States and for its representation as “a physical record of the trends in industrial architecture from the late nineteenth century through World War II.”¹⁷

Immediately south of the project site are the two surviving warehouses from the Western Sugar Refinery facility at 435 23rd Street. As noted, these warehouses were constructed in the 1920s as the refinery facility underwent modernization. They were determined to be individually eligible for listing in the California and National registers in 2001 under Criterion 1/A (events) for their connection to the growth of the local sugar industry and, as noted, are also contributors to the Third Street Industrial District. The two warehouses are the last remaining physical manifestation of the sugar refinery. They currently house storage and delivery operations, along with a dance studio.

4.D.3 Regulatory Framework

Federal Regulations

National Register of Historic Places

The National Register of Historic Places is the nation’s master inventory of cultural resources worthy of preservation. It is administered by the National Park Service, which is represented at the state level by the State Historic Preservation Officer. The register includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archeological, or cultural significance at the federal, state, or local level. Resources that are listed on or have been found by the State Historic Preservation Officer to be eligible for the National Register are considered historic resources, under CEQA. Listing of a property in the register does not prohibit demolition or alteration of that property but does denote that the property is a resource worthy of recognition and protection.

The register lists four criteria to determine the eligibility of a resource:

The quality of significance in American history, architecture, archeology and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- (a) That are associated with events that have made a significant contribution to the broad patterns of history; or
- (b) That are associated with the lives of persons significant in our past; or
- (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) That have yielded or may likely yield information important in prehistory or history.

¹⁷ National Register Nomination Form for Union Iron Works Historic District, listed April 17, 2014.

Although there are exceptions, certain kinds of resources are not usually considered for listing in the register. These include religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years.

National Register Bulletin Guidance on Integrity

In addition to qualifying for listing under at least one of the National Register of Historic Places criteria, a property must possess sufficient integrity to be considered eligible for the register. According to the National Register Bulletin: How to Apply the National Register Criteria for Evaluation, integrity is defined as “the ability of a property to convey its significance.” The National Register Bulletin defines seven characteristics of integrity as follows:

Location is the place where the historic property was constructed.

Design is the combination of elements that create the form, plans, space, structure, and style of the property.

Setting addresses the physical environment of the historic property inclusive of the landscape and spatial relationships of the buildings.

Materials refer to the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form the historic property.

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history.

Feeling is the property’s expression of the aesthetic or historic sense of a particular period of time.

Association is the direct link between an important historic event or person and a historic property.

According to the National Register Bulletin, “To retain historic integrity a property will always possess several, and usually most, of the aspects.”

The Secretary of the Interior’s Standards for Rehabilitation

The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Secretary’s Standards) were published and codified as 36 Code of Federal Regulations 68 in 1995 and updated in 2017.¹⁸ Neither technical nor prescriptive, these standards are intended to promote responsible

¹⁸ Treatments are defined as follows: “Preservation” acknowledges a resource as a document of its history over time and emphasizes stabilization, maintenance, and repair of existing historic fabric. “Rehabilitation,” while also incorporating the retention of features that convey historic character, also accommodates alterations and additions to facilitate continuing or new uses. “Restoration” involves the retention and replacement of features from a specific period of significance. “Reconstruction,” the least-used treatment, provides a basis for recreating a missing resource.

preservation practices that help protect irreplaceable cultural resources.¹⁹ These standards consist of ten basic principles created to help preserve the distinctive character of a historic building and its site while allowing for reasonable changes to meet new needs. As stated in the regulations (36 CFR 68), the standards are “to be applied taking into consideration the economic and technical feasibility of each project.” In general, a project that would comply with the Secretary’s Standards is considered to have mitigated its impact to a less-than-significant level (CEQA Guidelines section 15064.5(b)(3)).

State Regulations

Definition of Historical Resources under CEQA

CEQA Guidelines section 15064.5(a), in title 14 of the California Code of Regulations, defines a “historical resource” as:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.
- (2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources.
- (4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

Therefore, under the CEQA Guidelines, even if a resource is not included on any local, state, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource for the purposes of CEQA if there is substantial evidence supporting such a determination. A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the California Register.

¹⁹ U.S. Department of the Interior, National Park Service (Kay D. Weeks and Anne E. Grimmer), *The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstruction Historic Buildings*, revised 2017, <http://www.nps.gov/tps/standards/treatment-guidelines-2017.pdf> accessed March 21, 2018.

California Register of Historical Resources Criteria

The California Register is the authoritative guide to historical and archeological resources that are significant within the context of California's history. Criteria for eligibility for inclusion in the California Register are based on and correspond to the National Register criteria for listing. A resource that meets at least one of the eligibility criteria for inclusion in the California Register is considered a historical resource for the purposes of CEQA. A resource is eligible for listing in the California Register if it:

- (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage (Events);
- (2) Is associated with the lives of persons important in our past (Persons);
- (3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values (Design/Construction); or
- (4) Has yielded, or may be likely to yield, information important in prehistory or history (Information Potential).²⁰

National Park Service guidance on evaluating the integrity of resources often informs the determination of eligibility under the California Register.

Local Regulations

San Francisco Planning Code Section 101.1: General Plan Priority Policies

Planning Code section 101.1 requires that the City find that the proposed project is consistent with eight master plan priority policies. Priority Policy 7 states, "that landmarks and historic buildings be preserved."

San Francisco General Plan

Central Waterfront Area Plan

The project site lies within the Central Waterfront Area Plan, which was adopted as an area plan within the San Francisco General Plan in 2008 as part of the Eastern Neighborhoods Rezoning and Area Plans project. The plan includes the following objective and policy related to historic resources:

- **Objective 8.2:** Protect, preserve, and reuse historic resources within the Central Waterfront area plan.

Policy 8.2.1: Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street.

²⁰ California Office of Historic Preservation, Technical Assistance Series No. 3, California Register of Historical Resources: Questions and Answers, September 4, 2002.

Urban Design Element

The Urban Design Element of the San Francisco General Plan includes the following policies related to historic preservation:

Policy 2.4: Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Policy 2.5: Use care in remodeling of older buildings, in order to enhance rather than weaken the original character of such buildings.

Policy 2.6: Respect the character of older development nearby in the design of new buildings.

Housing Element

The Housing Element of the San Francisco General Plan includes the following policy related to historic preservation:

Policy 11.7: Respect San Francisco's historic fabric, by preserving landmark buildings and ensuring consistency with historic districts.

San Francisco Planning Code

Article 10

Article 10 of the San Francisco Planning Code identifies buildings, properties, structures, sites, districts, and objects that are of "special character or special historical, architectural or aesthetic interest or value and are an important part of the city's historical and architectural heritage." It protects listed buildings from inappropriate alteration and demolition through review procedures overseen by the San Francisco Historic Preservation Commission. None of the historic properties on the project site are listed in article 10.

Planning Department CEQA Review Procedures for Historical Resources

The San Francisco Planning Department prepared the *CEQA Review Procedures for Historic Resources* to provide guidance in determining whether a resource is considered a historical resource as defined by CEQA.²¹ Three categories of properties are defined, as follows:

- **Category A.** Category A has two subcategories:
 - *Category A.1.* Resources listed in or formally determined to be eligible for the California Register.
 - *Category A.2.* Resources listed in adopted local registers, or properties that appear eligible, or may become eligible, for the California Register.
- **Category B.** Properties requiring further consultation and review.

²¹ San Francisco Planning Department, Preservation Bulletin No. 16, CEQA Review Procedures for Historic Resources, Draft, March 31, 2008.

- **Category C.** Properties determined not to be historical resources, or properties for which the City has no information indicating that the property is a historical resource.

To determine if a property is eligible as a historical resource for the purposes of CEQA, the San Francisco Planning Department (lead agency) requires an evaluation of a property's individual significance for listing in the California Register of Historical Resources, as well as an examination of a property's relationship to any eligible historic district.

To assess impacts within historic districts, the planning department examines several factors including, but not limited to, size and significance of a historic district, number and location of contributing features/non-contributing features, district integrity, district boundaries, and details of the proposed project. Assessments within historic districts are examined on a case-by-case basis, due to the wide variety and unique nature of historical resources and historic districts.

4.D.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purposes of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact on historic architectural resources. Implementation of the proposed project would have a significant effect on historic architectural resources if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in section 15064.5, including those resources listed in article 10 or article 11 of the San Francisco Planning Code.

It is noted that article 11 of the planning code applies only to Downtown (C-3) Use Districts and thus is not applicable to the project site. No building located on the project site is listed in article 11 of the planning code; thus, article 10 is also not applicable to the proposed project.

CEQA Guidelines section 15064.5(b) establishes the criteria for assessing a significant environmental impact on historical resources. It states, "[a] project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." The CEQA Guidelines defines a "substantial adverse change" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines section 15064.5(b)(1)).

The significance of a historic architectural resource is considered to be "materially impaired" if the project were to "demolish or materially alter in an adverse manner the physical characteristics of [the] resource that convey its historical significance and that justify the inclusion in, or eligibility for inclusion in" (CEQA Guidelines section 15064.5(b)(2)) the California Register or in a

local register, such as planning code article 10, the Central Waterfront Survey, or other surveys that have been adopted by the city.

Approach to Analysis

Project Features

Demolition, Retention, and Rehabilitation of Existing Contributors to the Third Street Industrial District and Demolition of Individual Historical Resources

A large portion of the project site is located within the Third Street Industrial District, a California Register-eligible historic district as described in the Setting, above.

As described in Chapter 2, Project Description, the proposed project would result in the demolition of approximately 20 existing structures located on the site of the former Potrero Power Plant. Demolition would include four or five of the six structures on the project site that are contributors to the Third Street Industrial District; Station A, the Gate House, the Meter House, and the Compressor House would be demolished under the proposed project. The Unit 3 Power Block could potentially be retained and repurposed or it could be demolished. For purposes of a conservative assessment of impacts to historic architectural resources, this analysis assumes that the Unit 3 Power Block would be demolished or would be repurposed in a manner such that it would no longer convey its historical significance that justifies its eligibility for the California Register as a contributor. This could result from a loss of the structure's character-defining features, including its steel-frame structure, concrete elevator shaft, control room and offices of concrete construction, metal panel cladding and glazing of the south office, and the industrial character with remnants of equipment infrastructure. As noted, Station A, the Meter House, and the Compressor House have also been determined to be individually eligible for listing on the California Register in addition to being district contributors. Additionally, the proposed project would retain and repurpose the Boiler Stack, which is also a contributor to the Third Street Industrial District but is not individually significant. The project would retain and repurpose the Boiler Stack as a ground-floor retail space occupying approximately 1,000 square feet (though allowable uses could also include entertainment, arts, and recreation). Proposed improvements to the Boiler Stack include perforations for a secondary means of egress and interior enclosures to provide a roof and any necessary structural support. Seismic retrofit of the Boiler Stack may obstruct the hollow flue. The proposed disposition of existing contributing buildings is summarized in **Table 4.D-2, Disposition of Contributing Features to the Third Street Industrial District on the Project Site**.

The project would be constructed in a previously developed area of San Francisco. However, the project site is currently underutilized, and implementation of the project would introduce new uses (e.g., residential, commercial-office, PDR, and open space) to areas within the historic Third Street Industrial District.

TABLE 4.D-2
DISPOSITION OF CONTRIBUTING FEATURES TO THE THIRD STREET INDUSTRIAL DISTRICT ON THE PROJECT SITE

Building Name	Proposed Project Action	Individually Eligible for California Register?
Station A	Demolish	Yes
Gate House	Demolish	No
Meter House	Demolish	Yes
Compressor House	Demolish	Yes
Unit 3 Power Block	Demolish or repurpose	No
Boiler Stack	Retain, repurpose, and seismically retrofit	No

SOURCE: Page & Turnbull, 2018.

Infill Construction and Design for Development

The proposed project calls for the establishment of new infill construction within the project site, which occupies land in and adjacent to the Third Street Industrial District. Height limits would be established on a block-by-block basis, as shown in Chapter 2, Figure 2-7, Proposed Height District Plan. The permitted heights for new construction would generally range from 65 to 180 feet, with a single tower at up to 300 feet in height permitted on Block 6. This height range is intended to limit new construction to be less than or equal in height to the 300-foot Boiler Stack.

The project proposes a special use district (SUD) that would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station Design for Development document (D for D). Standards in the proposed D for D would be design specifications that are mandatory, measurable, and quantifiable, while guidelines would be more qualitative and flexible. The proposed D for D would include project-wide and location-specific architectural requirements that would guide the design of infill construction within the SUD. These would include standards controlling building bulk, massing, and setbacks; separation between towers and between mid-rise structures; building base and ground-floor treatments; colors and materials; roofs; and sustainability and healthy buildings. The proposed D for D would also include architectural design guidelines. Project-wide standards in the proposed D for D would apply to all new construction on the project site and are intended to ensure a high standard of architecture throughout the project site. Location-specific requirements in the proposed D for D would call for increased attention to the design of the building envelope on a block-by-block basis to demonstrate how the standards and guidelines apply to buildings on each project block. The proposed D for D document would also contain standards and guidelines governing design and use of the site's open space network and its multi-modal street network and streetscape features, including on-street parking and loading, landscaping, stormwater management, and street furnishings and lighting.

Where new construction is proposed on façades facing the Third Street Industrial District or facing district contributor(s) to be retained on the project site, location-specific controls are designed to ensure architectural compatibility with historic buildings and structures within the

Third Street Industrial District. This would apply to project site façades on 23rd Street (facing the Spreckels Sugar Warehouses) and on Illinois Street (facing the American Industrial Center), as well as to internal portions of the project site facing the Boiler Stack and, if it is retained, the Unit 3 Power Block (see Figure 4.D-1, p. 4.D-10, above for these locations). Location-specific controls are also proposed for open space design (specifically Stack Plaza) and streetscapes (specifically 23rd Street) surrounding or adjacent to district contributors.

Methodology for Analysis of Project Impacts

Project impacts on historical resources, as defined under CEQA, are analyzed in two steps. The first analysis determines whether a project may impact a resource that falls within the definition of a historical resource(s) under CEQA. If the project is found to impact historical resources, a second analysis then determines whether the project would cause a substantial adverse change to the resource. A project that may cause a substantial adverse change in the significance of a historical resource is one that may have significant effect on the environment (CEQA Guidelines section 21084.1).

Operational impacts are not anticipated to result from the proposed project because any impacts to existing historic architectural resources would occur during the demolition and construction phases of project implementation. Therefore, impacts discussed below are those related to demolition of existing buildings and new construction. The analysis discusses potential impacts to historic architectural resources—which include both individually eligible resources and district contributors—that could occur as a result of the proposed project. As discussed in the Significance Criteria section above, the impacts of the proposed project on historic architectural resources, as identified in the planning department's HRER and in the HRE, are evaluated per the CEQA Guidelines (section 15064.5(b)). That is, the question to be answered is whether the project would affect one or more individual resource(s) and/or the Third Street Industrial District or the Union Iron Works Historic District such that the resource(s) would no longer be eligible for the California Register or, if applicable, a local register of historical resources. The analysis is informed by the conclusions presented in the HRER and HRE as well as the design documents for the proposed project.

Consistent with the planning department's approach, demolition of a district contributor in itself does not necessarily constitute a significant impact because the historical resource under consideration is the district as a whole (e.g., Third Street Industrial District or Union Iron Works Historic District). The impact of the demolition of a district contributor is based on the degree to which the removal of the contributor would adversely affect the district.

Methodology for Analysis of Cumulative Impacts

The analysis of cumulative impacts to historic architectural resources is based on consideration of the proposed project in combination with past, present, and reasonably foreseeable future projects identified in Section 4.A, Impact Overview, and the potential for cumulative impacts to the Third Street Industrial District to occur. Any cumulative projects shown in Figure 4.A-1 and listed in Table 4.A-1 that fall within the boundary of the Third Street Industrial District are considered under the cumulative analysis with regard to impacts on the district. Any cumulative

projects shown in Figure 4.A-1 that fall within the Central Waterfront Area are considered under the cumulative analysis with regard to impacts to individually eligible resources. The cumulative analysis also addresses whether the proposed project, in conjunction with the approved Pier 70 Mixed-Use District project, would adversely affect the adjacent Union Iron Works Historic District.²² If the analysis determines that there is the potential for cumulative impacts, then the analysis determines if the project's contribution to the cumulative impact would be cumulatively considerable (i.e., significant), in which case, the analysis then identifies mitigation measures that would reduce the severity of the project's contribution to the cumulative impact.

Impact Evaluation

Impacts CR-1 through CR-3, relating to archeological resources, human remains, and tribal cultural resources, are in the initial study; see Appendix B of this EIR.

Impact CR-4: The proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources. (*Significant and Unavoidable with Mitigation*)

The proposed project would result in the demolition of three buildings that are individually eligible for listing in the California Register. These are Station A, the Meter House, and the Compressor House. The HRER concludes that the demolition would "result in physical destruction, damage or alteration such that the significance of the individually eligible resources will be materially impaired." Therefore, the demolition of these individually eligible buildings would be *a significant and unavoidable impact with mitigation* because, once demolished, they would no longer be eligible as historical resources under CEQA. While the impact on individual historical resources cannot be mitigated to a less-than-significant level, implementation of **Mitigation Measures M-CR-5a, 5b, and 5c** would require that the project sponsor prepare Historic American Building Survey (HABS) documentation, undertake video documentation of historical resources to be demolished, and implement a public interpretation and salvage program. Implementation of these measures would lessen the severity of the significant impact, but would not reduce this impact to a less-than-significant level.²³

Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, below)

Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, below)

Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, below)

²² Project-specific effects on the Union Iron Works Historic District are addressed in Impact CR-7.

²³ For simplicity and to avoid duplication, a single set of mitigation measures is presented under Impact CR-5. These measures would reduce impacts to both individual historical resources (the subject of this Impact CR-4) and to the Third Street Industrial District (analyzed in Impact CR-5). The mitigation measures accompany Impact CR-5 so that they follow the discussion of impacts to both individual and district resources.

Significance after Mitigation: Implementation of Mitigation Measures M-CR-5a through M-CR-5c would reduce the severity of project impacts, but not to a less-than-significant level because only avoidance of demolition of, or substantial adverse changes to, a historical resource would reduce impacts to less-than-significant levels. Therefore, the impact on individual historic architectural resources would be *significant and unavoidable*.

Impact CR-5: The proposed demolition, substantial alteration, and rehabilitation of contributing buildings would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources. (*Significant and Unavoidable with Mitigation*)

Station A, Gate House, Meter House, Compressor House, and Unit 3 Power Block

The proposed project would result in the demolition of or substantial and adverse alteration to five buildings and structures that contribute to the significance of the Third Street Industrial District. These are Station A, the Gate House, the Meter House, the Compressor House, and the Unit 3 Power Block. The HRER finds that demolition of these buildings would result in the loss of the following character-defining features of the district's significance:

- Demolition of all of the contributing resources associated with the early-20th-century PG&E use on the project site would cause the loss of the district's association with the early history of power generation and gas manufacturing in San Francisco and Northern California.
- The contributing buildings to be demolished are some of the oldest in the district, particularly Station A (built in 1901-02, with an addition constructed in 1930-31), the Meter House (ca. 1902), and the Gate House (ca. 1914). The demolition of these three resources would reduce the district's representation of industrial buildings from this significant period in the city's industrial history.
- Station A, the Meter House, the Compressor House, and the Gate House contribute to the character-defining typology of brick industrial buildings in the district, which would be compromised with their demolition.
- The demolition of or substantial alterations to the Unit 3 Power Block would result in the loss of one of two district contributors (along with the Boiler Stack) associated with the district's final period of power-generation and industrial development dating to the 1960s.
- The five contributors that would be demolished help to connect the portion of the district along San Francisco Bay with the rest of the district clustered along Third Street. The loss of these five buildings would create a physical gap between the remaining waterfront contributors (Boiler Stack and the Western Sugar Refinery warehouse south of the project site) and the district contributors along Third Street.

If the project is constructed as proposed, the resultant count would be 48 architectural resources remaining in the district, 20 of which are contributing resources (approximately 42 percent) and 28 of which are non-contributing resources (approximately 58 percent).

The project's proposed demolition of these contributors would not render the Third Street Industrial District ineligible for the California Register. However, according to the HRER, the demolition of these contributors would result in "the loss of the above characteristics that justify, in part, the district's eligibility for the California Register" and would "remove historic materials, features, and spaces that characterize the historic district and justify the existing district boundary, and ... result in physical destruction, damage or alteration such that the significance of the district [would] be materially impaired." Specifically, the HRE notes that the project would result in demolition of all contributors on the project site associated with early San Francisco electricity generation. Therefore, this would be a *significant* impact on the Third Street Industrial district. While mitigation measures are available to document and record the historic district and to implement public interpretation and salvage programs and a historic preservation plan, these measures would be insufficient to reduce the impact to less than significant. Demolition of these buildings would not render the Third Street Industrial District ineligible for the California Register. However, for the reasons described above, this EIR conservatively concludes that the project's impact to the integrity of the Third Street Industrial District would be *significant and unavoidable with mitigation*. Nevertheless, **Mitigation Measures M-CR-5a, 5b, and 5c**, are identified to reduce the severity of this impact to the extent feasible.

Boiler Stack

The Boiler Stack would be repurposed under the proposed project for retail, though allowable uses could also include entertainment, arts, and recreation. Because detailed design documents for the proposed project have not been prepared and because it is unknown whether the proposed alterations would conform with the Secretary of the Interior's Standards for Rehabilitation, retention and repurposing of this structure could potentially result in significant effects. The HRER notes that the project design would result in placement of the Boiler Stack within the proposed Stack Plaza and that the design of this plaza is currently being developed. This could compromise the Boiler Stack's integrity of setting and feeling. Because it is not certain that it would be feasible to rehabilitate and reuse the Boiler Stack in compliance with the Secretary's Standards, this impact is conservatively deemed *significant*.

Additionally, the Boiler Stack could potentially sustain inadvertent damage from heavy equipment during demolition and construction of other nearby structures. However, with implementation of **Mitigation Measure M-CR-5d, Rehabilitation of the Boiler Stack, and Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack**, alterations to the Boiler Stack, a contributor to the Third Street Industrial District, would be compatible with the character-defining features of the Third Street Industrial District and the Boiler Stack would be protected against any potential construction damage, and this impact would be *less than significant with mitigation*.

Vibration Impacts to Off-Site Contributors to the Third Street Industrial District

As described in Impact NO-4 in Section 4.F, Noise and Vibration, vibration levels associated with controlled blasting on the project site could have the potential to exceed the 0.5 in/sec peak particle velocity (PPV) standard at the American Industrial Center building and Western Sugar Warehouses. This was identified as a potentially significant impact to these off-site contributors

to the Third Street Industrial District. However, implementation of **Mitigation Measures M-NO-4a, Construction Vibration Monitoring, and M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, would require vibration monitoring during construction and that appropriate controlled blasting techniques (smaller charge sizes or using other controlled rock fragmentation techniques) be used so as to not exceed the 0.5 in/sec PPV standard and to avoid any building damage due to vibration. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-CR-5a: Documentation

Before any demolition or rehabilitation activities within the project site, the project sponsor shall retain a professional who meets the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare written and photographic documentation of Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3. The documentation shall be prepared based on the National Park Service's Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Historical Report Guidelines. The HABS/HAER package shall jointly document the Third Street Industrial District contributors and individually eligible resources to be demolished or otherwise adversely affected. This type of documentation is based on a combination of both HABS/HAER standards and National Park Service's policy for photographic documentation, as outlined in the National Register and National Historic Landmarks Survey Photo Policy Expansion.

The documentation shall be scoped and approved by Planning Department Preservation staff and will include the following:

- *Measured Drawings:* A set of measured drawings that depict the existing size, scale, and dimension of Station A, the Compressor House, the Meter House, the Gate House, and the Unit 3 Power Block. Planning Department Preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). Planning Department Preservation staff will assist the consultant in determining the appropriate level of measured drawings;
- *HABS-Level Photography:* Either HABS standard large-format or digital photography shall be used. The scope of the photographs shall be reviewed by Planning Department Preservation staff for concurrence. All digital photography shall be conducted according to the latest National Park Service standards. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS photography. Photograph views for the dataset shall include (a) contextual views; (b) views of each side of each building and interior views; (c) oblique views of the buildings; and (d) detail views of character-defining features, including features on the interior. All views shall be referenced on a photographic key. This photographic key shall be on a map of the property and shall show the photograph number with an arrow to indicate the direction of the view. Historical photographs shall also be collected, reproduced, and included in the dataset; and
- *HABS Historical Report:* A written historical narrative and report, per HABS Historical Report Guidelines.

- *Print-On-Demand Book*: A Print On Demand softcover book will be produced that includes the content of the HABS historical report, historical photographs, HABS-level photography, measured drawings and field notes.

The project sponsor shall transmit such documentation to the San Francisco Planning Department, the Port of San Francisco, and to repositories including the History Room of the San Francisco Public Library, San Francisco Heritage, Internet Archive, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. All documentation will be reviewed and approved by the San Francisco Planning Department's Preservation staff prior to granting any demolition or site permit.

Mitigation Measure M-CR-5b: Video Recordation

Prior to any demolition or substantial alteration of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall retain a qualified professional to undertake video documentation of the affected historical resource and its setting. The documentation shall be conducted by a professional videographer with experience recording architectural resources. The professional videographer shall provide a storyboard of the proposed video recordation for review and approval by Planning Department preservation staff. The documentation shall be narrated by a qualified professional who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). The documentation shall include as much information as possible—using visuals in combination with narration—about the materials, construction methods, current condition, historical use, and historic context of the historic resources.

Archival copies of the video documentation shall be submitted to the Planning Department, and to repositories including: the San Francisco Planning Department, the Port of San Francisco, the San Francisco Public Library, San Francisco Heritage, Prelinger Archives, the California Historical Society, the Potrero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. This mitigation measure would supplement the traditional HABS documentation, and would enhance the collection of reference materials that would be available to the public and inform future research.

The video documentation shall be reviewed and approved by the San Francisco Planning Department's preservation staff prior to issuance of a demolition permit or site permit or issuance of any Building Permits for the project.

Mitigation Measure M-CR-5c: Public Interpretation and Salvage

Prior to any demolition or rehabilitation activities that would remove character-defining features of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall consult with planning department preservation staff as to whether any such features may be salvaged, in whole or in part, during demolition/alteration. The project sponsor shall make a good faith effort to salvage materials of historical interest to be utilized as part of the interpretative program. This

could include reuse of the Greek Revival façade of the Machine Shop Office, Gate House or a portion of the Unit 3 Power Block. Following any demolition or rehabilitation activities within the project site, the project sponsor shall provide within publicly accessible areas of the project site a permanent display(s) of interpretive materials concerning the history and architectural features of the individual historical resources and Third Street Industrial District. The content of the interpretive display(s) shall be coordinated and consistent with the site-wide interpretive plan prepared in coordination with planning department preservation staff, and may include the display of salvaged features recovered through the process described above. The specific location, media, and other characteristics of such interpretive display(s) shall be presented to planning department preservation staff for review prior to any demolition or removal activities. The historic interpretation plan shall be prepared in coordination with an architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards and an exhibit designer or landscape architect with historical interpretation design experience. As feasible, coordination with local artists should occur. Interpretive display(s) shall document both the Third Street Industrial District and individually eligible resources to be demolished or rehabilitated. The interpretative program should also coordinate with other interpretative displays currently proposed along the Bay, specifically at Pier 70, those along the Blue Greenway, and others in the general vicinity. The interpretative plan should also explore contributing to digital platforms that are publicly accessible. A proposal describing the general parameters of the interpretive program shall be approved by planning department preservation staff prior to issuance of a site permit. The substance, media and other elements of such interpretive display shall be approved by planning department preservation staff prior to issuance of a Temporary Certificate of Occupancy.

Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack

Prior to the issuing of building permits associated with modifications to the exterior of the Boiler Stack, planning department preservation staff shall review the proposed design and confirm that it conforms to the Secretary of the Interior's Standards for Rehabilitation and the Design for Development standards and guidelines.

Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack

Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish measures to protect the retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with the Boiler Stack, to minimize construction-related damage to the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment would occur in proximity to

the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4)

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4)

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4)

Significance after Mitigation: Implementation of Mitigation Measures M-NO-4a, 4b, and 4c would ensure that vibration levels during demolition and construction of nearby buildings would not result in damage to the off-site contributors of the Third Street Industrial District. Implementation of Mitigation Measures M-CR-5a, 5b, and 5c would reduce the severity of project impacts on the Third Street Industrial District, but not to a less-than-significant level because only avoidance of demolition of, or substantial adverse changes to, a historical resource would reduce impacts to less-than-significant levels. Therefore, the impact on the Third Street Industrial District would be *significant and unavoidable*. However, implementation of Mitigation Measures M-CR-5d and 5e and Mitigation Measures M-NO-4a, 4b, and 4c, in tandem with implementation of the D for D drafted to be consistent with Mitigation Measure M-CR-6 (see below), would ensure that alterations to the Boiler Stack, a contributor to the Third Street Industrial District, would be compatible with the character-defining features of the district and would thereby reduce this impact to a *less-than-significant* level.

Impact CR-6: The proposed infill construction could materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources. (*Less than Significant with Mitigation*)

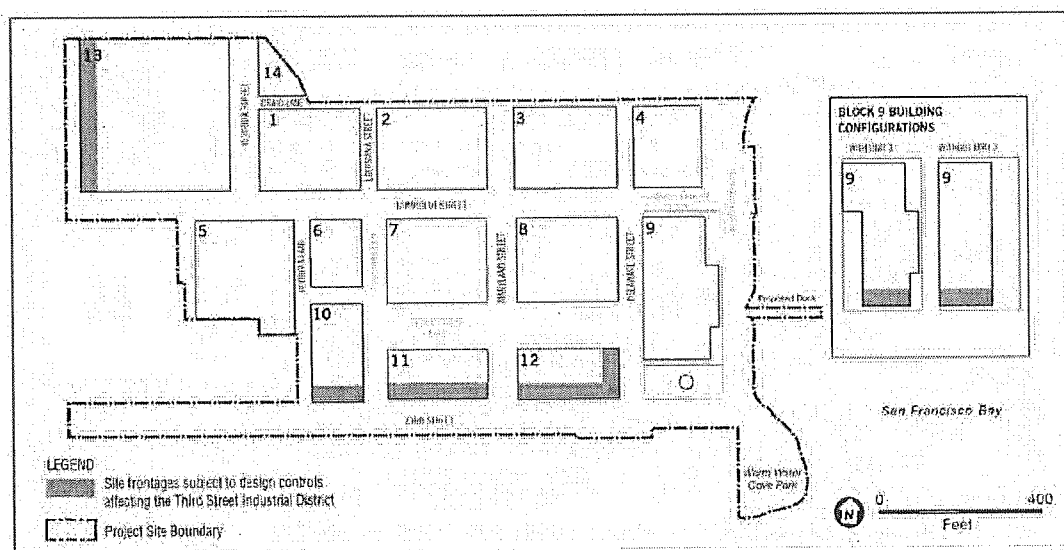
The Secretary of the Interior's Rehabilitation Standard No. 9 states that "new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the integrity of the property and its environment." The proposed D for D includes standards and guidelines ensuring new construction would be of a size, scale, and density and/or would use exterior materials that would be compatible with the Third Street Industrial District. However, because the proposed D for D has not yet been approved, this EIR

conservatively finds that the proposed project's new construction could be incompatible with the Third Street Industrial District, which would be a *significant* impact. However, with implementation of **Mitigation Measure M-CR-6, Design Controls for New Construction**, future new construction would be compatible with the character-defining features of the Third Street Industrial District, and this impact would be *less than significant with mitigation*.

Mitigation Measure M-CR-6: Design Controls for New Construction

The SUD and Design for Development (D for D) shall contain design standards and guidelines that ensure that new construction and site development within the SUD shall be compatible with the character of the Third Street Industrial District. Beyond the site-wide standards and guidelines developed for open space, buildings, and streetscapes in the D for D, the D for D shall contain design controls for the Third Street Industrial District, as outlined below (see site-wide design controls below).

Additional design standards shall apply to the western façades of new buildings fronting Illinois Street, the southern façades of new buildings fronting 23rd Street, and the eastern and/or southern façades of new buildings fronting the Boiler Stack (see block and frontage-specific design controls below and **Figure M-CR-6, Site Frontages Subject to Design Controls**). These façades would all face contributors to the Third Street Industrial District. The additional design standards that shall apply specifically to those frontages are included below.



SOURCE: Perkins+Will 2018

Potrero Power Station Mixed-Use Development Project

Figure M-CR-6
 Site Frontages Subject to Design Controls

These design controls in the D for D shall be compatible with the Secretary of the Interior Standards for Rehabilitation, Standard 9. Standard 9 states that new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the integrity of the historic district and its environment.

Review Process

New construction in the Special Use District will be subject to administrative design review prior to the issuing of building permits. Planning staff along with Preservation staff will review new projects to ensure compatibility with the Third Street Industrial District as determined in the above standards and guidelines and identified in the D for D.

The D for D shall contain the following Third Street Industrial District Frontage Design Controls:

- *Block and Frontage-Specific Design Controls Ground Floor Height for Blocks 11, 12, and 13:* For Ground Floor of Blocks 11 and 12 facing 23rd Street Sugar Warehouses and Block 13 facing American Industrial Center all ground floor spaces shall have a minimum floor-to-floor height of 15 feet as measured from grade.
- *Height + Massing along 23rd and Illinois street frontages.* In order for 23rd and Illinois streets to appear balanced on either side, new construction shall respect existing heights of contributors to the Third Street Industrial District by referencing their heights with an upper level 10-foot setback at approximately 65 feet.
- *Awnings on Blocks 10, 11, 12, and 13.* An awning shall be provided on the southern facades of Blocks 10, 11, and 12 that face 23rd Street at a height of 15 to 25 feet above sidewalk grade to reference the industrial awning at the westernmost Sugar Refinery Warehouse. Awnings at this location may project up to 15 feet into the public realm. Should the southern façade of Station A be retained, an awning on Block 10 would not be required. For Block 13 frontages facing Illinois Street, canopies and awnings should only be located at the retail land use at the corner of Illinois and 22nd streets.

The character, design and materials used for such awnings shall be industrial in character and design, suggestions are the following:

- They should be flat or pitched, and should not be arched. The functional supporting structure and/or tieback rods should be clearly read [i.e., remain apparent to the observer].
- Materials used for canopies and awnings should be utilitarian. Suggested materials include wood, standing seam or louvered metal panels, and corrugated metal.
- *Openings along 23rd and Illinois street frontages.* To the extent allowed by the Department of Public Health, large doors, such as sliding or roll-up doors that facilitate the movement of people, equipment, and goods in and out of the ground floor of new construction on Blocks 10-13 shall be incorporated along 23rd Street and Illinois Street.
- *Special Corners on Block 12.* To frame the view of the iconic Boiler Stack, the northeast corner of Block 12 should include the use of high quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include:
 - Volumetric shaping of the area of a building within 15-feet of the northeastern corner of Block 12 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm.

- *Special Corners Block 9 without Unit 3.* To create an open and inviting entrance to Waterfront Park and Stack Plaza from Delaware Street and Power Station Park, the southwest corner of Block 9 without Unit 3 should use high-quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include:
 - Volumetric shaping of any building in the area within 15-feet of the southwest corner of Block 9 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm.
- *Block 9 without Unit 3.* For deference to the historic Stack, and to create more physical space between the Stack and new construction, the building of Block 9 without Unit 3 shall be designed such that the overall bulk is reduced by at least 10 percent from the maximum permitted floor area, with a focus along the southern façade of the new building, facing the Stack. A potential distribution of bulk reduction, for example, could result in an 8 percent reduction along the southern façade with a 2 percent reduction elsewhere.

The building should interact meaningfully with the Boiler Stack, such as referencing the existing relationship between it and Unit 3 (i.e., the simple, iconic form of the Boiler Stack in contrast to the highly complex, detailed form of the Unit 3 Power Block). Retain the existing exhaust infrastructure connecting the Unit 3 Power Block with the Boiler Stack and incorporating it into the new structure as feasible. Consider preserving other elements of the Unit 3 Power Block, such as portions of the steel gridded frame structure, in new construction.

- *Architectural Features on Blocks 10, 11, 12, and 13.* Regularly-spaced structural bays should be expressed on the exterior of the lower massing through the use of rectangular columns or pilasters, which reference the rhythm of loading docks on the Western Sugar Refinery Warehouses and American Industrial Center. Bay widths shall be no larger than 30 feet on center.

Architectural features such as cornice lines, belt courses, architectural trim, or change in materiality or color should be incorporated into the building design to reference heights and massing of the Western Sugar Refinery Warehouses on 23rd Street and American Industrial Center on Illinois Street at areas of the façade that are not required to be set back.

- *Third Street District Fenestration.* Operable windows shall be single or double hung wood sash, or awning, pivot, or other industrial style steel or aluminum fenestration. Casement windows shall be avoided at lower building massing. Divided lite windows are appropriate.

Ground level glazing shall incorporate transom windows if not utilizing roll up or full height sliding doors.

Upper level glazing shall consist of regular repeated punched openings with divided lites. Punched openings shall be rectangular in proportion; an exception is the use of segmentally arched openings if the building material is brick.

- *Third Street District Building Rooftops.* Rooftops shall reflect the historic industrial character of the district and include flat, monitor, or shallow shed roofs. Gable or hipped roofs shall be avoided as primary features.

The D for D shall contain the following Site Wide Design Controls:

- *Recommended Materials.* Recommended materials should be incorporated into building design. Recommended materials include brick, concrete, copper, steel, glass, smooth stucco and wood. Avoid using veneer masonry panels except as described in the Depth of Façade, below. Avoid using smooth, flat, or minimally detailed glass curtain walls; highly reflective glass; coarse-sand finished stucco as a primary siding material; bamboo wood siding as a primary siding material; laminated timber panels; or black and dark materials should not be used as a predominate material. Where metal is used, selection should favor metals with naturally occurring patina such as copper, steel, or zinc. Metals should be matte in finish. Where shiny materials are used, they should be accent elements rather than dominant materials, and are generally not encouraged.
- *Depth of Façade.* The façade should be designed to create a sense of durability and substantiality, and to avoid a thin or veneer-like appearance. Full brick or masonry is a preferred material. If thin brick or masonry or panel systems are used, these materials should read as having a volumetric legibility that is appropriate to their thickness. For example, masonry should turn the corner at a depth that is consistent with the typical depth of a brick.

Windows and other openings are an opportunity to reinforce the volumetric legibility of the façade, with an appropriate depth that relates to the material selected. For example, the depth of the building frame to the glazing should be sufficiently deep to convey a substantial exterior wall, and materials should turn the corner into a window reveal.

- *Quality and Durability.* Exterior finishes should have the qualities of permanence and durability found in similar contextual building materials used on neighboring sites and in the Central Waterfront. Materials should be low-maintenance, well suited to the specific maritime microclimate of the neighborhood, and able to naturally weather over time without extensive maintenance and upkeep. Materials characteristic of the surrounding context, such as brick, concrete, stone, wood, and glass, and, are envisioned on site and are good candidates to meet durability needs.

The D for D shall contain the following Street and Open Spaces Design Controls:

- *Stack Plaza.* No more than one-third of the area within 45 feet of the Boiler Stack shall be planted. Paving and hardscape elements shall incorporate industrial elements and materials into the design. Design elements should use simple geometric forms, regular or repeating paving patterns and utilitarian materials such as simple masonry pavers or salvaged masonry units if feasible and safe for public use.

Stack Plaza design elements, such as planters and native planting, should be kept low to the ground to complement and not distract from the Boiler Stack. Surfaces should not be designed with elaborately applied patterns. Any patterning should be the pragmatic result of the use of unit pavers or concrete score joints.

- *23rd Street Streetscape.* The streetscape design of 23rd Street should balance the historic utilitarian character of the Third Street Industrial District with welcoming design gestures for this important entrance to the Potrero Power Station development. To that end, the following guidelines shall be followed:
 - Landscape elements should feel additive to the industrial streetscape. Examples include potted or otherwise designed raised beds of plants and trees that are

placed onto paved surfaces; small tree wells within paved surfaces; green walls; and raised or lowered beds edged with industrial materials such as brick, low granite curbs, or steel.

- Tree planting locations should be irregularly spaced or placed in small groupings along the street, in contrast with standard Better Street Plan requirements, in order to provide better compatibility with the historic district.
- A tree and vegetation palette should be used that does not detract from the industrial character. Green walls, planter boxes, and vegetation should be considered rather than trees for storm water management.
- Public art installations, such as murals, are encouraged.
- *Transit Bus Shelter.* The bus shelter should be utilitarian in materiality and design to reflect the industrial nature of the nearby Western Sugar Refinery Warehouse buildings. The bus shelter shall be coordinated with the building design on Block 12.
- *23rd Street and Illinois Paving.* Sidewalk paving at 23rd Street and Illinois Street should be more industrial in character compared to sidewalk paving at other portions of the site. Consider varying sidewalk concrete score joint patterns or pavers from block to block. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans.
- *23rd Street Transit Island Paving.* Pavement at the transit boarding island should incorporate concrete or stone pavers or enhanced cast-in-place concrete with smaller scale joint patterns for a more refined appearance. Integral color and decorative aggregates may be selected for aesthetic quality and shall meet accessible design requirements for slip-resistance. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans.
- *Signage.* Tenant signage facing contributing buildings to the Third Street Industrial District should be utilitarian in design and materiality to reflect the adjacent historic resources and strengthen the 23rd Street streetscape. Backlit signage should be avoided.

Significance after Mitigation: Implementation of Mitigation Measure M-CR-6, in tandem with implementation of the D for D, would ensure that future new construction would be compatible with the character-defining features of the Third Street Industrial District and would thereby reduce this impact to a *less-than-significant* level.

Impact CR-7: The proposed project would not materially alter, in an adverse manner, the physical characteristics of the adjacent Union Iron Works Historic District that justify its inclusion in the California Register of Historical Resources. (*Less than Significant*)

As discussed above, the Union Iron Works Historic District (Pier 70), which is listed in the National Register of Historic Places, stands directly to the north of the project site. Although the proposed project would have no direct physical impact on Union Iron Works Historic District, the

proposed project could have an indirect visual impact on the district by altering its immediate visual setting. However, the recently approved Pier 70 Mixed-Use District project plans infill construction between Building 12 (on the Pier 70 site), the closest of the contributing properties that would be retained by the Pier 70 Mixed-Use District project to the project site, and the project site. The planned infill construction on the Pier 70 site would introduce a new roadway and new construction with heights up to 90 feet along the southern edge of the Union Iron Works Historic District. New construction from the proposed project would be more than 200 feet away from contributing properties of the Union Iron Works Historic District and heights of the closest project buildings would range from 85 to 180 feet.

While a visual relationship between contributing properties of the Union Iron Works Historic District and the historic resources on the project site may have existed historically, the construction of large storage tanks (now removed) along the northern edge of the project site during the 1960s and early 1970s would have visually interrupted the connection between such resources and would have previously affected the setting and association between Union Iron Works Historic District and the historic resources on the project site.

Additionally, new construction within the project site would be contemporary in design and materials and would not convey a false sense of historical development. As such, the character-defining features and form of the Union Iron Works Historic District would be clearly differentiated from the new development on the project site.

Finally, based on the analysis provided in Impact NO-4 in Section 4.F, Noise and Vibration, vibration levels for Union Iron Works Historic District contributors would not exceed the 0.5 in/sec PPV standard. Therefore, the project's construction-related vibration impacts on this existing historical district from impact pile driving or controlled rock fragmentation would be *less than significant*, and no mitigation would be required.

For these reasons, the indirect visual impacts of the proposed project and project construction activities are not those of a project that "demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by the lead agency for purposes of CEQA." (CEQA Guidelines section 15064.5(b)(2)(C)). This impact would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

Impact C-CR-1, relating to archeological resources, human remains, and tribal cultural resources, is included in Appendix B, Initial Study, of this EIR.

Impact C-CR-2: The impacts of the proposed project, in combination with those of past, present, and reasonably foreseeable future projects, would materially alter, in an adverse manner, some of the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a cumulative impact. (*Significant and Unavoidable with Mitigation*)

The analysis of cumulative impacts to historic architectural resources addresses all past, present, and reasonably foreseeable future projects within the boundaries of the Third Street Industrial District, that, in addition to the proposed project, may contribute to a significant, adverse cumulative impact to the integrity of the Third Street Industrial District. As stated in the Setting, above, four contributing buildings to the Third Street Industrial District have been demolished or substantially altered since the district was documented in 2008. One of these resources was the 1930 Pump House (which was located on the project site), identified as a district contributor in 2008 but demolished by 2010. The other three district contributors that were demolished and are no longer contributory to the district's significance include the Seaside Oil Co. building at 2121 Third Street (demolished ca. 2012), the Joseph Levin and Sons Warehouse at 2255 Third Street (demolished except for the façade, ca. 2013), and the Bowie Switch Co. building at 815-825 Tennessee Street (demolished except for the façade, ca. 2015).

In addition to the foregoing completed demolitions and alterations, there are seven proposed projects within the Third Street Industrial District but outside the project boundary that, along with the proposed project, have the potential to result in a significant adverse cumulative impact on the integrity of the district. Many of the projects within the district that have completed CEQA review and were found to be consistent with the Secretary's Standards or otherwise to have a less-than-significant effect, individually, on the district with respect to new construction. The projects that would or will affect, or have affected, contributors to the Third Street Industrial District are:

- 2250 Third Street (Case No. 2014-001299ENV; proposed demolition of district contributor; new construction is under review)
- 2290 Third Street (Case No. 2005.0408E; approved demolition of district contributor; new construction would not adversely affect the district)
- 2530 Third Street (Case No. 2017-011476; proposed alteration of a district contributor; currently under review)

The three above projects are depicted in Figure 4.D-1.

Other cumulative projects not adversely affecting the Third Street Industrial District (and therefore not shown in Figure 4.D-1) include the following:

- 2146 Third Street (Case No; 2013.1109E; approved demolition of a non-contributor to the district; new construction found to be compatible with the district, determined to have no impact on the district)
- 2177 Third Street/590 19th Street (Case No. 2013.0784E; demolition of two district non-contributors complete; new construction found to be compatible with the district, with no impact found to the district; under construction)

- 2230 Third Street (Case No. 2013.0531E; approved demolition of a non-contributor to the district; new construction found to be compatible with the district, with a less-than-significant impact to the district)
- 2420 Third Street (Case No. 2013.0673E; proposed new construction on a vacant lot in the Third Street Industrial District; new construction found to be compatible with the district, with a less-than-significant impact on the district)

At present, the Third Street Industrial District includes 53 properties, 25 of which are contributing resources (approximately 47 percent) and 28 of which are non-contributing resources (approximately 53 percent).²⁴ The three projects listed above would further reduce the number of contributors from 25 to 22, meaning there will have been seven contributing resources lost to demolition or substantial alteration since the district was documented in 2008. The project site occupies 29 acres and accounts for approximately half of the land within the boundary of the Third Street Industrial District. The project proposes to demolish approximately 20 buildings on the project site, only four or possibly five of which are contributing resources to the Third Street Industrial District. The proposed project in combination with the cumulative projects described above would result in 45 architectural resources remaining in the district, 17 of which are contributing resources (approximately 38 percent) and 28 of which are non-contributing resources (approximately 62 percent).

According to the HRER, the loss of 12 district contributors (up to five due to the proposed project plus the seven either already lost or proposed for demolition or substantial alteration) since the Third Street Industrial District's designation in 2008 "would substantially reduce the number of overall contributors and weaken the architectural and spatial cohesion of the district," and would therefore result in a significant cumulative impact.

Since the proposed project would result in the loss of up to five of the 12 district contributors already lost or proposed for demolition, and all district contributors associated with early power generation in San Francisco, and would result in a physical gap between remaining district contributors along the waterfront and the bulk of the district along Third Street, the proposed project would make a considerable contribution (i.e., significant) to the cumulatively significant impact to the Third Street Industrial District.

Concerning the adjacent Union Iron Works Historic District, as described in Impact CR-7, the proposed project would not adversely affect the Union Iron Works Historic District because of the physical separation afforded both by distance between new construction on the project site and the nearest remaining Union Iron Works Historic District contributor and by intervening new construction within the Pier 70 Mixed-Use District project site. Accordingly, together the two projects would result in a *less-than-significant* cumulative impact on the Union Iron Works Historic District.

There is no additional feasible mitigation beyond mitigation measures listed above for Impacts CR-4, CR-5, and CR-6. Demolition of these resources would result in material impairment to the

²⁴ The 25 existing contributors include 23 of the original 27 contributors, less the four already demolished or substantially altered, plus the newly added Unit 3 Power Block and the Boiler Stack.

Third Street Industrial District. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources as well as any nearby resources would be protected during construction of the rest of the development. This EIR concludes that the project's contribution to the cumulative impact on the Third Street Industrial District would be *significant and unavoidable, with mitigation*.

Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, above)

Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, above)

Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, above)

Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack (see Impact CR-5, above)

Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack (see Impact CR-5, above)

Mitigation Measure M-CR-6: Design Controls for New Construction (see Impact CR-6, above)

Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4)

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4)

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4)

Significance after Mitigation: Implementation of Mitigation Measures M-CR-5a through M-CR-6 and M-NO-4b would assist in reducing project impacts, but would not reduce cumulative impacts to a less-than-significant level because only avoidance of demolition of, or substantial adverse changes to, a historical resource would reduce impacts to less-than-significant levels. Therefore, even with implementation of these mitigation measures, the project's contribution to the cumulative impact on historic architectural resources would be *significant and unavoidable*.

4.E Transportation and Circulation

4.E.1 Introduction

This section presents the existing transportation and circulation conditions and analyzes the potential project-level and cumulative impacts on transportation and circulation during construction and operation of the proposed project. Transportation-related issues of study include vehicle miles traveled (VMT), traffic hazards, transit, bicycles, pedestrians, loading, emergency access, parking, and construction activities that would affect the transportation network. Supporting detailed technical information is included in Appendix C, Transportation Supporting Information.

4.E.2 Environmental Setting

The transportation study area is the area near the project site where the project could potentially affect transportation and circulation, generally bounded by 18th Street to the north, Pennsylvania Avenue to the west, Cesar Chavez Street to the south, and the San Francisco Bay to the east. See **Figure 4.E-1, Transportation Study Area and Study Intersections**.

Regional and Local Roadways

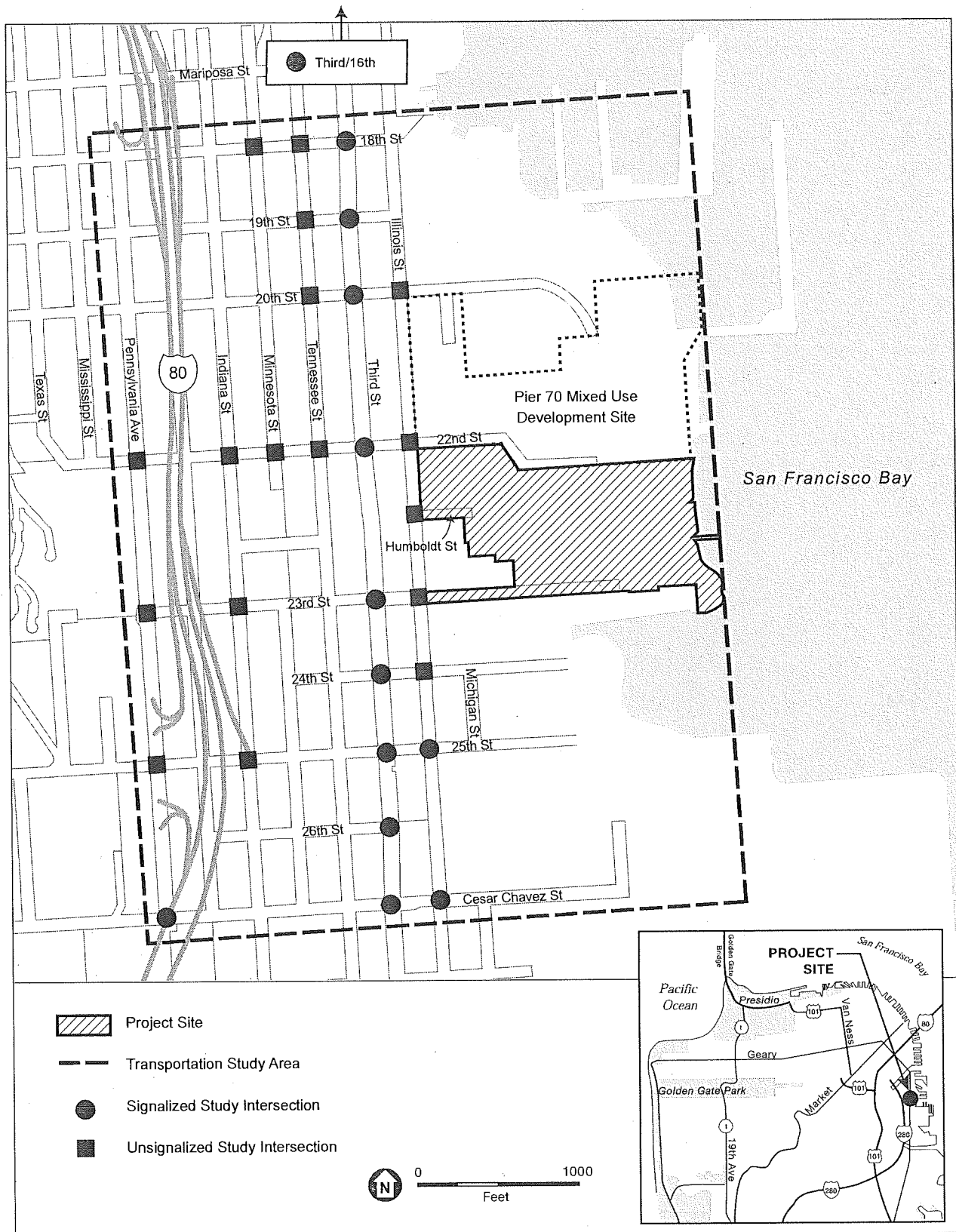
Regional Access

Interstate 280 (I-280) is a generally north-south freeway that connects San Francisco with the Peninsula and the South Bay. I-280 crosses Highway 101 approximately one mile southwest of the project site and ends at San Francisco surface streets in the South of Market/Mission Bay areas. Near the project site, I-280 is a six- to eight-lane facility. The closest access to I-280 is provided at Pennsylvania Street/Cesar Chavez Street (from the south), at Pennsylvania Street/25th Street (from the north and to the south), and at Indiana Street/25th Street (to the north).

Interstate 80 (I-80) and **U.S. Highway 101 (U.S. 101)** provide regional access to the Mission Bay area. U.S. 101 serves San Francisco and the Peninsula/South Bay, and extends north via the Golden Gate Bridge to the North Bay. Van Ness Avenue serves as U.S. 101 between Market Street and Lombard Street. I-80 connects San Francisco to the East Bay and points east via the San Francisco-Oakland Bay Bridge. U.S. 101 and I-80 merge west of the project site. Northbound access is provided via off-ramps at Cesar Chavez Street/Bayshore Boulevard, Mariposa Street (at Vermont Street), on-ramps at Cesar Chavez Street, and on-ramps and off-ramps at Bryant and Harrison Streets.

Local Access

This section provides a description of the existing local roadway system in the vicinity of the project site, including the San Francisco General Plan roadway designation, number of travel lanes, traffic flow directions, and presence of bicycle facilities. Appendix C includes the street classifications and San Francisco General Plan street designations for other local streets in the study area.



SOURCE: Advent Consulting/Fehr & Peers/LCW Consulting, 2018

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Figure 4.E-1
Transportation Study Area and Study Intersections

Illinois Street is a two-way, north-south roadway to the east of Third Street that extends between 16th Street and Cargo Way. The roadway has one travel lane each way with on-street parking on both sides of the street. Bicycle lanes (class II facility)¹ are provided in both directions, between Cargo Way and Mariposa Street/Terry A. Francois Boulevard. San Francisco Municipal Railway (Muni) tracks are currently under construction between 19th and 20th streets, as part of Muni's Mission Bay Loop project.

Third Street is the principal north-south arterial in the southeast part of San Francisco, extending from its interchange with U.S. 101 and Bayshore Boulevard to the south, to its intersection with Market Street at the north. Near the project site Third Street has two travel lanes each way and has on-street parking on both sides of the street. In the San Francisco General Plan, Third Street is designated as a Major Arterial in the Congestion Management Program network, a Metropolitan Transportation System Street, a Primary Transit Preferential Street (Transit Important Street between Market and Townsend Streets, and between Mission Rock Street and Bayshore Boulevard), a Citywide Pedestrian Network Street and Trail (between 24th Street and Yosemite Avenue), and a Neighborhood Commercial Pedestrian Street. South of China Basin, the T Third light rail operates in a semi-exclusive center median right-of-way, with the exception of the segment between Kirkwood Avenue and Thomas Avenue, where the light rail runs within a mixed-flow lane. A shared lane bicycle route (class III facility) runs on Third Street between China Basin and Townsend Street.

Tennessee Street is a north-south roadway between Mariposa and Marin streets that runs discontinuously. Near the project site Tennessee Street has one travel lane in each direction and on-street parking on both sides of the street.

Sixteenth Street is an east-west arterial that runs between Terry A. Francois Boulevard and Castro Street. In the Mission Bay area to the north of the project site, 16th Street has one travel lane and one transit-only lane in each direction, and on-street parking is prohibited on both sides of the street; dedicated left turn lanes are provided at all intersections. Bicycle lanes (class II facility) are provided both ways between Third Street and Mississippi/Seventh Streets. Sixteenth Street is currently being extended from Illinois Street to Terry A. Francois Boulevard as part of the construction of the Chase Center. Sixteenth Street is a Primary Transit Oriented Preferential Street between De Haro and Church streets and a Neighborhood Commercial Pedestrian Street between Bryant and Church streets.

Twentieth Street is an east-west roadway that runs discontinuously between San Francisco Bay/Pier 70 site and Douglass Street. Twentieth Street has one travel lane each way and on-street parking on both sides of the street. The north side of 20th Street between Third Street and Tennessee Street is designated as a Muni bus stop/layover stop for the 22 Fillmore bus line.

¹ Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists. Class II bikeways are bike lanes striped within the paved areas of roadways and established for the preferential use of bicycles. Class III bikeways are signed bike routes that allow bicycles to share the travel lane with vehicles. Class IV bikeways, sometimes referred to as cycle tracks, are for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature. The separation may include, but is not limited to, grade separation, flexible posts, inflexible barriers, or on-street parking.

Twenty-second Street is an east-west roadway that runs discontinuously between Illinois Street and Grand View Avenue. Near the project site 22nd Street has one travel lane each way and on-street parking on both sides of the street.

Humboldt Street is an east-west roadway that starts at Illinois Street and extends into the project site. However, Humboldt Street is currently gated 400 feet east of Illinois Street. Humboldt Street has one travel lane in each direction, and on-street parking is not permitted on either side of the street.

Twenty-third Street is an east-west roadway that runs discontinuously between San Francisco Bay and Grand View Avenue. Near the project site 23rd Street has one travel lane each way and on-street parking on both sides of the street.

Twenty-fifth Street is an east-west roadway that runs discontinuously between Illinois Street and Grand View Avenue. Near the project site 22nd Street has one travel lane each way and on-street parking on both sides of the street.

Cesar Chavez Street is a major east-west arterial that runs between Douglass Street to the west and, to the east, the Port of San Francisco North Container Terminal at Pier 80. Near the project site Cesar Chavez Street has one to two travel lanes each way, with a center median at some locations. The General Plan designates Cesar Chavez Street as a Major Arterial in the Congestion Management Program network from San Jose Avenue to Third Street, as a Secondary Arterial east of Third Street, and as part of the Metropolitan Transportation System network. It is identified in the General Plan as a Freight Traffic Route² east of U.S. 101. Cesar Chavez Street has class II bicycle lanes between Guerrero and Third streets.

Indiana Street runs north-south from Mariposa Street to Tulare Street through the Dogpatch neighborhood. Indiana Street has one northbound lane and one southbound lane from Mariposa Street to 23rd Street with on-street parking on both sides of the street. The southbound lane ends midway between 23rd Street and 25th Street. Indiana Street is one way northbound between 25th and Cesar Chavez streets, and two-way for the two blocks between Cesar Chavez and Tulare streets. North of Cesar Chavez Street, Indiana Street is a shared lane bicycle route (class III facility) with *sharrows*.³

Minnesota Street runs north-south discontinuously between Mariposa and Cesar Chavez streets. Near the project site Minnesota Street is discontinuous between just south of 22nd and 23rd streets.

² San Francisco does not have a network of signed truck routes, although the San Francisco Municipal Transportation Agency (SFMTA) has identified major Freight Traffic Routes in the Transportation Element of the General Plan that are not designed or signed truck routes. (See General Plan Transportation Element Map 15, attached in Appendix C and at, http://www.sf-planning.org/ftp/General_Plan/images/I4.transportation/tra_map15.pdf) Nevertheless, a number of streets in San Francisco, particularly in the Bayview, have "Truck Route" signage. More commonly, streets are designated with truck weight restrictions to discourage through truck traffic from using these streets. Streets with truck weight restrictions are identified in the San Francisco Transportation Plan, section 501, available at http://www.sf-planning.org/ftp/General_Plan/I4_Transportation.htm, accessed September 24, 2018.

³ Sharrows are pavement markings within the travel lane that are intended to help bicyclists better position themselves in a shared travel lane for safety considerations and to alert drivers to the presence of bicyclists. The standard shared lane marking is the bike-and-chevron sharrow (both standard and green-backed).

Minnesota Street has one northbound lane and one southbound lane and on-street parking on both sides of the street.

Tennessee Street is a north-south roadway that runs discontinuously between Mariposa and Marin streets. Near the project site Tennessee Street is discontinuous between Tubbs and 22nd streets and between 25th and Cesar Chavez streets. Tennessee Street has one northbound lane and one southbound lane with on-street parking on both sides of the street.

Traffic Volumes

Intersection turning movement counts were collected at the 30 study intersections presented in Figure 4.E-1 in October 2017 (18 study intersections) and in April 2018 (12 study intersections) during the a.m. (7 a.m. to 9 a.m.) and p.m. (4 p.m. to 6 p.m.) peak periods. Appendix C has the detailed vehicle count information. Table 4.E-1, Existing A.M. and P.M. Peak Hour Traffic Volumes, summarizes the existing a.m. and p.m. peak traffic hour volumes on streets near the project site.⁴ The table also shows that traffic volumes are greatest on Third Street with about 1,200 to 1,400 vehicles per hour in both directions during the peak hours. Traffic volumes on Illinois Street are substantially lower, with about 300 to 400 vehicles per hour in both directions of travel. Traffic volumes on the east-west streets (20th, 22nd, and 23rd streets), are lower, and range between 150 and 300 vehicles per hour during the peak hours. Traffic volumes on the east-west streets are slightly greater (up to 60 vehicles per hour) to the west of Third Street than to the east.

TABLE 4.E-1
EXISTING A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES

Street	a.m. Peak Hour	p.m. Peak Hour	a.m. Peak Hour	p.m. Peak Hour
	<i>Between 19th and 20th Streets</i>		<i>Between 22nd and 23rd Streets</i>	
Illinois Street	333	422	372	409
Third Street	1,177	1,270	1,277	1,403
	<i>Between Illinois and Third Streets</i>		<i>Between Third and Tennessee Streets</i>	
20th Street	267	173	271	224
22nd Street	165	220	202	265
23rd Street	151	148	175	208

NOTE: Volumes shown are two-way traffic volumes on identified street segments.

SOURCE: Adavant Consulting/Fehr & Peers/LCW Consulting, 2018.

Vehicle Miles Traveled

The San Francisco County Transportation Authority's (Transportation Authority) San Francisco Chained Activity Modeling Process (SF-CHAMP) travel demand model was used to estimate existing average daily VMT per capita for different land uses for the *traffic analysis zone* (TAZ)⁵ in

⁴ The peak hour traffic volume is the volume of vehicles during the peak 60 minutes of the two-hour a.m. or p.m. peak period during which the highest volumes of vehicles were observed.

⁵ Transportation Analysis Zones (TAZs) are used by planners as part of transportation planning models for transportation analyses and other planning purposes. The TAZs vary in size from single city blocks in the downtown core, multiple blocks in outer neighborhoods, to even larger zones in historically industrial areas such as the Hunters Point Shipyard area.

which the project is located. VMT per capita ratio is used as a measure of the amount and distance that a resident, employee, or visitor drives, accounting for the number of passengers within a vehicle. Many factors affect travel behavior, including density, diversity of land uses, design of the transportation network, access to regional destinations, distance to high quality transit, development scale, demographics, and transportation demand management. Typically, low density development at great distances from other land uses, located in areas with poor access to non-private vehicular modes of travel, generate more automobile travel compared to development located in urban areas, where a higher density, mix of land uses, and travel options other than private vehicles are available. Given the travel behavior factors described above, San Francisco has a lower average VMT ratio than the nine-county San Francisco Bay Area region. In addition, for the same reasons, different areas of the city have different VMT ratios and some areas of the city have lower VMT ratios than other areas of the city.

Table 4.E-2, Daily VMT per Capita – Existing Conditions, presents the existing average daily VMT per capita for residents, employees, and visitors for the nine-county San Francisco Bay Area and for TAZ 559, the TAZ in which the project site is located (i.e., the area generally bounded by 24th Street, Illinois Street, Terry A. Francois Boulevard, and the San Francisco Bay). As shown on Table 4.E-2 within TAZ 559, the current average daily VMT per capita for the various trip types are less than the regional Bay Area averages for the nine-county San Francisco Bay Area.

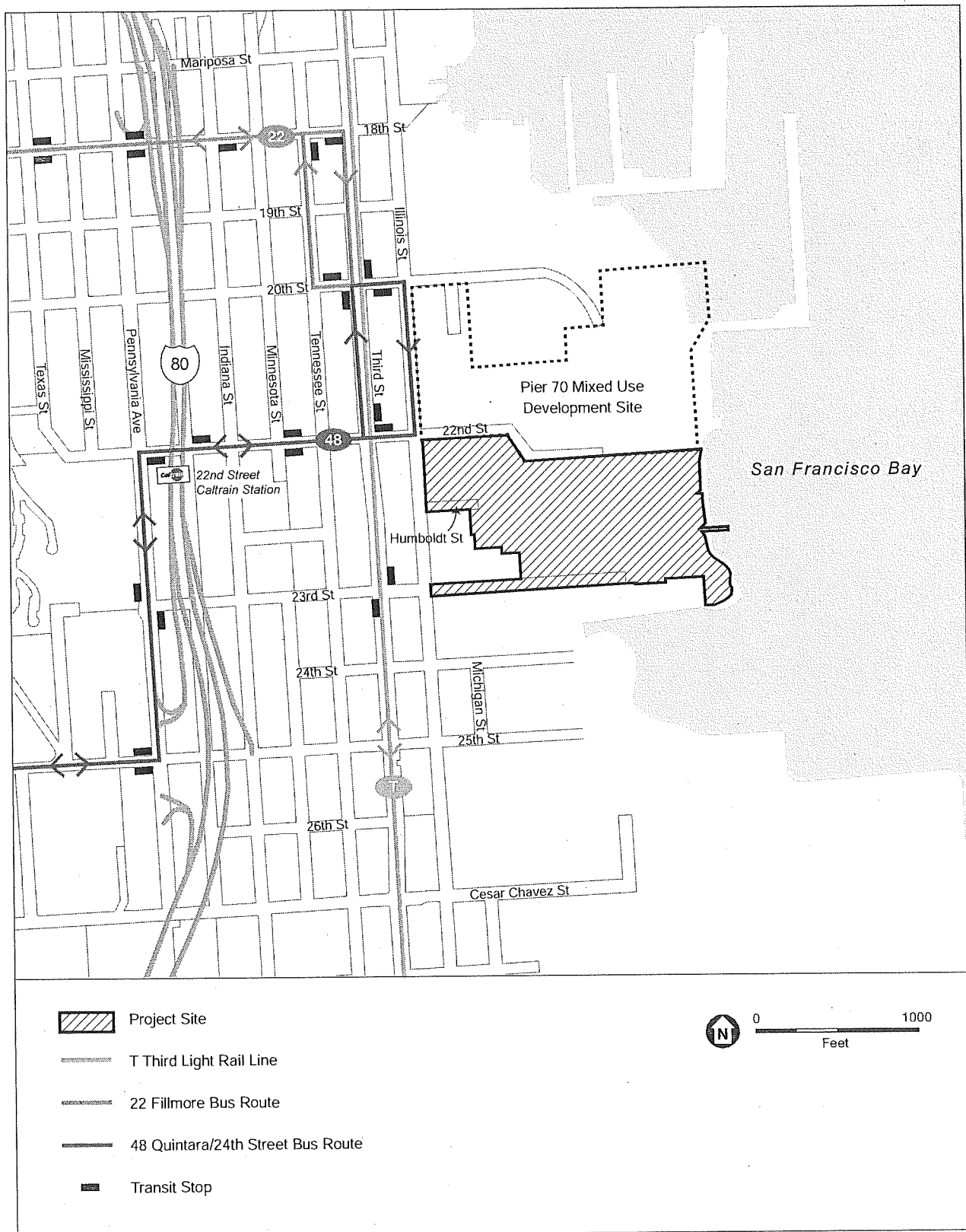
TABLE 4.E-2
DAILY VMT PER CAPITA - EXISTING CONDITIONS

Trip Type (Land Use)	Bay Area Regional Average	TAZ 559
Households (residential)	17.2	8.8
Employment (office)	19.1	14.6
Visitors (retail)	14.9	10.8

SOURCE: San Francisco Planning Department, Transportation Information Map, <http://www.sftransportationmap.org>.

Transit Service

Local transit service in San Francisco is provided by Muni, the transit division of the San Francisco Municipal Transportation Agency (SFMTA). Muni bus, cable car and light rail lines can be used to access regional transit operators. Service to and from the East Bay is provided by Bay Area Rapid Transit District (BART), AC Transit, and Water Emergency Transportation Authority (WETA) ferries; service to and from the North Bay is provided by Golden Gate Transit buses and ferries, as well as Blue & Gold, and WETA ferries; and service to and from the Peninsula and the South Bay is provided by Caltrain, SamTrans, BART, and WETA ferries. **Figure 4.E-2, Existing Transit Network**, illustrates the existing transit route network near the project site.



SOURCE: SFMTA, 2018

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Figure 4.E-2
Existing Transit Network

**TABLE 4.E-3
EXISTING MUNI ROUTES IN PROJECT VICINITY**

Line/Route	Headways ^a (in minutes)		General Hours of Operation	Neighborhoods Served
	AM Peak Period ^b	PM Peak Period ^b		
T Third	8	8	4:40 to 12:20 a.m.	Bayview Castro/Upper Market Chinatown Downtown/Civic Center Financial District Lakeshore Mission Noe Valley Ocean View Outer Mission Parkside Potrero Hill South of Market Twin Peaks Visitacion Valley West of Twin Peaks Western Addition
22 Fillmore	8	8	24 hours	Castro/Upper Market Marina Mission Pacific Heights Potrero Hill South of Market Western Addition
48 Quintara/ 24th Street	10	14	6:30 a.m. to 11:30 p.m.	Bayview, Bernal Heights, Castro/Upper Market, Diamond Heights, Lakeshore, Mission, Noe Valley Parkside Potrero Hill Twin Peaks West of Twin Peaks

NOTE:

^a Headway refers to the scheduled time interval between any two revenue transit vehicles operating in the same direction on a route.^b The AM peak period for Muni operations is between 7 a.m. and 10 a.m., and the p.m. peak period is between 3 p.m. and 6 p.m.

SOURCE: SFMTA, Advant Consulting/Fehr & Peers/LCW Consulting, 2018.

Local Muni Service

Muni service near the project site includes the T Third light rail line that runs along Third Street with stops at 20th, 23rd, and Marin streets, as well as the 22 Fillmore and 48 Quintara/Street bus routes.

Near the project site the T Third light rail operates in a semi-exclusive center median right-of-way with center platform stops at 20th and 23rd streets. The nearest bus stop to the project site for the 22 Fillmore is a curbside stop the north side of 20th Street between Third and Tennessee streets (i.e., traveling in the westbound direction). This stop is also a layover facility for the 22 Fillmore.

The nearest stop for the 48 Quintara/24th Street route is a pole stop on the north side of 22nd Street between Illinois and Third streets (i.e., traveling in the westbound direction).⁶

Regional Service

Regional Service Providers

East Bay

Transit service to and from the East Bay is provided by BART, AC Transit, and WETA. BART operates regional rail transit service between the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont) and San Francisco, and between San Mateo County (Millbrae and the San Francisco Airport) and San Francisco. The nearest BART stations to the project site are the

⁶ A pole stop (also referred to as a flag stop) is defined as a transit stop without a designated curbside zone and where parking is generally not restricted. Some pole stops are located on streets without parking, in which case the bus can either stop in the mixed-flow travel lane or pull over to the curb. At pole stops adjacent to on-street parking, all passengers must board and exit the bus in the street since the bus cannot pull to the curb.

24th Street station located 1.8 miles to the southwest of the project site and accessed via the 48 Quintara/24th Street bus route, and the 16th Street station located 1.9 miles to the northwest of the project site and accessed via the 22 Fillmore bus route). AC Transit is the primary bus operator for the East Bay, including Alameda and western Contra Costa counties. AC Transit operates 37 routes between the East Bay and San Francisco, all of which terminate at the new Transbay Transit Center. WETA ferries provide service to between San Francisco and Alameda and between San Francisco and Oakland from the Ferry Building. The Transbay Terminal and the Ferry Building can be accessed via the T Third light rail line.

South Bay

Transit service to and from the South Bay is provided by BART, SamTrans, Caltrain, and WETA. SamTrans provides bus service between San Mateo County and San Francisco, including 14 bus lines that serve San Francisco (12 routes serve the downtown area). In general, SamTrans service to downtown San Francisco operates along South Van Ness Avenue, Potrero Avenue, and Mission Street to the Transbay Terminal. SamTrans cannot pick up northbound passengers at San Francisco stops. Similarly, passengers boarding in San Francisco (and destined to San Mateo) may not disembark in San Francisco. SamTrans routes stop at the northbound and southbound bus stops on Mission Street. WETA ferries provide service between South San Francisco and the San Francisco Ferry Building, which can be accessed via the T Third light rail line.

Caltrain provides commuter heavy-rail passenger service between Santa Clara County and San Francisco. Caltrain currently operates 38 trains each weekday, with a combination of express and local service. Two Caltrain stations are located near the project site: the 22nd Street station (0.5 mile north of the project site) and the terminus at Fourth and King streets (1.5 miles northwest of the project site; approximately 30 percent of all the weekday trains stop at the 22nd Street station.

North Bay

Transit service to and from the North Bay is provided by Golden Gate Transit buses and ferries, and WETA ferries. Between the North Bay (Marin and Sonoma counties) and San Francisco, Golden Gate Transit operates 18 commuter bus routes, most of which serve the Van Ness Avenue corridor or the Financial District. Golden Gate Transit also operates ferry service between the North Bay and San Francisco. During the morning and evening peak periods, ferries run between Larkspur and San Francisco and between Sausalito and San Francisco. WETA ferries provide service between Vallejo and San Francisco.

Local and Regional Transit Analysis — Existing Conditions

Existing conditions for both Muni and regional transit service are evaluated using capacity utilization analysis. The capacity utilization analysis is conducted by calculating the existing capacity utilization (riders as a percentage of capacity) at the maximum load point, the point of greatest demand. Capacity utilization relates the number of passengers per transit vehicle to the design capacity of the vehicle. Section 4.E.4, below, under "Approach to Impact Analysis Methodology," presents the analytical methodology for the transit capacity utilization analysis.

Local Muni Service

A transit analysis was conducted for the T Third light rail line, and the 22 Fillmore and 48 Quintara/24th Street bus routes that serve the project vicinity. **Table 4.E-4, Muni Transit Route Analysis at the Maximum Load Point**, presents the capacity utilization analysis for the weekday a.m. and p.m. peak hour conditions at the maximum load point, for travel towards and away from the proposed project site. Muni's established capacity utilization standard for peak period operations is 85 percent. The 85 percent capacity utilization includes seated and standing passengers, so at 85 percent utilization all seats are taken and there are many standees. As indicated in Table 4.E-4, under existing conditions, capacity utilization for the bus routes during the two analysis periods is lower than Muni's 85 percent capacity utilization standard. The T Third light rail line currently operates at more than the 85 percent capacity utilization standard towards downtown (i.e., outbound from the project site) during the a.m. peak hour (Van Ness station has the maximum load point), and both towards and away from downtown during the p.m. peak hour (with the maximum load point in both directions at the platforms on The Embarcadero at Harrison Street).

TABLE 4.E-4
SAN FRANCISCO MUNICIPAL RAILWAY (MUNI) TRANSIT ROUTE ANALYSIS AT THE MAXIMUM LOAD POINT
EXISTING CONDITIONS – WEEKDAY A.M. AND P.M. PEAK HOUR

Peak Hour/Route ^a	Inbound (toward project site)			Outbound (from project site)		
	Ridership	Capacity	Capacity Utilization	Ridership	Capacity	Capacity Utilization
a.m. Peak Hour						
T Third ^b	519	793	65.4%	822	793	103.7%
22 Fillmore ^c	264	441	59.9%	313	504	62.1%
48 Quintara/24th Street ^d	237	315	66.1%	250	378	75.2%
p.m. Peak Hour						
T Third	945	793	119.2%	783	793	98.7%
22 Fillmore	342	567	60.3%	301	567	53.1%
48 Quintara/24th Street	158	315	50.2%	226	378	59.8%

NOTES:

^a Routes with capacity utilization that equals or exceeds Muni's 85 percent capacity utilization standard are highlighted in bold.

^b For the T Third the inbound direction towards the project site is from downtown and southbound on Third Street, and the outbound direction is northbound on Third Street towards downtown. Existing conditions do not reflect Central Subway service which would integrate into the T Third line. The Central Subway is scheduled to be operational in 2019.

^c For the 22 Fillmore route the inbound direction towards the project site is eastbound and southbound and the outbound direction is northbound and westbound. Conversely, for the 22 Fillmore route, Muni's designation of "inbound" is away from the project site, towards the Marina.

^d For the 48 Quintara/24th Street route the inbound direction towards the project site is eastbound and southbound and the outbound direction is northbound and westbound.

SOURCE: SFMTA, Fall 2015 Baseline Data, 2017.

Local Muni Facilities

There are three Muni vehicle storage and maintenance facilities near the project site -- the Woods and Islais Creek motor coach yards, and the Muni Metro East light rail yard.

The Woods motor coach facility consists of 8.2 acres and is located at 1095 Indiana Street on the two blocks bounded by 22nd, Tennessee, 23rd and Iowa streets, approximately 0.40 miles west of

the project site. The site currently accommodates about 250 30-foot and 40-foot long motor coaches and includes bus maintenance bays. Vehicles access the facility from Indiana Streets and Tubbs Street. The Islais Creek motor coach facility consists of 8.3 acres and is located at 1301 Cesar Chavez Street on the blocks bounded by Cesar Chavez Street, Indiana Street, I-280 and Islais Creek, approximately 0.6 miles southwest of the project site. The site currently accommodates about 165 40-foot and 60-foot long motor coaches and includes bus maintenance bays. Vehicles access the facility from two driveways on Indiana Street. The Muni Metro East light rail vehicle facility consists of 16.9 acres and is located at 601 25th Street on the blocks bounded by Illinois Street, 25th Street, Cesar Chavez Street and Pier 80, approximately 0.2 miles south of the project site. The site currently accommodates about 125 light rail and historic streetcar vehicles and includes rail car maintenance bays. The Muni Metro East site also includes an expansion area. Vehicles access the facility via the intersection of Illinois Street/25th Street and at a driveway on Cesar Chavez Street.

Peak period vehicle (including autos, trucks and buses), bicycle and pedestrian counts were conducted on October 5, 2017 at the driveways to the three Muni facilities during two three-hour periods, from 6 a.m. to 9 a.m. and from 3 p.m. to 6 p.m., to determine overall vehicle (including transit), pedestrian and bicycle activity at the sites during the peak periods. At all three facilities, the peak hour of transit vehicle activity was generally between 6 a.m. and 7 a.m. during the three-hour morning period, and between 3 p.m. and 4 p.m. during the three-hour evening period. A summary of the peak hour volumes at the driveways is included in Appendix C. In general, the peak period for buses leaving the Muni yards to access their routes is between 4 a.m. and 7 a.m., with the majority leaving between 5 a.m. and 6 a.m. Buses generally return to the yard in the evening between 7 p.m. and 9 p.m. Thus, the majority of peak hour transit vehicle access to and from the three facilities occurs prior to the a.m. peak hour for adjacent street traffic, which is generally between 8 a.m. and 9 a.m. and after the p.m. peak hour, which is generally between 5 p.m. and 6 p.m.

- At the Woods facility, approximately 30 buses entered, and 52 buses exited the facility between 6 a.m. and 7 a.m., and eight buses entered and ten buses exited the facility between 3 p.m. and 4 p.m. Most buses traveled on Indiana and Tennessee streets south of Tubbs Street to and from the facility; only one bus during the a.m. peak hour and three buses during the p.m. peak hour traveled north towards 22nd Street. In addition, there were 13 buses during the a.m. peak hour and two buses during the p.m. peak hour that crossed Indiana Street between the west and east portions of the facility.
- At the Islais Creek facility, one bus entered and 25 buses exited the facility between 8 a.m. and 9 a.m., and one bus entered and 14 buses exited the facility between 3 p.m. and 4 p.m.
- At the Muni Metro East facility, 20 light rail vehicles exited the Muni Metro East facility between 6 a.m. and 7 a.m., and one light rail vehicle exited between 3 p.m. and 4 p.m.

At all three facilities, in addition to the transit vehicle activity described above, there were between 10 and 20 automobiles entering and exiting each site during the peak hours. The number of bicyclists and people walking adjacent to these sites during the two survey periods is very low (fewer than two bicyclists and five people walking per hour, with the exception of at the Woods

facility where there were about 50 people walking, presumably Muni employees accessing the facility), and no conflicts between vehicles accessing the facilities with pedestrians or bicyclists were observed.

Regional Transit

The assessment of regional transit conditions for proposed projects in San Francisco is typically performed by analyzing the ability of regional transit (BART, AC Transit, Golden Gate Transit, SamTrans, Caltrain, and ferry service) to accommodate additional riders.⁷ For the purposes of this analysis, the ridership and capacity at the three regional screenlines was identified for the peak direction of travel and passenger loads, which corresponds with the morning commute in the inbound direction from the region to downtown San Francisco, and with the evening commute in the outbound direction from downtown San Francisco to the region. For all regional transit operators, the capacity is based on the number of seated passengers per vehicle. All of the regional transit operators have a one-hour load factor standard of 100 percent, which would indicate that all seats are full.

As indicated in Table 4.E-5, **Regional Transit Screenline Analysis**, with the exception of BART, all regional transit providers operate at less than their load factor standards during the a.m. and p.m. peak hours. BART ridership capacity utilization in the inbound direction to San Francisco during the a.m. peak hour and in the outbound direction from San Francisco during the p.m. peak hour exceeds the 100 percent capacity utilization standard, which indicates that all seats are occupied and many passengers are standing.

Walking/Access Conditions

There are limited pedestrian facilities, such as sidewalks, within the project site. On the north side of 23rd Street, sidewalks ranging between 12 and 24 feet in width extend about 550 feet east of Illinois Street; there are no sidewalks on the remaining portion of 23rd Street to the east. There are no sidewalks on the south side of 23rd Street east of Illinois Street. On the south side of the street, 90-degree parking is provided for about 400 feet (about forty 90-degree parking spaces, and three parallel spaces), and east of that there are loading facilities associated with the Storage San Francisco and the DHL Express facilities.

Along Illinois Street between 22nd and 23rd streets, sidewalks ranging between 12 and 14 feet in width are provided on both sides of the street. However, the sidewalk on the east side of Illinois Street between 22nd and 23rd streets (i.e., adjacent to the project site) is asphalt, in poor condition, and sloped downward from east to west.

⁷ The concept of screenlines is used to describe the magnitude of travel to or from the greater downtown area, and to compare estimated transit ridership to available capacities. Screenlines are hypothetical lines that would be crossed by persons traveling between downtown and its vicinity and other parts of San Francisco and the region.

TABLE 4.E-5
REGIONAL TRANSIT SCREENLINE ANALYSIS – EXISTING CONDITIONS –WEEKDAY A.M AND P.M. PEAK HOURS

Regional Screenline/ Provider	a.m. Peak Hour Inbound Screenlines (to San Francisco)			p.m. Peak Hour Outbound Screenlines (from San Francisco)		
	Ridership	Capacity	Capacity Utilization ^a	Ridership	Capacity	Capacity Utilization
East Bay						
BART	25,399	23,256	109.2%	24,488	22,784	107.5%
AC Transit	1,568	2,829	55.4%	7,037	3,926	57.5%
Ferries	810	1,170	69.2%	5,337	1,615	49.8%
East Bay Subtotal	27,777	27,255	101.9%	27,549	28,325	97.3%
North Bay						
Buses	1,330	2,543	52.3%	1,384	2,817	49.1%
Ferries	1,082	1,959	55.2%	968	1,959	49.4%
North Bay Subtotal	2,412	4,502	53.6%	2,352	4,776	49.2%
South Bay						
BART	14,150	19,367	73.1%	13,500	18,900	71.4%
Caltrain	2,171	3,100	70.0%	2,377	3,100	76.7%
SamTrans	255	520	49.0%	141	320	44.1%
Ferries	0	0	0.0%	0	0	0.0%
South Bay Subtotal	16,576	22,987	72.1%	16,018	22,320	71.8%
Regional Total	46,765	54,744	85.4%	45,919	55,421	82.9%

NOTES:

^a Capacity utilization exceeding 100 percent highlighted in bold.

SOURCE: SF Planning Department Memoranda, Transit Data for Transportation Impact Studies, May 2015 and Updated BART Regional Screenlines, October 2016.

There are no sidewalks on Humboldt Street or on 22nd Street east of Illinois Street. There are no traffic signals at the intersection of Illinois Street/22nd Street; however, marked crosswalks and curb ramps are provided. There are no sidewalks on either side of 22nd Street, east of Illinois Street. The intersection of Illinois Street/Humboldt Street is a T intersection, although it operates as a driveway with the east crosswalk of Illinois Street continuing through the intersection without a grade change. At this intersection there are no curb ramps or crosswalk markings. Humboldt Street currently primarily provides vehicular access to PG&E facilities and the project site, and there is very limited pedestrian activity on Humboldt Street.

Along Third Street, the sidewalk network is complete, with sidewalks generally 10 feet wide (wider at locations where new buildings have been set back). Intersections along Third Street are signalized, with pedestrian countdown signal heads with a leading pedestrian interval,⁸ and all corners have ramps that comply with the Americans with Disabilities Act,⁹ referred to as ADA

⁸ A leading pedestrian interval is a signal phase at signalized intersections that typically provides pedestrians a 3 to 5-second head start when entering an intersection with a corresponding green signal in the same direction of travel. For vehicle drivers the leading pedestrian intervals make it easier to see people walking in the intersection and reinforce their right-of-way over turning vehicles.

⁹ The Americans with Disabilities Act (ADA) became law in 1990. The act is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public (e.g., streets and sidewalks).

compliant ramps. On Third Street, the northbound light rail stop is located within the median north of 23rd Street, while the southbound light rail stop is located south of 23rd Street. East of Third Street, the walking network is incomplete, and many streets have missing or substandard sidewalks, limited crosswalks, and largely industrial or auto-centric land uses. Vehicles parked perpendicular to buildings often obstruct people walking through so individuals have to step off the sidewalk and walk in the travel lanes.

Counts of people walking within the crosswalks at the 30 study intersections (see Figure 4.E-1, p. 4.E-2, above) were conducted as part of the a.m. and p.m. peak period traffic volume counts conducted in October 2017 and April 2018. Walking activity near the project site is low, and is related primarily to employees and visitors to the various industrial and light industrial uses (e.g., trips to and from parked vehicles, deliveries). Near the project site, the volume of people walking is generally greater during the p.m. peak hour than during the a.m. peak hour, and ranges between three and 110 pedestrians per hour at the crosswalks at the study intersections near the project site. **Table 4.E-6, Pedestrian Crosswalk Volumes – Existing Conditions, A.M. and P.M. Peak Hours**, presents the volumes of people crossing at the study intersections nearest the project site; at the intersections of Third Street and Illinois Street with 22nd and 23rd streets. During both the a.m. and p.m. peak hours, there are many more people walking on Third Street than Illinois Street.

TABLE 4.E-6
PEDESTRIAN CROSSWALK VOLUMES – EXISTING CONDITIONS, WEEKDAY A.M. AND P.M. PEAK HOURS

Intersection/Crosswalk Location	a.m. Peak Hour Pedestrians per Hour	p.m. Peak Hour Pedestrians per Hour
<i>Illinois Street/22nd Street</i>		
North	13	35
South	3	23
East	9	14
West	28	31
<i>Illinois Street/23rd Street</i>		
North	34	18
South	15	10
East	13	12
West	15	26
<i>Third Street/22nd Street</i>		
North	45	111
South	35	86
East	42	90
West	38	104
<i>Third Street/23rd Street</i>		
North	32	41
South	10	35
East	30	46
West	12	52

NOTES:

^a All pedestrian counts conducted in October 2017. All study intersection locations and volumes from a.m. and p.m. period counts included in Appendix C.

SOURCE: Advant Consulting/Fehr & Peers/LCW Consulting, 2018.

Moderate concentrations of pedestrian volumes (i.e., around 20 to 100 pedestrians per hour) were also observed at bus stop locations and at the Third Street light rail station. Field observations conducted in March 2018 indicated no incidents of overcrowding on the sidewalks or at the platforms or bus stops near the project area.

Bicycle Conditions

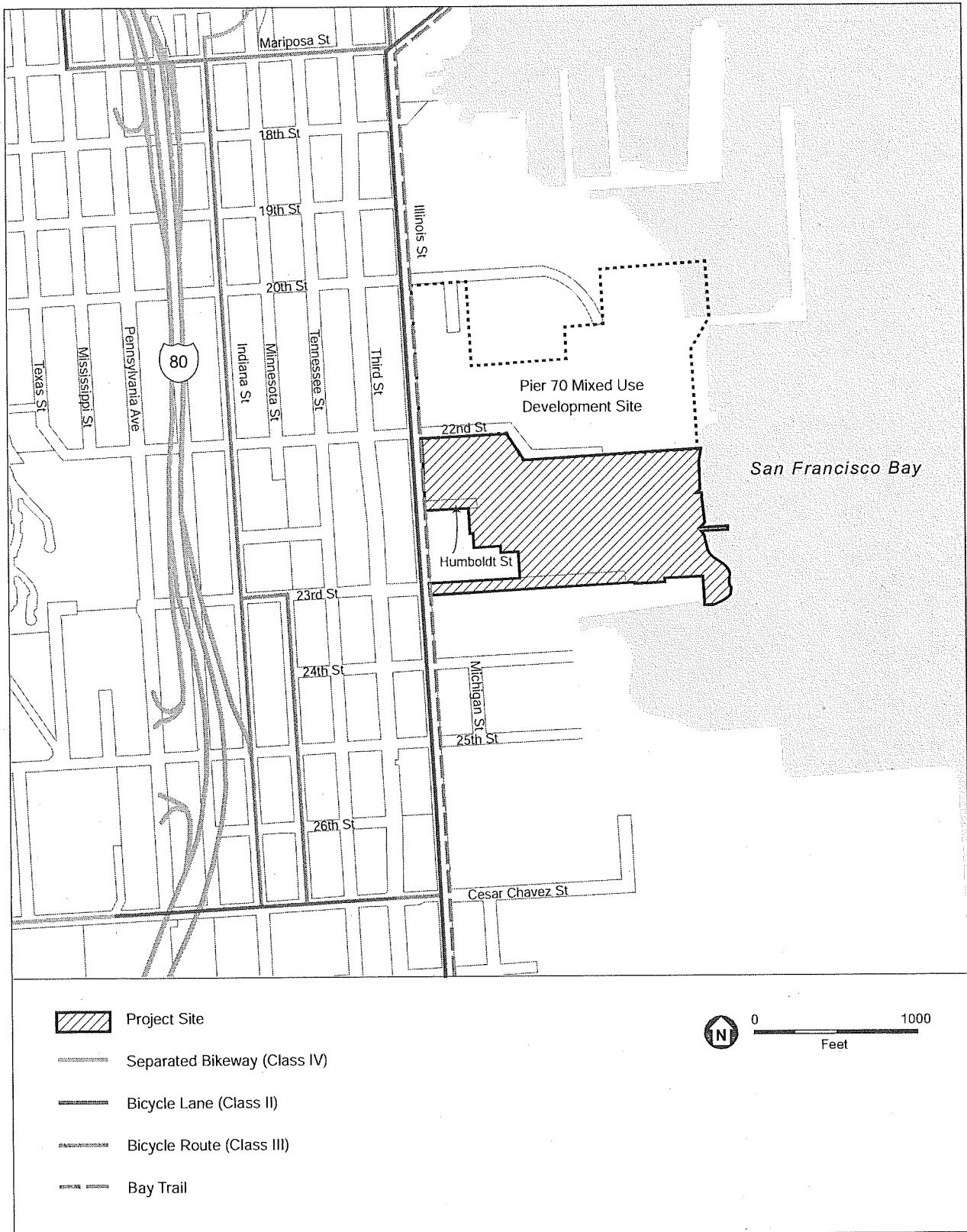
The study area in the vicinity of the project site is flat, with minimal changes in grades, facilitating bicycling within and through the area. However, to the west of Pennsylvania Avenue, the change in grade associated with the Potrero Hill and the U.S. 101 freeway create discontinuities in the east-west roadway network. There are several bicycle routes near the project site. These include city routes that are part of the San Francisco Bicycle Network and regional routes that are part of the San Francisco Bay Trail system. **Figure 4.E-3, Existing Bicycle Network**, identifies the bicycle facilities within the study area. Bicycle facilities are typically classified as class I, class II, class III or class IV facilities.¹⁰ Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists and pedestrians. Class II bikeways are bicycle lanes striped within the paved areas of roadways and established for the preferential use of bicycles. They include a striped, marked and signed bicycle lane buffered from vehicle traffic. These facilities are located on roadways and reserve 4 to 5 feet of space exclusively for bicycle traffic. Class III bikeways are signed bicycle routes that allow bicyclists to share travel lanes with vehicles, and may include sharrows markings. A class IV bikeway is an exclusive bicycle facility that is separated and protected from vehicular traffic and parked cars by a buffer zone (sometimes referred to as a cycle track).

Class II bicycle lanes currently run both ways on Illinois Street and Terry A. Francois Boulevard. A pending realignment of Terry A. Francois Boulevard in 2018-2019 will include two-way protected bicycle lanes (class IV facility) on the east side of the street. Class II bicycle lanes also run on both sides of 16th Street between Illinois and Seventh streets. West of Seventh Street, the bicycle lanes shift to 17th Street via Mississippi Street. At completion of the Chase Center project (i.e., Warriors arena) in 2019, a class II bicycle lane will be provided in each direction of 16th Street between Illinois Street and Terry A. Francois Boulevard.

As shown on Figure 4.E-3, class III facilities (shared lane bicycle routes) are located on portions of Mariposa, Indiana, 23rd, and Minnesota streets. The SFMTA, as part of the Central Indiana Bikeway Connection Project, will be implementing improvements to bicycle facilities on Indiana Street in 2018 to provide protected bicycle facilities (see "Cumulative Transportation Network Changes" p. 4.E-54 under "Approach to Analysis," below). In addition, a class III facility is provided on Cesar Chavez Street between Illinois and Third streets, and class II bicycle lanes or class IV protected bikeways are provided on Cesar Chavez Street west of Third Street.

Figure 4.E-3 also shows the San Francisco Bay Trail. The San Francisco Bay Trail is designed to create recreational pathway links to the commercial, industrial and residential neighborhoods that abut San Francisco Bay. In addition, the trail connects points of historic, natural, and cultural interest as well as recreational areas such as beaches, marinas, fishing piers, boat launches, and numerous parks

¹⁰ Bicycle facilities are defined by the State of California in the California Streets and Highway Code section 890.4.



SOURCE: SFMTA, 2018

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Figure 4.E-3
Existing Bicycle Network

and wildlife preserves. At various locations, the Bay Trail consists of paved multi-use paths, dirt trails, bicycle lanes, sidewalks or city streets signed as bicycle routes. In the project vicinity, the Bay Trail currently runs as an on-street segment along Illinois Street between Cargo Way and Terry A. Francois Boulevard, where it continues north as a paved path along the shoreline within the area currently being developed as part of the Mission Bay Plan as the Bayfront Park.

Table 4.E-7, Bicycle Volumes – Existing Conditions, A.M. and P.M. Peak Hours, presents the existing hourly bicycle volumes on streets in the study area. Bicycle volume counts were conducted at the 30 study intersections during the a.m. and p.m. peak periods in October 2017 and April 2018. Near the project site, the highest bicycle volumes during the peak hours were observed within the bicycle lanes on Illinois Street (between 10 and 60 bicyclists per hour in each direction), although some bicyclists were observed riding on the sidewalks and within the mixed-flow lanes of Third Street (between four and 16 bicyclists per hour in each direction). Existing bicycle volumes on 23rd Street east of Illinois Street are very low (fewer than five bicyclists during the peak hours). In general, bicycle conditions were observed to be operating at acceptable conditions, however, existing construction activities on Illinois Street as part of the SFMTA Mission Bay Loop project (anticipated to be completed by 2019) impeded bicycle travel through the construction zone.

TABLE 4.E-7
BICYCLE VOLUMES – EXISTING CONDITIONS, WEEKDAY A.M. AND P.M. PEAK HOURS

Segment	a.m. Peak Hour Bicyclists per hour	p.m. Peak Hour Bicyclists per hour
Illinois Street between 20th and 22nd Streets		
Northbound	63	28
Southbound	14	47
Illinois Street between Humboldt and 23rd Streets		
Northbound	62	23
Southbound	13	48
Illinois Street between 24th and 25th Streets		
Northbound	58	21
Southbound	12	41
Third Street between 22nd and 23rd Streets		
Northbound	4	4
Southbound	10	14
Indiana Street between 22nd and 23rd Streets		
Northbound	19	8
Southbound	8	15
Indiana Street between 23rd and 25th Streets		
Northbound	20	6
Southbound	0	5
23rd Street east of Illinois Street		
Westbound	1	2
Eastbound	3	0

NOTES:

^a All bicycle counts conducted in October 2017. All study intersection locations and volumes from a.m. and p.m. period counts included in Appendix C.

SOURCE: Advant Consulting/Fehr & Peers/LCW Consulting, 2018.

There are no on-street (i.e., class 2 bicycle parking) bicycle racks on 23rd Street or on the east side of Illinois Street adjacent to the project site. On the west side of Illinois Street, and on 22nd Street between Third and Illinois streets, there are a few bicycle racks. On Third Street there are bicycle racks on the sidewalk, as well as a bicycle corral within the parking lane at the entrance to the Museum of Craft and Design at 2501 Third Street. The closest bike share stations are located at the Caltrain station at 22nd and Iowa streets, and at Esprit Park at 19th and Minnesota streets.

Loading Conditions

Commercial Vehicle Loading

Commercial loading activities for existing land uses on the project site occur within the site and are not conducted on-street on 23rd Street or Illinois Street. The project site is currently fenced, and gated access is provided about 900 feet east of Illinois Street.

There are no marked on-street commercial loading spaces on 23rd Street east of Illinois Street. However, on the south side of the street, east of where 90-degree on-street parking is currently permitted, there are loading docks fronting 23rd Street for the Storage San Francisco and the DHL Express facilities. Here the docks are flush with the outside wall of the building, and trucks park perpendicular to the building. During daytime field surveys, some trucks were observed to utilize these docks; however, trucks were also observed entering the onsite parking area and accessing the facilities from within the sites. Trucks were also observed parking parallel to the loading docks with loading/unloading activities occurring adjacent to the docks.

On Illinois Street, there are no on-street commercial loading spaces on either side of the street between 22nd and 23rd streets. On the west side of the street between 22nd and 23rd streets, there are 11 loading bays primarily serving the ground floor tenants within the south building of the American Industrial Center, a large, multi-tenant light industrial building that occupies the majority of the block bounded by 22nd, Illinois, 23rd, and Third streets. These bays are interior to the building. Larger trucks are not always accommodated with the bay, and trucks extend partially onto the sidewalk, although they do not impede pedestrian travel on the sidewalk (sidewalks are about 14 feet wide). On the southern portion of the block there is an accessory surface parking facility for the American Industrial Center for private vehicle parking and vehicle parking and staging for tenants of the building. There are also off-street loading docks primarily serving the upper floors of the building. These loading docks accommodate larger trucks (e.g., semi-tractor trailers) and access to the off-street loading area is from Illinois Street.

On Third Street in the vicinity of the project site, on-street parking is limited, and on-street commercial loading spaces are not provided. The American Industrial Center building has some off-street loading docks with access from Third Street, but their number and use are limited. To the west of Third Street, the area is substantially industrial, and loading activities occur within the structures, within the off-road areas adjacent to the buildings, and on-street.

Passenger Loading

There are no on-street passenger loading/unloading zones adjacent to or near the project site.

Parking Conditions

Existing on-street parking supply and occupancy were examined within the parking study area bounded by 20th Street to the north, Indiana Street to the west, 25th Street to the south, and San Francisco Bay to the east. Surveys were conducted in October 2017 for weekday midday (12 p.m. to 2 p.m.) and evening (6 p.m. to 8 p.m.) conditions. **Table 4.E-8, Parking Study Area On-Street Parking Supply and Occupancy**, presents the summary of on-street parking supply and occupancy by block. Detailed parking supply and occupancy information are included in Appendix C. Overall, there are about 1,600 on-street parking spaces within the parking study area, of which about 75 percent were generally unrestricted at the time of the surveys. On some streets overnight parking is not permitted. The average on-street parking occupancy for the parking study area is about 84 percent during the midday period, and it decreases to about 55 percent during the evening period.

TABLE 4.E-8
PARKING STUDY AREA ON-STREET PARKING SUPPLY AND OCCUPANCY

Study Area Street ^a	Supply	Midday		Evening	
	Spaces	Occupied	%	Occupied	%
20th Street	84	66	79%	50	60%
22nd Street	135	124	92%	78	58%
23rd Street	214	170	79%	90	42%
24th Street	116	94	81%	53	46%
25th Street	98	75	77%	27	28%
Indiana Street	156	138	88%	105	67%
Minnesota Street	220	180	82%	103	47%
Tennessee Street	237	210	89%	161	68%
Third Street	100	80	80%	64	64%
Illinois Street	177	168	95%	117	66%
Michigan Street	41	28	68%	15	37%
Total	1,578	1,333	84%	863	55%

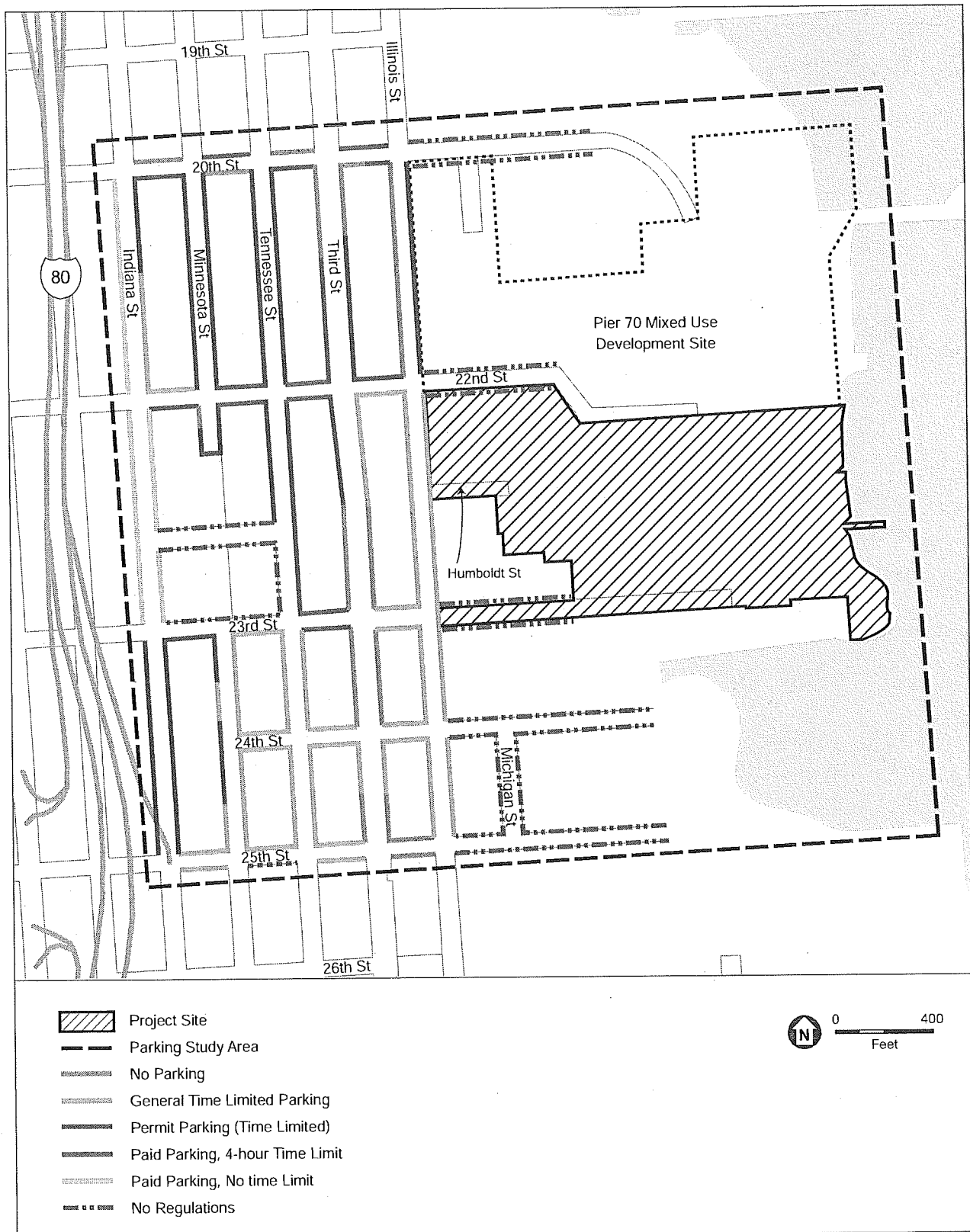
NOTES

^a Parking study area bounded by 20th Street, Indiana Street, 25th Street, and San Francisco Bay. Surveys conducted in October 2017.

SOURCE: Advant Consulting/Fehr & Peers/LCW Consulting, 2018.

The SFMTA recently implemented the Dogpatch Parking Management Plan.¹¹ Elements of the plan included revisions to on-street parking regulations and time limits, as well as creation of a new Residential Permit Parking Area “EE” that was created to expand the existing Residential Permit Parking Area “X”. **Figure 4.E-4, Existing On-Street Parking Regulations**, presents the current on-street parking regulations implemented as part of the Dogpatch Parking Management Plan. Near the project site, general parking is permitted on Illinois and Third streets, however, with a four-hour time

¹¹ The Dogpatch Parking Management Plan was approved by the SFMTA Board on April 17, 2018. The signs and meters were installed in August 2018, and enforcement began in September 2018. Email from Kathryn Studwell, SFMTA Program Manager, Residential Parking Policy, Sustainable Streets to Luba Wyznyckyj, LCW Consulting, August 16, 2018.



SOURCE: SFMTA, 2018

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Figure 4.E-4
Existing On-Street Parking Regulations

limit. It is anticipated that with implementation of the new regulations, vehicles would be parked for shorter periods, which will increase the number of spaces available for short-term parking throughout the day, by promoting more vehicle turnover. Therefore, the parking occupancies identified in Table 4.E-8 above could be lower on some streets.

Within the parking study area, there is one off-street public parking facility located on the southeast corner of the intersection of Illinois Street/20th Street. This surface parking lot contains about 175 parking spaces, and during field surveys in April 2018, was about 95 percent occupied during the weekday midday period and less than 60 percent occupied during the evening period. This parking lot is within the Pier 70 Mixed-Use District project site and will be removed once construction for the Pier 70 development starts. In addition to this off-street public parking facility, there are a number of private off-street surface parking lots supporting the industrial uses in the area.

Emergency Access Conditions

The project site has frontages on three streets – 23rd Street, Illinois Street, and 22nd Street. Emergency access to the project site via 22nd, Humboldt, and 23rd streets is primarily from Third Street, which has two travel lanes each way, and from Illinois Street, which has one travel lane each way. The nearest fire stations to the project site are: Station 25 at Third Street and Cargo Way (about 0.7 mile south of the project site), Station 4 at Mission Rock Street between Third Street and Terry A. Francois Boulevard (about 1.2 miles north of the project site), Station 29 at 299 Vermont Street between 15th and 16th streets (about 1.3 miles northwest of the project site), and Station 37 at Wisconsin Street at 22nd Street (about 0.7 mile west of the project site). The project site is located within the Bayview Police District, and the Bayview station is located at 201 Williams Avenue (about 2.0 miles southwest of the project site).

4.E.3 Regulatory Framework

This section summarizes the plans and policies of the City and County of San Francisco and regional and state agencies that have policy and regulatory control over the project site. There are no federal regulations that address transportation impacts associated with the project.

State Regulations

CEQA Section 21099(b)(1) (Senate Bill 743)

CEQA section 21099(b)(1) requires that the State Office of Planning and Research develop revisions to the CEQA Guidelines establishing criteria for determining the significance of transportation impacts of projects that “promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.” CEQA section 21099(b)(2) states that upon certification of the revised guidelines for determining transportation impacts pursuant to section 21099(b)(1), automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment under CEQA.

In January 2016, the Office of Planning and Research published for public review and comment a Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA recommending that transportation impacts for projects be measured using a VMT metric.¹² On March 3, 2016, based on compelling evidence in that document and on the City's independent review of the literature on level of service and VMT, the San Francisco Planning Commission adopted the Office of Planning and Research's recommendation to use the VMT metric instead of automobile delay to evaluate the transportation impacts of projects (resolution 19579). (Note: The VMT metric does not apply to the analysis of impacts on non-automobile modes of travel such as riding transit, walking, and bicycling.)

Regional Regulations

Water Emergency Transportation Authority's Water Transportation System Management Plan

WETA is a regional agency authorized by the state to operate a comprehensive San Francisco Bay Area public water transit system. In 2009, the WETA adopted the Emergency Water Transportation System Management Plan, which complements and reinforces other transportation emergency plans that will enable the Bay Area to restore mobility after a regional disaster.

San Francisco Bay Trail Plan

The Association of Bay Area Governments administers the San Francisco Bay Trail Plan (Bay Trail Plan). The Bay Trail is a multi-purpose recreational trail that, when complete, would encircle San Francisco Bay and San Pablo Bay with a continuous 500-mile network of bicycling and hiking trails. To date, more than 350 miles of the alignment have been completed. The 2005 Gap Analysis Study, prepared by the association for the entire Bay Trail area, attempted to identify the remaining gaps in the Bay Trail system; classify the gaps by phase, county, and benefit ranking; develop cost estimates for individual gap completion; identify strategies and actions to overcome gaps; and present an overall cost and timeframe for completion of the Bay Trail system.

Local Regulations and Plans

Transit First Policy

In 1998, the San Francisco voters amended the City Charter (charter article 8A, section 8A.115) to include a Transit First Policy, which was first articulated as a City priority policy by the San Francisco Board of Supervisors in 1973. The Transit First Policy is a set of principles that underscore the City's commitment that travel by transit, bicycle, and foot be given priority over the private automobile. These principles are embodied in the policies and objectives of the Transportation Element of the San Francisco General Plan. All City boards, commissions, and departments are required, by law, to implement transit-first principles in conducting City affairs.

¹² OPR, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA, Implementing Senate Bill 743* (Steinberg, 2013), January 20, 2016.

Vision Zero Policy

Vision Zero is San Francisco's road safety policy.¹³ The City adopted Vision Zero as a policy in 2014, committing to build better and safer streets, educate the public on traffic safety, enforce traffic laws, and adopt policy changes that save lives. The objective is to create a culture that prioritizes traffic safety and to ensure that mistakes on roadways do not result in serious injuries or death. The goal of this collaborative citywide effort will be safer, more livable streets as San Francisco works to eliminate traffic fatalities by 2024.

San Francisco General Plan

The Transportation Element of the San Francisco General Plan is composed of objectives and policies that relate to the eight aspects of the citywide transportation system: General Regional Transportation, Congestion Management, Vehicle Circulation, Transit, Pedestrian, Bicycles, Citywide Parking, and Goods Management. The Transportation Element references San Francisco's Transit First Policy in its introduction and contains objectives and policies that are directly pertinent to consideration of the proposed project, including objectives related to locating development near transit investments, encouraging transit use, and traffic signal timing to emphasize transit, pedestrian, and bicycle traffic as part of a balanced multimodal transportation system. The San Francisco General Plan also emphasizes alternative transportation through positioning of building entrances, making improvements to the pedestrian environment, and providing safe bicycle parking facilities.

Objectives and policies in the Transportation Element that pertain to the proposed project include the following:

- **Objective 2:** Use the transportation system as a means for guiding development and improving the environment.

Policy 2.1: Use rapid transit and other transportation improvements in the city and region as the catalyst for desirable development and coordinate new facilities with public and private development.

Policy 2.4: Organize the transportation system to reinforce community identity, improve linkages among interrelated activities, and provide focus for community activities.

Policy 2.5: Provide incentives for the use of transit, carpools, vanpools, walking, and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.

Policy 2.6: Provide for a balanced, multimodal transportation system that is consistent with the planned land use and the local and regional transportation system.

- **Objective 8:** Maintain and enhance regional pedestrian, hiking, and biking access to the coast, the Bay, and ridge trails.

Policy 8.1: Ensure that the Coast Trail, Bay Trail, and Ridge Trail remain uninterrupted.

¹³ Additional information on Vision Zero available at <http://visionzerosf.org/about/what-is-vision-zero/>.

Policy 8.2: Clearly identify the citywide pedestrian and bicycle networks where they intersect with the Coast, Bay, and Ridge Trails.

- **Objective 11:** Establish public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality.

Policy 11.3: Encourage development that efficiently coordinates land use with transit service, requiring that developers address transit concerns as well as mitigate traffic problems.

- **Objective 14:** Develop and implement a plan for operational changes and land use policies that will maintain mobility and safety, despite a rise in travel demand that could otherwise result in system capacity deficiencies.

Policy 14.2: Ensure that traffic signals are timed and phased to emphasize transit, pedestrian, and bicycle traffic as part of a balanced multimodal transportation system.

Policy 14.3: Improve transit operation by implementing strategies that facilitate and prioritize transit vehicle movement and loading.

Policy 14.4: Reduce congestion by encouraging alternatives to the single-occupancy auto through the reservation of right-of-way and enhancement of other facilities dedicated to multiple modes of transportation.

Policy 14.7: Encourage the use of transit and other alternative modes of travel to the private automobile through the positioning of building entrances and the convenient location of support facilities that prioritizes access from these modes.

- **Objective 16:** Develop and implement programs that will efficiently manage the supply of parking at employment centers throughout the city so as to discourage single-occupant ridership and encourage ridesharing, transit and other alternatives to the single-occupant automobile.

Policy 16.1: Reduce parking demand through the provision of comprehensive information that encourages the use of alternative modes of transportation.

Policy 16.5: Reduce parking demand through limiting the absolute amount of spaces and prioritizing the spaces for short-term and ride-share uses.

Policy 16.3: Reduce parking demand through the provision of incentives for the use of carpools and vanpools at new and existing parking facilities throughout the City.

Policy 16.6: Encourage alternatives to the private automobile by locating public transit access and ride-share vehicle and bicycle parking at more close-in and convenient locations on-site, and by locating parking facilities for single-occupant vehicles more remotely.

- **Objective 19:** Establish a street hierarchy system in which the function and design of each street are consistent with the character and use of the adjacent land.

Policy 19.2: Design streets for a level of traffic that serves, but will not cause a detrimental impact on, adjacent land uses or eliminate the efficient and safe movement of transit vehicles and bicycles.

Policy 19.5: Mitigate and reduce impacts of automobile traffic in and around parks and along shoreline recreation area.

- **Objective 24:** Improve the city's pedestrian circulation system to provide for efficient, pleasant, and safe movement.

Policy 24.1: Every surface street in San Francisco should be designed consistent with the Better Streets Plan for safe and convenient walking, including sufficient and continuous sidewalks and safe pedestrian crossings at reasonable distances to encourage access and mobility for seniors, people with disabilities and children.

Policy 24.2: Widen sidewalks where intensive commercial, recreational, or institutional activity is present and where residential densities are high.

Policy 24.3: Maintain a strong presumption against reducing sidewalk widths, eliminating crosswalks, and forcing indirect crossings to accommodate automobile traffic.

Policy 24.6: Ensure convenient and safe pedestrian crossings by minimizing the distance pedestrians must walk to cross a street.

- **Objective 25:** Improve the ambiance of the pedestrian environment.

Policy 25.2: Maintain and expand the planting of street trees and the infrastructure to support them.

Policy 25.3: Install pedestrian-serving street furniture where appropriate.

- **Objective 29:** Ensure that bicycles can be used safely and conveniently as a primary means of transportation, as well as for recreational purposes.

Policy 29.5: Make available bicycle route and commuter information and encourage increased use of bicycle transportation.

Policy 29.8: Encourage biking as a mode of travel through the design of safer streets. Educational programs and targeted enforcement.

Policy 29.9: Identify and expand recreational bicycling opportunities.

- **Objective 30:** Provide secure and convenient parking facilities for bicycles.

Policy 30.1: Provide secure bicycle parking in new governmental, commercial, and residential developments.

Policy 30.3: Provide parking facilities which are safe, secure, and convenient.

- **Objective 32:** Ensure that the provision of new or enlarged parking facilities does not adversely affect the livability and desirability of the city and its various neighborhoods.

Policy 32.1: Assure that new or enlarged parking facilities meet need, locational, and design criteria.

Policy 32.5: In any large development, allocate a portion of the provided off-street parking spaces for compact automobiles, vanpools, bicycles, and motorcycles commensurate with standards that are, at a minimum, representative of their proportion of the city's vehicle population.

Policy 32.8: Consider lowering the number of automobile parking spaces required in buildings where class 1 bicycle parking is provided.

- **Objective 36:** Relate the amount of parking in residential areas and neighborhood commercial districts to the capacity of the city's street system and land use patterns.

Policy 36.1: Regulate off-street parking in new housing so as to guarantee needed spaces without requiring excesses and to encourage low auto ownership in neighborhoods that are well served by transit and are convenient to neighborhood shopping.

Policy 36.3: Permit minimal or reduced off-street parking for new buildings in residential and commercial areas adjacent to transit centers and along transit preferential street.

- **Objective 37:** Meet short-term parking needs in neighborhood shopping districts consistent with preservation of a desirable environment for pedestrians and residents.

Policy 37.1: Provide convenient on-street parking specifically designed to meet the needs of shoppers dependent upon automobiles.

Policy 37.2: Assure that new neighborhood shopping district parking facilities and other auto-oriented uses meet established guidelines.

- **Objective 42:** Enforce a parking and loading strategy for freight distribution to reduce congestion affecting other vehicle traffic and adverse impacts on pedestrian circulation.

Policy 42.1: Provide off-street facilities for freight loading and service vehicle on the site of new buildings sufficient to meet the demands generated by the intended uses. Seek opportunities to create new off-street loading facilities for existing buildings.

Policy 42.4: Driveways and curb cuts should be designed to avoid maneuvering on sidewalks or in street traffic, and when crossing sidewalks, they should only be as wide as necessary to accomplish this function.

Policy 42.5: Loading docks and freight elevators should be located conveniently and sized sufficiently to maximize the efficiency of loading and unloading activity and to discourage deliveries into lobbies or ground floor locations except at freight-loading spaces.

Policy 42.8: Provide limited curbside loading spaces to meet the need for short-term courier deliveries/pickup.

The Central Waterfront Area Plan of the San Francisco General Plan includes objectives and policies specific to the changing neighborhood, including to:

- Improve public transit to better serve existing and new development in the Central Waterfront.
- Increase transit ridership by making it more comfortable and easier to use.
- Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.
- Support the circulation needs of existing and new PDR and maritime uses in the Central Waterfront.
- Consider the street network in the Central Waterfront as a city resource essential to multimodal movement and public open space.
- Support walking and bicycling as key transportation modes by improving walking and bicycling circulation.
- Encourage alternatives to car ownership and the reduction in private vehicle trips.
- Facilitate movement of autos while striving to reduce the negative impact of vehicles.

San Francisco Bicycle Plan

The San Francisco Bicycle Plan describes a City program to provide the safe and attractive environment needed to promote bicycling as a transportation mode. The San Francisco Bicycle Plan identifies the citywide bicycle route network and establishes the level of treatment (i.e., class I, class II or class III facility) on each route. The bicycle plan also identifies near-term improvements that could be implemented within the five years after plan adoption, as well as policy goals, objectives and actions to support these improvements. It also includes long-term improvements and minor improvements that would be implemented to facilitate bicycling in San Francisco.

Better Streets Plan

The San Francisco Better Streets Plan (Better Streets Plan) focuses on creating a positive pedestrian environment through measures such as careful streetscape design and traffic calming measures to increase pedestrian safety. The Better Streets Plan includes guidelines for the pedestrian environment, which it defines as the areas of the street where people walk, sit, shop, play, or interact. Generally, the guidelines are for design of sidewalks and crosswalks; however, in some cases, the Better Streets Plan includes guidelines for certain areas of the roadway, particularly at intersections.

San Francisco Regulations for Working in San Francisco Streets (Blue Book)

The San Francisco Regulations for Working in San Francisco Streets (the Blue Book) contains regulations that are prepared and regularly updated by the San Francisco Municipal Transportation Agency (SFMTA), under the authority derived from the San Francisco Transportation Code, to serve as a guide for contractors working in San Francisco streets. The manual establishes rules and guidance so that work can be done safely and with the least possible interference with pedestrians, bicycle, transit and vehicular traffic. The manual also contains relevant general information, contact information, and procedures related to working in the public right of way when it is controlled by agencies other than the SFMTA.

In addition to the regulations presented in the manual, all traffic control, warning and guidance devices must conform to the California Manual on Uniform Traffic Control Devices. Furthermore, contractors are responsible for complying with all applicable city, state, and federal codes, rules and regulations. The party responsible for setting up traffic controls during construction shall be held accountable and responsible if such controls do not meet the guidance and requirements established by this manual and any applicable state requirements.

San Francisco Transportation Sector Climate Action Strategy

With the passage of Proposition A in 2007, SFMTA was directed to develop a Climate Action Strategy every two years that identifies the climate action strategies and describes the progress towards reducing greenhouse gas emissions from the transportation sector. The 2017 Transportation Sector Climate Action Strategy meets the 2007 directive by identifying seven climate mitigation program areas which contain a diverse array of implementable actions that aim to reduce greenhouse gas emissions across the sector and five climate adaption program area that provide the framework for building a more resilient transportation system. The Strategy contains

a mode share goal of shifting 80 percent of all trips to environmentally sustainable modes by 2030. The 2017 Transportation Sector Climate Action Strategy supports the Department of the Environment's Climate Action Strategy, which includes goals to source 100 percent of electricity from renewable sources, make 80 percent of all trips outside of personal vehicles, and achieve San Francisco's zero waste goal.

Transportation Demand Management Ordinance

In January 2017, the San Francisco Board of Supervisors approved an amendment to the City's Planning Code requiring most new development projects in San Francisco to incorporate "design features, incentives, and tools" intended to reduce VMT. New development projects meeting the applicability requirement are required to choose measures from a menu of options to develop an overall Transportation Demand Management (TDM) plan. Each development project's TDM plan require routine monitoring and reporting to the planning department to demonstrate compliance.

4.E.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department. For the purpose of this analysis, the following questions were used to determine whether implementing the project would result in a significant impact on transportation and circulation. Implementation of the proposed project would have a significant effect on transportation and circulation if the project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses;
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

As discussed above in Section 4.E.3, Regulatory Framework, under "State Regulations," beginning on page 4.E-4.E-21 the San Francisco Planning Commission replaced automobile delay (vehicle

level of service) with the VMT criteria (resolution 19579). Accordingly, this analysis does not contain a discussion of automobile delay impacts. Instead, a VMT and induced automobile travel impact analysis is provided.

As part of implementing CEQA requirements within San Francisco, the City uses the following significance criteria, organized by transportation mode to facilitate the transportation analysis and address the aforementioned questions. The transportation significance criteria are similar to those in Appendix G of the CEQA Guidelines as listed above, except for the criteria related to traffic hazards and VMT. The criteria are as follows:

- **Vehicle Miles Traveled (VMT)**
 - The project would have a significant effect on the environment if it would cause substantial additional VMT.
 - The project would have a significant effect on the environment if it would substantially induce additional automobile travel by increasing physical roadway capacity in congested areas (i.e., by adding new mixed-flow travel lanes) or by adding new roadways to the network.
- **Traffic Hazards.** The project would have a significant effect on the environment if it would cause major traffic hazards.
- **Transit.** The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating costs or delays such that significant adverse impacts in transit service levels could result.
- **Walking/Accessibility.** The project would have a significant effect on the environment if it would create potentially hazardous conditions for people walking, or otherwise interfere with accessibility of people walking to and from the project site and adjoining areas.
- **Bicycles.** The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.
- **Loading.** The project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within the proposed onsite off-street loading facilities or within convenient on-street loading zones, and if it would create potentially hazardous conditions affecting traffic, transit, bicycles, or pedestrians, or significant delays affecting transit.
- **Parking.** A project would have a significant effect on the environment if it would result in a substantial parking deficit that could create hazardous conditions affecting traffic, transit, bicycles or pedestrians, or significant delays affecting transit and where particular characteristics of the project or its site demonstrably render use of other modes infeasible.
- **Emergency Access.** A project would have a significant effect on the environment if it would result in inadequate emergency access.
- **Construction.** Construction of the project would have a significant effect on the environment if, in consideration of the project site location and other relevant project characteristics, the

temporary construction activities' duration and magnitude would result in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas thereby resulting in potentially hazardous conditions.

Approach to Analysis

Due to the location of the project site, there would be no impact related to the following question, for the reasons described below:

- ***Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.*** The project site is not located in sufficient proximity to an airport nor would it involve any air traffic. Therefore, the project would not result in a change in air traffic patterns and would not affect air traffic safety risks, and consequently, this question is not discussed further in this environmental impact report (EIR).

Project Features

Environmental impacts related to transportation and circulation could result from implementation of many of the proposed project elements described in Chapter 2, Project Description. This section further describes those features of the proposed project that relate to the transportation and circulation impact analysis. Chapter 2, Project Description, summarizes the elements of the project description related to transportation features (e.g., onsite vehicle and bicycle parking spaces and truck loading spaces) and circulation improvements, including street network design and onsite circulation, pedestrian and bicycle access, offsite streetscape improvements, provision of a shuttle service, and the project Transportation Demand Management Plan (TDM plan); these elements are re-iterated and expanded upon in this section. The project's proposed TDM plan is included in its entirety in Appendix C. The project transportation features (including construction of the proposed street network, and pedestrian, transit, and bicycle facilities) would be constructed in phases in conjunction with project buildout.

Roadway Network Improvements

The proposed project includes buildout of the roadway network within the project site. Figure 2-10, Proposed Street Type Plan, p. 2-26 in Chapter 2, Project Description, presents the proposed street network plan. The primary north-south streets would include Georgia, Maryland, and Delaware streets. Georgia Street would connect to 22nd Street to the north. Maryland Street would connect at grade to a planned extension of Maryland Street within the planned Pier 70 Mixed-Use District project site to the north. Louisiana Street would extend north from Humboldt Street, and may or may not ultimately continue into the Pier 70 site. Louisiana and Delaware streets would connect to, and terminate at, Craig Lane - a proposed one-way westbound service lane along the north boundary of the project site, straddling the property line with the Pier 70 Mixed-Use District project. To the south, Georgia Lane, and Maryland and Delaware streets would connect to, and terminate at, 23rd Street. Humboldt Street, Maryland Street, Delaware Street south of Humboldt Street, and Georgia Street north of Humboldt Street are proposed as neighborhood commercial streets; and 23rd Street is proposed as a mixed-use street. Louisiana Street and Delaware Street north of Humboldt Street are

proposed as shared streets or alleys.¹⁴ Georgia Lane and Craig Lane are proposed as alleys. All streets would be designed consistent with the San Francisco Better Streets Plan standards.¹⁵

All streets would be two-way with a single travel lane each way, with the exception of Craig Lane, which would be one-way westbound. Streets would have sidewalks ranging from 10 to 19 feet wide. Alleys (Delaware Street north of Humboldt Street, Louisiana Street, Craig Lane, and Georgia Lane) would have sidewalks ranging from 4 to 9 feet wide. As noted above, Louisiana Street and Delaware Street north of Humboldt Street would be shared streets or alleys. Appendix C illustrates the proposed cross-sections for the project streets.

Outside of the project site, the intersections of Illinois Street/23rd Street (currently stop-controlled at the eastbound and westbound approaches to the intersection) and Illinois Street/Humboldt Street (a T intersection with Humboldt Street functioning as a driveway) would be signalized as part of the proposed project.

Transit Network Improvements

The proposed project includes a curbside bus layover facility that would include a bathroom facility nearby for drivers in the event that at some point in the future a Muni bus route is extended into the project site. The location and length of this facility was determined in consultation with the SFMTA. The bus layover would be located on the north side of 23rd Street between Maryland and Delaware streets, and would accommodate two transit vehicles (i.e., two standard 40-foot buses).

The proposed project includes implementation of a transit shuttle service, with service between 7 a.m. and 8 p.m., and with minimum service of 15-minute intervals during weekday morning and evening peak periods (7 a.m. to 9 a.m. and 4 p.m. to 6 p.m., respectively).

The shuttle service would provide access between the project site, the 22nd Street Caltrain station, and the 16th Street BART station. As shown on Figure 2-14, Proposed Transit Shuttle Plan, p. 2-32 in Chapter 2, Project Description, shuttle service would initially be provided along 23rd Street, with a stop at the bus layover facility on 23rd Street.¹⁶ When the proposed project roadway network connects with the planned Pier 70 Mixed-Use District project's street network, it may be possible to connect the project's shuttle service with the shuttle service that the Pier 70 Mixed-Use District project will provide. The proposed shuttle service is included as part of the impact analysis presented below.

The integrated roadway networks would also allow for extension of Muni bus service into the proposed project site and Pier 70 Mixed-Use District project site. Figure 2-13, Preliminary Proposed Transit Bus Plan, p. 2-31 in Chapter 2, Project Description, presents potential routing within the sites, with a bus stop within the Pier 70 Mixed-Use District project site and a stop at the

¹⁴ A shared street is a street that minimizes the segregation between modes of travel (e.g., vehicles, people walking, bicyclists, and other modes). Shared streets have low vehicle travel speed and volumes, and reinforce their shared nature through materials and targeted design enhancements.

¹⁵ San Francisco Better Streets Plan, adopted December 2010.

¹⁶ The project sponsor has also considered alternate locations for the shuttle service stop on Humboldt Street and Delaware Street. See Appendix C for map of alternate shuttle service stop locations.

proposed bus layover facility on 23rd Street. While the proposed project is designed to accommodate Muni bus service on Maryland, Humboldt, Delaware and 23rd streets, service into the site is not proposed as part of the proposed project, and is not included as part of the impact analysis.

Pedestrian Network Improvements

All streets within the project site would include sidewalks, with sidewalk widths ranging from 10 to 19 feet, as shown on Figure 2-12, Proposed Pedestrian Network, p. 2-30 in Chapter 2, Project Description. As shown in Figure 2-12, the project would also reconstruct the existing sidewalk on the east side of Illinois Street, between Humboldt Street and 22nd Street, to comply with the Better Streets Plan. Delaware Street north of Humboldt Street, Louisiana Street, Craig Lane, and Georgia Lane (with a Better Streets Plan street classification as alleys) would have sidewalks ranging from 4 to 9 feet wide. At intersections within the project site, the project would provide curb extensions (i.e., bulbouts) consistent with the Better Streets Plan.

Within the project site, raised street segments¹⁷ are proposed on Humboldt, Maryland, and Delaware streets adjacent to the Waterfront Park to provide additional traffic calming and pedestrian priority in areas where more intensive pedestrian activities are anticipated to occur. Within the raised street areas, specific crosswalk locations are proposed to designate where pedestrians have priority to cross. The vehicle travel zones would be delineated from the pedestrian areas by 4-inch curbs. Additionally, other vertical elements such as street trees or street furniture would delineate between the pedestrian and vehicle zones.

At the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, where new traffic signals are proposed, the project would install crosswalks with the continental design and pedestrian countdown signals.

Bicycle Network Improvements

The proposed project would include bicycle facilities connecting the existing and planned network of bicycle facilities near the project. These are designed to allow for safe bicycling throughout the project site. As shown on Figure 2-11, Proposed Bicycle Facilities Plan, p. 2-28 in Chapter 2, Project Description, the proposed project would include bicycle lanes on 23rd Street, the primary east-west street in the project site, extending between Illinois Street and the waterfront. On the north side of the street, a parking protected 5-foot wide bicycle lane (class IV facility) would be provided along the entire stretch between Illinois Street and the waterfront, while on the south side of the street a 5-foot wide parking protected bicycle lane would be provided between Illinois Street and Georgia Lane (i.e., a class IV facility), and which would transition to a 5-foot wide class II bicycle lane to the east (i.e., between Georgia Lane and the waterfront). Maryland Street would include northbound and southbound 5-foot wide class II bicycle lanes, while Georgia Lane would include a 6-foot wide class II bicycle lane in the northbound direction and a class III shared lane bicycle route in the southbound direction. Class III shared facilities would also be provided on Delaware, Humboldt,

¹⁷ Raised street segments, or speed tables, are midblock traffic calming devices that raise the entire wheelbase of a vehicle to reduce its travel speed. Speed tables are longer than speed humps and are flat-topped. When speed tables are combined with a pedestrian crossing at an intersection or midblock, they are called raised crossings.

and Georgia streets. The proposed project would also construct the Bay Trail/Blue Greenway multi use path (class I facility) along the waterfront within the project site. No bicycle network improvements are proposed outside of the project site.

Transportation Demand Management (TDM) Plan

The project sponsor has proposed a TDM plan to support sustainable land use development and reducing vehicle trips generated by the proposed project. The plan prioritizes pedestrian and bicycle access and identifies measures to encourage alternative modes of transportation and to support a dense, walkable, mixed-use, transit-oriented development that prioritizes safety, especially for bicyclists and pedestrians. The proposed TDM plan¹⁸ outlines the measures that the project sponsor would implement as part of the proposed project (see Appendix C). Most measures in the plan are consistent with the measures identified as part of the TDM Ordinance's Appendix A,¹⁹ and are supplemented with additional TDM strategies specific to the project. The proposed measures include:

Information Services

- Strategic multimodal signage/wayfinding
- Real time travel information
- Transportation welcome packet and ongoing transportation marketing

Active Transportation

- Improved walking conditions
- Bicycle parking in compliance with Planning Code
- Showers and lockers for employees
- Bicycle repair stations

Parking Management and Policies

- Unbundled parking
- Minimize parking supply

High Occupancy Vehicle Measures

- Shuttle bus service

Car Share and Scooter Share

- Onsite car and scooter share parking

Family-Supportive Measure

- Onsite child care

Delivery-Supportive Measure

- Cold/dry storage for grocery and package deliveries

¹⁸ Potrero Power Station TDM Plan, August 2018. See Appendix C.

¹⁹ TDM Program Standards: Appendix A, Transportation Demand Management Measures

Additional TDM Measures

- TDM Coordinator
- Provision of fresh food shops and vendors
- Bus layover facility
- Bike share stations
- Completion of Bay Trail/Blue Greenway through the site
- Onsite affordable housing

Approach to Impact Analysis Methodology

This section describes the methodology for analyzing transportation impacts and information considered in developing travel demand for the proposed project. The impacts of the proposed project on the surrounding transportation network were analyzed using the San Francisco Transportation Impact Analysis Guidelines issued by the planning department in 2002 and subsequent updates and San Francisco Planning Commission Resolution 19579, which provide direction for analyzing transportation conditions and in identifying the transportation impacts of a proposed project.

Analysis Scenarios and Periods

The analysis of the proposed project was conducted for “existing plus project” and 2040 cumulative conditions. The “existing plus project” conditions assess the near-term impacts of the proposed project, while “2040 cumulative” conditions assess the near-term and long-term impacts of the proposed project in combination with other reasonably foreseeable development. Year 2040 was selected as the future analysis year because 2040 is the latest year for which travel demand forecasts were available from the San Francisco County Transportation Authority travel demand forecasting model.

Per the Transportation Impact Analysis Guidelines, the weekday p.m. peak hour is the standard analysis period for development projects in San Francisco and was analyzed for the proposed project. Although the weekday p.m. peak hour typically has a higher travel demand than the a.m. peak hour, the weekday a.m. peak hour was also analyzed in this case, given the size of the project.

Methodology for Analysis of Construction Impacts

Potential short-term construction impacts were assessed based on preliminary construction information for the project site. The construction impact evaluation addresses the staging and duration of construction activities, estimated daily truck volumes, truck routes, roadway and/or sidewalk closures, and evaluates the effects of construction activities on transit facilities and service, bicycle circulation, travel lanes and pedestrians.

Methodology for Analysis of Operational Impacts

VTM Analysis Methodology

VTM Assessment

The following identifies thresholds of significance and screening criteria used to determine if a land use project would result in significant impacts under the VTM metric.

For residential projects, a project would generate substantial additional VTM if it exceeds the regional household VTM per capita minus 15 percent.²⁰ For office projects, a project would generate substantial additional VTM if it exceeds the regional VTM per employee minus 15 percent. As documented in the Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA ("proposed transportation impact guidelines"), a 15 percent threshold below existing development is "both reasonably ambitious and generally achievable."²¹ For retail projects, the planning department uses a VTM efficiency metric approach for retail projects: a project would generate substantial additional VTM if it exceeds the regional VTM per retail employee minus 15 percent. This approach is consistent with CEQA section 21099 and the thresholds of significance for other land uses recommended in the Office of Planning and Research's proposed transportation impact guidelines. For mixed-use projects, each proposed land use is evaluated independently, per the significance criteria described above.

The Office of Planning and Research's proposed transportation impact guidelines provides screening criteria to identify types, characteristics, or locations of land use projects that would not exceed these VTM thresholds of significance. The Office of Planning and Research recommends that if a project or land use proposed as part of the project meets any of the below screening criteria, then VTM impacts are presumed to be less than significant for that land use and a detailed VTM analysis is not required. The screening criteria applicable to the project and how they are applied in San Francisco are described below:

- **Map-Based Screening for Residential, Office, and Retail Projects.** The Office of Planning and Research recommends mapping areas where VTM is less than the applicable threshold for that land use. Accordingly, the Transportation Authority has developed maps depicting existing VTM levels in San Francisco for residential, office, and retail land uses based on the SF-CHAMP 2012 base-year model run. The Planning Department uses these maps and associated data to determine whether a proposed project is located in an area of the city that is below the VTM threshold.
- **Proximity to Transit Stations.** The Office of Planning and Research recommends that residential, retail, and office projects, as well as projects that are a mix of these uses, proposed within one-half mile of an existing major transit stop (as defined by CEQA section 21064.3) or an existing stop along a high quality transit corridor (as defined by CEQA section 21155) would

²⁰ OPR's proposed transportation impact guidelines state a project would cause substantial additional VTM if it exceeds both the existing city household VTM per capita minus 15 percent and existing regional household VTM per capita minus 15 percent. In San Francisco, the City's average VTM per capita is lower (8.4) than the regional average (17.2). Therefore, the City average is irrelevant for the purposes of the analysis.

²¹ State of California Governor's Office of Planning and Research, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, January, 20, 2016, page III:20.

not result in a substantial increase in VMT. However, this presumption would not apply if the project would: (1) have a floor area ratio of less than 0.75; (2) include more parking for use by residents, customers, or employees of the project than required or allowed, without a conditional use; or (3) is inconsistent with the applicable Sustainable Communities Strategy.²²

The Office of Planning and Research's proposed transportation impact guidelines do not provide screening criteria or thresholds of significance for other types of land uses, other than those projects that meet the definition of a small project. Therefore, the Planning Department provides additional screening criteria and thresholds of significance to determine if land uses similar in function to residential, office, and retail would generate a substantial increase in VMT. These screening criteria and thresholds of significance are consistent with CEQA section 21099 and the screening criteria recommended in the Office of Planning and Research's proposed transportation impact guidelines.

The Planning Department applies the Map-Based Screening and Proximity to Transit Station screening criteria to the following land use types:

- ***Tourist Hotels.*** Trips associated with this land uses typically function similarly to residential. Therefore, this land uses is treated as residential for screening and analysis.
- ***Childcare and Production, Distribution, and Repair (PDR).*** Trips associated with these land uses typically function similarly to office. While some of these uses may have some visitor/customer trips associated with them (e.g., childcare drop-off), those trips are often a side trip within a larger tour. For example, the visitor/customer trips are influenced by the origin (e.g., home) and/or ultimate destination (e.g., work) of those tours. Therefore, these land uses are treated as office for screening and analysis.
- ***Grocery Stores, Local-Serving Entertainment Venues, and Parks.*** Trips associated with these land uses typically function similar to retail. Therefore, they are treated as retail for screening and analysis.

Induced Automobile Travel Assessment

Transportation projects may substantially induce additional automobile travel. The following identifies thresholds of significance and screening criteria used to determine if transportation projects would result in significant impacts by inducing substantial additional automobile travel.

Pursuant to the Office of Planning and Research's proposed transportation impact guidelines, a transportation project would substantially induce automobile travel if it would generate more than 2,075,220 VMT per year. This threshold is based on the fair share VMT allocated to transportation projects required to achieve California's long-term greenhouse gas emissions reduction goal of 40 percent below 1990 levels by 2030.

The Office of Planning and Research's proposed transportation impact guidelines includes a list of transportation project types that would not likely lead to a substantial or measurable increase in VMT. If a project fits within the general types of projects (including combinations of types) described below, then it is presumed that VMT impacts would be less than significant and a detailed VMT

²² A project is considered to be inconsistent with the Sustainable Communities Strategy if development is located outside of areas contemplated for development in the Sustainable Communities Strategy.

analysis is not required. Accordingly, a project would not result in a substantial increase in VMT if it would include any or a combination of the following components and features.

- ***Active Transportation, Rightsizing (aka Road Diet), and Transit Projects:***
 - Infrastructure projects, including safety and accessibility improvements, for people walking and bicycling.
 - Installation or reconfiguration of traffic calming devices.
 - Creation of new or addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for people walking, bicycling, and, if applicable, riding transit (e.g., by improving neighborhood connectivity or improving safety).
- ***Other Minor Transportation Projects:***
 - Rehabilitation, maintenance, replacement and repair projects designed to improve the condition of existing transportation assets (e.g., highways, roadways, bridges, culverts, tunnels, transit systems, and bicycle and pedestrian facilities) and that do not add additional motor vehicle capacity.
 - Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, or emergency breakdown lanes that are not used as through lanes.
 - Installation, removal, or reconfiguration of traffic control devices, including Transit Signal Priority features.
 - Timing of signals to optimize vehicle, bicycle or pedestrian flow on local or collector streets.
 - Addition of transportation wayfinding signage.
 - Removal of off-street or on-street parking spaces.
 - Adoption, removal or modification of on-street parking or loading restrictions (including meters, time limits, accessible spaces, and referential/reserved parking permit programs).

Traffic Hazards Analysis Methodology

In assessing traffic hazards, the proposed project buildings and changes to the transportation network within and near the site were reviewed to determine whether they would obstruct, hinder, or impair reasonable and safe views by vehicle drivers traveling on the same street, or restrict the ability of a driver to stop the motor vehicle short of a collision.

In addition, a quantitative analysis of the district parking garage operations in terms of queuing was conducted for the proposed garage location on Block 5, as well as alternate locations on Blocks 1 and 13 (see figure in section 9 of Appendix C). The assessment considered whether the design of the district parking garage entry locations would accommodate vehicles accessing the garage without spilling back into the adjacent travel lanes or blocking sidewalks.

Transit Analysis Methodology

Capacity Utilization

The impact of additional transit ridership generated by the proposed project on local and regional transit providers was assessed by comparing the projected ridership to the available transit capacity at the maximum load point. Transit “capacity utilization” refers to transit riders as a percentage of the capacity of the transit line, or group of lines combined and analyzed as screenlines across which transit lines travel.

For service provided by Muni, the capacity includes seated passengers and an appreciable number of standing passengers per vehicle (the number of standing passengers is between 30 and 80 percent of the seated passengers depending upon the specific transit vehicle configuration). Muni has established a capacity utilization standard of 85 percent. The 85 percent capacity utilization includes seated and standing passengers, so at 85 percent capacity utilization all seats are taken and there are many standees. The transit analyses were conducted for both directions of travel (i.e., toward and away from the project site) for both the a.m. and p.m. peak hour conditions.

The existing peak hour ridership and capacity data were obtained from Muni. For the existing plus project analysis, the peak hour ridership and capacity utilization that would occur following completion of the Central Subway project in 2019 was assumed, as the Central Subway project is under construction and is scheduled to become operational in 2019.

The Central Subway project will extend the Muni Metro T Third light rail line and provide a direct transit link between Mission Bay, SoMa, Union Square, and Chinatown. Four new stations will be constructed along the new 0.7-mile long alignment. The Central Subway will extend the T Third line northward from its current terminus at Fourth and King streets to a surface station south of Bryant Street and go underground at a portal under U.S. 101. From there it will continue north to stations at Moscone Center, Union Square—where it will provide passenger connections to the Muni/BART Powell station — and in Chinatown, where the line will terminate on Stockton Street at Clay Street. Construction is currently underway and is scheduled to be completed in 2018. Revenue service is scheduled for 2019.

Weekday a.m. and p.m. peak hour ridership and capacity for the regional transit service providers at the three regional screenlines were based on the Transportation Impact Analysis Guidelines regional screenline data. All regional transit providers have a peak hour capacity utilization standard of 100 percent. For regional transit service providers capacity is based on seated capacity for buses and a combination of seated and standing passenger capacity for ferry and rail transit vehicles.

The proposed project was determined to have a significant transit impact if project-generated transit trips would cause the Muni routes serving the project site or the regional screenlines that operate at less than their capacity utilization standards under existing conditions, to operate above their capacity utilization standards with implementation of the project. For routes or screenlines operating at more than the capacity utilization standard under existing conditions, the proposed project’s contribution to that condition was assessed to determine whether the project would

contribute considerably to ridership at the maximum load point (i.e., a contribution of 5 percent or more to the transit ridership on the route or screenline).

Under 2040 cumulative conditions, the proposed project was determined to have a significant cumulative impact if its implementation would contribute considerably to a route or screenline projected to operate at greater than the capacity utilization standard under 2040 cumulative conditions (i.e., a contribution of 5 percent or more to the transit ridership on the route or screenline). In addition, if it was determined that the proposed project would have a significant project-specific transit impact under existing plus project conditions, then, if significant cumulative impacts are identified, the project would also be considered to contribute substantially to significant cumulative conditions.

Transit Operations Analysis

Impacts of the proposed project on transit operations were measured in terms of increases to transit travel times. In San Francisco, increases to transit travel times are associated with the following three factors:

- **Traffic congestion delay**—Traffic congestion associated with increases in traffic slows down transit vehicles and results in increased transit travel times. Traffic congestion delays are calculated by summing the average vehicular delay caused by the project at each intersection along the transit routes within the transportation study area. The increase in total route segment delay is equal to the increase in travel time associated with traffic generated by the proposed project.
- **Transit reentry delay**—Transit vehicles typically experience delays after stopping to pick up and drop off passengers while waiting for gaps in adjacent street traffic in order to pull out of bus stops. As traffic volumes on the adjacent streets increase, reentering the flow of traffic becomes more difficult and transit vehicles experience increased delays. Transit reentry delay is calculated using empirical data in the 2000 Highway Capacity Manual. Total transit reentry delay for each route is calculated as the sum of transit reentry delay at each stop within the transportation study area.
- **Passenger boarding delay**—Although increases in transit ridership are generally viewed positively, the amount of time a transit vehicle has to stop to pick up and drop off passengers (i.e., the transit vehicle dwell time) is directly correlated to the number of passengers boarding the vehicle. As general transit ridership grows, vehicles would have to spend more time at stops, which may increase overall transit travel times. Passenger boarding delay was calculated assuming four seconds per passenger boarding. Increases in passenger boardings associated with the project were determined from the transit assignment for the project.

The proposed project would be determined to have a significant impact if it would increase existing transit travel times on a route so that additional transit vehicles would be required to maintain the existing headways. This was assumed to be the case if the proposed project's travel time increases on a particular route would be greater than half of the existing route headway, or the added travel time would require the provision of one or more additional transit vehicles in order to maintain scheduled service, as determined by SFMTA's scheduling spreadsheet. If it was determined that the proposed project would have a significant travel time impact under existing plus project conditions, then, if a significant impact was identified in the cumulative scenario, the project would also be considered to contribute substantially to significant cumulative conditions.

Walking/Accessibility Analysis Methodology

Walking/accessibility conditions were assessed qualitatively. The qualitative assessment included assessment of safety and right-of-way issues, potential worsening of existing, or creation of new, safety hazards, and conflicts with bicycles, transit, and vehicles, and whether the project would interfere with the accessibility of people walking to the site or adjoining areas.

Bicycle Analysis Methodology

Bicycle conditions were assessed qualitatively as they relate to the project area, including bicycle routes, safety and right-of-way issues, potential worsening of existing or creation of new safety hazards, and conflicts with vehicles and commercial vehicle loading activities.

Loading Analysis Methodology

The loading analysis was conducted by comparing the proposed commercial vehicle loading supply to the projected demand that would be generated by the proposed project, while the proposed passenger loading/unloading supply was assessed qualitatively. If the project's supply meets the estimated demand, no further assessment is necessary. If not, then the effects of the commercial vehicle and passenger loading supply on safety and right-of-way issues, potential worsening of existing or creation of new safety hazards, and conflicts with bicycle, transit, and vehicles were assessed qualitatively.

Parking Analysis Methodology

A parking assessment was conducted by comparing the proposed parking supply to the parking demand generated by proposed project land uses to determine if the project would result in a substantial parking deficit. If the project would not result in a substantial parking deficit, no further assessment is necessary. If the project would result in a substantial parking deficit, the effects of the proposed street network changes on the on-street parking supply and area wide parking conditions was assessed, as well as the effects of increased parking demand and changes in on-street parking supply on safety and right-of-way issues.

Emergency Access Analysis Methodology

Potential impacts on emergency access were assessed qualitatively. Specifically, the analysis assessed whether the proposed street network changes and/or travel demand associated with the proposed project would impair, hinder, or preclude adequate emergency vehicle access.

Project Travel Demand Methodology and Results

Project travel demand refers to the new vehicle, transit, pedestrian, and bicycle trips generated by the proposed project. The memorandum containing the detailed methodology and information used to calculate the project travel demand is included in Appendix C. This section summarizes the information and analysis contained in the travel demand memorandum²³ and presents

²³ Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, Final Memorandum, April 2018. Case No. 2017.011878ENV. See Appendix C.

estimates of project-generated person trips by various modes of travel, as well as the number of project-generated vehicle trips. In addition, this section presents the vehicle parking demand and estimates of daily truck and service vehicle trips and the associated demand for loading spaces to accommodate the truck and service vehicle demand.

Travel Demand Assumptions

Existing Site

As described in Chapter 2, Section 2.D, Existing Land Uses and Site History, the project site currently consists primarily of vacant land with scattered vacant buildings and facilities. Current uses include warehousing, vehicle parking, vehicle storage, office space, and storage and housing of power transmission equipment. In addition, PG&E is undertaking environmental remediation activities that will continue through 2023 to achieve a commercial/industrial land use standard at the project site under the oversight of the San Francisco Regional Water Quality Control Board (see Section 4.K, Hazards and Hazardous Materials for further discussion). As a conservative assessment, the existing person and vehicle trips traveling to and from the project site were not subtracted from the travel demand generated by the proposed new uses.

Project Trips

The travel demand forecasts are based on the methodology in the Transportation Impact Analysis Guidelines and supplemented with information that accounts for the large-scale and mixed-use qualities of the proposed project, and project-specific land uses. The methods commonly used for forecasting travel demand for development projects in San Francisco are based on the Transportation Impact Analysis Guidelines. The Transportation Impact Analysis Guidelines are based on a number of detailed travel behavior surveys conducted within San Francisco. The data in the Transportation Impact Analysis Guidelines are generally accepted as more appropriate for use in transportation impact analyses for San Francisco development projects than conventional transportation planning data because of the unique mix of uses, density, availability of transit, and cost of parking in San Francisco.

Therefore, due to the substantial size of the project site (i.e., 29 acres), mix of residential and non-residential uses, and intensity of the land use program (approximately 5.4 million square feet of development over 14 blocks), refinements were made to the travel demand model to account for the specific characteristics of the project, such as its land use integration, provision of shuttle bus service to nearby transit hubs, and reduced parking supply. The travel demand methodology applied to the proposed project is consistent with recent analyses of larger developments in San Francisco, including the adjacent Pier 70 Mixed-Use District project, and the Mission Rock project at Seawall Lot 337, about 1.5 miles north of the project site. This travel demand model methodology was first used in San Francisco to analyze the land use program for the Presidio Trust Management Plan Final Environmental Impact Statement, May 2002, and has been subsequently updated and enhanced to analyze other mixed-use development projects in the northeast and southeast quadrants of San Francisco.

The travel demand model for the proposed project follows. The four main steps are outlined first, followed by additional explanation.

- **Step 1: Total Trip Generation.** Total person trip generation was calculated. The person-trip generation estimates for the proposed project include residents, guests, employees, and visitors associated with the proposed development.
- **Step 2: Internal and Linked Trip Adjustments.** The trip generation rates used in step 1 represent the number of person trips that would be generated by each project component as a standalone use, which are considered external trips.²⁴ However, some of these trips would be made by individuals already within the project site; these are referred to as internal or linked trips, or internal trips. The total trip generation calculated in step 1 was therefore refined to separately account for internal and external trips.
- **Step 3: Trip Distribution and Mode of Travel.** The person trips estimated in the steps above were allocated to travel modes to determine the number of trips by auto, transit, and other modes. The “auto” mode includes persons traveling by private auto, carpool, app-based ride hailing services (e.g., Uber, Lyft), etc., while the “transit” mode includes local and regional public means of transportation. The “other” category includes walking, bicycling, motorcycling, and additional modes, such as taxis or limousines. The directional distribution is based on the origins and destinations of trips for each specific land use, which was then distributed to the four superdistricts²⁵ of San Francisco (Superdistrict 1 – northeast quadrant, Superdistrict 2 – northwest quadrant, Superdistrict 3 – southeast quadrant, Superdistrict 4 – southwest quadrant), the East Bay, North Bay, South Bay, and outside the region.
- **Step 4: Trip Assignment.** The pedestrian, transit, and vehicle trips and directional distribution obtained in step 3 were then used as the basis for assigning project-generated trips to the local streets and transit routes in the study area. The transit trip assignment also considered the proposed shuttle service as an additional transit option for riders during the a.m. and p.m. peak periods.

Step 1: Trip Generation

As presented in Chapter 2, Project Description, the proposed development program includes about 2,682 residential units, 220 hotel rooms, 1.3 million square feet of commercial office uses (including general office, research and development [R&D], and production, distribution and repair [PDR] uses), 25,000 square feet of entertainment/assembly uses, 107,439 square feet of retail uses, and 100,938 square feet of community facilities.

Retail and community facility uses cover a range of different types of facilities with different travel demand characteristics. For the purpose of the travel demand analysis, these uses were disaggregated into more specific land uses. As shown in **Table 4.E-9, Proposed Project Person Trip Generation by Land Use and Time Period**, the 107,439 square feet of retail uses include general retail, supermarket and restaurant uses, and the 100,938 square feet of community facility uses include childcare, library and other community facilities such as a recreational center or community center use.

²⁴ Trips that arrive at or leave the project site are referred to as external trips.

²⁵ Superdistricts are travel analysis zones established by the Metropolitan Transportation Commission (MTC) that provide geographic subareas for planning purposes in San Francisco. A map showing the boundaries of the four planning superdistricts in San Francisco (referred to as Superdistricts 1 through 4) is provided in Appendix C.

**TABLE 4.E-9
PROPOSED PROJECT PERSON TRIP GENERATION BY LAND USE AND TIME PERIOD**

Land Use Type	Land Use Quantity	Person Trips ^a		
		Daily	a.m. Peak Hour	p.m. Peak Hour
Residential (studio/1-bedroom units)	1,547 d.u.	11,603	1,651	2,007
Residential (2 or more bedroom units)	1,135 d.u.	11,350	1,615	1,964
Hotel	220 rooms	1,540	136	154
General Office	597,723 gsf	10,819	963	920
Research & Development	645,738 gsf	5,166	942	827
PDR	45,040 gsf	815	73	69
General Retail ^b	10,744 gsf	1,612	38	145
Supermarket ^b	42,975 gsf	12,764	334	932
Sit-down Restaurant/Assembly ^{b,c}	41,116 gsf	6,223	67	622
Quick Service Restaurant ^b	37,604 gsf	22,562	244	2,256
Childcare ^d	15,000 gsf	1,005	179	181
Library ^d	10,000 gsf	1,950	39	315
Community Center ^d	75,938 gsf	6,075	368	823
Open Space	6.3 acres	126	16	11
Total Person Trips		93,609	6,665	11,218
Internal versus External Person Trips^e				
Trips Internal to project site		25,795	1,526	3,395
Trips External (leaving from and arriving to the site)		67,814	5,139	7,823
Total Person Trips		93,609	6,665	11,218

NOTES: d.u. = dwelling units; gsf = gross square feet

^a Numbers may not sum to total due to rounding.

^b The 107,439 gsf of retail space has been analyzed as general retail (10,744 gsf), supermarket (42,975 gsf), sit-down restaurant (16,116 gsf), and quick service restaurant (37,604 gsf).

^c The 25,000 gsf of assembly space has been analyzed as sit-down restaurant, assuming a 60 percent occupancy factor (i.e., 15,000 gsf of sit-down restaurant space).

^d The 100,938 gsf of community facility use has been analyzed as childcare, (15,000 gsf), library (10,000 gsf), and community center (75,938 gsf) uses.

^e Internal trips represents those who occur within the project site, generally by walking or bicycling, while external trips are those whose origin or destination is outside the project site.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

Trip generation rates for land uses not included in the Transportation Impact Analysis Guidelines, such as libraries, community centers and open space, were obtained from other nationally recognized sources, such as the Trip Generation²⁶ manual, published by the Institute of Transportation Engineers or the San Diego Association of Governments data on trip generation²⁷. Trip generation information for R&D uses was obtained from the Mission Bay Final Supplemental

²⁶ Institute of Transportation Engineers, *Trip Generation* (9th Edition), Washington D.C., 2012.

²⁷ San Diego Association of Governments, *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002.

EIR,²⁸ prepared for the San Francisco Planning Department in 1998. Because the San Francisco Transportation Impact Analysis Guidelines do not include trip generation rates for the a.m. peak hour, rates were developed for the proposed land uses using information provided in the Trip Generation Manual.

Table 4.E-9 presents the daily and a.m. and p.m. peak hour person trip generation. The proposed project would generate 93,609 person-trips on a weekday daily basis, 6,665 person-trips during the a.m. peak hour, and 11,218 person-trips during the p.m. peak hour. The number of p.m. peak hour trips is generally greater than during the a.m. peak hour because during the p.m. peak hour, there are typically more purposes for travel, such as shopping, dining and services (e.g., a visit to the doctor). Most of the a.m. travel is related to work, since many retail establishments are closed before 9 a.m.

Step 2: Internal and Linked Trip Adjustments

As noted above, a portion of the project trips would occur completely within the project site between the various land uses. The travel demand analysis included a multi-step iterative process to account for trips that would be conducted between the various land uses on the project site (e.g., between residential units and a grocery store), as well as trips that would be made as intermediate stops on the way from an origin to a primary destination (e.g., an individual that stops at a café or retail store on the trip from home to work, or vice versa). The trips that occur within the project site are referred to as internal trips, while trips that have an origin or destination outside of the project site are referred to as external trips. The amount of trip internalization and linkage for a project is dependent on the quantity and mix of land uses, as well as the varying levels of activities they generate at various times of the day, and, therefore, is generally different between the a.m. and p.m. peak periods.

The methodology applied to the total trip generation to account for the internal and linked trips is described in detail in the technical memorandum included in Appendix C. The internal and linked trip factors that were applied to the various land uses were obtained from various sources such as the Institute of Transportation Engineers, the Transportation Research Board, and San Diego Association of Governments.

The split between project-generated internal and external trips are also presented on Table 4.E-9 above. With implementation of the proposed project, the total number of person trips that would start or end outside of the project site (external trips) would be about 67,814 trips on a typical weekday, 5,139 trips during the a.m. peak hour, and 7,823 trips during the p.m. peak hour. About 38 percent of the daily person trips, 30 percent of the a.m. peak hour person trips, and 43 percent of the p.m. peak hour person trips are forecasted to be made within the project site.

Step 3: Trip Distribution and Mode of Travel

The internal and external person-trips were allocated to origins and destinations and travel modes as follows:

²⁸ San Francisco Planning Department, *Final Mission Bay Subsequent Environmental Impact Report*, Appendix D-Transportation, p. D.32, Case No. 96.771E, Final Certification Date: September 17, 1998.

- **Internal trips.** The internal trips would be expected to occur for the most part by walking and bicycling, as opposed to auto and transit, and would all occur within the project site.
- **External trips.** The external trips were assigned to travel modes based on the origins and destinations of trips for each specific land use.
 - For the residential uses, the total mode split and geographic distribution were based on data obtained from the U.S. Census for census tract 226 where the project site is located (census tract 226 is bounded by 16th Street to the north, I-280 to the west, 25th Street to the south, and San Francisco Bay to the east).²⁹
 - For the hotel, office, R&D, PDR, general retail, supermarket, restaurant, community center, and entertainment/assembly uses, the place of origin or destination and the mode of travel percentages were based on an average of the rates contained within the *SF Guidelines* for projects located in Superdistrict 1 (northeast quadrant) and Superdistrict 3 (southeast quadrant) for work and non-work trips.
 - The San Francisco Transportation Impact Analysis Guidelines identifies different mode of travel ratios, trip origin/ destination factors, and average vehicle occupancy for work and visitor trips, which are different for each of the four San Francisco superdistricts, so that factors that influence travel behavior such as transit accessibility, walkability, roadway and transit infrastructure, etc. are properly accounted for in the analysis. For example, work trips originating in or destined to Superdistrict 1 exhibit the highest transit usage in San Francisco, while those to or from Superdistrict 3 have the lowest. While the project site is located entirely within Superdistrict 3, the average mode of travel and vehicle occupancy rates between Superdistrict 1 and Superdistrict 3 were used, to properly account for recent and ongoing transit improvements that have occurred and will be completed in the area, as well as the transportation enhancements that would be implemented by the project, such as a transit shuttle service.
 - For the childcare and library uses, the trip distribution and mode share for visitor trips assumed local trips, all within Superdistrict 3.
 - The trip distribution and travel modes for employee trips were based on an average of the rates contained in the Transportation Impact Analysis Guidelines for Superdistrict 1 and Superdistrict 3 for work trips.

As shown in **Table 4.E-10, Proposed Project Trip Distribution Patterns by Land Use**, the majority of the project-generated trips would be within San Francisco, with the largest proportion of trips within Superdistrict 3, which includes the project site (and includes the internal trips remaining within the site). These trip distribution patterns were used as the basis for assigning project-generated vehicle trips to the study intersections (see Figure 4.E-1, p. 4.E-2 above) and the project-generated transit trips to the local and regional transit routes.

Table 4.E-11, Proposed Project Travel Mode Split, presents the overall travel modes for the project-generated person trips on a daily basis, as well as for the a.m. and p.m. peak hours. As shown in the table, the non-auto person trips represent approximately two thirds of all the trips made during each period; this includes the non-motorized trips occurring within the project site.

²⁹ U.S. Census, 2011-2015 *American Community Survey 5-Year Estimate*, Census Tract 226, supplemented with information from the 1990 and 2000; Summary of relevant results is provided in Appendix C.

**TABLE 4.E-10
PROPOSED PROJECT TRIP DISTRIBUTION PATTERNS BY LAND USE**

Place of Trip Origin or Destination	Residential	Hotel/Office/R&D /PDR/Community Center/Open Space	Retail/ Supermarket/ Restaurant/ Assembly	Childcare/ Library	Total All Land Uses
San Francisco					
Superdistrict 1	25.4%	7.2%	6.5%	4.1%	11.0%
Superdistrict 2	3.8%	13.5%	8.2%	9.8%	8.3%
Superdistrict 3 ^a	43.3%	33.7%	39.9%	57.0%	41.2%
Superdistrict 4	3.8%	7.9%	4.2%	5.1%	4.9%
<i>All San Francisco</i>	<i>76.3%</i>	<i>62.3%</i>	<i>58.8%</i>	<i>75.9%</i>	<i>65.4%</i>
East Bay	6.5%	12.8%	7.5%	7.6%	8.3%
North Bay	1.9%	4.0%	3.6%	2.3%	3.1%
South Bay	14.9%	12.3%	9.0%	6.4%	10.8%
Outside of Bay Area	0.4%	8.7%	21.2%	7.9%	12.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

NOTES:

^a Internal trips are accounted for within Superdistrict 3.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

**TABLE 4.E-11
PROPOSED PROJECT TRAVEL MODE SPLIT – INTERNAL AND EXTERNAL TRIPS**

Mode	Daily	AM Peak Hour	PM Peak Hour
Auto ^a	35.7%	37.0%	34.2%
Transit	17.1%	27.0%	19.8%
Other modes ^b	47.2%	36.0%	46.0%
Total	100.0%	100.0%	100.0%

NOTES:

^a Auto mode includes persons traveling by private auto, carpool, app-based ride-hailing services (e.g., Uber, Lyft)^b Other modes include walk, bicycle, motorcycle, and additional modes such as taxis. Internal trips, generally by walking and bicycling, are also included within the "other" mode.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

Table 4.E-12, Proposed Project Trip Generation by Mode, Land Use, and Time Period presents the external daily and a.m. and p.m. peak hour person and vehicle trips by the various land uses, while Table 4.E-13, Proposed Project Trip Generation by Mode and Place of Origin, presents this same information by place of origin. Trips that occur within the site are not included in these tables (see Table 4.E-9, p. 4.E-43 above). During the a.m. peak hour, the residential, and general office, R&D, and PDR uses would generate the greatest number of person and vehicle trips. During the p.m. peak hour, retail activity would be greater than during the a.m. peak hour, and therefore the overall number of project-generated person and vehicle trips during the p.m. peak hour would be greater

than during the a.m. peak hour. The majority of a.m. and p.m. peak hour trips would be within Superdistrict 3, to and from Superdistrict 1 (the northeast quadrant which includes downtown), and to and from the East Bay and South Bay.

TABLE 4.E-12
PROPOSED PROJECT TRIP GENERATION BY MODE, LAND USE AND TIME PERIOD - EXTERNAL TRIPS ONLY^{a,b}

Analysis Period/Land Use	Person Trips by Travel Mode				Vehicle Trips
	Auto	Transit	Other ^c	Total	
Daily					
Residential	6,343	5,812	2,535	14,690	5,772
Hotel	529	239	218	986	255
General Office	4,525	2,385	1,745	8,655	2,522
Research & Development/PDR	2,502	1,319	965	4,785	1,394
General Retail/Supermarket	5,817	1,708	3,975	11,500	2,868
Restaurant/Entertainment/Assembly	11,197	3,296	7,602	22,094	5,514
Community Facilities/Open Space	2,583	1,211	1,311	5,105	1,196
Total Daily	33,495	15,969	18,351	67,814	19,522
a.m. Peak Hour					
Residential	1,112	1,067	484	2,662	1,012
Hotel	58	31	22	111	33
General Office	431	259	69	758	295
Research & Development/PDR	454	273	73	799	311
General Retail/Supermarket	134	44	82	260	69
Restaurant/Entertainment/Assembly	117	44	60	221	64
Community Facilities/Open Space	166	79	82	327	79
Total a.m. Peak Hour	2,472	1,796	871	5,139	1,862
p.m. Peak Hour					
Residential	1,209	1,133	504	2,846	1,100
Hotel	62	34	14	110	39
General Office	397	236	56	690	271
Research & Development/PDR	387	230	55	672	264
General Retail/Supermarket	384	114	256	754	188
Restaurant/Entertainment/Assembly	1,041	308	698	2,046	511
Community Facilities/Open Space	356	168	181	705	165
Total p.m. Peak Hour	3,835	2,223	1,764	7,823	2,540

NOTES

^a Numbers may not sum to total due to rounding.

^b External trips are those whose origin or destination is outside the project site.

^c Other modes include walk, bicycle, motorcycle, and additional modes such as taxis.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018.
See Appendix C.

TABLE 4.E-13
PROPOSED PROJECT TRIP GENERATION BY MODE AND PLACE OF ORIGIN – EXTERNAL TRIPS ONLY^{a,b}

Analysis Period/Place of Origin	Person Trips by Travel Mode				Vehicle Trips
	Auto	Transit	Other ^c	Total	
Daily					
San Francisco					
Superdistrict 1	3,203	3,327	3,796	10,327	2,563
Superdistrict 2	3,629	2,271	1,875	7,775	2,315
Superdistrict 3	6,474	2,496	3,767	12,737	3,467
Superdistrict 4	2,555	1,320	732	4,606	1,534
East Bay	3,903	2,376	1,477	7,757	2,096
North Bay	1,929	521	474	2,924	1,201
South Bay	7,130	2,215	795	10,140	4,544
Out of Region	4,673	1,442	5,434	11,549	1,802
Total Daily Trips	33,495	15,969	18,351	67,814	19,522
a.m. Peak Hour					
San Francisco					
Superdistrict 1	502	572	347	1,421	447
Superdistrict 2	228	204	80	513	168
Superdistrict 3	291	236	157	684	216
Superdistrict 4	190	143	48	380	130
East Bay	344	268	61	673	205
North Bay	152	51	11	214	108
South Bay	642	272	68	983	529
Out of Region	122	51	98	270	59
Total a.m. Peak Hour Trips	2,472	1,796	871	5,139	1,862
p.m. Peak Hour					
San Francisco					
Superdistrict 1	526	583	427	1,536	457
Superdistrict 2	384	286	177	847	267
Superdistrict 3	541	285	310	1,136	328
Superdistrict 4	298	184	79	560	193
East Bay	490	340	148	977	283
North Bay	236	72	42	351	157
South Bay	938	345	104	1,387	683
Out of Region	424	128	477	1,029	171
Total p.m. Peak Hour Trips	3,835	2,223	1,764	7,823	2,540

NOTES^a Numbers may not sum to total due to rounding.^b External trips are those whose origin or destination is outside the project site.^c Other modes include walk, bicycle, motorcycle, and additional modes such as taxis.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018.
 See Appendix C.

Step 4: Trip Assignment

The vehicle, transit, and pedestrian trips and directional distribution obtained in step 3 were used as a basis for assigning trips to the transportation network. Project-generated vehicle trips were assigned to the local streets near the project site based on the distribution patterns identified in the above step, and project site access via 23rd, Humboldt, and 22nd streets. Travel paths were developed based on the most likely desired routes, number of travel lanes on streets, and knowledge of current travel patterns in the study area. Project vehicle trips traveling northbound and southbound along Third and Illinois streets to access the project site were generally assigned in a 2:1 ratio along Third Street and Illinois Street, respectively, reflecting the comparative capacity of those streets.

Transit trips were assigned to the 22 Fillmore and 48 Quintara/24th Street bus routes and the T Third light rail line that would be used to travel to and from destinations identified in the transit distribution, or to transfer to other bus routes or light rail lines. Transit trips destined to and from the 22nd Street Caltrain station at Iowa Street and the 16th Street BART station were assigned to the proposed project shuttle during the a.m. and p.m. peak periods. In addition, the transit trip assignment considered the proposed shuttle as an additional option during the a.m. and p.m. peak periods for riders accessing the area around the 16th Street BART station. Pedestrian trips, including transit riders walking to and from the nearby transit stops, were assigned to local streets.

Project Vehicle and Transit Trips Used in Quantitative Analysis

As described in Chapter 2, Section 2.E, Project Characteristics and Components, the proposed project land use program presented in Table 2-1, p. 2-14, represents the program that the project sponsor anticipates implementing on the project site. However, proposed development controls for the site would allow for flexibility of uses on certain blocks between either residential or commercial office uses, depending on future market conditions. To account for the potential differences in uses on the flex blocks, the travel demand analysis was also conducted for two additional land use program scenarios to determine whether the possible changes in land uses on the flex blocks would result in a higher trip generation than presented above for the proposed project. This analysis is included in the travel demand memorandum prepared for the proposed project and included in Appendix C. The analysis determined that total peak hour travel demand for the proposed project and the two scenarios for the flex blocks would generally be similar (somewhere between 2 and 6 percent of each other), but with greater variation in the number of trips between inbound and outbound directions of travel as a result of the differences in land use characteristics. Therefore, in order for the quantitative analyses to account for the maximum potential impact of the proposed project on transportation, air quality, and noise impact analyses, the maximum inbound and outbound vehicle and transit trips during each peak hour of analysis were used in the transportation impact analyses.

Table 4.E-14, Proposed Project Vehicle and Transit Trip Generation by Place of Origin, summarizes the maximum inbound and outbound vehicle and transit trips for the a.m. and p.m. peak hours by place of origin. As noted above, the number of trips are slightly greater than those presented in Table 4.E-12 above, and this represents a conservative analysis scenario. As shown in Table 4.E-14, the proposed project would generate a maximum of 2,006 vehicle trips during the a.m. peak hour and 2,644 vehicle trips during the p.m. peak hour, and a maximum of 1,926 transit trips during the a.m. peak hour, and 2,335 transit trips during the p.m. peak hour.

TABLE 4.E-14
PROPOSED PROJECT VEHICLE AND TRANSIT TRIP GENERATION BY PLACE OF ORIGIN^a

Place of Trip Origin or Destination	a.m. Peak Hour			p.m. Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Vehicle Trips						
San Francisco						
Superdistrict 1	154	321	475	319	160	479
Superdistrict 2	126	54	180	108	169	277
Superdistrict 3	138	108	247	135	196	331
Superdistrict 4	93	46	139	82	120	202
East Bay	129	91	219	137	159	296
North Bay	72	43	116	72	93	164
South Bay	352	218	570	315	405	720
Outside of Bay Area	39	22	61	77	96	173
Total Vehicle Trips	1,103	904	2,006	1,245	1,399	2,644
Transit Trips						
San Francisco						
Superdistrict 1	203	406	608	404	209	613
Superdistrict 2	151	67	218	116	183	299
Superdistrict 3	134	129	263	147	158	305
Superdistrict 4	98	55	153	81	111	193
East Bay	196	92	287	138	219	358
North Bay	37	17	54	30	46	76
South Bay	137	152	289	201	162	363
Outside of Bay Area	39	13	52	53	77	129
Total Transit Trips	994	932	1,926	1,170	1,164	2,335

NOTE:

^a Numbers may not sum to total due to rounding.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018.
 See Appendix C.

Freight Delivery and Service Vehicle Demand

The San Francisco Transportation Impact Analysis Guidelines methodology for estimating commercial vehicle and freight loading demand was used to calculate the daily truck/service vehicle trips and the average hour and peak hour loading space demand for the office, retail, restaurant and community facility uses. Daily truck trips generated per 1,000 square feet were calculated based on the rates contained within the Transportation Impact Analysis Guidelines, then converted to hourly demand based on a nine-hour day and a 25-minute average stay. Average hour loading space demand was converted to a peak hour demand by applying a peaking factor, as specified in the Transportation Impact Analysis Guidelines. Both the R&D and PDR uses were treated as general office, and the assembly use was treated as a restaurant use. Daily and hourly truck trip generation rates were developed for the supermarket use from previously collected field data. See Appendix C.

Table 4.E-15, Proposed Project Daily Trucks and Service Vehicles and Loading Space Demand by Land Use, presents the number of trucks generated on a daily basis, and the demand for truck and service vehicle loading spaces during the average hour and peak hour of loading activity for the proposed project. The proposed project would generate about 690 delivery and service vehicle trips per day, which corresponds to a demand for 33 loading spaces during the average hour of loading activity and 42 loading spaces during the peak hour of loading activity.

TABLE 4.E-15
PROPOSED PROJECT DAILY TRUCKS AND SERVICE VEHICLES AND LOADING SPACE DEMAND BY LAND USE^a

Land Use Type	Daily Trucks and Service Vehicles	Commercial Loading Space Demand	
		Average Hour	Peak Hour ^b
Residential	80	4	5
Hotel	22	1	1
Office/R&D/PDR	271	13	16
General Retail	2	0	0
Supermarket	54	3	5
Restaurant/Entertainment/Assembly	247	12	14
Community Facilities	10	0	1
Total	686	33	42

NOTES:

^a Numbers may not sum to total due to rounding.

^b Peak hour of the commercial loading demand, which generally occurs between 10 a.m. and 1 p.m. except the supermarket use, which occurs between 6 a.m. and 11 a.m.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

Vehicle Parking Demand

Vehicle parking demand consists of both long-term demand (typically residents and employees) and short-term demand (typically visitors). Peak parking demand for the proposed uses was estimated for the midday period (12 p.m. to 2 p.m.) when parking occupancy is typically greatest for office, R&D, PDR, retail, and community facility uses, and for the evening (7 p.m. to 9 p.m.) period when parking demand is greatest for the residential and hotel uses. Weekday parking demand for the proposed project was determined based on methodologies and rates presented in the Transportation Impact Analysis Guidelines. In order to disaggregate the parking demand for the two analysis periods, the Transportation Impact Analysis Guidelines data was supplemented with information developed by the Urban Land Institute for the evaluation of mixed-use developments and from field-collected data for selected uses. See Appendix C.

Residential and Hotel Uses

Per the Transportation Impact Analysis Guidelines, residential and hotel uses are expected to primarily generate long-term parking demand, attributable to hotel guests and employees.³⁰

³⁰ Hotels may also generate short-term parking demand if they include convention or meeting facilities catering that are regularly used by non-hotel guests.

Residential parking demand was estimated consistent with the Transportation Impact Analysis Guidelines methodology, adjusted to account for the expected amount of travel to and from the site by automobile, and the limited availability of residential parking supply (i.e., less than one vehicle parking space per unit). Long-term parking demand for the market rate residential units was estimated assuming 0.66 parking space for every studio/1-bedroom unit and 0.9 space for every unit with two or more bedrooms. In addition, consistent with the Transportation Impact Analysis Guidelines, the long-term parking demand for the affordable dwelling units (a minimum of 18 percent of the total number of units) was estimated assuming 0.45 space for every studio/1-bedroom unit and 0.9 space for every unit with two or more bedrooms.

Long-term vehicle parking demand for hotel guests was estimated based on a rate of 0.8 space per room (for Neighborhood-Commercial districts), while the employee parking demand was calculated by determining the number of daytime employees and applying the average mode split and vehicle occupancy from the trip generation estimation.

All Other Uses

Long-term parking demand for the office, R&D, PDR, retail, restaurant, assembly and community facility uses was estimated by applying the average mode split and vehicle occupancy from the trip generation estimation to the number of employees for each of the proposed land uses. Consistent with the *SF Guidelines*, short-term parking for these uses was estimated based on the total daily vehicle visitor trips and an average daily parking turnover rate of 5.5 vehicles per space per day, except for the supermarket use where a parking turnover rate of 11 vehicles per space was assumed.³¹

The peak parking demand estimates for the weekday midday and evening periods are presented in **Table 4.E-16, Proposed Project Peak Peaking Demand by Land Use and Time Period**. The proposed project would generate a parking demand for 4,205 spaces during weekday midday period (831 short-term and 3,374 long-term) and 3,009 spaces during the evening period (541 short-term and 2,468 long-term).

Methodology for Analysis of Cumulative Impacts

Foreseeable Nearby Development Projects

In addition to the full buildout of the adjacent Pier 70 Mixed-Use District project (described in Chapter 2, Section 2.D.1, Existing Site Characteristics and Site History), other reasonably foreseeable development projects were considered in the cumulative transportation analysis. These include those future development projects expected to be constructed by 2040, and which are included in the citywide travel demand forecasting (SF-CHAMP) model. Those in closest proximity to the proposed project site are individually described in Section 4.A, Table 4.A-1, Cumulative Projects in the Project Vicinity, p. 4.A-10.

³¹ As an example, a daily turnover rate of 5.5 means that each parking space is utilized by an average of 5.5 vehicles during the day.

TABLE 4.E-16
PROPOSED PROJECT PEAK PARKING DEMAND BY LAND USE AND TIME PERIOD

Land Use Type	Number of Occupied Parking Spaces ^a					
	Midday Period (Noon to 2 p.m.)			Evening Period (7 to 9 p.m.)		
	Short-term ^b	Long-term ^c	Total	Short-term ^b	Long-term ^c	Total
Residential	-	1,391	1,391	-	1,985	1,985
Hotel ^d	-	148	148	-	168	168
General Office	106	897	1,003	6	90	96
Research & Development/PDR	59	728	787	4	73	77
Retail/Supermarket	136	65	201	124	65	189
Restaurant/Entertainment/Assembly	437	80	517	395	79	474
Community Facilities/Open Space	93	65	158	12	8	20
Total Proposed Project	831	3,374	4,205	541	2,468	3,009

NOTES:

^a Numbers may not sum to total due to rounding.^b Visitors and customers.^c Residents, hotel guests, and employees.^d Assumes that conference rooms or other hotel facilities would not regularly be used by non-guests.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

Cumulative Transportation Network Changes

Pier 70 Mixed-Use District Project Transportation Network Improvements

The Pier 70 Mixed-Use District project includes buildout of its internal roadway network. The primary east-west streets providing access to that site will be 20th and 22nd streets, and a planned new 21st Street within the site will provide secondary access. All streets will include sidewalks, and Maryland, 20th, and 22nd streets will include class II (bicycle lane) or class III (shared lane bicycle route) bicycle facilities. In addition, a multi-use path (i.e., the Bay Trail and Blue Greenway) will be provided along the waterfront and will connect the Pier 70 site to Crane Cove Park to the north, and to the Potrero Power Station project site to the south. Outside of the Pier 70 site, new traffic signals will be installed at the intersections of Illinois Street/20th Street, Illinois Street/21st Street, and Illinois Street/22nd Street, and the sidewalk on the east side of Illinois Street between 20th and 22nd streets will be reconstructed. In addition, parking on the east side of Illinois Street will be reconfigured from the existing diagonal to a parallel configuration, and existing traffic signs and poles located at the back of the sidewalk will be relocated adjacent to the curb as part of the Pier 70 Mixed-Use District project. The Pier 70 Mixed-Use District project will include a peak period shuttle route program. The development will be constructed in phases and is expected to be fully built out by 2029.

Indiana Street Bikeway Connection Project

The Indiana Street Bikeway Connection project is a local bicycle connection that would provide a north-south connection on Indiana Street between Cesar Chavez Street and the end of the I-280 ramps to the north (i.e., ramps between 25th and 23rd streets). Between Cesar Chavez Street and 25th Street, northbound and southbound bicycle lanes will be added to the segment by eliminating

one northbound travel lane. Between 25th Street and the end of the I-280 ramps to the north, a two-way parking protected bikeway will be installed on the east side of the street. On-street parking and loading spaces will move from the curb. In addition, as part of this project, the SFMTA will also provide a short section of parking protected bikeway to connect Indiana Street to the signalized intersection at Cesar Chavez Street to avoid out of direction travel currently required on Minnesota Street from 23rd to Cesar Chavez streets. A longer-term bikeway project for Dogpatch will be studied. The SFMTA will install the bicycle lanes in late 2018.

The 22nd Street Green Connection Project

Public Work's 22nd Street Green Connection Project will create a new green connection between Illinois Street and the 22nd Street Caltrain station at Iowa Street, and eventually up the hill to the Potrero Hill Parks and Recreation center. The project includes sidewalk widening at corner bulbouts, replacement of sidewalk paving, and full repaving of the roadway. Installation of concrete and permeable unit pavers, plantings, pedestrian lights, bicycle racks, trash receptacles, benches, new painted and decorative crosswalks, and bicycle route markings (sharrows). Construction on the project broke ground in January of 2018, with construction estimated to be completed by the end of 2018.

Dogpatch Parking Management Plan

The SFMTA, in consultation with neighborhood residents, businesses, and key institutions, prepared a Dogpatch Parking Management Plan for the area bounded by Mariposa Street, Illinois Street, Cesar Chavez Street, and Iowa Street/I-280. Elements of the plan include revisions to on-street parking regulations, parking meters, and time limits, as well as creation of a new Residential Permit Parking³² Area "EE" that expands the existing Residential Permit Parking Area "X". The Dogpatch Parking Management Plan was approved by the SFMTA Board in April 2018, and implementation of the changes to the on-street parking regulations are anticipated to be completed by September 2018.

Central Waterfront-Dogpatch Public Realm Plan

The Draft Central Waterfront-Dogpatch Public Realm Plan, initiated for adoption by the City Planning Commission in June 2018 will go to the Board of Supervisors for general plan amendment adoption in October 2018.³³ The Public Realm Plan is an interagency effort to identify and scope public realm improvements for the Central Waterfront-Dogpatch area to improve transportation and public realm infrastructure, as well as the ongoing shift in land uses and increase in population. The type of transportation projects identified in the plan include new, widened or reconstructed sidewalks on 16 street segments, corner bulbouts at 20 intersections along Illinois, Tennessee, Minnesota, and Indiana streets, and Pennsylvania Avenue, new crosswalk markings at more than 25 intersections, two raised midblock crossings on Tennessee and Minnesota streets, class II and

³² The preferential residential parking system (i.e., the Residential Permit Parking program) was established in 1976. The main goal of the program is to provide more parking spaces for residents by discouraging long-term parking by people who do not live in the area. Local regulations regarding the establishment of permit areas and requirements for permits can be found in the *San Francisco Transportation Code*, Division II, Article 900, <https://law.resource.org/pub/us/code/city/ca/0-snapshots/S-44/Transportation.html>.

³³ City and County of San Francisco, Addendum #3 to the Eastern Neighborhoods Rezoning and Area Plans, Final EIR, May 2, 2018. Planning Department Case File No. 2015-001821ENV.

class III bicycle facilities on 19th, Minnesota, and 24th streets, and a boardwalk over the wetlands within Warm Water Cove Park. Improvements would be implemented pending technical feasibility analyses and as funding becomes available.

Central Subway Project

This project will extend the Muni Metro T Third light rail line and provide a direct transit link between Mission Bay, SoMa, Union Square, and Chinatown. Four new stations will be constructed along the new 0.7-mile long alignment. The Central Subway will extend the T Third line northward from its current terminus at Fourth and King streets to a surface station south of Bryant Street and go underground at a portal under U.S. 101. From there it will continue north to stations at Moscone Center, Union Square—where it will provide passenger connections to the Muni/BART Powell station — and in Chinatown, where the line will terminate on Stockton Street at Clay Street. Construction is currently underway and is scheduled to be completed in 2018. Revenue service is scheduled for 2019.

Mission Bay Loop

Located within the Central Waterfront area on the blocks of 18th, Illinois, and 19th streets, this project is a component of the T Third light rail line and Central Subway projects. This project would allow trains to turn around to accommodate additional service between Mission Bay and the Market Street Muni Metro during peak demand periods and for special events. The existing trackway on 18th and 19th streets between Third and Illinois streets will be extended to and on Illinois Street to complete the loop. Pedestrian crosswalks and traffic signals will be installed at the intersections of Illinois Street/18th Street and Illinois Street/19th Street. Construction is currently underway and is scheduled to be completed in late 2018.

Muni Forward

The Muni Forward program includes a series of improvements to the Muni network in order to increase the frequency of services, simplify the network, and make network navigation easier for customers. These improvements include frequency increases for impacted routes, vehicle changes, extended hours for high demand commute routes, improved bus shelters, and changes to route names and numbers. Improvements that have been implemented in the project area include increasing the frequency of the K/T Muni Metro service and adding a new bus route (55 16th Street) between Mission Bay and the 16th Street BART station. Future changes include shifting the 22 Fillmore and 10 Townsend routes to Mission Bay.

16th Street Improvement Project

SFMTA will implement transit priority and pedestrian safety improvements for the 22 Fillmore route along 16th Street (formerly known as the 22 Fillmore Transit Priority Project). This project will include transit-only lanes, transit bulbs and islands, new traffic signals and a number of pedestrian safety upgrades. The project will also integrate infrastructure updates along 16th Street including repaving, utility work, and an extension of the Overhead Contact System from Kansas Street to Third Street to allow for zero-emission transit service into Mission Bay.

The 22 Fillmore Transit Priority Project extends along 16th Street between Third and Church streets. In the segment between Third and Seventh streets, side-running transit-only lanes will be implemented on 16th Street by converting a mixed-flow lane to a transit-only lane. West of Seventh Street, the transit-only lane will be side-running in the westbound direction, and center-running in the eastbound direction. The 22 Fillmore Transit Priority Project will also include corridor-wide transit network improvements such as transit bulbs, new traffic signals, pedestrian signals, sidewalk widening. Initial transit enhancements on 16th Street between Potrero Avenue and Fourth Street were implemented in fall 2017. The first phase of construction (i.e., replace underground utilities, upgrade traffic signals, repave the street, improve pedestrian safety, and plant trees) started in spring 2018. Construction of the project is expected to be substantially completed by summer 2020.

Muni Route XX

When the 22 Fillmore is extended to Mission Bay along 16th Street in 2020 or 2021, the SFMTA will provide replacement service south of 16th Street in the Dogpatch. However, at this time, the SFMTA is no longer considering the Muni Forward 33 Stanyan service improvement, which was to provide the replacement service. SFMTA is developing a new route, identified as "Route XX" in this EIR (specific route name to be determined). The SFMTA Bus Fleet Management Plan has identified the future proposed Route XX vehicle type as hybrid 40-foot buses and the number of vehicles per hour (seven buses during the a.m. and p.m. peak periods in 2020).³⁴ Additionally, the SFMTA Operating Budget, Fiscal Year 2019 and 2020 has allocated funds for operating the number buses identified on this route.³⁵ However, the SFMTA Board has not finalized or adopted details related to service route stops for the replacement Route XX. For 2040 cumulative analysis of transit ridership and capacity utilization, the analysis assumed the same service currently provided by the existing 22 Fillmore route. For the 2040 cumulative analysis of transit travel times, the qualitative assessment assumed the same routing as provided in the SFMTA Bus Fleet Management Plan³⁶ and shown in Figure 2-13, p. 2-31 in Chapter 2, Project Description.

Mission Bay Transportation Network Improvements

Buildout of the roadway network part of the Mission Bay Plan by the master infrastructure developer is nearing completion. Projects completed in June 2018 include the extension of Owens Street between 16th and Mariposa streets, and ramp and traffic signal improvements at the I-280 northbound off-ramp and southbound on-ramp at Mariposa Street. In 2019, the intersection of Minnesota Street/18th Street will be signalized (currently all-way stop sign controlled). In addition, as part of the Mission Bay Infrastructure Plan and the Chase Center construction, Terry A. Francois Boulevard between South Street and 16th Street is currently being improved and realigned, and construction is estimated to be completed in late 2018. Planned improvements include installation of a two-way, protected bicycle lane on the east side of the street.

³⁴ City and County of San Francisco, *SFMTA Bus Fleet Management Plan 2017-2030*, March 2017.

³⁵ SFMTA, *Proposed Operating Budget Fiscal Year 2019 & Fiscal Year 2020*, adopted April 2018, www.sfmta.com.

³⁶ The SFMTA Bus Fleet Management Plan 2017-2030 specifies that a "new service will be introduced in Potrero Hill to replace the service currently provided by Route 22 in Potrero Hill and Dogpatch, and is also being evaluated to provide a new connection to the redevelopment project at Pier 70." Figure 23 in the plan shows the Route XX alignment along 16th, Connecticut, 18th, Minnesota, and 22nd streets.

Chase Center Transportation Network Improvements

The Chase Center (Golden State Warriors' arena) project is currently constructing a variety of transportation network and circulation improvements adjacent to the site. These changes include the reconfiguration of South Street, 16th Street, and Terry A. Francois Boulevard; conversion of many all-way stop-controlled intersections to signalized intersections; and bicycle and pedestrian network improvements. Sixteenth Street will be rebuilt and extended to the realigned Terry A. Francois Boulevard. Sidewalks will be constructed, and new marked crosswalks will be installed in order to improve pedestrian networks in the project vicinity. Additionally, the Mission Bay Shuttle Program will be expanded to serve the site and the SFMTA will develop a special event service plan for the Chase Center. The project also includes the demolition of the existing separate northbound and southbound light rail platforms on Third Street north and south of South Street, and construction of a new center boarding platform on Third Street south of South Street. As part of construction of the new platform, the existing light rail tracks and overhead contact system lines will be reconfigured, two crossover tracks north and south of the new platform will be installed, and a mid-block signal will be installed on Third Street at Campus Lane (i.e., between South and 16th streets).

Mission Bay Ferry Landing and Water Taxi Landing

The proposed Mission Bay Ferry Landing and Water Taxi Landing project is located within Mission Bay near the intersection of Terry A. Francois Boulevard and 16th Street (as noted above, 16th Street will be extended between Illinois Street and Terry A. Francois Boulevard as part of the Chase Center project). The project would involve the construction of a single-float, two-berth ferry landing to provide regional ferry service, and a separate single-float, two-berth water taxi landing to provide local water taxi access to the Mission Bay area and surrounding neighborhoods. Commute service would be provided to/from Alameda-Oakland, Vallejo, and potentially Larkspur by the Water Emergency Transit Authority and the Golden Gate Bridge, Highway and Transportation District. Special event service for the Chase Center is also proposed for all Golden State Warriors' games and approximately 20 additional events per year. The project completed environmental review,³⁷ and construction of the ferry and water taxi landings is anticipated to commence in the summer of 2019 and be completed in 2021.

Cumulative VMT and Vehicle and Transit Demand

Future year 2040 cumulative VMT per capita were estimated based on cumulative development and growth identified by the San Francisco County Transportation Authority SF-CHAMP travel demand model, using model output that represents existing conditions and model output for 2040 cumulative conditions. The SF-CHAMP model uses 2040 residential and job growth estimates prepared by the Association of Bay Area Governments and adjusted by the San Francisco Planning Department, and the model also includes transportation network changes that are reasonably

³⁷ City and County of San Francisco, Mission Bay Ferry Landing and Water Taxi Landing, Final Mitigated Negative Declaration, June 18, 2018. Planning Department Case File No. 2017-008824ENV.

foreseeable, including those in the latest adopted Regional Transportation Plan and the latest adopted San Francisco Transportation Plan, and/or those that are undergoing environmental review.³⁸

Future 2040 cumulative traffic volumes were estimated based on cumulative development and growth identified by the San Francisco County Transportation Authority SF-CHAMP travel demand model, using model output that represents existing conditions and model output for 2040 cumulative conditions. The SF-CHAMP model is an activity-based travel demand model that is calibrated to represent future transportation conditions in San Francisco and is updated regularly. The model predicts person travel for a full day based on assumptions of growth in population, housing units, and employment. Future year 2040 intersection turning movement volumes were developed by applying growth values calculated from traffic volume growth between existing and 2040 conditions obtained from the SF-CHAMP model to actual traffic volumes collected in the field. The 2040 cumulative traffic volumes take into account cumulative development projects near the project site. The most recent available version of the SF-CHAMP model does not take into account the additional vehicle trips generated by the proposed project, so those were added separately to appropriately represent future 2040 cumulative traffic conditions with the proposed project.

The 2040 cumulative transit analysis accounts for ridership and/or capacity changes associated with Muni Forward, the Central Subway Project (which is scheduled to open in 2019), the new Transbay Transit Center, the electrification of Caltrain, the extension of Caltrain to the new Transbay Transit Center, expanded Water Emergency Transportation Authority ferry service, and additional capacity planned by BART, AC Transit, SamTrans, and Golden Gate Transit. The 2040 cumulative ridership and capacity for the Muni routes and regional screenline analysis was developed by the SFMTA based on the SF-CHAMP model analysis conducted for the Central SoMa Plan EIR. Similar to the estimation of cumulative traffic volumes, project trips were added to appropriately represent future 2040 cumulative transit conditions with the proposed project.

Impact Evaluation

Construction Impacts

Impact TR-1: Construction of the proposed project would not result in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, and would not result in potentially hazardous conditions. (*Less than Significant*)

The construction impact assessment is based on currently available information from the project sponsor and professional knowledge of typical construction practices citywide. Prior to construction, as part of the building permit process, the project sponsor and construction contractor(s) would be required to meet with San Francisco Public Works and SFMTA staff to develop and review truck routing plans for demolition, disposal of excavated materials, materials delivery and storage, as well as staging for construction vehicles. The construction contractor would be required to meet the City of San Francisco's Regulations for Working in San Francisco

³⁸ Manoj Madhavan and Chris Espiritu, San Francisco Planning Department, Memo to Transportation Team, "CEQA – 2040 SF-CHAMP Modeling Methodology Assumptions," April 25, 2016.

Streets, (the Blue Book), including those regarding sidewalk and lane closures, and would meet with SFMTA staff to determine if any special traffic permits would be required.³⁹ In addition to the regulations in the Blue Book, the contractor would be responsible for complying with all city, state and federal codes, rules and regulations. The project sponsor would be responsible for reimbursing the SFMTA for any temporary striping and signage during project construction.

Construction of the proposed project is expected to occur over the course of 15 years, from about 2020 to 2034 (see Table 2-2, Construction Schedule by Phase p. 2-52 in Chapter 2) and would be conducted in seven overlapping phases. The last six construction phases correspond to areas of the project site, with each consisting of two to three blocks and associated areas for streets and open spaces (see Figure 2-25, Proposed Project Phasing Plan, p. 2-51 in Chapter 2). Construction activities would include, but not be limited to: site demolition, clearing and excavation, grading, dewatering, pile installation and foundation construction, building construction, installation of utilities, paving, interior finishing and exterior streetscape, hardscaping and landscaping.

Construction-related activities would occur up to seven days a week, between 7 a.m. and 8 p.m. Nighttime construction activities would generally occur between 8 p.m. and 3 a.m. and would be limited to 23rd Street in Phase 1, before residential occupancy of the site. The contractor would be required to comply with the San Francisco Noise Ordinance (San Francisco Police Code article 29), in addition to the Blue Book as well as the public works code. In the case of a special permit for night construction, the hours of construction would be stipulated in the conditions of the special permit issued by either the building department if on private property, or public works if on public property, as applicable. Construction staging (staging of construction vehicles, staging of construction materials, construction worker parking, and delivery and haul trucks) would occur onsite mostly within or nearby the block under construction, and would vary by phase. See Appendix C for additional information about construction staging by phase.

During the construction period, building activities would generate traffic volumes from construction workers, truck deliveries of supplies and construction equipment, and hauling of excavated materials during demolition, excavation and grading. During the 15-year period, the number of construction trucks traveling to and from the site would vary, depending on the phase and type of construction activity. The peak number of construction vehicle trips (equipment and materials deliveries, and haul trips) would occur in 2022 with between 100 and 150 trucks per day, and for four months in 2024 with about 200 trucks per day. For about 90 percent of the 15-year construction period, there would be fewer than 100 trucks per day, and for 60 percent of the period there would be fewer than 50 trucks per day. See Appendix C for more information about construction vehicle trips during project construction.

A construction worker parking plan would be required prior to approval of excavation permits for major work per Board of Supervisor Ordinance Number 163-15. Public Works Ordinance 163-15 requires development of a contractor parking plan in order to obtain permits for major excavation work to reduce worker-vehicle demand or temporary parking demand. For the proposed project, the construction worker parking plan would be required to identify the location of construction

³⁹ SFMTA, *SFMTA Blue Book*, 8th Edition, 2012, www.sfmta.com.

worker parking, as well as the person(s) responsible for monitoring the implementation of the proposed parking plan. The use of on-street parking to accommodate construction worker parking would be discouraged.

The impact of construction truck traffic would be a temporary lessening of the capacities of local streets in the project area due to the slower movement and larger turning radii of trucks. However, construction truck trips would not typically coincide with the peak commute periods. Third Street and Illinois Street would be used to access the site via 23rd Street. It is anticipated that a majority of the construction-related truck traffic would use Third and Illinois streets to travel to and from the U.S. 101 and I-280 ramps on Bayshore and Cesar Chavez, and 23rd and 25th streets to access the I-280 ramps at Pennsylvania and Indiana streets. Truck routes would be reviewed with the SFMTA as part of the permit process prior to construction.

As shown on Table 2-3, Project Daily Construction Workers by Year, (refer to p. 2-56 in Chapter 2), the number of daily construction workers would vary by year (depending on the overlap in phases and types of construction activities being performed) and would range between about 400 workers in 2030 to about 40 in 2033. However, it is anticipated that the addition of the worker-related vehicle- or transit-trips would not substantially affect transportation conditions, as any impacts on the transportation network would be temporary in nature and variable depending on the construction activity. Construction workers who drive to the site could cause a temporary increase in parking demand, although the initial phase of construction would include interim surface parking improvements for use by construction vehicles and other site users prior to the construction of permanent parking facilities. For the majority of the construction period, construction vehicle parking would be accommodated within the designated staging and parking areas within the site, or within the district parking garage following its completion in Phase 4 (2027-2031). The time-limited on-street parking in the vicinity of the project site would limit legal all-day parking by construction personnel.

There are no bus stops located adjacent to the project site on Illinois or 23rd streets, and therefore Muni bus routes would not be affected. The 48 Quintara/24th Street bus route runs southbound on Illinois Street between 20th and 22nd streets, however there are no bus stops on Illinois Street, and therefore relocation of bus stops would not be required. Near the project site the T Third light rail line operates within an exclusive median, and therefore, construction activities on the project site and construction vehicle travel to and from the project site would not affect T Third operations. Prior to construction, the project contractor would coordinate with Muni's Street Operations and Special Events Office to coordinate construction activities and minimize any conflicts with transit operations on Illinois Street to the north of the project site or along Third Street.

Reconstruction of the sidewalk on the east side of Illinois Street between Humboldt and 22nd streets, expected to occur during Phase 6 of the project, would require temporary rerouting of people walking to the west side of Illinois Street or to a temporary walkway within the adjacent parking lane, and on-street parking in this segment would need to be prohibited on both sides of the street for the duration of the sidewalk reconstruction. However, access to the sidewalk by people walking on the west side of Illinois Street would not be affected. Sidewalk and roadway improvements on 23rd Street would be staged as to maintain access to the existing uses on the

south side of the street (i.e., the Storage San Francisco and the DHL Express facilities). During construction of 23rd Street, on-street parking would be prohibited, and travel lanes would be shifted to the portion of street not under construction. Any temporary occupancy of the public roadway and/or sidewalk would require either a Street Space Permit or a Temporary Occupancy Permit from San Francisco Public Works.

Overall, proposed project construction would maintain pedestrian circulation and would not require travel lane closures that would disrupt or substantially delay vehicles, including transit, bicyclists, and people walking on Illinois, Third, and 23rd streets. Furthermore, construction activities would be required to meet City rules and guidance (i.e., the Blue Book and public works requirements) so that work can be done with the least possible interference with pedestrians, bicyclists, vehicles and transit, and would therefore not result in potentially hazardous conditions. For the reasons described above, the proposed project's construction-related transportation impacts would be *less than significant*.

Mitigation: None required.

While the proposed project's construction-related transportation impacts would be less than significant, the following improvement measure would further reduce the proposed project's less-than-significant impacts related to project construction activities.

Improvement Measure I-TR-A: Construction Management Plan and Public Updates

- **Construction Management Plan**—The project sponsor will develop and, upon review and approval by the San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works, implement a Construction Management Plan, addressing transportation-related circulation, access, staging and hours of delivery. The Construction Management Plan would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruption and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring transit, pedestrian, and bicycle connectivity. The Construction Management Plan would supplement and expand, rather than modify or supersede, the regulations, or provisions set forth by the SFMTA, Public Works, or other City departments and agencies, and the California Department of Transportation. Management practices could include: best practices for accommodating pedestrians and bicyclists, identifying routes for construction trucks to utilize, actively managing construction truck traffic, and minimizing delivery and haul truck trips during the morning (7 a.m. to 9 a.m.) and evening (4 p.m. to 6 p.m.) peak periods (or other times, as determined by the SFMTA).

If construction of the proposed project is determined to overlap with nearby adjacent project(s) using the same truck access routes in the project vicinity, the project sponsor or its contractor(s) will consult with various City departments, as deemed necessary by the SFMTA, Public Works, and the Planning Department, to develop a Coordinated Construction Truck Routing Plan to minimize the severity of any disruption of access to land uses and transportation facilities. The plan will identify optimal truck routes between the regional facilities and the project sites, taking into consideration truck routes of other development and infrastructure projects and any construction activities affecting the roadway network.

- ***Carpool, Bicycle, Walk, and Transit Access for Construction Workers***—To minimize parking demand and vehicle trips associated with construction workers, the construction contractor will include as part of the Construction Management Plan methods to encourage carpooling, bicycle, walk and transit access to the project site by construction workers. These methods could include providing secure bicycle parking spaces, participating in free-to-employee and employer ride matching program from www.511.org, participating in the emergency ride home program through the City of San Francisco (www.sferh.org), and providing transit information to construction workers.
 - ***Project Construction Updates for Nearby Businesses and Residents***—To minimize construction impacts on access to nearby residences and businesses, the project sponsor will provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities, travel lane closures, and parking lane and sidewalk closures (e.g., via the project's website). A regular email notice will be distributed by the project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns.
-

Operational Impacts

VMT Impacts

Impact TR-2: The proposed project would not cause substantial additional VMT or induced automobile travel. (*Less than Significant*)

VMT Assessment

Land use projects may cause substantial additional VMT. As presented in Table 4.E-2, p. 4.E-6 above, the existing average daily VMT per capita for the traffic analysis zone in which the project site is located (i.e., TAZ 559) is below the existing regional average daily VMT:

- For the residential uses (includes residential units and hotel rooms), the average daily VMT per capita is 8.8, which is about 49 percent below the existing regional average daily VMT per capita of 17.2.
- For the office uses (includes office, R&D, PDR and community facility uses), the average daily work-related VMT per employee is 14.6, which is about 24 percent below the existing regional average daily work-related VMT per employee of 19.1.
- For the retail uses (includes retail, entertainment/assembly, and open space uses), the average daily retail VMT per employee is 10.8, which is about 28 percent below the existing regional average daily retail VMT per employee of 14.9.

Thus, as described above, the project site is located within an area of the city where the existing VMT is more than 15 percent below the regional VMT thresholds, and the proposed project would meet the City's Map-Based Screening for residential, office, and retail projects. As such, the

proposed project land uses would not generate a substantial increase in VMT.⁴⁰ Furthermore, the project site meets the Proximity to Transit Stations screening criterion, which also indicates the proposed project's uses would not cause substantial additional VMT.⁴¹ Therefore, for the reasons described above, the proposed project's operational impacts related to VMT would be *less than significant*.

Induced Automobile Travel Assessment

The proposed project is not a transportation project. However, the proposed project would include features that would alter the transportation network. These features include new and reconstructed sidewalks, bicycle facilities, removal of on-street vehicle parking, new internal roadways, on-street commercial and passenger loading/unloading zones, and signalization of two intersections on Illinois Street. These features fit within the general types of projects identified above in "Approach to Analysis," specifically, under "VMT Analysis Methodology," beginning on p. 4.E-35 that would not substantially induce automobile travel. Therefore, proposed project impacts related to induced automobile travel would be *less than significant*.

Mitigation: None required.

Traffic Hazards Impacts

Impact TR-3: The proposed project would not create major traffic hazards. (*Less than Significant*)

As described in "Approach to Analysis," specifically above under "Traffic Hazards Analysis Methodology," p. 4.E-37 in assessing traffic hazards, the proposed project's building characteristics and changes to the transportation network within the site and in the project vicinity were reviewed to determine whether they would obstruct, hinder, or impair reasonable and safe views by drivers of other vehicles, pedestrians, or bicyclists traveling on the same street, and/or restrict the ability of the driver to stop the motor vehicle without danger of an ensuing collision.

The proposed conceptual street network plans within the project site (see Chapter 2) were developed in consultation with various City agencies to prioritize safe bicycle and pedestrian travel within the site, limit curb cuts into garages and loading facilities, provide adequate turning radii and sight distances at intersections, and locate driveways to provide adequate sight distance for drivers, people walking, and bicyclists. The proposed project's roadways would accommodate

⁴⁰ The Map-Based Screening for Residential, Office, and Retail Projects was applied to the proposed project. The project site is located within TAZ 559, which is within an area of the City where the existing VMT is more than 15 percent below the regional VMT thresholds, as documented in Executive Summary Resolution Modifying Transportation Impact Analysis, Attachment F (Methodologies, Significance Criteria, Thresholds of Significance, and Screening Criteria for Vehicle Miles Traveled and Induced Automobile Travel Impacts), Appendix A (San Francisco County Transportation Authority Memo), March 3, 2016, http://commissions.sfplanning.org/cpcpackets/Align-CPC%20exec%20summary_20160303_Final.pdf.

⁴¹ San Francisco Planning Department. Eligibility Checklist: CEQA Section 21099 – Modernization of Transportation Analysis for Potrero Power Station Mixed-Use Development Project, September 13, 2018. This document is available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400 as part of Case File No. 2017-011878ENV.

various vehicle types, including trucks and buses. Roadway widths would be minimized, and ample sidewalk space would be provided to calm vehicle traffic, shorten pedestrian crossing distances, protect bicycle travel, and encourage walking and bicycling. These design standards and guidelines for development at the project site, which are consistent with the Better Streets Plan policies and design standards, would be established in the Potrero Power Station Design for Development document.

The proposed project street network designs would be required to undergo more detailed design and review to ensure that they are designed to meet City design standards. The street designs would be subject to approval by the SFMTA, Public Works, and the San Francisco Fire Department, along with other City agencies, to ensure that the streets are designed consistent with City policies and design standards and do not result in traffic hazards.

The proposed project also includes installation of two new traffic signals at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street. The traffic signals would be designed consistent with standards, as noted above, and would include pedestrian countdown signals and crosswalks consistent with the continental design. While the proposed project would add vehicle trips to the surrounding roadways, this general increase in traffic volumes would not be considered a traffic hazard.

Garage Operations

A queuing assessment of the district parking garage operations on Block 5 was conducted for a.m. and p.m. peak hour conditions for inbound vehicle arrivals (vehicles exiting the garage would queue within the garage and would not affect on-street operations). The district parking garage would be accessible via two mid-block alleys, one off of Humboldt Street and the other off of Georgia Lane (see Figure 2-9, p. 2-25 in Chapter 2 and also in Appendix C). The assessment assumed one entry lane per driveway and one ticket dispenser/gate control machine, although it is anticipated that for operational reasons (equipment maintenance, malfunction, etc.) a minimum of two ticket dispenser/gate control machines would be provided at each entry. The processing rate (i.e., the rate at which vehicles are able to enter the garage) was estimated at 4.2 vehicles per minute,⁴² which accounts for all parkers being unfamiliar with the layout of garage and using the push button to gain access to the facility. This is a conservative assumption since regular users would have remote control access. The resulting 95th percentile queue⁴³ would be three vehicles at the alley off of Humboldt Street and four vehicles at the alley off of Georgia Lane entry lane. The entry control equipment at each entrance would be set back into the garage by a minimum of 40 feet, with sufficient room for two vehicles to wait inside the garage, which combined with the length of the alley, would accommodate the expected vehicle queuing without spilling back onto Humboldt Street or Georgia Lane.

⁴² *Parking*, Robert A. Weant and Herbert S. Levinson, Eno Transportation Foundation, 1990. Table 9-2, page 186. The processing rate of 4.2 vehicles per minute is based on a push button ticket dispenser entry control for entry design with a sharp turn within 100 feet of either side of the control position and/or parkers unfamiliar with the facility.

⁴³ The 95th percentile queue, which is customarily used in as a design value for parking garages, is the length of queue that has a probability of 5 percent or less of being exceeded during the analysis hour.

A similar queuing assessment of the alternate locations of the district parking garage on Blocks 1 and 13 was also conducted. As shown in Appendix C and described in Chapter 2, Section 2.E.1 Proposed Land Use Plan, the vehicular access for a district parking garage on these blocks would mostly occur directly from adjacent streets (i.e., Louisiana Street and Craig Lane for Block 1, and Georgia Street and a future mid-block alley for Block 13). Because vehicular access to the district parking garages on Block 1 and the main access on Block 13 would be directly from the adjacent streets, the design of the garage at either location would include two separate access points from different streets with two entry lanes and two entry control mechanisms. At each access point the entry control equipment would be set back into the garage by a minimum of 40 feet to accommodate at least two vehicles queuing within the garage at each entry lane. With this configuration, the resulting 95th percentile queue would be up to two vehicles at each entry lane at each street. Therefore, the design of the district parking garages on Blocks 1 and 13 would accommodate vehicle queuing onsite, without spilling back into the adjacent travel lanes, or blocking sidewalks.

While the proposed project's impacts related to garage operations would be less than significant, **Improvement Measures I-TR-B, Monitoring and Abatement of Queues**, would further reduce the less-than-significant impacts related to potential conflicts between vehicles accessing the parking garages and bicyclists, people walking and other vehicles. **Improvement Measure I-TR-B** would include monitoring and abatement of queues, should they affect pedestrian, bicycle or vehicular circulation. Thus, **Improvement Measure I-TR-B** would further reduce the proposed project's less-than-significant impacts related to parking.

Improvement Measure I-TR-B: Monitoring and Abatement of Queues

As an improvement measure to reduce the potential for queuing of vehicles accessing the project garages, it will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to garage entries. A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks, bicycle lanes, or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis.

If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods will vary depending on the characteristics and causes of the recurring queue, as well as the characteristics of the parking facility, the street(s) to which the facility connects, and the associated land uses (if applicable).

Suggested abatement methods include, but are not limited to the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; employment of parking attendants; installation of "GARAGE FULL" signs with active management by parking attendants; use of valet parking or other space-efficient parking techniques; use of other garages on the project site; use of parking occupancy sensors and signage directing drivers to available spaces; travel demand management strategies; and/or parking demand management strategies such as parking time limits, paid parking, time-of-day parking surcharge, or validated parking.

If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.

For the above reasons, the proposed project would not create traffic hazards, and therefore, proposed project impacts related to traffic hazards would be *less than significant*.

Mitigation: None required.

Transit Impacts

Impact TR-4: The proposed project would result in a substantial increase in transit demand that could not be accommodated by nearby Muni transit capacity. (*Significant and Unavoidable with Mitigation*)

As presented in Table 4.E-14 above, the proposed project would generate 1,926 new transit trips during the a.m. peak hour (994 inbound towards the project site and 932 outbound leaving the project site), and 2,335 new transit trips during the p.m. peak hour (1,170 inbound and 1,164 outbound). Due to the close to similar amounts of residential and non-residential development (i.e., about 60 percent residential and 40 percent non-residential), the proportion of inbound versus outbound trips are similar. These new transit trips would utilize the nearby Muni routes and regional lines and would include transfers to other Muni bus routes and light rail lines, or other regional transit service. As described above in "Approach to Analysis," specifically, under "Project Travel Demand Methodology," p. 4.E-40, based on the location of the project site and the anticipated origins and destinations of the new resident, employee, and visitor trips, the transit trips were assigned to Muni and the various regional transit operators (see Appendix C for details).

Table 4.E-17, **Muni Transit Analysis**, presents the transit analysis for a.m. and p.m. peak hour conditions for the T Third light rail line and the 22 Fillmore and 48 Quintara/24th Street bus routes that serve the project vicinity. As noted above, some portion of the project-generated trips would use the project shuttle buses (i.e., trips to and from destinations not directly served at the site by Muni, such as Caltrain's 22nd Street station, BART's 16th Street station, connections with Muni routes in the Mission neighborhood, or service riders with origins or destinations in the Mission neighborhood), and therefore the project shuttle service is also included in the analysis. As shown on Table 4.E-17, during both the weekday a.m. and p.m. peak hours, the project-generated transit trips assigned to the T Third light rail line would be accommodated at the maximum load point without exceeding the 85 percent capacity utilization standard. During the a.m. peak hour, the capacity utilization on the 22 Fillmore and 48 Quintara/24th Street bus routes would exceed the 85 percent capacity utilization standard in the inbound direction towards the project site, while the capacity utilization at the maximum load point with the addition of trips leaving the project site

would not exceed the 85 percent capacity utilization standard. During the p.m. peak hour, the utilization on the 22 Fillmore and 48 Quintara/24th Street bus routes would exceed the 85 percent capacity utilization standard in the outbound direction leaving the project site, while the utilization for trips traveling towards the project site would not exceed the 85 percent capacity utilization standard. The increase in utilization at the maximum load point above the 85 percent capacity utilization standard on the 22 Fillmore and 48 Quintara/24th Street bus routes during both the a.m. and p.m. peak hours as a result of the addition of project-generated transit trips would be considered a *significant* impact.

TABLE 4.E-17
MUNI TRANSIT ANALYSIS – EXISTING PLUS PROJECT CONDITIONS – WEEKDAY A.M. AND P.M. PEAK HOURS

Peak Hour/Route	Inbound To Site				Outbound From Site			
	Project Trips	Total Ridership	Capacity	Capacity Utilization ^a	Project Trips	Total Ridership	Capacity	Capacity Utilization
a.m. Peak Hour								
T Third ^b	333	1,430	3,808	37.6%	401	2,332	3,808	61.2%
22 Fillmore	159	423	441	95.9%	94	407	504	80.8%
48 Quintara/24th Street	83	320	315	101.6%	60	310	378	82.8%
Proposed Project Shuttle ^c	389	389	450	86.4%	345	345	450	76.7%
<i>Total</i>	964	2,562	5,014	51.1%	900	2,494	5,140	48.5%
p.m. Peak Hour								
T Third ^b	474	2,414	3,808	63.4%	397	2,139	3,808	56.2%
22 Fillmore	136	478	567	84.3%	186	489	567	86.2%
48 Quintara/24th Street	78	236	315	74.9%	96	322	378	85.2%
Proposed Project Shuttle ^c	446	446	450	91.1%	448	448	450	99.6%
<i>Total</i>	1,134	3,574	5,140	69.5%	1,129	3,398	5,203	65.3%

NOTES:

^a Muni capacity utilization exceeding 85 percent highlighted in **bold**. Significant project impacts shaded.

^b Ridership and capacity for the T Third reflect implementation of the Central Subway project.

^c Proposed project shuttle assumed a capacity of 450 riders each way.

SOURCE: Pier 70 Mixed-Use District Project EIR (certified August 2017), Advant Consulting/Fehr & Peers/LCW Consulting, 2018

Implementation of **Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes**, would enable the SFMTA to provide additional transit vehicles to accommodate increased ridership demand generated by the proposed project, and would reduce the proposed project's impact to less-than-significant levels. The number of buses required to accommodate the additional demand within the capacity utilization standard was based on an analysis of the ridership and available capacity on the routes. The analysis also determined at what phase of project buildout would the 85 percent standard be exceeded. The calculations are included in Appendix C. However, because implementation of features of the mitigation measure above are outside the control of the project sponsor and would require discretionary approval actions by the SFMTA and other public agencies (including allocation of funds to operate increased frequencies), implementation of this measure is considered uncertain. Public agencies subject to CEQA cannot

commit to implementing any part of a proposed project, including proposed mitigation measures, until environmental review is complete. Thus, while the SFMTA has reviewed the feasibility of the options described below, implementation of these options cannot be assured before certification of this EIR. Because it is unknown whether Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes, would be implemented, project-related impacts on the 22 Fillmore and the 48 Quintara/24th Street routes would be *significant and unavoidable with mitigation*.

Mitigation Measure M-TR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/24th Street Routes

The project sponsor shall provide capital costs to the San Francisco Municipal Transportation Agency (SFMTA) that allow for increased capacity on each affected route to be provided in a manner deemed acceptable by SFMTA through the following means:

- The project sponsor shall pay the capital costs, adjusted for inflation, for the additional buses that would be necessary to accommodate the projected travel demand within the 85 percent capacity utilization standard. The additional capacity required to reduce the capacity utilization to below the 85 percent standard would be one additional bus on the 48 Quintara/24th Street route when the proposed project is 35 percent built out (i.e., prior to construction of Phase 3 of the project) and one additional bus on the 22 Fillmore route when the project is 65 percent built out (i.e., prior to construction of Phase 5 of the project). While the project sponsor will provide funding for procurement of the two buses, the SFMTA would need to identify funding to pay for the added operating cost associated with operating increased service made possible by the increased vehicle fleet. The source of that funding has not been established.
- Alternatively, if the SFMTA determines that the options described below increase capacity along the route would more effectively address the impacts of the project on affected routes at 35 or 65 percent buildout, the project sponsor shall pay an amount equivalent to the cost of two buses toward completion of one or more of the following options, as determined by the SFMTA:
 - Convert to using higher-capacity vehicles on the 22 Fillmore (or alternative route) and 48 Quintara/24th Street routes. In this case, the project sponsor funding shall be used to pay a portion of the capital costs to convert the route from standard buses (with a capacity of 63 passengers) to articulated buses (with a capacity of 94 passengers). Some bus stops along the routes may not currently be configured to accommodate the longer articulated buses. Some bus zones could likely be extended by removing one or more parking spaces; in some locations, appropriate space may not be available. The project sponsor's contribution may not be adequate to facilitate the full conversion of the route to articulated buses. The source of funding needed to complete the remainder, including improvements to bus stop capacity at all of the bus stops along the route that do not currently accommodate articulated buses, has not yet been established.
 - Increase bus travel speeds along the route. In this case, the project sponsor's funding would be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase bus travel speeds sufficiently to increase capacity along the affected route(s) such that the project's impacts along the route(s) would be determined to

be less than significant. Increased speeds could be accomplished by funding a portion of the current 16th Street Improvement Project along 16th Street between Church and Kansas streets. Adding a traffic signal with transit signal priority at the intersection of Pennsylvania Avenue/22nd Street may increase travel speeds on this relatively short segment of the 48 Quintara/24th Street bus route. The project sponsor's funding may not be adequate to fully achieve the capacity increases needed to reduce the project's impacts and SFMTA may need to secure additional sources of funding.

- Another option to increase capacity in the vicinity of the project site is to add a new Muni service route in this area. By providing an additional service route, a percentage of the current transit riders on the 22 Fillmore and 48 Quintara/24th Street would likely shift to the new route, lowering the capacity utilization below the 85 percent utilization standard for the 22 Fillmore (or the alternative route) and 48 Quintara/24th Street. The SFMTA may need to secure funding to pay for operating the new route.

Significance after Mitigation: Implementation of the proposed project would result in significant transit impacts on Muni capacity utilization on the 22 Fillmore and 48 Quintara/24th Street bus routes. Implementation of Mitigation Measure M-TR-4, Increase Capacity on Muni 22 Fillmore and 48 Quintara/24th Street Routes would reduce the effect of increased ridership to less-than-significant levels. However, because it is not known whether SFMTA would be able to provide additional service on the impacted routes to fully mitigate project impacts, the proposed project's transit impact on the 22 Fillmore and the 48 Quintara/24th Street routes would be considered *significant and unavoidable with mitigation*.

Impact TR-5: The proposed project would result in a substantial increase in delays or operating costs such that significant adverse impacts to Muni would occur. (*Significant and Unavoidable with Mitigation*)

As discussed in "Approach to Analysis," beginning on p. 4.E-30 the impact of the proposed project on Muni transit operations in terms of increased transit travel times was analyzed for the 22 Fillmore and 48 Quintara/24th Street bus routes and the T Third light rail line for a.m. and p.m. peak hour conditions. The analysis assessed the impact of project-generated vehicles and transit ridership on these routes as they travel through the transportation study area. Impacts of the proposed project on transit operations were determined to be significant if under existing plus project conditions transit travel times would increase by 50 percent or more of the existing headway between transit vehicles.

As presented in Table 4.E-14 above, the proposed project would generate about 2,006 vehicle trips during the a.m. peak hour (1,103 inbound to and 904 outbound from the project site) and about 2,644 vehicle trips during the p.m. peak hour (1,245 inbound to and 1,399 outbound from the project site). Third and Illinois streets would be the primary streets used to access the project site via 23rd, Humboldt, and 22nd streets. Along Third Street, project-generated vehicle trips would increase traffic volumes at multiple approaches at these intersections, and the southbound left turn vehicle

demand would exceed the ability of the existing left-turn-only pockets at the intersections of Third Street/20th Street and Third Street/23rd Street to accommodate the increased demand. These southbound left turn pockets are currently about 100 to 180 feet in length, and due to right-of-way constraints on Third Street (i.e., light rail tracks, platforms), the roadway cannot be extended to accommodate additional vehicles. As a result, under existing plus project conditions, it is anticipated that some drivers traveling to the project site during the peak periods would change their travel paths to avoid the southbound left queues and the consequential spillback into the adjacent through lane. Instead, drivers would seek alternate routes on streets parallel to Third Street to the west (specifically Tennessee, Minnesota, Indiana, Pennsylvania, and Mississippi streets), and travel eastbound across Third Street at 20th, 22nd, or 23rd streets to access the project site. Under existing plus project conditions, between 90 and 140 vehicles during the a.m. and p.m. peak hours traveling to the project site along Third Street are estimated to divert to alternative routes.

Table 4.E-18, Muni Transit Travel Time Analysis, Existing Plus Project Conditions, Weekday a.m. and p.m. Peak Hours presents the transit travel delay analysis for a.m. and p.m. peak hour conditions for the 22 Fillmore and 48 Quintara/24th Street bus routes and the T Third light rail line for existing plus project conditions. As shown on the table, transit travel times on the 48 Quintara/24th Street route during the a.m. and p.m. peak hours would increase by more than six minutes. However, as shown on Table 4.E-18, this increase would be less than the half of a headway threshold of seven minutes, and therefore, impacts on the 48 Quintara/24th Street would be *less than significant*.

TABLE 4.E-18
MUNI TRANSIT TRAVEL TIME ANALYSIS – EXISTING PLUS PROJECT CONDITIONS –
WEEKDAY A.M. AND P.M. PEAK HOURS

Route	a.m. Peak Hour			p.m. Peak Hour		
	Existing Headway (min)	Travel Time (TT) Increase (min:sec)	TT Increase as % of Headway	Existing Headway (min)	Travel Time (TT) Increase (min:sec)	TT Increase as % of Headway ^a
22 Fillmore	8	1:10	15%	8	4:24	55%
48 Quintara/24th Street	10	2:13	22%	14	6:27	46%
T Third ^b	8	1:21	17%	8	1:34	20%

NOTES:

^a Shaded indicates significant project impact: travel time increases more than 50 percent of the existing transit route headway.

^b The travel time increases for the T Third are exclusively due to passenger boarding/alighting delay as this route experiences no increase in transit vehicle re-entry delay or intersection delay due to its operation within a dedicated median right-of-way.

SOURCE: SFMTA, Adavant Consulting/Fehr & Peers/LCW Consulting, 2018.

In addition, as shown on Table 4.E-18, travel times increases on the T Third line would not exceed the half of the headway threshold. Near the project site the T Third light rail travels on tracks located within a dedicated median⁴⁴ and is subject to traffic signal controls at intersections, which are currently programmed for light rail priority.⁴⁵ The transit operations analysis assumed that the amount of green time available to the light rail vehicle would remain the same as under existing conditions. Therefore, the Third light rail would not be substantially affected by increases in congestion within the mixed-flow travel lanes at intersections along Third Street, and project impacts on the T Third would be *less than significant*. This would be the case even if the intersection signal timings at Third Street at both 20th and 23rd streets were to be adjusted to allow the southbound left phase to be 20 seconds in length at all times. The phase duration is currently a default of 20 seconds but is shortened to 13 seconds when transit signal priority is activated by a light rail vehicle approaching the intersection. Fixing the duration of the southbound left turn phase at 20 seconds at all times would accommodate additional vehicles making this turn, but it would commensurately reduce the green time for the northbound through/southbound through phase during which the light rail operates by seven seconds when transit signal priority is activated. This shift of seven seconds from the northbound and southbound through movements is the maximum amount of green time determined by SFMTA to be feasible. Thus, the signal timing change would decrease the effectiveness of the existing transit signal priority timings at the Third Street intersections (i.e., trains would be more likely to arrive at the intersection when the signal is red and wait longer should they arrive at a red signal) and the T Third light rail would experience additional delays, however, travel times would not increase as to exceed the significance threshold (i.e., would not increase to more than half of the headway between trains).

However, as shown on Table 4.E-18, under existing plus project conditions, transit travel times would increase to more than half of the existing headway on the 22 Fillmore route during the p.m. peak hour. This additional delay would be considered a *significant* impact of the project on operations of the 22 Fillmore bus route. Implementation of **Mitigation Measure M-TR-5, Implement Measure to Reduce Transit Delay**, would assist in reducing increased transit travel times along the 22 Fillmore route during the p.m. peak hour by requiring the project sponsor to implement additional TDM measures identified in the City's TDM Program Standards Appendix A (or as such appendix is amended by the Planning Department in the future) that have not yet been included in the project's proposed TDM Plan that would encourage use of non-auto modes, provide onsite services to reduce the need to travel offsite, discourage driving, and reduce availability of onsite vehicle parking. This mitigation measure identifies a performance standard of the maximum number of project-generated p.m. peak hour vehicle trips for each phase of project buildout. This measure provides for monitoring of vehicle trips generated by project operation starting before the beginning of construction and continuing through project buildout. The measure also states that if the additional

⁴⁴ The T Third light rail tracks are in an exclusive median within the street right-of-way, and vehicle travel lanes are located on either side of the right rail median. The exception to this configuration is in the nine-block segment in the Bayview commercial core, where the light rail operates in mixed-flow lanes in order to preserve on-street parking in this area.

⁴⁵ There are two components to the light rail transit signal priority along Third Street. If an approaching light rail vehicle in the northbound or southbound direction is detected, the northbound and southbound left turn phases may be cut short (by roughly half) to bring forward the light rail vehicle through phase. Alternately, the light rail vehicle through phase may be extended to accommodate an approaching light rail vehicle that would otherwise not reach the intersection in time.

TDM measures do not achieve the performance standard, then the City shall impose additional onsite or offsite capacity improvements intended to reduce vehicle trips from the project. However, because the project-specific effectiveness of the various additional TDM strategies is unknown at this time, the project-related impacts on travel times on the 22 Fillmore route would remain *significant and unavoidable with mitigation*.

For informational purposes, in addition to the project-specific delays to the individual Muni routes and light rail line providing revenue service in the study area, other Muni non-revenue service vehicles and the project's own shuttle service may also experience delays. Due to the substantial increases in vehicles that would be generated by the proposed project, people driving to and from the project site are anticipated to use multiple north-south and east-west streets in the study area, and, as a result, it is anticipated that vehicular delays would increase along these streets. Muni non-revenue service vehicles use some of these streets to travel between Muni facilities in the study area (i.e., Woods, Islais Creek, and Muni Metro East) and the terminus point where their revenue service begins or ends. While the peak hour of non-revenue transit vehicle access to and from these facilities is outside the a.m. and p.m. peak hours analyzed for analysis of impacts to revenue service in Table 4.E-18, these transit vehicles may also experience delays along these streets. Mitigation Measure M-TR-5 may help reduce impacts related to any delays experienced by those non-revenue service transit vehicles.

Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay

Performance Standard. The project sponsor shall be responsible for implementing transportation demand management (TDM) measures to limit the number of project-generated vehicle trips during the p.m. peak hour to a maximum of 89 percent of the EIR-estimated values of each of the phases of project development (performance standard), as shown in the table below. The number of vehicle trips by phase to meet the above stated performance standard shall be included in the approved TDM Plan.

Project Development Phase	Maximum P.M. Peak Hour Vehicle Trips	
	Phase Total	Running Total
Phase 1	380	380
Phase 2	400	780
Phase 3	270	1,050
Phase 4	640	1,690
Phase 5	300	1,990
Phase 6	270	2,260

Monitoring and Reporting. Within one year of issuance of the project's first certificate of occupancy, the project sponsor shall retain a qualified transportation consultant approved by the SFMTA to begin monitoring daily and p.m. peak period (4 p.m. to 7 p.m.) vehicle trips in accordance with an SFMTA and San Francisco Planning Department agreed upon monitoring and reporting plan, which shall be included as a part of the approved TDM Plan. The vehicle data collection shall include counts of the number of vehicles entering and exiting the project site on internal streets at the site boundaries on 22nd, Illinois, and

23rd streets for three weekdays. The data for the three weekdays (Tuesday, Wednesday or Thursday) shall be averaged, and surveys shall be conducted within the same month annually. A document with the results of the annual vehicle counts shall be submitted to the Environmental Review Officer and the SFMTA for review within 30 days of the data collection, or with the project's annual TDM monitoring report as required by the TDM Plan (if the latter is preferable to Environmental Review Officer in consultation with the SFMTA).

The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.

If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City's TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project's approved TDM Plan, or, at the project sponsor's discretion, other measures not included in the City's TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.

For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project's development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City's TDM Program shall continue to be required.

If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making.

The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.

Significance after Mitigation: Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, aims to reduce the impact of project-generated vehicle trips on congestion and transit travel times at intersections by implementing additional TDM measures that would provide onsite services to reduce the need to travel offsite, shift project vehicle trips to non-peak periods, and encourage use of other non-auto modes, including bicycling. Shift of a portion of project-generated vehicles to other modes would reduce projected existing plus project increases in congestion and transit travel times at intersections through which the 22 Fillmore route travels. However, because it is not certain that implementation of these measures, or other capital improvements that would be required if the performance standard is not met by implementation of TDM measures, would effectively reduce project-generated vehicles to mitigate impacts on the 22 Fillmore route to less-than-significant levels, the project-related impacts on the 22 Fillmore route would remain *significant and unavoidable with mitigation*. Measures that encourage shifts of project-generated trips from auto to transit mode would increase project ridership on bus routes that were identified in Impact TR-4 above to experience significant transit capacity impacts (i.e., on the 22 Fillmore and 48 Quintara/24th Street bus routes).

Impact TR-6: The proposed project would not result in a substantial increase in regional transit demand that could not be accommodated by regional transit capacity and would not result in a substantial increase in delays or operating costs such that significant adverse impacts to regional transit would occur. (*Less than Significant*)

Capacity Utilization

The proposed project would generate 631 new transit trips to and from the East Bay, North Bay, and South Bay during the a.m. peak hour (370 inbound towards the project site and 261 outbound leaving the project site), and 796 new transit trips during the p.m. peak hour (369 inbound and 427 outbound). As described in Approach to Analysis under "Transit Analysis Methodology" the analysis of regional transit assesses the effect of project-generated transit-trips on the three regional screenlines. The regional screenline analysis is conducted for the inbound direction (i.e., towards San Francisco) during the a.m. peak hour, and in the outbound direction (i.e., leaving San Francisco) during the p.m. peak hour. Based on the origins/destinations of the transit trips generated by the proposed project, the regional transit trips were assigned to the three regional screenlines.

Table 4.E-19, Regional Transit Analysis, presents the regional screenline analysis for existing plus project conditions for the transit trips for a.m. peak and p.m. peak hour conditions. During the a.m. peak hour, of the 370 inbound trips, 196 would be arriving from the East Bay, 37 from the North Bay, and 137 from the South Bay. Of the 427 outbound trips during the p.m. peak hour, 219 would be destined to the East Bay, 46 to the North Bay, and 162 to the South Bay.

TABLE 4.E-19
REGIONAL TRANSIT ANALYSIS – EXISTING PLUS PROJECT CONDITIONS –
WEEKDAY A.M. AND P.M. PEAK HOURS

Scenario/Regional Screenline	a.m. Peak Hour Inbound Regional Screenlines				p.m. Peak Hour Outbound Regional Screenlines			
	Project Trips	Ridership	Capacity	Capacity Utilization ^a	Project Trips	Ridership	Capacity	Capacity Utilization
Existing plus Project								
East Bay								
BART	176	25,575	23,256	110.0%	197	24,685	22,784	108.3%
AC Transit	14	1,582	2,829	55.9%	15	2,271	3,926	57.9%
Ferries	6	816	1,170	69.7%	7	812	1,615	50.3%
<i>East Bay Subtotal</i>	196	27,973	27,255	102.6%	219	27,768	28,325	98.0%
North Bay								
Buses	20	1,350	2,543	53.1%	25	1,409	2,817	50.0%
Ferries	17	1,099	1,959	56.1%	21	989	1,959	50.5%
<i>North Bay Subtotal</i>	37	2,449	4,502	59.4%	46	2,398	4,776	50.2%
South Bay								
BART	116	14,266	19,367	73.7%	136	13,638	18,900	72.2%
Caltrain	21	2,192	3,100	70.7%	24	2,401	3,100	77.5%
SamTrans	0	255	520	49.0%	0	141	320	44.1%
<i>East Bay Subtotal</i>	137	16,713	22,987	72.7%	162	16,180	22,320	72.5%
<i>Regional Total</i>	370	47,135	54,744	86.1%	427	46,436	55,421	83.6%

NOTE:

^a Capacity utilization on regional providers exceeding 100 percent highlighted in bold. Significant project impacts shaded.

SOURCE: SF Planning Department Memoranda, Transit Data for Transportation Impact Studies, May 2015 and Updated BART Regional Screenlines, October 2016, Advant Consulting/Fehr & Peers/LCW Consulting, 2018

In general, the addition of the project-generated riders would not have a substantial effect on the regional transit providers during either the weekday a.m. or p.m. peak hours, and the overall regional screenlines would continue to operate under 100 percent capacity utilization. However, BART from the East Bay during the a.m. peak hour and to the East Bay during the p.m. peak hour would continue to operate at more than 100 percent capacity utilization. During both peak hours, the project trips would represent less than 5 percent of the total BART East Bay ridership at the screenline (i.e., contributions of 0.7 and 0.8 percent during the a.m. and p.m. peak hours, respectively), which would not be considered considerable, and therefore, impacts would be *less than significant*.

Transit Operations

In the project vicinity, Caltrain operates within an exclusive right-of-way, and there are no regional transit routes operating on streets that could be affected by the proposed project. The majority of the regional bus routes serve downtown, and the closest SamTrans bus routes run along Potrero Avenue (about one mile west of the project site), and SamTrans buses are permitted to travel within

the recently-installed transit-only lanes on Potrero Avenue. Therefore, the project would have *no impact* on regional transit operations in the project vicinity.

In summary, for the reasons described above, the proposed project would not substantially affect the capacity utilization or operations of regional transit service providers, and impacts to regional transit would be *less than significant*.

Mitigation: None required.

Pedestrian Impacts

Impact TR-7: The proposed project would not create hazardous conditions for people walking, or otherwise interfere with accessibility for people walking to the site or adjoining areas, but existing pedestrian facilities could present barriers to accessible pedestrian travel. (*Less than Significant with Mitigation*)

The proposed project would build out the internal street network consistent with Better Streets Plan standards. All streets within the project site would include sidewalks, with widths ranging between 10 and 19 feet wide. On streets designated as private alleys (i.e., Delaware Street north of Humboldt Street, Louisiana Street, and Craig Lane), sidewalks would be between 4 to 9 feet wide and the alleys would be designed to reduce vehicle speeds. Delaware Street north of Humboldt Street and Louisiana Street would be shared streets or alleys. At intersections within the project site, curb extensions (i.e., bulbouts) and crosswalks consistent with the Better Streets Plan would be provided.

Within the project site, raised street segments would be provided on Humboldt, Maryland, and Delaware streets adjacent to the Waterfront Park to provide additional traffic calming and pedestrian priority in areas where more intensive pedestrian activities are anticipated to occur. Chapter 2, Figure 2-12, Proposed Pedestrian Network, presents the proposed pedestrian network within the site and connections to the west, and it also identifies the priority pedestrian zones. Driveway access to garages and off-street loading facilities would be located to meet the minimum width and frequency necessary. In addition, daylighting (i.e., restricting parking adjacent to corners to enhance visibility for people walking, bicyclists, and drivers at intersections) would be implemented at intersections. Thus, the pedestrian-related features of the proposed project would accommodate people walking within the site and would not result in hazardous conditions or present barriers to people walking.

The *Garage Operations* assessment (detailed under Impact TR-3) considered whether vehicle queues generated by the district parking garage would affect pedestrians at garage access points. A queuing assessment of the district parking garage operations on Block 5, as well as on the alternate locations on Blocks 1 and 13, showed that vehicle accessing the garage would not block adjacent sidewalks.

The proposed project also includes signalization of the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, which would include new or reconstructed ADA compliant ramps, as necessary, crosswalks with the continental design, and pedestrian countdown signals.

Table 4.E-13 above presents the number of person trips that would leave the project site (i.e., external trips), and includes people walking to and from local and regional transit stops and other land uses in the project vicinity. During the weekday a.m. peak hour, the proposed project land uses would add up to 2,667 new trips by walking to the sidewalks and crosswalks in the vicinity of the project site (i.e., 1,796 trips to transit and 871 trips by other modes, a portion of which would be by people walking), while during the p.m. peak hour, the proposed project would add up to 3,987 new trips by walking (i.e., 2,223 trips to transit stops and 1,764 trips by other modes, a portion of which would be by people walking).

Outside of the project site, travel paths for people walking would primarily include both sides of 23rd Street between Illinois and Third streets (to/from the T Third light rail stops), along Third Street between 23rd and 20th streets (to/from the 22 Fillmore route stop on 20th Street at Third Street), 22nd Street between Illinois and Minnesota streets (to/from the 48 Quintara/24th Street route stops on 22nd Street), and Illinois Street between 23rd and 22nd streets. Under existing plus project conditions, it is not anticipated that a substantial number of project-generated trips by people walking would be on Illinois Street north of 22nd Street because transit stops serving the project site are located on or south of 22nd Street. In addition, access to the 22 Fillmore stop on 20th Street would be preferable via Third Street, as the addition, the sidewalk on the east side of Illinois Street between 22nd and 20th Street is in poor conditions, while the sidewalk on the west side of Illinois Street between 20th and 22nd streets is open to active loading docks serving the north building of the American Industrial Center (the two-building complex is located on the blocks bounded by 20th, Illinois, 23rd and Third streets).

The existing sidewalk on the east side of Illinois Street is currently in poor condition, and the proposed project would reconstruct the sidewalk between Humboldt and 23rd streets, while PG&E would reconstruct the sidewalk between Humboldt and 22nd streets. The intersection of Illinois Street/22nd Street is currently all-way stop-controlled, with missing ADA compliant curb ramps. These existing conditions, combined with project-generated increases in vehicular travel on Illinois Street between 23rd and 22nd streets, would impede the large number of people walking between the project site and destinations to the north and west (e.g., Muni 48 Quintara/24th Street bus stop on 22nd Street between Illinois and Third Streets, and the 22 Fillmore bus stop on 20th Street between Third and Tennessee streets) and would be considered a *significant* project impact. Implementation of **Mitigation Measure M-TR-7, Improve Pedestrian Facilities at the Intersection of Illinois/22nd Street**, would address the access and safety deficiencies for people crossing at this intersection, and would reduce impacts to less than significant. Therefore, with implementation of Mitigation Measure M-TR-7, Improve Pedestrian Facilities at the Intersection of Illinois/22nd Street, proposed project impacts on people walking would be *less than significant with mitigation*.

Mitigation Measure M-TR-7: Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street

In the event that the Pier 70 Mixed-Use District project does not implement improvements at the intersection of Illinois Street/22nd Street, as part of the proposed project's sidewalk improvements on the east side of Illinois Street between 22nd and 23rd streets, the project sponsor shall work with SFMTA to implement the following improvements:

- Install a traffic signal, including pedestrian countdown signal heads at the intersection of Illinois Street/22nd Street.
- Stripe marked crosswalks in the continental design.
- Construct/reconstruct ADA compliant curb ramps at the four corners, as necessary.

In the event that the Pier 70 Mixed-Use District project does not implement these improvements, the project sponsor shall be responsible for costs associated with design and implementation of these improvements. The SFMTA shall determine whether the SFMTA or the project sponsor would implement these improvements.

Significance after Mitigation: Less than Significant.

Bicycle Impacts

Impact TR-8: The proposed project would not result in potentially hazardous conditions for bicyclists, or otherwise interfere with bicycle accessibility to the project site or adjacent areas. (*Less than Significant*)

The proposed project would provide secure bicycle storage either on the ground floor or in the first sub-grade level of each building.⁴⁶ For the proposed project uses identified in Chapter 2, Table 2-1, Potrero Power Station Mixed-Use Development Preferred Project Characteristics, a total of 1,577 class 1 bicycle parking spaces would be provided. The proposed project would provide 373 class 2 bicycle parking spaces via bicycle racks on sidewalks adjacent to the buildings or in the publicly accessible open space. Showers and lockers would be provided in commercial buildings for employees bicycling to and from work. In addition, as part of the proposed project TDM Plan, additional facilities that would support bicycling would be implemented, including bicycle repair and bike share stations.

Chapter 2, p. 2-28, Figure 2-11, Proposed Bicycle Facilities Plan, presents the bicycle facilities that would be provided on streets within the project site. Bicycle lanes would be provided on Maryland Street between 23rd Street and the northern boundary with the Pier 70 site, and on the entire length of 23rd Street between Illinois Street and the waterfront. On the north side of 23rd Street, a parking protected 5-foot wide bicycle lane (class IV facility) would be provided along the entire stretch

⁴⁶ As indicated in footnote e. in Table 2-1, Potrero Power Station Mixed-Use Development Preferred Project Characteristics, the proposed project's Design for Development standards for provision of class 1 and class 2 bicycle parking spaces would be consistent with the San Francisco Planning Code requirements, and, depending on the actual uses that are ultimately built, may vary from the supply calculated for the preferred project.

between Illinois Street and Delaware Street, while on the south side of the street a 5-foot wide parking protected bicycle lane would be provided between Illinois and Georgia Lane (class IV facility); this would transition to a 5-foot wide class II bicycle lane between Georgia Lane and Delaware Street. A dashed green zone the width of the bicycle facility would be provided on 23rd Street through the transition zone between the parking-protected bicycle lane west of Georgia Lane to alert drivers to the presence of bicyclists, and to alert bicyclists to the transition from one type of facility and another. Street signs would also alert bicyclists to the transition between facility types. The bicycle lane on the south side of 23rd Street east of Georgia Lane would provide separation between the bicycle right-of-way and the commercial vehicle loading area for buildings located on the south side of 23rd Street east of Georgia Lane. Bicyclists would be able to transition between the bicycle lanes on 23rd Street and the bicycle facilities within the project site at the intersections of 23rd Street with Georgia Lane, Maryland Street, and Delaware Street. At Delaware Street, bicyclists would be able to transition between the bicycle lanes on the north and south side of 23rd Street and the proposed Bay Trail Multi Use Path (class I facility) running along the waterfront via a class I bikeway that would be provided between Delaware Street and the bay.

Georgia Lane would have a 6-foot wide bicycle lane on the east side of the street (northbound direction of travel) and a shared route on the west side (southbound direction of travel). In addition, shared lane bicycle routes (class III bicycle facilities) would be provided on Humboldt, Georgia, and Delaware streets. The entrances to the building garages and loading facilities would be designed to minimize potential for conflicts between bicyclists, pedestrians, and vehicles entering and exiting the garages. Building driveways would be located to meet the minimum widths and frequency, and would have 20 to 25 feet of unobstructed curb on either side of the driveway to provide maximum visibility between vehicles, pedestrians, and bicyclists.

In addition to facilities within the internal street network, a class I bikeway (i.e., a bicycle path with exclusive right-of-way for use by bicyclists) would be provided along the waterfront within the Waterfront Park. As noted above, this bikeway would connect to the bicycle lanes on the north and south side of 23rd Street at Delaware Street. No bicycle network improvements are proposed outside of the project site.

With implementation of the proposed project, bicycle volumes would increase on the adjacent roadway and bicycle facilities. A portion of the "other" trips generated by the proposed project uses would be bicycle trips. As shown on Table 4.E-12 above, the proposed project uses would generate about 871 a.m. peak hour trips and 1,764 p.m. peak hour trips by "other" modes, a portion of which would be by bicycle. The bicycle lanes on 23rd Street would connect with the existing bicycle lanes on Illinois Street, which is the primary north-south bicycle facility in the vicinity. The proposed signalization of the intersection of Illinois Street/23rd Street as part of the proposed project (the intersection is currently two-way stop sign controlled with vehicle and bicyclists on 23rd Street subject to the STOP sign) would facilitate bicycle access across Illinois Street. Bicyclists traveling north on Illinois Street would be able to connect to the bicycle lanes on Terry A. Francois Boulevard, and bicyclists traveling south would be able to connect to bicycle lanes on Cargo Way and Cesar Chavez Street (the one-block segment of Cesar Chavez Street between Illinois and Third Streets is a shared lane bicycle route [class III facility]).

The *Garage Operations* assessment (detailed under Impact TR-3) considered whether vehicle queues generated by the district parking garage would affect cyclists at garage access points. A queuing assessment of the district parking garage operations on Block 5, as well as on the alternate locations on Blocks 1 and 13, showed that vehicle accessing the garage would not block adjacent travel lanes. On Georgia Lane, a striped northbound bicycle lane would be located on the east side of the street, while southbound bicyclists would share the southbound travel lane with motor vehicles (class III facility). Vehicles entering or exiting the district parking garage via Georgia Lane would not cross the bicycle lane located on the east side of the street, and therefore would not conflict with bicyclists traveling on the northbound bicycle lane.

As discussed in Impact TR-9 below, proposed project Block 13, which has a frontage on Illinois Street, would provide commercial vehicle and passenger loading/unloading zones on Humboldt and Georgia streets, and would not change the on-street parking regulations on the east side of Illinois Street (i.e., time-limited general parking spaces). Therefore, the proposed project's commercial and passenger loading/unloading activities would not conflict with the existing bicycle lanes on Illinois Street.

It is anticipated that the existing and proposed bicycle facilities would be well utilized, and although the proposed project would result in an increase in the number of vehicles in the vicinity of the project site, this increase would not be substantial enough to create potentially hazardous conditions for bicyclists, or interfere with bicycle accessibility. Therefore, for the above reasons, impacts of the proposed project on bicyclists would be *less than significant*.

Mitigation: None required.

Loading Impacts

Impact TR-9: The proposed project would accommodate its commercial vehicle and passenger loading demand, and proposed project loading operations would not create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking. (*Less than Significant*)

Truck Freight and Service Vehicle Loading/Unloading

Loading Supply

The proposed project would provide truck loading facilities consistent with the proposed Design for Development standards for the various land uses,⁴⁷ which would be accommodated both

⁴⁷ Per the Potrero Power Station Design for Development, for residential, office, and hotel land uses, one freight loading space would be provided for 100,001 to 200,000 square feet of occupied uses, two loading spaces for 200,001 to 500,000 square feet, and three spaces plus one space for each additional 400,000 square feet for more than 500,001 square feet of residential, office and hotel uses. For PDR and industrial uses, one freight loading space would be provided for 10,001 to 50,000 square feet of occupied uses, and 0.21 spaces per 10,000 square feet of occupied floor area for more than 50,000 square feet of PDR and industrial uses. For retail sales and services uses, one freight loading space would be provided for 10,001 to 30,000 square feet of occupied uses, two loadings spaces for 30,001 to 50,000 square feet of occupied uses, and one space per 25,000 square feet of occupied floor area for more than 50,000 square feet of retail sales and services uses.

within buildings (i.e., onsite) and on-street. The on-street commercial loading spaces would be time limited so that the commercial loading spaces remain available throughout the day for active commercial loading/unloading activities. Because the proposed development controls for the site would allow for flexibility of uses on certain blocks between either residential or commercial office uses, depending on future market conditions, the actual number, location and dimensions of loading spaces would reflect the actual uses developed on the block.

For the proposed land use program presented in Chapter 2, Project Description, Table 2-1, a total of 54 loading spaces would be provided, of which 20 standard truck loading spaces would be within buildings and 34 commercial loading spaces would be located on-street (see **Figure 4.E-5, Proposed On-street Parking and Loading Plan**). A minimum of one truck loading space would be provided within each building, with the larger residential buildings on Blocks 1, 7 and 13 containing two onsite loading spaces. The buildings on Blocks 2 and 3, envisioned to house laboratory/life sciences uses may include more and larger onsite truck docks, with larger loading dock entries to accommodate the larger trucks associated with these uses. In addition, the potential supermarket use on Block 5 may include more and larger loading docks to accommodate the specific delivery and trash removal needs.

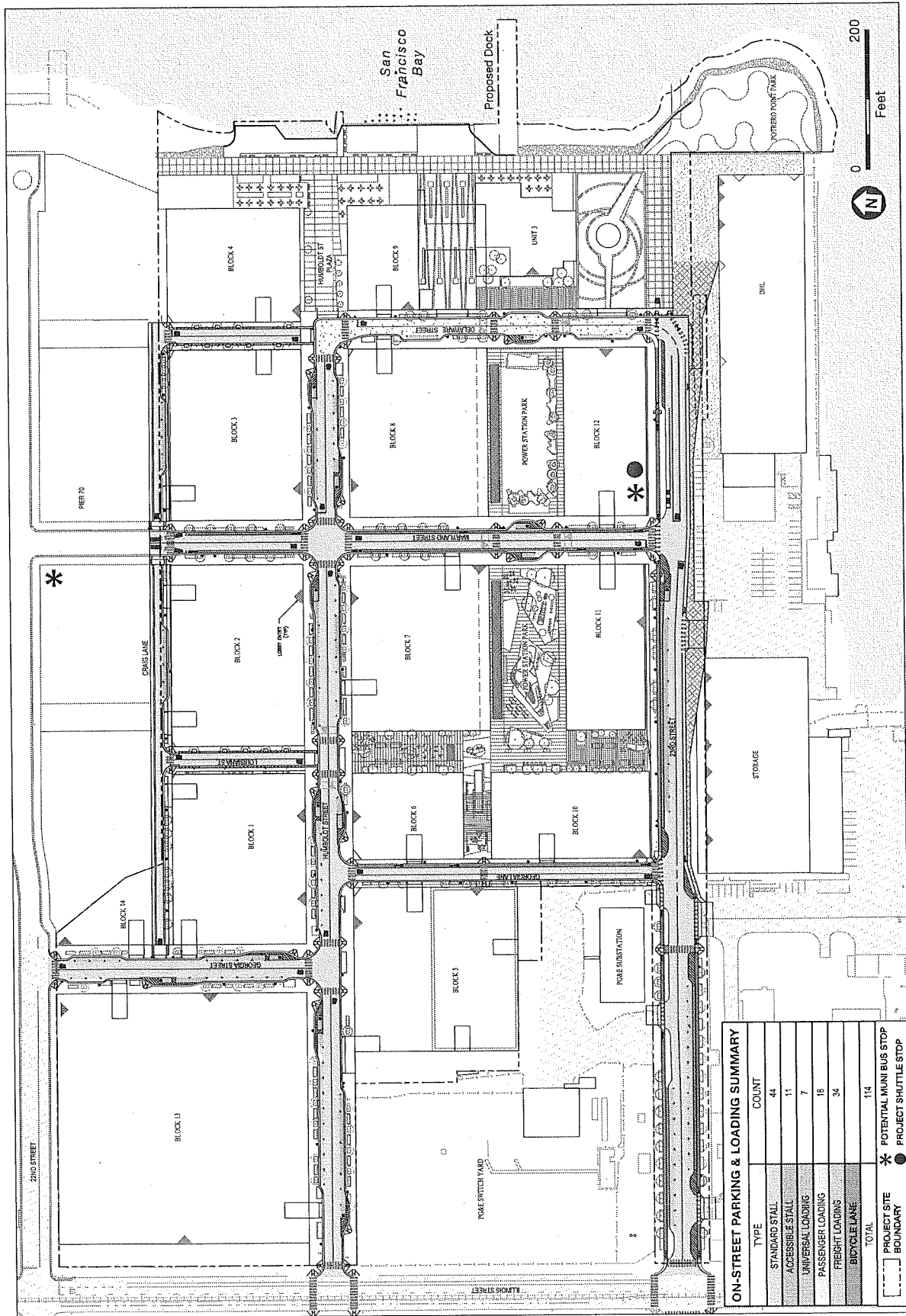
Depending on the proposed uses on the block, driveway access to garages and off-street loading facilities would be combined where possible to meet the minimum width and frequency necessary. The 34 on-street commercial loading spaces would be distributed throughout the project site, and would primarily be located on both sides of Humboldt Street, on the west side of Delaware Street, and on the north side of 23rd Street between Georgia Lane and Maryland Street. Loading facilities for Block 13, which has a frontage on Illinois Street would be onsite and on-street with access via Humboldt and Georgia streets, and would not change the on-street parking regulations on the east side of Illinois Street (i.e., time-limited general parking spaces).

Loading Demand

As presented above in Table 4.E-15, the proposed project land uses would generate about 690 delivery and service vehicle trips per day, which would result in a demand for 42 loading spaces during the peak hour of loading activities. Delivery vehicles would be primarily small trucks and vans, typical of deliveries throughout the city, although as noted above, the laboratory/life sciences uses and supermarket uses would be served by larger trucks.

Residential move-in and move-out activities are anticipated to occur from the onsite loading docks as well as from the on-street commercial loading spaces and passenger loading/unloading zones, depending on the size of the vehicle. Because move-in and move-out activities typically entail multiple hours of activity and could occur via large trucks that can occupy multiple on-street spaces, move-in and move-out activities would be scheduled with building management, and to the extent feasible would be conducted on weekends or on weekdays during off-peak periods.

Thus, the proposed onsite and on-street loading facilities would be sufficient to accommodate the projected demand. Therefore, no secondary impact analysis is necessary.



Potrero Power Station Mixed-Use Development Project
Figure 4.E-5
 Proposed On-Street Parking and Loading Plan

SOURCE: Carlson, Barbee & Gibson, Inc., 2018

Passenger Loading/Unloading

Passenger loading/unloading zones (i.e., white zones) provide a place to load and unload passengers for adjacent businesses and residences, and are intended for quick passenger drop-off and pick-up activities primarily associated with taxis and app-based ride hailing service vehicles. Proposed passenger loading/unloading was assessed qualitatively considering the number of proposed on-street loading spaces and their distribution within the project site. The proposed project would include about 25 on-street passenger loading/unloading spaces (18 standard and seven universal passenger loading spaces⁴⁸), which, as shown on Figure 4.E-5, Proposed On-street Parking and Loading Plan, would be located primarily along Humboldt Street, Georgia Street, Delaware Street and 23rd Street. Passenger loading/unloading zones would be located in proximity to building entrances. Passenger loading for Block 13, which has a frontage on Illinois Street, would be located on Humboldt and Georgia streets; no passenger loading/unloading zones are proposed for Illinois Street. The seven universal passenger loading spaces would be designed to be universally accessible and ADA compliant. Each space would be 20 feet in length, have adjacent sidewalk clear of obstacles, and have a 10-foot wide loading area with a standard curb.

Thus, the proposed project would accommodate the freight delivery and service vehicle and passenger loading demand and the proposed project's impact would be *less than significant*.

Mitigation: None required.

Parking Impacts

Impact TR-10: The proposed project would not result in a substantial parking deficit and thus the project's parking supply would not create potentially hazardous conditions or significant delays affecting transit, bicyclists, or people walking. (*Less than Significant*)

Senate Bill 743 amended CEQA by adding Public Resources Code section 21099 regarding the analysis of parking impacts for certain urban infill projects in transit priority areas.⁴⁹ Public Resources Code section 21099(d), effective January 1, 2014, provides that "... parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." Accordingly, parking is no longer to be considered in determining if a project has the potential to result in significant environmental effects for projects that meet all three criteria established in the statute. As described in Section 4.A, the proposed project meets all of the criteria, and thus the transportation impact analysis does not consider the adequacy of parking in determining the significance of project impacts under CEQA. However, the planning department acknowledges that parking conditions may be of interest to the public and the decision-makers. Therefore, this

⁴⁸ Universal passenger loading spaces are designed to accommodate a broad range of people who would use the spaces and are ADA compliant.

⁴⁹ A "transit priority area" is defined as an area within one-half mile of an existing or planned major transit stop. A "major transit stop" is defined in California Public Resources Code section 21064.3 as a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

section presents a parking demand analysis for informational purposes and considers any secondary physical impacts affecting other transportation modes associated with a constrained supply also for informational purposes.

Supply

Existing land uses on the project site include: warehouses, office space, storage and housing for power transmission equipment, vehicle storage, and surface parking. With implementation of the proposed project, all uses, including the existing surface parking spaces would be eliminated. The proposed project would provide about 2,622 off-street vehicle parking spaces, of which 819 spaces would be located within a centralized parking facility (i.e., the district parking garage) located on Block 5 on the southwest corner of the intersection of Georgia Lane/Humboldt Street (see Figure 2-5, Proposed Land Use Plan, in Chapter 2, for location of project blocks). Potential alternative locations for the district parking garage have been identified on Blocks 1 and 13, located on either side of the intersection of Georgia Street/Humboldt Street (see Appendix C). The remaining 1,803 vehicle parking spaces would be distributed within parking garages on the remaining 14 development blocks, as shown in Figure 2-9, p. 2-25 in Chapter 2, with the number of parking spaces per building ranging from about 15 to 420 spaces per garage, depending on the type and amount of land use proposed for the block. All vehicle parking spaces would be accessory to the project land uses. As presented in footnote e on Table 2-1, p. 2-14 in Chapter 2, the proposed project's Design for Development standards include a maximum permitted parking ratio of 0.6 parking spaces per residential unit, one space per 1,500 square feet of commercial office/R&D/life sciences or PDR uses, three spaces per 1,000 square feet of grocery store use, and one space per each 18 hotel guest rooms. No off-street vehicle parking would be assigned to the proposed retail uses on the site, with the exception of the grocery store.

The district parking garage would accommodate project-generated vehicles, and is not intended to be used for event parking for the Chase Center or for the AT&T Ballpark. It is anticipated that the district parking garage would be occupied by employees and visitors to the project's office and retail uses during business hours, and in the evening the parking garage would serve residents and visitors. However, some event attendees that drive may seek parking in the district parking garage. Since the district garage would be occupied by project demand, it is unlikely that a substantial number of vehicle spaces would be available to accommodate event parking.

All off-street parking would be shared and managed by a single operator. The garages would include space-level monitoring and guidance systems to allow the operator to determine availability of spaces, determine parking rates (parking rates would vary in order to maintain a maximum of 95 percent occupancy), and report availability and rates on signs outside of the facility, in the project site's website, and/or in other forms (e.g., via a phone app).

Driveways for the district parking garage and other off-street parking and loading facilities would be located to provide adequate sight distances, and driveways would not be permitted within 30 feet of building corners, except for where a grocery store is provided. A curb cut would be provided for off-street parking and loading facilities that would not exceed 22 feet in width (with the exception of the district parking garage, which would have two entry/exit locations, one each

on Humboldt Street and Georgia Lane, and the grocery store, which may have a curb cut wider than 22 feet). Also, where possible, driveways would be located to avoid crossing bicycle lanes.

On-street vehicle parking within the project site would be limited and is anticipated to be fewer than 60 spaces (including 11 ADA compliant spaces) throughout the site and along 23rd Street. On streets that permit curbside parking, much of the curb would be reserved for commercial loading spaces and passenger loading/unloading zones. The approximately 110 existing 90-degree parking spaces on 23rd Street east of Illinois Street (about 71 spaces on the north side of the street and 40 spaces on the south side of the street) would be converted to 21 parking spaces (nine spaces on the north side and 12 spaces on the south side) and would result in a net decrease of about 90 on-street parking spaces on 23rd Street east of Illinois Street. It is anticipated that, similar to recent changes to on-street parking regulations by the SFMTA in the Dogpatch neighborhood, the on-street parking spaces within the project site would be metered. The proposed project does not propose any driveways, commercial loading spaces, or passenger loading/unloading zones on the east side of Illinois Street between 22nd and 23rd streets, and the existing 40 on-street parking spaces would not be affected by the proposed project.

Project Parking Supply and Demand

Table 4.E-20, **Proposed Project Parking Supply and Demand**, summarizes the proposed project vehicle parking demand and supply for weekday midday (12 p.m. to 2 p.m.) and evening (7 p.m. to 9 p.m.) conditions.

**TABLE 4.E-20
PROPOSED PROJECT PARKING SUPPLY AND DEMAND**

Supply and Demand	Midday Conditions	Evening Conditions
Project Supply	2,622	2,622
Project Demand		
Short-term	831	541
Long-term	3,374	2,468
Total	4,205	3,009
Surplus (Shortfall)	(1,583)	(387)

SOURCE: Adavant Consulting/Fehr & Peers/LCW Consulting, 2018

As shown on Table 4.E-20 during both the midday and evening periods, the proposed vehicle parking supply would not accommodate the estimated demand. The parking demand that would not be accommodated onsite (about 1,580 spaces during the midday period and about 390 spaces during the evening period) would result in drivers seeking parking outside of the project site. As described above in "Environmental Setting," specifically under "Parking Conditions," p. 4.E-19 the SFMTA has recently implemented the Dogpatch Parking Management Plan to encourage turnover to accommodate short-term parking, thus reducing the time drivers spend looking for a parking space, and to discourage long-term parking. As shown above on Figure 4.E-4, On-street Parking Regulations, on-street parking regulations along Illinois and Third streets, where currently

permitted, have recently been revised to time-limited spaces. Farther to the west of the project site, paid parking with no time limit (i.e., commuter focused) was implemented. In addition, a new Residential Permit Parking area replaces the existing Residential Permit Parking Area "X", which limits parking for vehicles without a permit to a one or two-hour period. Thus, while the Dogpatch Parking Management Plan's changes may increase the availability of short-term parking spaces, it would generally discourage project-generated drivers requiring long-term parking to seek parking outside of the project site. Similar to existing conditions, any drivers seeking parking would not be expected to create hazardous conditions for people walking such as impairing visibility on narrow streets or blocking sidewalks or crosswalks.

Furthermore, the proposed project's TDM Plan aims to reduce vehicle trips generated by the proposed project, and therefore reduce parking demand, by encouraging use of car share and non-auto modes.

In summary, while the proposed project parking supply would not accommodate the estimated demand, due to difficulty in finding parking in the project vicinity, some drivers may park farther from the site and some may switch to transit, carpool, bicycle, or other forms of travel. While the proposed parking supply would not accommodate the estimated demand, because the site is a mixed-use residential project on an infill site located within a transit priority area, the project would not result in a substantial parking deficit and parking impacts are considered *less than significant*.

Although the project would not result in a substantial parking deficit, secondary impacts of not meeting parking demand were assessed for informational purposes only and are presented in the traffic hazards, pedestrian, and bicycle impact sections.

Mitigation: None required.

Emergency Access Impacts

Impact TR-11: The proposed project would not result in inadequate emergency vehicle access. (*Less than Significant*)

With implementation of the proposed project, emergency access to the project site would remain essentially unchanged from existing conditions, as emergency vehicles would continue to access the project site from Third Street and Illinois Street via 23rd and Humboldt streets. While the project would signalize the two intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, emergency vehicles with lights and sirens have right of way and their travel would not be affected as a result of signalization.

Humboldt Street, Georgia Lane, Georgia Street, 23rd Street, and Maryland Street and Delaware Street between Humboldt and 23rd streets would provide primary access for emergency and fire vehicles to the proposed buildings. Streets have been designed to accommodate smaller emergency vehicle (e.g., ambulances) as well as the fire department's 57-foot articulated fire truck fire engine.

The fire truck would utilize the entire travel way for turning movements within intersections. At intersection approaches and within intersections, the fire truck may also encroach into the opposing travel lane to complete the turning movements, but a minimum of 7 feet of refuge area would be provided for vehicles in these lanes. Emergency vehicle curb access to Unit 3 would be provided at the curb adjacent to the site on the east side of Delaware Street directly north of 23rd Street.

As part of project development by the project sponsor, the fire department reviewed the preliminary design plans for the proposed street network within the site as well as the fire access plan. Prior to construction of any roadways, the fire department would be required to review and approve detail design of the street network for the site.

Although the project would result in additional vehicles on adjacent streets, the increases would not impede or hinder emergency vehicles. Due to wider and multiple travel lanes on streets in the vicinity as well as the presence of bicycle lanes on some streets, vehicles would be able to pull over to the side of the street and provide a clear travel path when an emergency vehicle with lights and sirens approaches. Emergency vehicles are also permitted to use transit-only lanes (i.e., the center median right-of-way of the T Third light rail line), if needed. Therefore, for the reasons described above, the proposed project's impact on emergency access would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

Cumulative Construction Impacts

Impact C-TR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in cumulative construction-related transportation impacts. (*Less than Significant*)

The construction of the proposed project over its 15-year construction period between 2020 and 2034 may overlap with the construction of other projects in the vicinity. Table 4.A-1, Cumulative Projects in the Project Vicinity, in Section 4.A presents the cumulative projects considered in the analysis. Localized construction-related transportation impacts could occur as a result of cumulative projects that generate increased traffic at the same time and on the same streets as the proposed project. While construction activities for the proposed project and other cumulative projects would occur primarily within their respective sites, construction vehicles would use many of the same roadways to access the sites (e.g., Third Street, Illinois Street).

Construction activities associated with the proposed project would primarily overlap with the construction activities of the Pier 70 Mixed-Use District project directly north of the project site. Buildout of the Pier 70 development is planned to occur in up to five phases over an approximately 11-year period, from about 2018 through 2029. Since proposed project construction is projected to occur over the course of 15 years from about 2020 to 2034, there would be an overlap in construction

for a minimum of nine years (i.e., between 2020 and 2029). During project construction, the Pier 70 Mixed-Use District project will implement a Construction Management Plan that, similar to the proposed project, includes provisions for conditions when construction overlaps with other development or infrastructure projects. Other substantially smaller projects that are currently under review and that are located on Third or Illinois streets (e.g., 2230 Third Street, 1499 Illinois Street) may be under construction for a portion of the proposed project's construction period (e.g., an overlap of two to three years for typical single building projects). These projects would use Third and Illinois streets to access their respective project sites. The primary access for construction vehicles for the Pier 70 Mixed-Use District project will be 20th Street, while the primary access to the proposed project site for construction vehicles would be 23rd Street. The impact of construction truck traffic would be a temporary lessening of the capacities of local streets due to the slower movement and larger turning radii of trucks. However, construction truck trips are typically distributed throughout the day and therefore would not substantially coincide with the peak commute periods. The bicycle lane on Illinois Street would minimize potential conflicts between construction vehicles and bicyclists. The SFMTA Blue Book regulations require the implementation of construction safety measures for people walking. Construction activities that require use of any part of the sidewalk are required to maintain pedestrian access for all users. Where complete sidewalk closures are required, alternative pedestrian access walkways and detours would be implemented. The detours may increase travel distance and may be an inconvenience to some people walking, but they would not result in potentially hazardous conditions for pedestrians.

Construction of other cumulative development and infrastructure projects would not overlap with proposed project construction. A number of projects are currently underway (e.g., the 20th Street Historic Core at Pier 70, Crane Cove Park, 815-825 Tennessee, 2051 Third Street, Chase Center, Bayfront Park, 650 Indiana Street, 800 Indiana Street, 645 Texas Street, 1200-1225 Tennessee Street), and would be completed prior to construction of the proposed project. Projects currently with building permit approvals or smaller buildings that have already been entitled (e.g., 2420 Third Street, 901 Tennessee Street, 950 Tennessee Street, 888 Tennessee Street, 2290 Third Street, 777 Tennessee Street, 2146 Third Street, 2177 Third Street, 2092 Third Street, 595 Mariposa Street, 790 Pennsylvania Avenue, 1000 Mississippi Street) are also anticipated to be completed prior to the initiation of proposed project construction.

Construction truck traffic associated with the Potrero Hope SF project (construction initiated in 2017) would access the site and regional freeways to the west and would not travel on Third or Illinois streets in the proposed project vicinity. The SFPUC's Central Bayside System Improvement Project tunnel (under review) would have shafts north and south of the project site, and access routes between the shafts and the regional facilities would likely not include Third Street and Illinois Street in the project vicinity. Similarly, to the north of the project site, construction trucks associated with the Mariposa Street pump station (entitled), and Mission Bay Ferry Landing and Water Taxi Landing project (under review), and the Seawall Lot 337 Mission Rock project (entitled) would access regional freeways via ramps at Mariposa/Owens for I-280, and ramps on Harrison and Bryant streets for I-80, and therefore, construction truck trip routes would not substantially overlap with routes for the proposed project (although some San Francisco-based construction truck traffic may travel on Third Street). Therefore, given the limited number and effect of projects

that may overlap with proposed project construction, construction activities would not result in significant cumulative construction-related transportation impacts.

Similar to the proposed project, sponsors and construction managers of development projects considered in the cumulative analysis would be required to coordinate with various City departments, such as SFMTA and Public Works, and coordinate any temporary sidewalk and travel lane closures to develop coordinated plans that would address construction-related vehicle routing, traffic control, and pedestrian movements adjacent to the construction area for the duration of construction overlap. **Improvement Measure I-TR-A, Construction Management Plan and Public Updates** presented in Impact TR-1 above for the proposed project also addresses the potential for project overlap with other development or infrastructure projects and would reduce the project's contribution to any cumulative transportation-related effects.

Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative construction-related transportation impacts.

Mitigation: None required.

Improvement Measure I-TR-A: Construction Management Plan and Public Updates (see Impact TR-1, above)

Cumulative VMT Impacts

Impact C-TR-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative impacts related to VMT. (*Less than Significant*)

VMT by its very nature is largely a cumulative impact. The amount and distance of past, present, and future projects might cause people to drive, and contribute to the physical secondary environmental impacts associated with VMT; and therefore, cumulative impacts related to VMT would be considered significant. It is likely that no single project by itself would be sufficient in size to prevent the region or state in meeting its VMT reduction goals. Instead, a project's individual VMT contributes to the cumulative VMT impacts. The VMT and induced automobile travel project-level thresholds are based on levels at which new projects are not anticipated to conflict with state and regional long-term greenhouse gas emission reduction targets and statewide VMT per capita reduction targets set in 2020.

San Francisco 2040 cumulative conditions were projected using a SF-CHAMP model run, using the same methodology as outlined for existing conditions, but includes residential and job growth estimates and reasonably foreseeable transportation investments through 2040. The projected VMT for 2040 cumulative conditions for the traffic analysis zone in which the project site is located (i.e., TAZ 559) is as follows:

- Projected 2040 average daily VMT per capita for residential land uses is 6.4. This is 60 percent below the 2040 projected regional average daily VMT per capita of 16.1.
- Projected 2040 average daily VMT per capita for office uses is 10.1. This is 41 percent below the 2040 projected regional average daily work-related VMT per employee of 17.0.
- Projected 2040 average daily VMT per capita for retail uses is 11.9. This is 18 percent below the 2040 projected regional average daily retail VMT per employee of 14.6.

Because the project site is located in an area where VMT is estimated to be more than 15 percent below the projected 2040 regional average, the proposed project's land uses would not result in substantial additional VMT. In addition, as discussed in Impact TR-2 for existing plus project conditions, the transportation features of the project are consistent with the general types of projects that would not substantially induce automobile travel. Because the proposed project would not exceed the project-level thresholds for VMT and induced automobile travel, the proposed project's contribution would be less than cumulatively considerable. Therefore, the proposed project's contribution to cumulative VMT impacts would be *less than significant*.

Mitigation: None required.

Cumulative Traffic Hazards Impacts

Impact C-TR-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts related to traffic hazards. (*Less than Significant*)

As described above, a number of cumulative transportation network projects are currently underway, planned, or proposed that would enhance the transportation network in the project vicinity. These include the extension of Owens Street, the realignment of Terry A. Francois Boulevard and installation of protected bicycle lanes, the I-280 Mariposa Street off-ramp improvements, Indiana Street Bikeway, new signals at Illinois Street/19th Street and Illinois Street/18th Street as part of the Mission Bay Loop project, as well as projects within the proposed Central Waterfront-Dogpatch Public Realm Plan, among others that are targeted at accommodating all users of the transportation network and reducing existing hazards.

In addition, the planned Pier 70 Mixed-Use District project includes a street network that would connect with the proposed project. Roadway connections would be completed in phases, as both projects build out, and at completion of both projects, the internal roadway networks of both sites would be connected. Vehicle, pedestrian, and bicycle facilities would be provided on primary streets that would connect the two sites, including Delaware, Maryland and Georgia streets. Offsite, the Pier 70 Mixed-Use District project will be responsible for installing new traffic signals at Illinois Street/20th Street, and Illinois Street/22nd Street. Cumulative transportation projects, including the proposed project's onsite transportation network and proposed offsite intersection and sidewalk improvements, would not introduce unusual design features, and these projects would be designed to meet City standards. Other development projects proposing street changes

in the area would be subject to these requirements as well. Increases in vehicles, including the proposed project, could result in the potential for increased vehicle-vehicle conflicts, but the increased potential for conflicts would not be considered new or substantial worsening of a traffic hazard, and would not result in significant cumulative traffic hazard impacts. Therefore, the proposed project, in combination with past, present, and reasonably foreseeable development projects, would result in *less-than-significant* cumulative traffic hazard impacts.

Mitigation: None required.

Improvement Measure I-TR-B: Monitoring and Abatement of Queues (see Impact TR-3, above)

Cumulative Transit Impacts

Impact C-TR-4: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to transit capacity utilization on Muni routes. (*Significant and Unavoidable with Mitigation*)

Proposed project transit impacts for 2040 cumulative conditions were assessed by calculating the project contribution to 2040 cumulative ridership and capacity utilization for the T Third light rail line and the 22 Fillmore and 48 Quintara/24th Street bus routes. In addition, where project-specific significant impacts were identified for the existing plus project transit analysis, then, if significant cumulative impacts are identified, the proposed project would be considered to contribute substantially to significant cumulative conditions. A number of Muni transit service improvements would be implemented that would increase frequencies and increase capacity of Muni routes serving the project area. As described above in "Cumulative Transportation Network Changes," p. 4.E-53, under "Approach to Analysis," when the 22 Fillmore is extended to Mission Bay along 16th Street in 2020 or 2021, the SFMTA will provide replacement service south of 16th Street in the Dogpatch, identified as "Route XX" in this EIR (specific route name to be determined). Because details for the replacement Route XX have not been finalized and/or adopted by the SFMTA Board, the 2040 cumulative analysis of transit ridership and capacity utilization assumed the same service currently provided by the existing 22 Fillmore route.

As described above in "Cumulative Transportation Network Changes," p. 4.E-53, under "Approach to Analysis," with buildout of the proposed project and the Pier 70 Mixed-Use District project, the Route XX may be extended into both project sites. The proposed project's street network was designed to accommodate buses, and a bus layover facility would be provided to accommodate potential Muni service within the project site under cumulative conditions.

Table 4.E-21, Muni Transit Analysis – 2040 Cumulative Conditions, presents the ridership and capacity utilization for the T Third, 22 Fillmore/Route XX and 48 Quintara/24th Street routes for the weekday a.m. and p.m. peak hours for 2040 cumulative conditions. Under 2040 cumulative conditions, capacity on the T Third would increase over existing conditions due to planned

implementation of two-car trains, and the capacity utilization at the maximum load point with the addition of cumulative ridership due to background growth would be less than the 85 percent capacity utilization standard.

TABLE 4.E-21
MUNI TRANSIT ANALYSIS – 2040 CUMULATIVE CONDITIONS – WEEKDAY AM AND PM PEAK HOURS

Peak Hour/Route	Inbound To Site				Outbound From Site			
	Project Trips	Total Ridership	Capacity	Capacity Utilization ^a	Project Trips	Total Ridership	Capacity	Capacity Utilization
a.m. Peak Hour								
T Third ^b	264	2,167	5,712	39.9%	353	4,100	5,712	71.8%
22 Fillmore/Route XX ^c	112	829	441	188.0%	82	731	504	145.0%
48 Quintara/24th Street ^d	52	408	315	129.5%	52	543	378	144.8%
Proposed Project Shuttle ^e	306	306	450	68.0%	314	314	450	69.8%
<i>Total</i>	734	3,710	7,268	53.6%	801	5,957	7,391	80.7%
p.m. Peak Hour								
T Third ^b	447	4,660	5,712	81.6%	359	2,898	5,712	50.7%
22 Fillmore/Route XX ^c	133	810	567	142.9%	156	899	567	158.6%
48 Quintara/24th Street ^d	75	424	315	134.6%	76	651	378	172.2%
Proposed Project Shuttle ^e	435	435	450	96.7%	404	404	450	89.8%
<i>Total</i>	1,090	6,329	7,044	89.8%	995	4,852	7,107	68.3%

NOTES:

- ^a Muni capacity utilization exceeding 85 percent highlighted in **bold**. Significant project contributions to cumulative impacts shaded.
- ^b Ridership and capacity for the T Third reflect planned increased frequencies and two-car trains by 2040.
- ^c When the 22 Fillmore is extended to Mission Bay along 16th Street in 2020 or 2021, the SFMTA will provide replacement service south of 16th Street in the Dogpatch. SFMTA is developing a new route, identified as Route XX in this EIR, however, because all details related to operation of this replacement route have not been finalized or adopted by the SFMTA board, the same service currently provided by the existing 22 Fillmore was assumed for the 2040 cumulative analysis.
- ^d For the 48 Quintara/24th Street route, Muni Forward service improvements on this route are on hold. Therefore, existing service on this route was assumed for 2040 cumulative conditions.
- ^e The proposed project shuttle was assumed to continue to provide service until replaced with a Muni route providing similar service to the shuttles is extended into the site.

SOURCE: Advant Consulting/Fehr & Peers/LCW Consulting, 2018

However, on the 22 Fillmore/Route XX and the 48 Quintara/24th Street routes, cumulative ridership would increase substantially, and would result in capacity utilization at the maximum load point exceeding Muni's capacity utilization standard of 85 percent. This would be considered a *significant cumulative* impact. The project contribution to cumulative ridership on the bus routes would be more than 5 percent, and this would be considered a *significant* contribution to cumulative ridership on these routes. In addition, as noted in Impact TR-4 for existing plus project conditions, the proposed project would result in significant impacts on the 22 Fillmore/Route XX and the 48 Quintara/24th Street bus routes. Implementation of **Mitigation Measure M-TR-4, Increase Capacity on Muni 22 Fillmore and 48 Quintara/24th Street Routes**, identified for existing plus project conditions, would reduce the impact of the project's contribution to cumulative Muni capacity utilization impacts to less-than-significant levels. However, because it is not known whether SFMTA would be able to provide additional service on the impacted routes to fully mitigate project impacts, the proposed project's transit capacity impact on the 22 Fillmore/Route

XX and the 48 Quintara/24th Street routes, in combination with past, present, and reasonably foreseeable development projects, would be considered significant and unavoidable with mitigation. Therefore, for the above reasons, the proposed project's contribution to cumulative transit impacts would be *significant and unavoidable with mitigation*.

Mitigation M-TR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/Street Routes (see Impact TR-4, above).

Significance after Mitigation: Significant and Unavoidable

Impact C-TR-5: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni. (*Significant and Unavoidable with Mitigation*)

Under 2040 cumulative conditions, vehicle delay at intersections near the project site are projected to increase from existing conditions mostly due to growth in vehicular trips from other development projects, such as the Pier 70 Mixed-Use District project adjacent and to the north of the project site, as well as development associated with the proposed project. Given this increase in vehicle delay and the sharing of travel lanes between vehicle trips and transit, it is anticipated that the Muni 22 Fillmore/Route XX (see "Cumulative Transportation Network Changes," p. 4.E-53, under "Approach to Analysis," above) and the 48 Quintara/24th Street bus routes would be delayed significantly in the study area (e.g., along 18th Street, 22nd Street, and north/south streets). Therefore, under 2040 cumulative conditions, there would be *significant cumulative* impacts related to transit operations on the Muni 22 Fillmore/Route XX and the 48 Quintara/24th Street bus routes.

However, similar to existing plus project conditions described in Impact TR-5, the T Third light rail line, which runs in a dedicated median right-of-way near the project site, would not be subject to additional congestion at intersections. This would be the case even if additional green time currently allocated to the light rail movements at the intersections of Third Street/20th Street and Third Street/23rd Street were instead allocated to the southbound left turn phase. Therefore, under 2040 cumulative conditions, there would not be a significant cumulative impact on the T Third light rail line.

For informational purposes, in addition to the cumulative-specific delays to the individual Muni routes providing revenue service in the study area, it is anticipated that other Muni non-revenue service vehicles and the proposed project's own shuttle service may also experience greater delays than described under existing plus project conditions. These delays would increase as a result of substantial increases in traffic volumes and associated vehicular delays on streets in the study area primarily from the Pier 70 project and the proposed project, but also from other general growth in the area.

Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, described in Impact TR-5 above, would also be applicable to Impact C-TR-5, and would serve to minimize the project's

contribution to cumulative impacts under 2040 conditions on transit operations on the 22 Fillmore/Route XX and 48 Quintara/24th Street routes by reducing project vehicle trips. However, as described above, it is uncertain that a decrease in project-generated vehicles would be attained by these measures to reduce intersection delays during the peak periods as to eliminate the significant impacts on bus operations. Therefore, the project's contribution to significant cumulative transit operations impacts would remain considerable. Thus, the proposed project's transit operations impact on the Muni 22 Fillmore/Route XX and the 48 Quintara/24th Street bus routes, in combination with past, present, and reasonably foreseeable development projects, would be considered significant and unavoidable with mitigation. Therefore, for the above reasons, the proposed project's contribution to significant cumulative transit operations impacts would be *significant and unavoidable with mitigation*.

Mitigation: Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay
(see Impact TR-5, above)

Significance after Mitigation: Significant and Unavoidable

Impact C-TR-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative transit impacts on regional transit providers. (*Less than Significant*)

Capacity Utilization

The 2040 cumulative regional transit analysis accounts for ridership and/or capacity changes associated with the new Transbay Transit Center, the electrification of Caltrain, expanded WETA ferry service, and expanded service planned by BART, AC Transit, SamTrans, and Golden Gate Transit. The regional transit screenlines are presented in **Table 4.E-22, Regional Transit Analysis, 2040 Cumulative Conditions**, for weekday a.m. and p.m. peak hour conditions. Under 2040 cumulative conditions, the BART line in the East Bay screenline would have a capacity utilization of 120 percent during the a.m. peak hour, and 113 percent during the p.m. peak hour, and would thus operate above the regional capacity utilization standard of 100 percent. This is considered to be a significant cumulative transit impact. Under 2040 cumulative conditions, the proposed project would add 133 trips to BART from the East Bay during the a.m. peak hour, and 173 to the East Bay during the p.m. peak hour, and the contribution to 2040 cumulative ridership would be less than 5 percent (i.e., contributions of 0.4 and 0.5 percent during the a.m. and p.m. peak hours, respectively). This would not be considered a considerable contribution to BART capacity utilization exceeding the 100 percent standard. Therefore, project impacts on cumulative regional transit capacity utilization would be less than significant.

While significant cumulative impacts on regional transit have been identified, the Bay Area's transportation agencies have been working to identify and pursue local and regional transit expansion projects. The Bay Area Core Capacity Transit Study, is a collaborative multiagency effort led by the Metropolitan Transportation Commission (MTC) and includes SFMTA as a partner, to examine the transit system's capacity limitations and identify and prioritize the major investments

needed to address these limitations today and in the future.⁵⁰ The study developed, analyzed, and accessed short- and medium-term investment projects, including high-level engineering and cost estimates. The study also developed options to address capacity shortfalls in the long-term, including providing additional transbay service, which would address the capacity utilization issues identified above for BART to and from the East Bay. These options for the long-term, such as a new transbay tube which would increase capacity for BART to and from the East Bay, require additional planning, feasibility, and design studies. The recently adopted Bay Area Regional Measure 3 identifies \$140 million for Core Capacity transit improvements.

Transit Operations

While vehicular traffic is anticipated to increase in the study area as a result of development growth, no regional bus routes operate on study area streets. Therefore, it is not anticipated that significant cumulative regional transit operation impacts would occur in the study area.

TABLE 4.E-22
REGIONAL TRANSIT ANALYSIS – 2040 CUMULATIVE CONDITIONS – WEEKDAY A.M. AND P.M. PEAK HOURS

Regional Screenline/Provider	a.m. Peak Hour Inbound Screenline				p.m. Peak Hour Outbound Screenline			
	Project Trips	Ridership	Capacity	Capacity Utilization ^a	Project Trips	Ridership	Capacity	Capacity Utilization
East Bay								
BART	133	38,345	32,100	119.5%	173	36,375	32,100	113.3%
AC Transit	11	7,036	12,000	58.6%	13	7,037	12,000	58.6%
Ferries	5	4,699	5,940	79.1%	6	5,337	5,940	89.8%
East Bay Subtotal	148	50,080	50,040	100.1%	192	48,749	50,040	97.4%
North Bay								
Buses	15	2,055	2,543	80.8%	22	2,149	2,817	76.3%
Ferries	12	1,631	1,959	83.3%	18	1,637	1,959	83.6%
North Bay Subtotal	27	3,686	4,502	81.9%	40	3,786	4,776	79.3%
South Bay								
BART	100	21,145	28,808	73.4%	133	20,181	28,808	70.1%
Caltrain	18	2,453	3,600	68.1%	23	2,686	3,600	74.6%
SamTrans	0	280	520	53.8%	0	160	320	50.0%
Ferries	0	59	200	29.5%	0	59	200	29.5%
South Bay Subtotal	118	23,937	33,128	72.7%	156	23,086	32,928	70.1%
Regional Total	293	77,703	87,670	88.6%	388	75,621	87,744	86.2%

NOTES:

^a Capacity utilization exceeding 100 percent highlighted in bold. Significant project contributions to cumulative impacts shaded.

SOURCE: SF Planning Department Memoranda, Transit Data for Transportation Impact Studies, May 2015 and Updated BART Regional Screenlines, October 2016, Advant Consulting/Fehr & Peers/LCW Consulting, 2018

⁵⁰ Metropolitan Transportation Commission, *Bay Area Core Capacity Transit Study, Final Report*, September 2017, <https://mtc.ca.gov/our-work/plans-projects/other-plans/core-capacity-transit-study>, accessed April 5, 2018.

In summary, because the proposed project would not contribute considerably to cumulative impacts on the regional screenlines, the proposed project's contribution to cumulative regional transit impacts would be *less than significant*.

Mitigation: None required.

Cumulative Walking/Accessibility Impacts

Impact C-TR-7: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative pedestrian impacts. (*Less than Significant*)

A number of cumulative projects are currently being implemented, planned or proposed to enhance walking conditions in the Central Waterfront-Dogpatch area. These include the improvements contained within the Central Waterfront-Dogpatch Public Realm Plan, the 22nd Street Green Connection project, and the Pier 70 Mixed-Use District project's onsite circulation network, among others. As shown on Figure 2-12, p. 2-30 in Chapter 2, the proposed project's pedestrian network would connect with the Pier 70 Mixed-Use District project to the north via on 22nd Street via Georgia and Maryland streets. The Pier 70 Mixed-Use District project will include sidewalks consistent with the Better Street Plan requirements (i.e., width, curb ramps, crosswalks, etc.) throughout the site, with sidewalk widths ranging between 9 and 18 feet, including on new internal streets and on the existing streets on the perimeter of the site (such as on 20th Street, and on 22nd Street, which would also serve people walking to and from the proposed project site. In addition, within the Pier 70 Mixed-Use District project site, the Bay Trail/Blue Greenway multi-use path will continue along the waterfront and connect with paths that will be provided within Crane Cove Park. The integrated street network on both sites, and improved connections to the west at intersections along Illinois Streets would substantially improve conditions for people walking. The integrated pedestrian networks would be consistent with Better Street Plan standards and would not create hazardous conditions for people walking within the sites. Both projects would also increase the number of people walking on adjacent streets, particularly on Illinois, Third, 20th, 22nd, and 23rd streets, however, the additional people walking would be accommodated within the existing and new pedestrian facilities provided by the projects.

With implementation of the Pier 70 Mixed-Use District project, the sidewalks on the east side of Illinois Street between 20th and 22nd Streets would be reconstructed to a minimum of 10 feet, and obstructions such as fire hydrants and sign poles would be relocated, if possible, to ensure an accessible path of travel adjacent to the Pier 70 site. In addition, at the intersection of Illinois Street/22nd Street ADA compliant curb ramps would be installed at the four corners and the existing all-way stop-controlled intersection would be signalized. In addition, the intersections of Illinois Street/20th Street and Illinois Street/21st Street would be signalized, and ADA compliant curb ramps, pedestrian countdown signals, and continental crosswalks would be installed. These improvements, required to be implemented as part of the Pier 70 Mixed-Use District project, would ensure an accessible path of travel to and from the Pier 70 site and would enhance accessibility for people walking to the two sites and to adjoining areas.

The proposed project would contribute to cumulative projects' efforts to complete and enhance the pedestrian network in the Central Waterfront, and facilitate pedestrian travel. The project would expand the pedestrian network east of Illinois Street to the waterfront, and would connect to the Pier 70 site through internal streets and the Bay Trail/Blue Greenway path along the waterfront. The proposed project also includes reconstruction of the east sidewalk on Illinois Street between Humboldt and 23rd streets, and signalization of two intersections along Illinois Street. Intersections that would be signalized would include pedestrian countdown signals, leading pedestrian intervals, marked crosswalks with continental design, and sidewalk extensions which would enhance pedestrian safety at these intersections. Other cumulative development projects would be required to address sidewalk deficiencies adjacent to their project site, and comply with the Better Streets Plan.

Walk trips would increase between the completion of the proposed project and the 2040 cumulative conditions due to growth in the area of the proposed project. At intersections in the vicinity of the project site, there is a projected increase in background vehicle traffic between existing plus project and 2040 cumulative conditions. The overall increase in traffic volumes under 2040 cumulative conditions would result in an increase in the potential for vehicle-pedestrian conflicts at intersections in the study area. While this general increase in vehicle traffic that is expected through the future 2040 cumulative conditions, the increase is not anticipated to create potentially hazardous conditions for pedestrians, or otherwise interfere with accessibility to the site and adjoining areas. The cumulative projects currently being implemented, planned, or proposed in the transportation study area that would address existing sidewalk deficiencies and enhance pedestrian safety and circulation in the area, including those that would be provided as part of the proposed project, would accommodate future growth in pedestrians, and would not result in significant cumulative walking/accessibility impacts. For the above reasons, the proposed project, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative walking/accessibility impacts.

Mitigation: None required.

Cumulative Bicycle Impacts

Impact C-TR-8: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative bicycle impacts. (*Less than Significant*)

A number of bicycle facilities projects are currently being implemented, planned, or proposed. To the north of the project site two-way protected bicycle lanes (class IV) will replace the existing one way striped bicycle lanes (class II) on Terry A. Francois Boulevard, and will connect with the north-south bicycle lanes on Illinois Street and on 16th Street (the extension of 16th Street between Illinois Street and Terry A. Francois Boulevard will include bicycle lanes in both directions). To the west of the project site, improvements are planned for Indiana Street that will provide protected bicycle lanes. The Central Waterfront-Dogpatch Public Realm Plan proposes bicycle network improvements, including a class III route with sharrows on 19th Street between Indiana and Minnesota streets

(connecting with the existing class III facility on Indiana Street between Mariposa and Cesar Chavez streets), and a class II bike lane with sharrows on Minnesota between 19th and Mariposa streets. In addition, a class III route with sharrows would be implemented on 24th Street between Minnesota Street (which has a class III facility between Cesar Chavez Street and 23rd Street) and Warm Water Cove Park. The Central Waterfront-Dogpatch Public Realm Plan also proposes a pedestrian/bicycle bridge between Warm Water Cove Park and the proposed Waterfront Park within the Potrero Power Station site that would connect with the proposed Bay Trail/Blue Greenway improvements within the project site.

Under 2040 cumulative conditions, the Pier 70 Mixed-Use District project and the proposed project would have an integrated roadway network that accommodates cyclists. North-south connections between the two sites would be provided at Georgia Street and at Maryland Street, and both projects would include a Bay Trail/Blue Greenway multi-use path along the waterfront. The proposed project would not conflict with these projects, and instead would complement existing facilities and expand bicycle circulation along the waterfront. There are no San Francisco Bicycle Plan projects planned on streets in the vicinity of the project site.

Bicycling trips in the area may increase between the completion of the project and the cumulative scenario due to general growth in the area. Under 2040 cumulative conditions, there is a projected increase in vehicles at many of the study intersections in the vicinity of the proposed project, which may result in an increase in vehicle-bicycle conflicts at intersections in the study area. While there would be a general increase in vehicle traffic that is expected through the future 2040 cumulative conditions, this increase, in combination with planned and proposed improvements to the bicycle network and increased bicycle use, is not anticipated to create potentially hazardous conditions for bicycles, or otherwise interfere with bicycle accessibility to the site and adjoining areas. The bicycle facility projects currently being implemented, planned, or proposed in the transportation study area, including those that would be provided as part of the proposed project, would accommodate future growth in bicycle trips, and would not result in significant cumulative bicycle impacts. Therefore, for the above reasons, the proposed project, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative impacts on bicyclists.

Mitigation: None required.

Cumulative Loading Impacts

Impact C-TR-9: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative loading impacts. (*Less than Significant*)

Commercial vehicle and passenger loading/unloading impacts are by their nature localized and site-specific, and generally would not contribute to impacts from other development projects outside of the project site. As described in Impact TR-9 above for existing plus project conditions, the proposed project's estimated loading demand would be met within the proposed onsite and

on-street commercial and passenger loading spaces that would be provided within the project site. The Pier 70 Mixed-Use District project may not provide sufficient onsite and on-street loading spaces to accommodate the projected demand, and the unmet loading demand could result in service and delivery vehicles parking in general parking spaces and double-parking and partially blocking local streets while loading and unloading goods. However, the loading activities would not affect the proposed project site or streets outside of the Pier 70 site, as those activities are specific to the land uses on the Pier 70 site and therefore would not reasonably be expected to take place elsewhere. No other cumulative development or transportation projects have been identified that would contribute to either commercial vehicle or passenger loading demand or affect supply on the project site. Under 2040 cumulative conditions, loading demand generated by development projects would not result in significant cumulative loading impacts. Therefore, for the above reasons, the proposed project, in combination with past, present, and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative loading impacts.

Mitigation: None required.

Cumulative Parking Impacts

Impact C-TR-10: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative parking impacts. (*Less than Significant*)

Over time, due to land use development and increased density anticipated within the city, vehicle parking demand and competition for on-street and off-street parking may increase. As described in Impact TR-10, the new parking supply that would be provided as part of the proposed project would not be expected to accommodate the projected parking demand. This may result in a shortfall in parking spaces that would need to be accommodated elsewhere or may result in a greater use of other modes, including transit, taxis, bicycling and walking. Other development projects, in particular the Pier 70 Mixed-Use District project located adjacent to the project site, may also contribute to area wide parking demand. New time-limited on-street parking regulations within the Dogpatch neighborhood would limit the number of drivers seeking long-term parking within the Dogpatch and encourage use of other modes. Additionally, through the implementation of the City's Transit First Policy, the Better Streets Plan, Vision Zero projects, and related projects, on-street parking spaces may be further removed to promote sustainable travel modes and sustainable street designs including protected or striped bicycle lanes, transit bulbs, and corner bulb-outs. These projects would encourage transit use by reducing transit travel times and increasing transit reliability, would encourage bicycle use through provision of separate bicycle facilities that would offer a higher level of security than bicycle lanes and would be attractive to a wider spectrum of the public, and would encourage walking by improving the sidewalk network in the transportation study area.

Under 2040 cumulative conditions, within the transportation study area, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service,

taxis, walking, or bicycling) and a relatively dense pattern of urban development, may induce drivers to shift to other modes of travel or change their overall travel habits. Development projects would be required to comply with the City's TDM Ordinance, which would further lead to a mode shift from private passenger vehicles to other modes of travel.

Considering the mixed-use residential nature of this and other cumulative projects on an infill site located within a transit priority area, planned improvements to the transit, pedestrian, and bicycle network in the area, the cumulative increase in parking demand as part of new developments would not be considered substantial, nor would the potential shortfall in parking supply be expected to result in hazardous conditions (e.g., impairing visibility, blocking sidewalks or crosswalks, or blocking access to fire hydrants). Thus, under 2040 cumulative conditions, changes in parking demand and supply in the transportation study area would not result in significant cumulative parking impacts. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable development in San Francisco, would result in *less-than-significant* cumulative secondary parking impacts.

Mitigation: None required.

Cumulative Emergency Access Impacts

Impact C-TR-11: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative emergency access impacts. (*Less than Significant*)

As discussed in Impact TR-11 above for existing plus project conditions, with implementation of the proposed project, emergency access to the project site would remain similar to existing conditions. The planned Pier 70 Mixed-Use District project will create a new mixed-use neighborhood directly north of the project site, but will not change circulation patterns in the project vicinity. Upon buildout of the Pier 70 Mixed-Use District project's street network, the proposed project site would also be accessed through the Pier 70 site from 22nd Street via Maryland Street. None of the other known cumulative development projects would substantially affect circulation in the project vicinity. In addition, all cumulative development project plans, including those for the proposed project and the Pier 70 development, would be reviewed by the fire department to ensure adequate access to each site. Emergency vehicles would continue to use Third Street and Illinois Street to access the project site, and would also be permitted full use of the light-rail median for travel along Third Street. Under cumulative conditions, there would be a projected increase in vehicles on study area streets, however, the increase would not impede or hinder emergency vehicle travel, and would not result in significant cumulative emergency vehicle access impacts.

Because multiple travel lanes would remain on adjacent streets, vehicles would be able to pull over to the side of the street and provide a clear travel path when an emergency vehicle with sirens is approaching, and emergency vehicles would not be substantially delayed. Therefore, for the above reasons, the proposed project, in combination with past, present and reasonably foreseeable

development in San Francisco, would result in *less-than-significant* cumulative emergency access impacts.

Mitigation: None required.

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4.F Noise and Vibration

4.F.1 Introduction

Section 4.F, Noise and Vibration, describes the existing noise environment in the project area, evaluates the potential construction-related and operational noise and vibration impacts associated with implementation of the proposed project, and identifies mitigation measures to avoid or reduce potential adverse impacts. Project-related noise and vibration effects on biological resources are discussed in Section 4.I, Biological Resources.

4.F.2 Environmental Setting

Sound Fundamentals

Sound is characterized by parameters that describe the rate of *oscillation* (frequency) of sound waves, the distance between successive troughs or crests in waves, the speed that they travel, and the pressure level or energy content of a given sound. The sound pressure level has become the most common descriptor used to characterize how loud a sound is, and the decibel (dB) scale is used to quantify sound intensity. Because the human ear is not equally sensitive to all sound frequencies, human response is factored into sound descriptions in a process called *A-weighting*, expressed as *dBA*. The dBA, or A-weighted decibel, refers to a scale of noise measurement that reflects the different frequencies that humans can hear. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA. Except in carefully controlled laboratory experiments, a change of only 1 dBA in sound level cannot be perceived. Outside of the laboratory, a 3-dBA change is considered a perceptible difference. A 10-dBA increase in the level of a continuous noise represents a perceived doubling of loudness.¹

Noise Descriptors

Noise is generally defined as sound that is loud, disagreeable, unexpected or unwanted. Variations in noise exposure over time are typically expressed in terms of a steady-state energy level (called *Leq*) that represents the acoustical energy of a given measurement, or alternatively as a statistical description of what sound level is exceeded over some fraction (10, 50 or 90 percent) of a given observation period (i.e., L10, L50, L90). *Leq* (24) is the steady-state acoustical energy level measured over a 24-hour period. *Lmax* is the maximum, instantaneous noise level registered during a measurement period. Because people in residential areas are more sensitive to unwanted noise intrusion during the evening and at night, an artificial 5-dBA increment is added to evening noise levels (7 p.m. to 10 p.m.) and 10-dBA increment is added nighttime noise levels (10 p.m. to 7 a.m.) to form a 24-hour noise descriptor called the *Community Noise Equivalent Level* (CNEL). Another 24-hour noise descriptor, called the *day-night noise level* (Ldn), is similar to CNEL, but Ldn does not add the evening 5-dBA penalty between 7 p.m. and 10 p.m. In practice,

¹ California Department of Transportation (Caltrans), *Technical Noise Supplement (TeNS) to the Traffic Noise Analysis Protocol* pp. 2-44 to 2-45, September 2013, <http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf>, accessed August 15, 2018.

L_{dn} and C_{NEL} usually differ by less than 1 dBA at any given location from transportation noise sources.² **Table 4.F-1, Representative Environmental Noise Levels**, presents representative noise sources and their corresponding noise levels in dBA at varying distances from the noise sources.

**TABLE 4.F-1
REPRESENTATIVE ENVIRONMENTAL NOISE LEVELS**

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-over at 100 feet		
	100	
Gas Lawnmower at 3 feet		
	90	
Diesel Truck going 50 mph at 50 feet		Food Blender at 3 feet
	80	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawnmower at 100 feet	70	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	60	
		Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	30	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	20	
		Broadcast/Recording Studio
	10	
	0	

SOURCE: California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, p. 2-20, September 2013.

Sensitive Receptors

Some land uses (and associated users) are considered more sensitive to ambient noise levels than others due to the types of activities typically involved with the land use and the amount of noise exposure (in terms of both exposure duration and insulation from noise). In general, occupants of residences, schools, daycare centers, hotels, hospitals, places of worship, and nursing homes are considered to be sensitive receptors (i.e., persons who are sensitive to noise based on their specific activities, age, health, etc.).

² California Department of Transportation (Caltrans), *Technical Noise Supplement (TeNS) to the Traffic Noise Analysis Protocol* p. 2-48, September 2013, <http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf>, accessed August 15, 2018.

Health Effects of Environmental Noise

The World Health Organization is a recognized source of current knowledge regarding health impacts, including those generated by noise. According to the World Health Organization, one health effect is sleep disturbance, which can occur when continuous indoor noise levels exceed 30 dBA (Leq) or when intermittent interior noise levels reach or exceed 45 dBA (Lmax), particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the World Health Organization criteria suggest that acceptable nighttime ambient noise levels should be 45 dBA (Leq) or below, and short-term events should not generate noise in excess of 60 dBA (Lmax). The World Health Organization also notes that maintaining noise levels within the recommended levels during the first part of the night helps people to fall asleep.³

Other potential health effects of noise identified by the World Health Organization include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, or shorter-term exposure to very high noise levels, for example, exposure several times a year to a concert with noise levels at 100 dBA). Noise can also disrupt speech intelligibility at relatively low levels; for example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance and can trigger emotional reactions like anger, depression, and anxiety. The World Health Organization reports that during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed by activities with noise levels below 50 dBA.

Vehicle traffic and continuous sources of machinery and mechanical noise contribute to unhealthy ambient noise levels. Short-term noise sources, such as large vehicle audible warnings, the crashing of material being loaded or unloaded, car doors slamming, and engines revving, contribute very little to 24-hour noise levels but are capable of causing sleep disturbance and annoyance. The effect of noise on receptors depends on both time and context. For example, long-term high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels at night can disturb sleep.

Vibration and Groundborne Noise

Groundborne noise refers to noise generated by vibrations from outside a structure but experienced inside the structure. Groundborne noise can be a problem in situations where the primary airborne noise path is blocked, such as in the case of a subway tunnel passing near homes or other noise-sensitive structures. Vibration is an oscillatory motion through a solid medium. Typically, groundborne vibrations generated by man-made activities attenuate rapidly with the distance from the source of the vibration. Vibration is typically measured by *peak particle velocity* (PPV) in inches per second (in/sec). With the exception of long-term occupational exposure, vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that can affect

³ World Health Organization, *Guidelines for Community Noise*, Chapter 3, p. 46, April 1999.

concentration or disturb sleep. People may tolerate infrequent, short-duration vibration levels, but human annoyance to vibration becomes more pronounced if the vibration is continuous or occurs frequently. High levels of vibration can damage fragile buildings or interfere with sensitive equipment. Depending on the age of the structure and type of vibration (transient, continuous, or frequent intermittent sources), fairly low vibration levels as low as 0.5 to 2.0 in/sec PPV can damage a structure.⁴

Typical sources of groundborne vibration in San Francisco are large-scale construction projects that involve pile driving or underground tunneling. Vibration is also caused by transit vehicles in the subway system under Market Street, including Muni Metro light rail vehicles, historic streetcars and Bay Area Rapid Transit (BART) trains. In general, such vibration is only an issue when there are sensitive receptors located nearby. Since rubber tires and suspension systems mitigate vibrations, rubber tire vehicles such as Muni buses, trucks, and automobiles rarely create substantial vibration absent a bump in the road.⁵

Existing Conditions

Existing Noise Sources

At present, the primary sources of noise on the project site are on-going remediation activities. The primary sources of noise adjacent to or near the project site are traffic on local streets, various industrial activities, and the distant I-280 freeway. The project site is bounded by Illinois Street on the west, 22nd Street on the north, the San Francisco Bay on the east, and 23rd Street on the south. The project site is located in an urban area where noise from nearby industrial uses (including the American Industrial Center and PG&E Potrero Substation to the west and PG&E Hoe Down Yard to the north) and vehicular traffic (automobiles, trucks, and buses on the Illinois Street, Third Street and other streets in the vicinity) dominate the noise environment. Intermittent sources of noise that contribute to ambient noise levels include Caltrain commuter train traffic (approximately 325 feet to the west) and nearby Muni light rail trains on Third Street (approximately 365 feet to the west). More distant intermittent noise sources include activities such as vehicle loading/unloading at Pier 80 (located as close as 1,000 feet south of the site), concerts and sporting events at AT&T Ballpark (located 7,200 feet north of the site), and the vehicular traffic on Illinois Street which is generated by these events. Principal noise sources in the immediate project vicinity are described as follows:

- **PG&E Remediation Activities.** PG&E is currently remediating soil, soil vapor, and groundwater on and adjacent to the project site, improving it to a commercial/industrial standard (independent of the project). These remediation activities are expected to fully cease by 2022-2024. In general, PG&E's remediation activities involve removal of affected soils in some areas, in-place stabilization with cement mix of other areas where affected soils are

⁴ California Department of Transportation (Caltrans), *Transportation and Construction Vibration Guidance Manual*, September 2013, Table 9, p. 23, <http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf>, accessed on August 15, 2018.

⁵ Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, DTA-VA-90-1003-06, p. 10-6, May 2006, U.S. Department of Transportation, <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment>, accessed August 15, 2018.

deeper, and installation of a durable cover across the site. Offshore remediation activities (at and to the north of the project site) include dredging to remove impacted sediment and treating some sediments in place using activated carbon.

- **American Industrial Center.** The American Industrial Center is quite large and is located on Third Street between 20th and 23rd streets and extends to Illinois Street. The facility comprises about 900,000 square feet of commercial, industrial, and related supporting uses. Currently, approximately 300 tenants engaged in various commercial and industrial activities lease space in the building. The facility houses breweries, commercial kitchens and bakeries, garment manufacturing businesses, warehouses, and distribution centers. On average, there are typically 2,500 to 3,000 people on the site at a given time.⁶ The building's loading docks are located on Illinois Street across from the project site.
- **PG&E Potrero Substation.** There is a PG&E substation adjoining the western project site boundary (west of Block 5 and south of Block 13), and it contains large transformers and related electrical equipment that are not enclosed. Transformer noise can be disturbing because they generate tonal noise (i.e., noise with simple or pure tones or "hum" components). Field observations indicate that transformer noise is audible in the immediate vicinity of the substation, but heavy equipment and traffic noise on local streets dominate the ambient noise environment in nearby areas. This type of noise source could be audible during daytime and nighttime hours, at adjacent residential units of the proposed project.
- **PG&E Hoe Down Yard.** PG&E operates a corporation yard on the north side of 22nd Street just east of Illinois Street. Heavy equipment operates in this yard, but such operations would cease when this parcel is redeveloped as part of implementation of the Pier 70 project.
- **Nearby Sporting or Special Events.** Residents living along Illinois Street are subject to short-term, intermittent increases in traffic noise before and after events held at the existing AT&T Park and the Chase Center that is currently under construction. Since these increases only occur for a short time before and after a game, they do not substantially increase ambient noise levels. Even so, these short-term, intermittent increases are likely noticeable to residents living on or adjacent to Illinois Street.

Existing Groundborne Noise and Vibration Sources

There are no known sources of existing groundborne noise or vibration near the project site. Distant Caltrain traffic (approximately 1,500 feet to the west of the project site) and nearby light rail train operations (Third Street line, approximately 325 feet west of the western project site boundary) both operate at the surface and generate airborne noise and surface vibration. Given their distance and surface location, these two sources are not considered substantial sources of groundborne noise or vibration at the project site.⁷ There is no machinery or activity at the nearby American Industrial Center that generate vibration on the project site.

⁶ Charles J. Higley, Farella Braun + Martel, LLP, *Pier 70 Mixed-Use District – EIR Scoping Comments*, June 5, 2015.

⁷ U.S. Department of Transportation, Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment*, Section 4.1 Screening Distances, May 2006, pp. 4-1 to 4-5, <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment>, accessed on August 15, 2018.

Ambient Noise Measurements

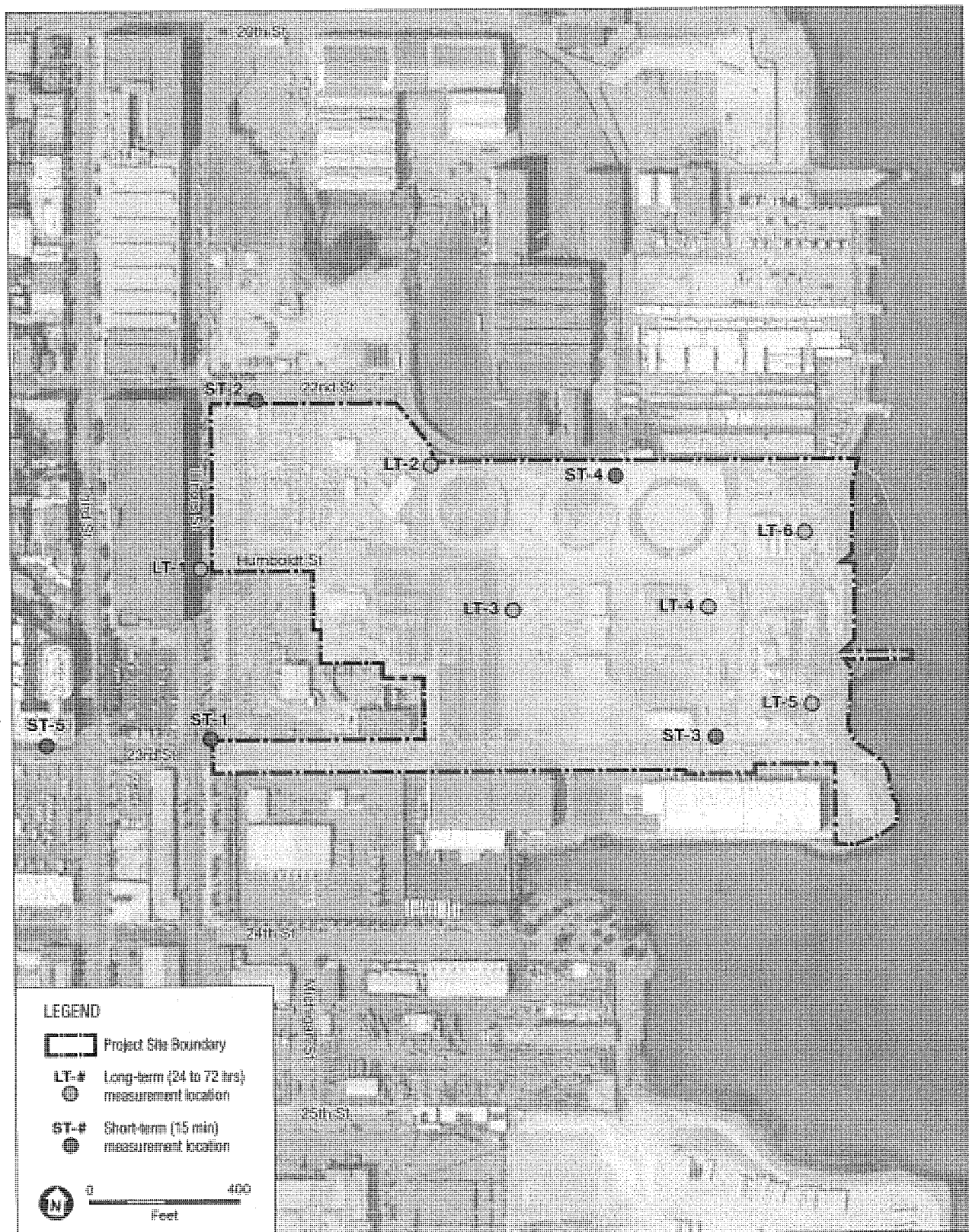
To characterize the background noise environment in the project vicinity, a total of 11 noise measurements were collected. Six long-term (24 to 72 hours) and five short-term (15 minutes) measurements were collected in the project area over a five-day period in January 2018.⁸ While onsite remediation activities by PG&E are currently a source of noise in the project vicinity, these activities are expected to fully cease by 2022-2024. Therefore, measurements were collected during a period when no or only minor remediation activities occurred in order to more accurately characterize the future noise environment at the project site after remediation activities are completed. Measurement locations are indicated on **Figure 4.F-1, Noise Measurement Locations**. Noise measurement data are included in **Appendix D**. A summary of noise measurement results is presented in **Table 4.F-2, Summary of Long-Term (LT) and Short-Term (ST) Noise Monitoring on the Project Site and Vicinity (dBA)**. As indicated in Table 4.F-2, noise measurements indicate that noise levels at the project site range from 56 to 60 dBA [L_{dn}] over most of the site, with higher noise levels (71 dBA [L_{dn}]) immediately adjacent to Illinois Street and the PG&E Potrero Substation.

Existing and Future/Planned Sensitive Receptors

There are industrial, commercial, and residential uses within 900 feet of the project site.⁹ Existing noise-sensitive receptors in the project vicinity within 900 feet of the project site include residences, one nursery school, and one church, as listed below in **Table 4.F-3, Sensitive Receptors within 900 feet of Project Site**, and their locations are shown in **Figure 4.F-2, Existing Noise-Sensitive Receptors within 900 feet of Project Site**. The UCSF Mission Bay Hospital (1975 Fourth Street) is located approximately 2,500 feet to the north. Also, there are additional residential and childcare uses planned for the Pier 70 property, which adjoins the northern project site boundary, which are also listed in Table 4.F-3; their locations and planned construction dates are indicated in **Figure 4.F-3, Future Planned Noise-Sensitive Receptors at the Pier 70 Site and Planned Construction Dates**. There are no existing or planned skilled nursing facilities, or public libraries within 900 feet of the project site.

⁸ Short-term measurements were taken with a Larson Davis LxT sound level meter on Tuesday, 1/16/18, while the long-term measurements were taken from Tuesday, 1/9/18 to Friday, 1/12/18 with Metrosonics Model db 308 sound meters. Measurement locations were selected based on the locations of major noise sources and proposed development locations as well as to characterize noise attenuation effects over the project site.

⁹ This distance was selected because typical construction noise levels can affect a sensitive receptor at a distance of 900 feet if there is a direct line-of-sight between a noise source and a noise receptor (i.e., a piece of equipment generating 85 dBA would attenuate to 60 dBA over a distance of 900 feet). An exterior noise level of 60 dBA will typically attenuate to an interior noise level of 35 dBA with the windows closed and 45 dBA with the windows open.



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.F-1
Noise Measurement Locations

TABLE 4.F-2
SUMMARY OF LONG-TERM (LT) AND SHORT-TERM (ST) NOISE MONITORING
ON THE PROJECT SITE AND VICINITY (dBA)

Measurement Location	Time Period	Average L _{dn} or Leq	Audible Noise Sources
Long-term Measurements (24 hours or more)			
LT-1: Western project site boundary (southwest side of proposed Block 13) between Humboldt and 23rd streets, about 27 feet east of Illinois Street centerline.	1/9/18 to 1/10/18 Daytime: Evening: Nighttime: 24-hour:	67 dBA (Leq) 64 dBA (Leq) 64 dBA (Leq) 71 dBA (L _{dn})	Traffic on Illinois and Third streets and PG&E Potrero Substation.
LT-2: Northern project site boundary (between proposed Blocks 1 and 14), approximately 55 feet south of 22nd Street centerline.	1/9/18 to 1/10/18 Daytime: Evening: Nighttime: 24-hour:	56 dBA (Leq) 53 dBA (Leq) 51 dBA (Leq) 58 dBA (L _{dn})	Distant diesel engine with occasional back-up alarm.
LT-3: West central project site (west side of proposed Block 7), approximately 360 feet north of 23rd Street centerline and 120 feet south of Humboldt Street centerline.	1/9/18 to 1/10/18 Daytime: Evening: Nighttime: 24-hour:	56 dBA (Leq) 50 dBA (Leq) 48 dBA (Leq) 57 dBA (L _{dn})	Distant diesel engine with occasional back-up alarm, and aircraft.
LT-4: East central project site (east side of proposed Block 8), approximately 400 feet north of 23rd Street and 100 feet south of Humboldt Street.	1/11/18 Daytime: Evening: Nighttime: 24-hour:	62 dBA (Leq) 52 dBA (Leq) 47 dBA (Leq) 60 dBA (L _{dn})	Distant diesel engine with occasional back-up alarm.
LT-5: Southeast corner of project site at east side of Unit 3/proposed Block 9), approximately 150 feet north of 23rd Street centerline and 95 feet west of bay.	1/11/18 Daytime: Evening: Nighttime: 24-hour:	54 dBA (Leq) 50 dBA (Leq) 49 dBA (Leq) 56 dBA (L _{dn})	Wind-blown waves and tidal activity of Bay.
LT-6: Northeast corner of project site (east of proposed Block 4), approximately 575 feet north of 23rd Street centerline and 110 feet west of bay).	1/11 to 1/12/18 Daytime: Evening: Nighttime: 24-hour:	54 dBA (Leq) 51 dBA (Leq) 48 dBA (Leq) 56 dBA (L _{dn})	Distant diesel engine with occasional back-up alarm.
Short-term Measurements (15 minutes)			
ST-1: Southwest corner of project site at northeast corner of Illinois Street/23rd Street intersection, approximately 50 feet from the Illinois Street centerline and 50 feet from the 23rd Street centerline.	1/16/18; 2:33 p.m. to 2:49 p.m.	68 dBA (Leq)	Truck traffic on Illinois Street and 23rd Street; Muni light rail and vehicle traffic on Third Street.
ST-2: Northwest corner of project site (north side of proposed Block 13), approximately 38 feet south of 22nd Street centerline.	1/16/18; 2:54 p.m. to 3:09 p.m.	60 dBA (Leq)	Vehicle traffic on Illinois Street and 22nd Street; HVAC unit on portable building; PG&E Potrero Substation.
ST-3: Southeast corner of project site and proposed Block 12, about 65 feet north of 23rd Street centerline.	1/16/18; 1:48 p.m. to 2:03 p.m.	55 dBA (Leq)	Distant back-up alarm, distant HVAC, and fog horn.
ST-4: Northern project site boundary (north side of proposed Block 3), adjacent to Pier 70 site.	1/16/18; 2:08 to 2:23 p.m.	50 dBA (Leq)	Distant diesel engine with occasional back-up alarm.
ST-5: Northwest corner of Third Street/23rd Street intersection (west of project site), about 30 feet north of the 23rd Street centerline and 100 feet west of the Third Street centerline.	1/16/18; 2:16 p.m. to 2:31 p.m.	68 dBA (Leq)	Vehicle traffic on Third Street and 23rd Street and Muni light rail traffic on Third Street.

SOURCE: ESA, 2018.

TABLE 4.F-3
SENSITIVE RECEPTORS WITHIN 900 FEET OF THE PROJECT SITE

Type of Sensitive Receptor	Location	Minimum Distance from Project Site Boundaries
Existing Sensitive Receptors within 900 Feet of Project Site (numbers correspond to locations shown on Figure 4.F-2)		
<i>Between 20th and 22nd Streets (Northwest of Project Site)</i>		
Residential	West side of Third Street	400 feet
Residential	East side of Tennessee Street	650 feet
E-1: Friends of Potrero Hill Nursery School	1060A Tennessee Street	700 feet
E-2: St. Stephen Baptist Church	800 22nd Street	650 feet
<i>Between 22nd and 23rd Streets (West of Project Site)</i>		
Residential	West side of Third Street	380 feet
Residential	North and south sides of 22nd Street	380 feet
Residential	East and west sides of Tennessee Street	500 feet
Residential	East side of Minnesota Street	750 feet
Future/Planned Sensitive Receptors within 900 Feet of Project Site (parcel locations shown on Figure 4.F-3)		
<i>North of 22nd Street (North of Project Site)</i>		
Parcels F/G, H1, H2, HDY1/2 : Residential ^a	Pier 70 Mixed-Use District project site (adjacent to northern project boundary or north side of 22nd Street)	15 feet ^b
Parcels PKN, PKS, C2, D, E1, E2, E3, 2: Residential and/or Childcare ^c	Pier 70 Mixed-Use District project site	225 feet

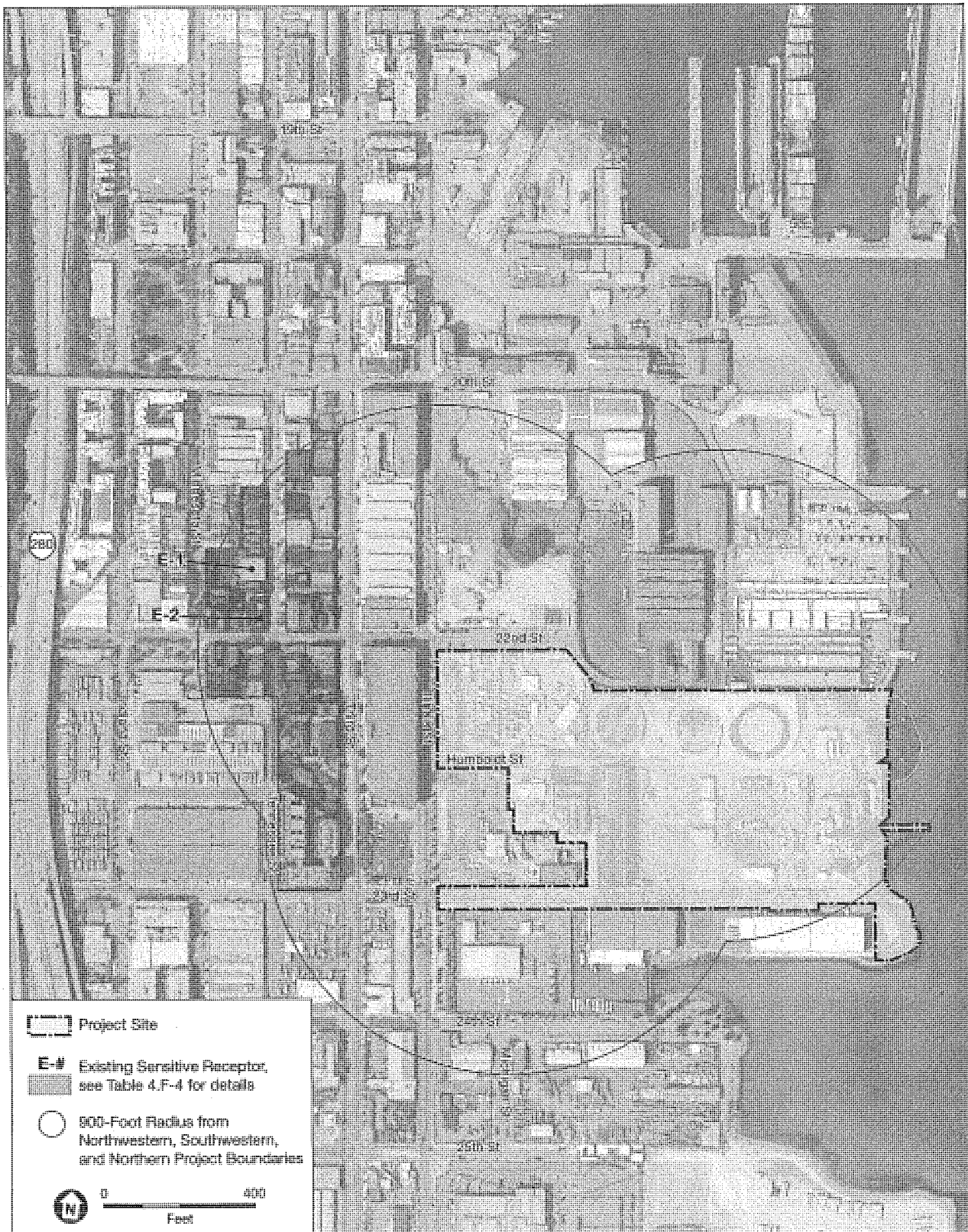
NOTES:

^a Under the Pier 70 Maximum Residential Scenario, all of these parcels would be developed with residential uses. Under the Pier 70 Maximum Commercial Scenario, all of these parcels would be developed with commercial uses and there would be no noise-sensitive receptors on these parcels.

^b Minimum distance is estimated at 30 feet because building locations on Pier 70 parcels and project parcels have not yet been determined, but the minimum setback from either side of the project boundary is required to be 15 feet.

^c Under the Pier 70 Maximum Residential Scenario, these parcels would be developed with residential uses. Under the Pier 70 Maximum Commercial Scenario, these parcels would still be developed with residential uses except for Parcel 2, which would be developed with commercial uses. Also, note that Parcels C2, D, E1 and E2 are potential locations for a childcare facility.

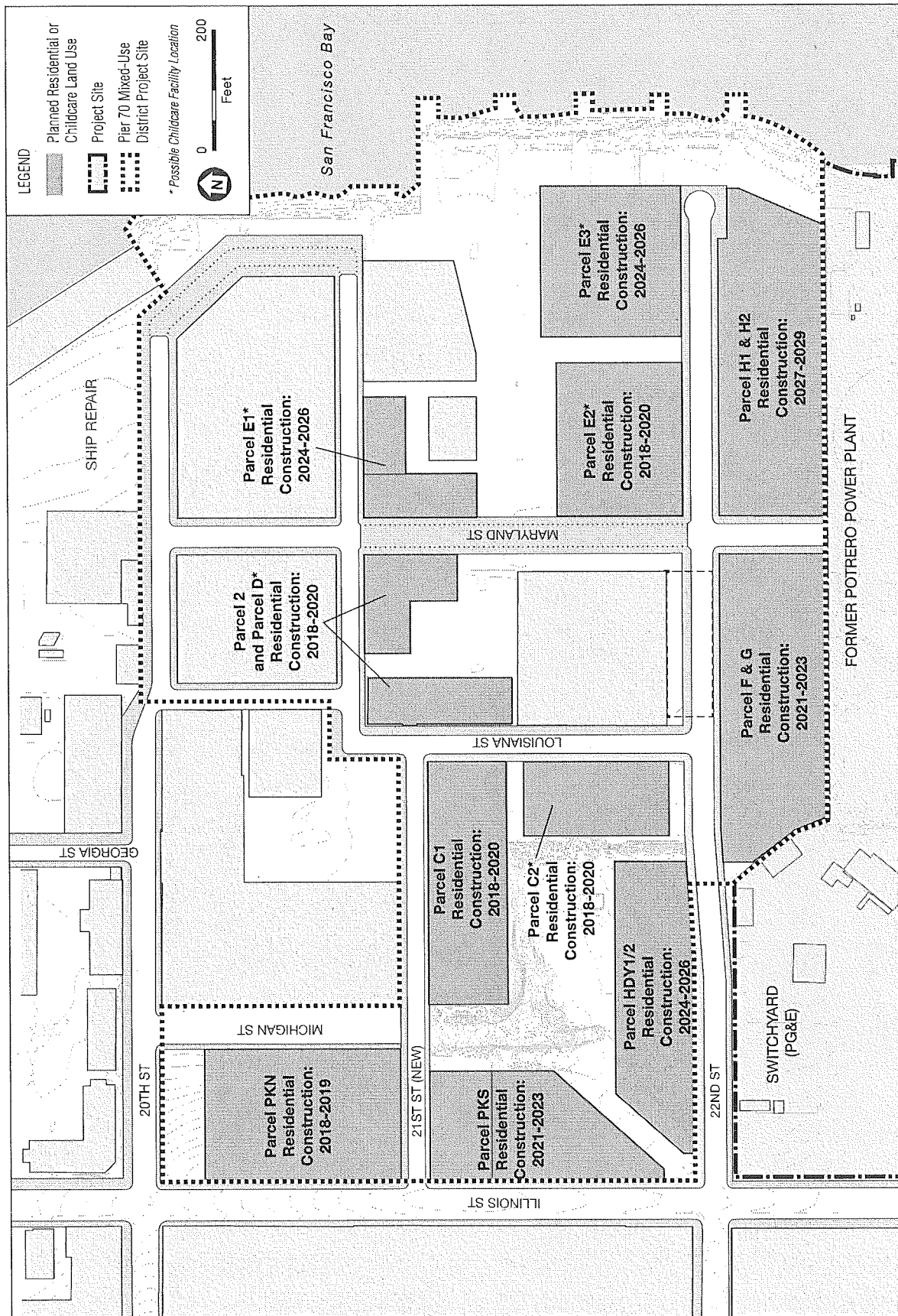
SOURCE: Orion Environmental Associates, 2018; Google Earth (Imagery Date 9/11/2017) for parcel data (address and distance to the site)



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.F-2
Existing Noise-Sensitive Receptors within 900 Feet of Project Site



SOURCE: Perkins+Will, 2018; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.F-3
Future Planned Noise-Sensitive Receptors on the
Pier 70 Site and Planned Construction Dates

4.F.3 Regulatory Framework

Federal Regulations

In 1972, the Noise Control Act (42 United States Code section 4901 et seq.) was passed by congress to promote limited noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (U.S. EPA) Office of Noise Abatement and Control to coordinate federal noise control activities. U.S. EPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. **Table 4.F-4, Summary of Noise Levels Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.**

TABLE 4.F-4
SUMMARY OF NOISE LEVELS REQUISITE TO PROTECT PUBLIC HEALTH
AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Effect	Level	Area
Hearing loss	< 70 dBA ^a (Leq, 24 hour)	All areas.
Outdoor activity interference and annoyance	< 55 dBA (Ldn)	Outdoor residential areas and farms as well as other outdoor areas where people spend varying amounts of time and places where quiet is a basis for use.
Outdoor activity interference and annoyance	< 55 dBA (Leq, 24 hour)	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor activity interference and annoyance	< 45 dBA (Ldn)	Indoor residential areas.
Indoor activity interference and annoyance	< 45 dBA (Leq, 24 hour)	Other indoor areas with human activities, such as schools, etc.

NOTE:

^a Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is 40 years.

SOURCE: U.S. EPA, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, 1974, <http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF>, accessed June 12, 2018.

U.S. EPA found that to prevent hearing loss over the lifetime of a receptor, the yearly average Leq should not exceed 70 dBA, and the Ldn should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance.¹⁰ In 1982, noise control was largely passed to state and local governments.

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 of the Code of Federal Regulations, Part 205, Subpart B. The federal truck passby noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These requirements are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

¹⁰ U.S. Environmental Protection Agency (U.S. EPA), *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974.

State Regulations

Noise

The 2016 California Building Code (Title 24, Part 2 of the California Code of Regulations) requires that walls and floor/ceiling assemblies separating dwelling units from each other, or from public or service areas, have a *Sound Transmission Class* (STC) of at least 50, meaning they can reduce noise by a minimum of 50 dB.¹¹ The code (section 1207.4, Allowable Interior Noise Levels) also specifies a maximum interior noise limit of 45 dBA (Ldn or CNEL) in habitable rooms, and requires that common interior walls and floor/ceiling assemblies meet a minimum STC rating of 50 for airborne noise.

San Francisco has adopted the 2016 Green Building Standards Code (also part of the State Building Code; California Code of Regulations Title 24, Part 11, and referenced below as the more commonly known “Title 24”), which specifies the following insulation standards for Environmental Comfort (section 5.507) to minimize exterior noise transmission into interior spaces for non-residential buildings:

- Section 5.507.4.1, Exterior Noise Transmission, requires wall and roof-ceiling assemblies to have an STC of at least 50 and exterior windows to have a minimum STC of 30 for any of the following building locations: (1) within the 65-dBA, Ldn, noise contour of a freeway, expressway, railroad, or industrial source; and (2) within the 65-dBA noise contour of an airport. Exceptions include buildings with few or no occupants and where occupants are not likely to be affected by exterior noise, such as factories, stadiums, parking structures, and storage or utility buildings.
- Sections 5.507.4.1.1 and 5.507.4.3 require non-residential buildings to be designed with exterior walls and roof-ceiling assemblies that have an STC rating of at least 45 to provide an acceptable interior noise level of 50 dBA, *Leq*, in occupied areas during any hour of operation.
- 5.507.4.2, Interior Sound, requires wall and floor-ceiling assemblies separating tenant spaces and separating tenant spaces and public places to have an STC of at least 40.

These requirements are enforced by the San Francisco Department of Building Inspection.

Vibration

There are no state regulations related to construction-induced vibration. However, the California Department of Transportation (Caltrans) consolidated vibration criteria from various sources for assessing the potential damage to structures from ground vibration induced by construction equipment, and they are included in their *Transportation and Construction Vibration Guidance Manual*¹² and summarized in **Table 4.F-5, Vibration Guidelines for Potential Damage to Structures**. As indicated in this table, the building damage criteria for continuous vibration sources is about half of the criteria for transient sources.

¹¹ State Building Code section 1207.2.

¹² Caltrans, *Transportation and Construction Vibration Guidance Manual*, September 2013, Table 19, p. 27, <http://www.dot.ca.gov/env/noise/docs/tcvgm-sep2013.pdf>, accessed on August 15, 2018.

TABLE 4.F-5
VIBRATION GUIDELINES FOR POTENTIAL DAMAGE TO STRUCTURES

Structure Type and Condition	Maximum Peak Particle Velocity (in/sec, PPV)	
	Transient Sources ^a	Continuous/Frequent Intermittent Sources ^b
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

NOTES: in/sec = inches per second; PPV = peak particle velocity

^a Transient sources create a single, isolated vibration event, such as blasting or drop balls.

^b Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, *Transportation and Construction Vibration Guidance Manual*, September 2013.

Persistent vibration can cause human annoyance. People are more sensitive to vibration during the nighttime hours when sleeping than during daytime waking hours. Numerous studies have been conducted to characterize the human response to vibration. As shown in **Table 4.F-6, Vibration Guidelines for Annoyance**, for steady-state (continuous) vibration, human response is typically “strongly perceptible” at 0.1 in/sec PPV, “distinctly perceptible” at 0.035 in/sec PPV, and “barely perceptible” at 0.012 in/sec PPV.

TABLE 4.F-6
VIBRATION GUIDELINES FOR ANNOYANCE

Human Response	Maximum Peak Particle Velocity (in/sec, PPV)	
	Transient Sources ^a	Continuous/Frequent Intermittent Sources ^b
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.9	0.10
Severe	2.0	0.10

NOTES: in/sec = inches per second; PPV = peak particle velocity

^a Transient sources create a single, isolated vibration event, such as blasting or drop balls.

^b Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

SOURCE: Caltrans, *Transportation and Construction Vibration Guidance Manual*, September 2013.

Local Regulations and Guidelines

San Francisco General Plan

The Environmental Protection Element of the San Francisco General Plan contains Land Use Compatibility Guidelines for Community Noise for determining the compatibility of various land uses with different noise levels (see **Figure 4.F-4, San Francisco Land Use Compatibility Chart for Community Noise**). These guidelines, which are similar to the state guidelines set forth by the Governor's Office of Planning and Research, indicate maximum acceptable noise levels for various land uses. Although this figure presents a range of noise levels that are considered compatible or incompatible with various land uses, the maximum *satisfactory* noise level is 60 dBA (L_{dn}) for residential and hotel uses; 65 dBA (L_{dn}) for school classrooms, libraries, churches, and hospitals; 70 dBA (L_{dn}) for playgrounds, parks, office uses, retail commercial uses, and noise-sensitive manufacturing/communications uses; and 77 dBA (L_{dn}) for other commercial uses such as wholesale, some retail, industrial/manufacturing, transportation, communications, and utilities. If these uses are proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements is normally necessary for each building or group of buildings prior to final review and approval.

Objectives and policies in the Environmental Protection Element that pertain to the proposed project include the following:

Policy 9.2: Impose traffic restrictions to reduce transportation noise. Transportation noise levels vary according to the predominance of vehicle type, traffic volume, and traffic speed. Curtailing any of these variables ordinarily produces a drop in noise level. In addition to setting the speed limit, the City has the authority to restrict traffic on city streets, and it has done so on a number of streets. In addition, certain movement restraints can be applied to slow down traffic or divert it to other streets. These measures should be employed where appropriate to reduce noise.

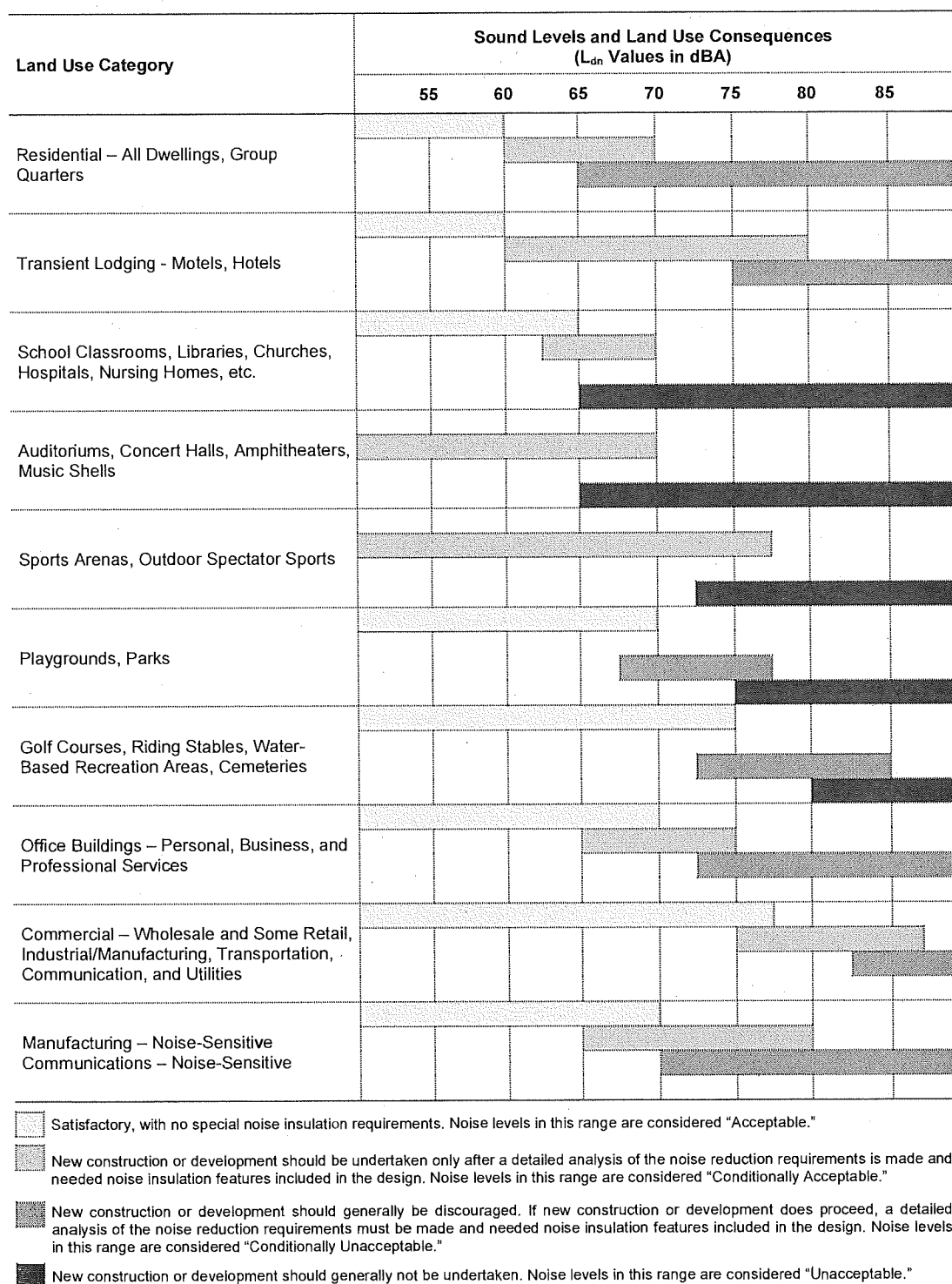
Policy 9.6: Discourage changes in streets which will result in greater traffic noise in noise-sensitive areas. Widening streets for additional traffic lanes or converting streets to one-way direction can induce higher traffic volume and faster speeds. Other techniques such as tow-away lanes and traffic light synchronization also facilitate heavier traffic flows. Such changes should not be undertaken on residential streets if they will produce an excessive rise in the noise level of those streets.

- **Objective 10:** Minimize the impact of noise on affected areas. The process of blocking excessive noise from our ears could involve extensive capital investment if undertaken on a systematic, citywide scale. Selective efforts, however, especially for new construction, are both desirable and justified.

Policy 10.1: Promote site planning, building orientation and design, and interior layout that will lessen noise intrusion. Because sound levels drop as distance from the source increases, building setbacks can play an important role in reducing noise for the building occupants. (Of course, if provision of the setback eliminates livable rear yard space, the value of the setback must be weighed against the loss of the rear yard.) Buildings sited with their narrower dimensions facing the noise source and sited to shield or be shielded by other buildings also help reduce noise intrusion.

4. Environmental Setting, Impacts, and Mitigation Measures

4.F Noise and Vibration



SOURCE: San Francisco Planning Department, *San Francisco General Plan*, adopted on June 27, 1996, http://www.sf-planning.org/ftp/General_Plan/16_Environmental_Protection.htm#ENV_TRA_11, accessed August 15, 2018.

Figure 4.F-4
San Francisco Land Use Compatibility Chart for Community Noise

Although walls with no windows or small windows cut down on noise from exterior sources, in most cases it would not be feasible or desirable to eliminate wall openings. However, interior layouts can achieve similar results by locating rooms whose use require more quiet, such as bedrooms, away from the street noise. In its role of reviewing project plans and informally offering professional advice on site development, the Department of City Planning can suggest ways to help protect the occupants from outside noise, consistent with the nature of the project and size and shape of the building site.

Policy 10.2: Promote the incorporation of noise insulation materials in new construction. State-imposed noise insulation standards apply to all new residential structures except detached single-family dwellings. Protection against exterior noise and noise within a building is also important in many nonresidential structures. Builders should be encouraged to take into account prevailing noise levels and to include noise insulation materials as needed to provide adequate insulation.

Policy 10.3: Construct physical barriers to reduce noise transmission from heavy traffic carriers. If designed properly, physical barriers such as walls and berms along transportation routes can in some instances effectively cut down on the noise that reaches the areas beyond. There are opportunities for a certain amount of barrier construction, especially along limited access thoroughfares and transit rights-of-way (such as BART), but it is unlikely that such barriers can be erected along existing arterial streets in the city. Barriers are least effective for those hillside areas above the noise source. Where feasible, appropriate noise barriers should be constructed.

- **Objective 11:** Promote land uses that are compatible with various transportation noise levels. Because transportation noise is going to remain a problem for many years to come, attention must be given to the activities close to the noise. In general, the most noise-sensitive activities or land uses should ideally be the farthest removed from the noisy transportation facilities. Conversely, those activities that are not seriously affected by high outside noise levels can be located near these facilities.

Central Waterfront Area Plan

- **Objective 1.5:** Minimize the impact of noise on affected areas and ensure general plan noise requirements are met.

Noise, or unwanted sound, is an inherent component of urban living. While environmental noise can pose a threat to mental and physical health, potential health impacts can be avoided or reduced through sound land use planning. The careful analysis and siting of new land uses can help to ensure land use compatibility, particularly in zones which allow a diverse range of land uses. Traffic is the most important source of environmental noise in San Francisco. Commercial land uses also generate noise from mechanical ventilation and cooling systems, and through freight movement. Sound control technologies are available to both insulate sensitive uses and contain unwanted sound. The use of good urban design can help to ensure that noise does not impede access and enjoyment of public spaces.

Policy 1.5.1: Reduce potential land use conflicts by providing accurate background noise-level data for planning.

Policy 1.5.2: Reduce potential land use conflicts by carefully considering the location and design of both noise generating uses and sensitive uses in the Central Waterfront.

Other Local Regulations

San Francisco Police Code

In San Francisco, regulation of noise is addressed in Article 29 of the Police Code (the Noise Ordinance or Police Code), which states the City's policy is to prohibit unnecessary, excessive, and offensive noises from all sources subject to police power. Section 2900 makes the following declaration with regard to community noise levels: "It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise."

Sections 2907 and 2908 of article 29 regulate construction equipment and construction work at night, while section 2909 provides for limits on stationary-source noise from machinery and equipment. Sections 2907 and 2908 are enforced by the San Francisco Department of Building Inspection, and section 2909 is enforced by the San Francisco Department of Public Health. Summaries of these and other relevant sections are presented below.

Section 2907(a) of the San Francisco Police Code limits noise from construction equipment to 80 dBA when measured at a distance of 100 feet from such equipment, or an equivalent sound level at some other convenient distance. Exemptions to this requirement include impact tools with approved mufflers, pavement breakers, and jackhammers with approved acoustic shields, and construction equipment used in connection with emergency work. Section 2908 prohibits nighttime construction (between 8 p.m. and 7 a.m.) that generates noise exceeding the ambient noise level by 5 dBA at the nearest property line unless a special permit has been issued by the City.

Section 2909 generally prohibits fixed mechanical equipment noise and music in excess of 5 dBA more than the ambient noise level from residential sources, 8 dBA more than the ambient noise level from commercial sources, and 10 dBA more than the ambient noise level on public property at a distance of 25 feet or more. Section 2909(d) establishes maximum noise levels for fixed noise sources (e.g., mechanical equipment) of 55 dBA (7 a.m. to 10 p.m.) and 45 dBA (10 p.m. to 7 a.m.) inside any sleeping or living room in any dwelling unit located on residential property to prevent sleep disturbance, with windows open, except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

The City's Guidelines for Noise Control Ordinance Monitoring and Enforcement, revised in December 2014, clarifies the definition of *ambient* as the L₉₀ (the level of noise exceeded 90 percent of the time), and this noise descriptor is considered to be a conservative representation of the ambient noise level under most conditions.¹³ Ordinance compliance is determined by measuring

¹³ City and County of San Francisco, San Francisco Police Code, Article 29: Regulation of Noise Guidelines for Noise Control Ordinance Monitoring and Enforcement, December 2014. Guidance (Supersedes All Previous Guidance), December 2014, <https://www.sfdph.org/dph/files/EHSdocs/ehsNoise/GuidelinesNoiseEnforcement.pdf>, accessed August 15, 2018.

the L90 for 10 minutes, with and without the noise source at issue. Use of the L90 descriptor is appropriate when determining code compliance of a fixed noise source (such as mechanical equipment), but is not appropriate for other aspects of a CEQA noise impact analysis such as noise created by automobile traffic, which determines noise compatibility based on L_{dn} or C_{NEL}, a different noise descriptor (as described above under subsection Sound Fundamentals, p. 4.F.1).

Amplified Sound

Section 49 of the San Francisco Police Code regulates the use of specified amplified sound equipment and prohibits the operation of such equipment between the hours of 10 p.m. and 7 a.m. if the amplified sound would be plainly audible at a distance of 50 feet from the property line of the property where the sound is generated. Sound amplifying equipment is prohibited from causing noise levels to exceed standards set forth in Article 29 of the Police Code (described above) at any time.

Section 1060.1 requires a permit for operation of amplified sound equipment at any place of entertainment, limited live performance locales, one-time events, fixed place outdoor amplified sound locales, one-time outdoor amplified sound, or sound truck. The permit requires businesses to comply with the maximum noise levels established under the Police and Health codes.

San Francisco Entertainment Commission

Section 90.1 of the San Francisco Administrative Code establishes the role of the San Francisco Entertainment Commission to regulate, promote, and enhance the field of entertainment in San Francisco. The seven-member commission has powers to accept, review, and gather information to conduct hearings for entertainment-related permit applications and rule upon and issue, deny, condition, suspend, revoke, or transfer entertainment-related permits in accordance with applicable laws and regulations. Additionally, the commission plans and coordinates the provision of City services for major events for which there is no recognized organizer, promoter, or sponsor.

Pursuant to section 1060.1 of the San Francisco Police Code, the entertainment commission has permit authority over a variety of different permit types including Place of Entertainment permits, Outdoor Amplified Sound/Loudspeaker permits, and Limited Live Performance permits. Permit hearings require the sponsor to provide proof of neighborhood outreach to the commission. Such outreach must consist of at least two of four types of outreach: (1) presentation to a neighborhood, community or residential group; (2) presentation to the leadership of a local not-for-profit that deals with community support such as housing, at risk youth, health, or mental services; (3) a petition including an appropriate number of neighbor signatures according to the sponsor's business address; and/or (4) presentation to a business association if no community organization or not-for-profit exists near the venue.

4.F.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department. For the purpose of this analysis, the following criteria were used to determine whether implementing the proposed project would result in a significant noise or vibration impact. Implementation of the proposed project would have a significant noise or vibration effect if the project would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Permanently increase by a substantial degree ambient noise levels in the project vicinity above levels existing without the project;
- Substantially increase, temporarily or on a periodic basis, ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels; or
- For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The project site is not within an airport land use plan area,¹⁴ nor is it near a private airstrip. Therefore, the proposed project would not result in the long-term exposure of workers to excessive airport-related noise levels, and these criteria are not discussed further in this environmental impact report (EIR).

Approach to Analysis

This analysis evaluates the potential noise impacts associated with construction and operation of proposed residential, hotel, childcare, retail commercial, office, R&D/life sciences, recreational, entertainment, and PDR uses on the project site. Project construction would be phased over 15 years, and phased construction would result in future onsite residents of early phases being exposed to noise associated with construction of later phases. Once Phase 1 has been completed and occupied in 2025, future residents at Block 8 and potentially also at Blocks 9 and 12 would be subject to construction noise on the project site for up to 10 years through 2034 (Phases 2 through 6). Under the proposed flexible land-use program, certain blocks on the project site are designated as flex blocks where either of two specified uses could be developed depending on market conditions. The analysis evaluates the most noise-sensitive of the proposed land uses that

¹⁴ San Francisco International Airport, 2019 Noise Exposure Map, August 13, 2015, https://media.flysfo.com/media/sfo/noise-abatement/sfo_p150_2019-nem-36x24-plot-signed_ada.pdf, accessed August 15, 2018.

could be developed on these flex blocks. For example, where flex blocks designate residential use as one of the possible uses, this analysis assumes development of residential use on that block. In addition, childcare use could occur on any block, and noise compatibility of this use on all blocks is considered. In this way, the analysis captures the worst-case or maximum impact because if a less noise-sensitive land use were ultimately developed, then the noise impacts would be less.

Project Features

Key construction elements of the proposed project that could directly, or indirectly, result in noise or vibration impacts include the following:

- Demolition of existing structures on the site and relocation of utilities;
- Supplemental remediation activities to allow residential use, if required by the Regional Water Quality Control Board;
- Surface and sub-surface preparation and grading for proposed buildings, roadways, and other infrastructure;
- Construction of foundations and buildings, roadways, and other infrastructure;
- Shoreline improvements including construction and operation of a fixed, overwater wharf structure, gangway, and floating dock;
- Construction activities would occur up to seven days per week, generally between the hours of 7 a.m. to 8 p.m. However, during Phase 1 (approximately 2022 to 2025), construction activities in the vicinity of 23rd Avenue could extend overnight. Nighttime activities would cease once Phase 1 residential units are occupied.

Mobile equipment such as excavators, graders, backhoes, loaders, dump trucks, compactors, pavers, man lifts, and forklifts would be used for demolition, excavation, remediation, site clearing and grading, but also for building construction, and/or hardscape and landscape materials installation. Track/tire-mounted cranes and/or tower cranes would be used for building construction, including but not limited to, steel and precast erection, and building façades. Miscellaneous stationary equipment would include generators, air compressors, and cement/mortar mixers, and possibly crushing and processing equipment. A variety of other smaller mechanical equipment would also be used at the project site during the construction period, such as jackhammers/pavement breakers, saw cutters, chopping saws, tile saws, stud impact guns, impact drills, torque wrenches, welding machines, and concrete boom pumps.

In addition to this equipment, construction techniques that would also be employed during project construction include pile driving, deep soil mixing, surcharge and wicking, and/or controlled rock fragmentation (potentially inclusive of blasting). Some intermediate and all deep foundations would require steel pipe-piles driven to bedrock beneath seven blocks (Blocks 3, 4, 5, 8, 9, 10, and 12). It is expected that impact pile drivers would be used at these locations. For deep foundations on Blocks 4, 8, and 9, an average of two piles would be installed per hour with a range of 400 to 500 piles per block over a maximum duration of six weeks per block. Intermediate foundations requiring piles on Block 3, 5, 10 and 12 would require about 650 additional piles, with the duration of pile driving activities ranging between one and four weeks per block. A total of 1,850 to 2,150 piles would be installed at the project site. The maximum pile length for the

project is anticipated to be 70 feet, and pile diameters are anticipated to range from 14 to 16 inches. Installation of the recreational dock would also require a small number of driven piles using either a vibratory or an impact pile driver that would access the area on a barge moved into place with a tugboat. A track/tire-mounted crane would also be needed to place structural components of the recreational dock. Geotechnical improvements would require drill rigs to perform deep soil mixing along the shoreline and install soil wicks for use during surcharging activities.

Excavation for construction of underground parking garages and below grade building spaces could require use of blasting or controlled rock fragmentation by either injecting expansive materials or using pulse plasma injection. Construction would include in-water and shoreline work, with a small amount of in-water vibratory hammer or impact hammer pile driving.

Project construction would also generate offsite truck trips for deliveries of concrete and other building materials, transportation of construction equipment to and from the site, hauling soils and debris from the site, and street sweepers.

Key operational elements of the proposed project that could directly or indirectly result in noise impacts include the following:

- Traffic increases associated with long-term development of over 5 million gross square feet of residential, commercial, and other land uses (introducing over 6,000 new residents and over 5,000 new employees to the project site) would generate on- and offsite vehicular trips, and these traffic increases could result in traffic noise increases along offsite and onsite streets in the project vicinity.
- Operation of mechanical equipment (including heating/ventilation/air conditioning (HVAC) and emergency standby diesel generators) would introduce new stationary noise sources.¹⁵
- Development of public open spaces in the center of the site and along the shoreline would introduce new uses such as: assembly and entertainment spaces for temporary events, spill-out spaces for retail or outdoor dining, quiet spaces, waterfront viewing terraces, playgrounds, and soccer fields. Proposed temporary events could include playing of amplified music. Events such as movie nights in the park, farmers markets, fairs, performances, food trucks, block parties, and weddings would be allowed in all open space areas.
- Recreational spaces could be developed on the roofs of residential and non-residential buildings (including a rooftop soccer field) and commercial uses (e.g., bars/restaurants) could also be developed on the roofs of non-residential buildings.¹⁶ There would be the potential for outdoor amplified noise sources at rooftop commercial uses.

¹⁵ Conceptual generator information provided by the sponsor indicates that 15 emergency standby diesel generators would be provided (14 for buildings and one for the pump station). They would be tested for 50 hours per year (consistent with BAAQMD permitting limits), which is roughly equivalent to 4 hours per month. They would be located at grade with exhaust stacks located 15 feet above grade and a minimum of 30 feet from the property line.

¹⁶ Proposed rooftop recreational uses could be developed with enclosed and/or unenclosed (i.e., indoor and outdoor) spaces, while commercial uses (e.g., bars/restaurants) may be "enclosed" with spill-out space on fully outdoor rooftop patios. "Enclosed" rooftop spaces would be protected from wind and other elements by framing and/or walls on as many as all sides and an overhead roof.

Methodology for Analysis of Construction Impacts

Sensitive Receptors and Construction Phasing

Project construction would require the operation of heavy equipment on the project site as discussed above, which could potentially affect three distinct groups of noise-sensitive receptors: (1) existing, offsite noise-sensitive receptors within 900 feet of the project site, as described in Table 4.F-3 and shown in Figure 4.F-2, pp. 4.F-9 and 4.F-10, respectively, above; (2) future proposed onsite sensitive receptors, including residential, hotel and childcare uses, as shown in Chapter 2, Figure 2-5, p. 2-16; and (3) future, planned sensitive receptors on the Pier 70 site, as described in Table 4.F-3 and shown in Figure 4.F-3, pp. 4.F-9 and 4.F-11, respectively, above. This analysis considers the potential noise effects on each of these sensitive receptors separately, as described below, with respect to construction phasing, including the overlapping phasing.

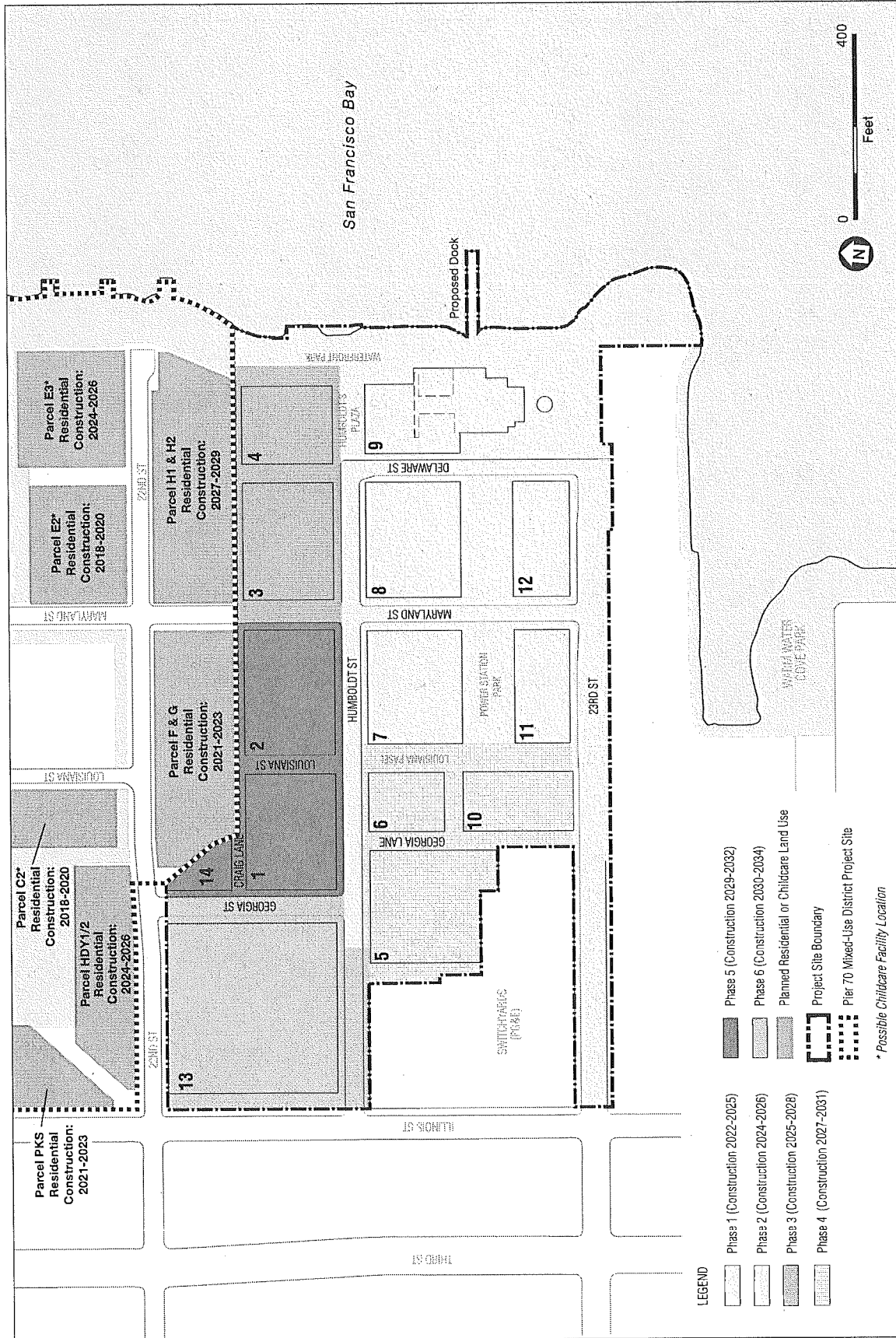
Construction of the proposed project is expected to occur in seven phases over the course of 15 years, from 2020 through 2034 (see Table 2-2 of Chapter 2, Project Description, p. 2-52). Construction duration in each phase would range from three to five years. All construction phases could affect the existing, offsite sensitive receptors, the first group of sensitive receptors discussed above. Potential impacts to the second group of sensitive receptors would occur following completion of Phase 1 of construction and occupation of the residential uses constructed therein. The proposed phasing schedule would expose future onsite users/occupants of earlier, completed phases to noise and/or vibration from the construction of later phases. The third group of sensitive receptors is planned, future offsite receptors: residential and childcare uses directly north of the project site that have been approved for construction as part of the Pier 70 Mixed Use District project. These receptors could be affected by project construction phases near the northern boundary of the project site. While market conditions could alter the phasing of both projects, this analysis is based on the proposed project phasing along the northern project boundary together with the planned Pier 70 construction phasing,¹⁷ as shown in **Figure 4.F-5, Proposed Construction Phasing and Sensitive Receptors on Project Site and Pier 70 Site**. This analysis accounts for Pier 70 sensitive receptors occupying buildings during construction of the proposed project and being exposed to the project's construction noise.

Construction Noise

This impact analysis evaluates the potential for construction equipment to generate noise levels in excess of standards established in the noise ordinance using default reference noise levels compiled by the Federal Highway Administration¹⁸ for the types of equipment proposed to be used onsite (see Impact NO-1). This analysis also assesses the potential for construction-related noise to cause a substantial temporary or periodic increase in ambient noise levels at the closest

¹⁷ Construction phasing on the Pier 70 site is based on construction phasing outlined in the EIR and EIR Addendum for Pier 70 Mixed-Use District project (Case #2014-001272 ENV). Available online at <http://sf-planning.org/environmental-impact-reports-negative-declarations>, accessed on August 15, 2018.

¹⁸ Federal Highway Administration (FHWA), *Construction Noise Handbook*, Chapter 9.0 Construction Equipment Noise Levels and Ranges, Table 9.1 RCNM Default Noise Emission Reference Levels and Usage Factors, Updated August 24, 2017, https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm, accessed on August 15, 2018.



Potrero Power Station Mixed-Use Development Project

Figure 4.F-5

Proposed Construction Phasing on the Project Site and Planned Future Sensitive Receptors on Pier 70 Site

SOURCE: CBG, Perkins+Will 2018

existing offsite noise-sensitive receptors, future onsite sensitive receptors, and planned offsite sensitive receptors using Federal Transit Administration methodology for general quantitative noise assessment (see Impact NO-2).¹⁹ The Federal Transit Administration methodology calls for estimating a combined noise level from the simultaneous operation of the two noisiest pieces of equipment expected to be used in each construction phase. This method applies usage factors to each piece of equipment analyzed to account for the time that the equipment is in use over the specified time period. Given the size of the project site, the minimum distance between source and receptor was based on the distance between the closest block boundary and the specified noise-sensitive receptor's property boundary. Project construction noise impacts are evaluated at sensitive receptor locations to determine whether the proposed project would result in: (1) an increase in noise levels that are 10 dBA above the ambient noise levels, or (2) noise levels of 90 dBA. These standards are based on the Federal Transit Administration criteria discussed above. If these quantitative standards are exceeded, the evaluation then considers the duration and severity of the exceedance to determine whether the project would result in a substantial temporary increase in noise levels.

This analysis also considers the potential for nighttime construction activities during Phase 1 to result in sleep disturbance at nearby sensitive receptor locations. The potential for sleep disturbance is evaluated based on whether nighttime construction activities would result in indoor noise levels of 45 dBA or more (assuming windows closed) at sensitive receptor locations. If this quantitative standard is exceeded, the evaluation then considers the duration and severity of the exceedance to determine whether the project would result in a substantial temporary increase in noise levels.

This analysis also evaluates the potential for construction-related traffic noise impacts along local access roads by determining whether noise-sensitive receptors would be located along proposed/likely construction haul routes and the degree of noise increase on these routes from project-related average daily increases in construction truck traffic (see Impact NO-3).

Vibration and Groundborne Noise

This analysis focuses on groundborne vibration generated by construction-related activities, particularly certain types of pile-driving and heavy equipment (see Impact NO-4 for list of construction equipment considered), and evaluates potential vibration impacts on existing offsite sensitive receptors/structures, future onsite receptors/structures, and planned offsite receptors/structures on the Pier 70 Mixed-Use District project site.

This evaluation assesses vibration significance based on the Caltrans 2013 vibration guidance manual for building damage and sleep disturbance, which can result in adverse health effects. The potential for sleep disturbance effects are evaluated only when construction activities are proposed during the nighttime hours.

¹⁹ U.S. Department of Transportation, Federal Transit Administration (FTA), Transit Noise and Vibration Impact Assessment, Section 12.1.1 Quantitative Noise Assessment Methods, May 2006, pp. 12-4 to 12-8, <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/fta-noise-and-vibration-impact-assessment>, accessed on August 15, 2018.

Methodology for Analysis of Operational Impacts

Sensitive Receptors

As described in the previous section (Methodology for Analysis of Construction Impacts), project operation could potentially affect three distinct groups of noise-sensitive receptors: (1) existing, offsite noise-sensitive receptors within 900 feet of the project site, as described in Table 4.F-3 and shown in Figure 4.F-2, pp. 4.F-9 and 4.F-10, respectively, above; (2) future proposed onsite sensitive receptors, which consists of proposed residential and daycare uses that would occur on the project site, as described in Chapter 2, Project Description and shown in Figure 2-5, Proposed Land Use Plan, p. 2-16; and (3) future, planned sensitive receptors on the Pier 70 site, as described in Table 4.F-3 and shown in Figure 4.F-3, pp. 4.F-9 and 4.F-11, respectively, above.²⁰ This impact evaluation considers each of these groups of receptors separately as described below.

Noise

Impact NO-5 evaluates the potential for operation of the proposed project to result in permanent increases in ambient noise levels primarily as a result of the addition of new stationary equipment. The analysis in Impact NO-5 is based on compliance with the Noise Ordinance requirements for fixed noise sources. Impacts NO-6 and NO-7 evaluate the impacts of operational noise increases from events that could occur in proposed open space areas and operation of bars/restaurants on building rooftops.

Noise modeling was completed to estimate existing (baseline) and future traffic noise levels along 75 street segments in the project area based on traffic volumes presented in Section 4.E, Transportation and Circulation. Traffic noise modeling was performed using the Federal Highway Administration Traffic Noise (RD-77-108) Model. The model results (included in Appendix D) are used to identify the future incremental noise level increases attributable to vehicle trips generated by project development. Impact NO-8 focuses on operational noise impacts resulting from project-related traffic increases on local roadways both onsite and offsite.

In general, traffic noise increases of less than 3 dBA are barely perceptible to people, while a 5-dBA increase is readily noticeable.²¹ Therefore, permanent increases in ambient noise levels of more than 5 dBA are considered to be unacceptable and a significant noise impact in any existing or resulting noise environment. However, in places where the existing or resulting noise environment is "Conditionally Acceptable," "Conditionally Unacceptable," or "Unacceptable" (based on the San Francisco Land Use Compatibility Chart for Community Noise [Figure 4.F-4, above]) for sensitive noise receptors, any noise increase greater than 3 dBA is considered a significant noise impact. These standards were applied to determine whether the project's incremental traffic-related noise increases would be significant.

²⁰ Receptor locations on the Pier 70 site are based on construction phasing outlined in the EIR for Pier 70 Mixed-Use District project (Case #2014-001272 ENV).

²¹ California Department of Transportation (Caltrans), *Technical Noise Supplement (TeNS) to the Traffic Noise Analysis Protocol*, pp. 2-44, September 2013, <http://www.dot.ca.gov/env/noise/docs/tens-sep2013.pdf>, accessed August 15, 2018.

Vibration and Groundborne Noise

Operational groundborne noise and vibration are not common environmental problems, and even large vehicles (e.g., trucks and buses) do not generally result in perceptible vibration. Therefore, no significant long-term vibration effects are expected to be associated with proposed residential, hotel, retail commercial, office, R&D/life sciences, and PDR uses, and no vibration analysis is required for operation of these proposed uses.

Methodology for Analysis of Cumulative Impacts

The geographic scope of potential cumulative construction noise impacts encompasses a 900-foot radius from the boundaries of the project site. The geographic scope for cumulative traffic noise increases is consistent with the transportation analysis and includes the street segments adjacent to intersections analyzed in Section 4.E, Transportation and Circulation (see Figure 4.E-1, p. 4.E-2 for study intersection and street segment locations). Thus the geographic scope for the analysis of cumulative traffic noise increases is larger.

Cumulative construction noise and vibration impacts are assessed based on a review of the foreseeable future projects (a list-based approach) that are located within the project's 900-foot area of noise influence and are expected to be under construction at the same time as the proposed project (see Section 4.A, Impact Overview, for a more detailed description of these projects). Foreseeable future projects that meet these criteria and could affect the same noise-sensitive receptors (those located adjacent to or near the project site or along shared construction haul routes) are identified below in Impact C-NO-1.

As noted in Section 4.E, Transportation and Circulation, the cumulative traffic analysis utilizes a projections-based approach, and the cumulative traffic noise analysis likewise uses a projections-based approach because it uses these traffic volumes to estimate operational traffic noise increases. Cumulative operational traffic noise impacts are assessed by modeling 2040 cumulative traffic noise levels (including the proposed project) and comparing the results with existing modeled traffic noise levels to the criteria discussed above.

If the analysis above determines that there is the potential for cumulative impacts, then the analysis determines if the project's contribution to the cumulative impact would be cumulatively considerable (i.e., significant), in which case, the analysis then identifies mitigation measures that would reduce the severity of the project's contribution to the cumulative impact.

The proposed project would not include sources of operational vibration and therefore would not have the potential to combine with operational vibration from any adjacent or nearby cumulative projects. Therefore, no cumulative vibration analysis is required, and no cumulative vibration impact would occur.

Impact Evaluation

Construction Impacts

Impact NO-1: Project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies. (*Less than Significant with Mitigation*)

Construction activity noise levels on and near the construction site would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. In addition, certain types of construction equipment generate impulsive noise (such as pile driving), which can be annoying to most people. Pile-driving activities would be required for construction of some intermediate and deep foundations on seven of the 14 blocks in the proposed development as well as for the proposed dock.

Table 4.F-7, Typical Construction Noise Levels, shows typical noise levels associated with a range of construction equipment that could be required for the project. As indicated in this table, operation of jackhammers, controlled rock fragmentation equipment, rock drills, pile drivers, rock/concrete crusher, and concrete saws would have the potential to exceed the 86 dBA at 50 feet (or equivalent 80 dBA at 100 feet) noise limit for construction equipment (as specified in section 2907 of the police code) by 2 to 15 dBA. Jackhammers with approved acoustic shields as well as rock drills and pile drivers with approved intake and exhaust mufflers are exempt from this ordinance limit.²² Therefore, exceedance of the noise ordinance limit resulting from use of jackhammers, rock drills, and pile drivers would not constitute noise ordinance violations. However, rock/concrete crushers and concrete saws are not exempt from compliance with the noise ordinance. As shown in Table 4.F-7, both rock/concrete crushers and concrete saws would generate noise levels of up to 90 dBA at 50 feet. Operation of concrete saws, rock/concrete crusher, or any other equipment not exempt from the noise ordinance that exceeds 86 dBA (Leq) at 50 feet would be a significant noise impact. Implementation of feasible noise control measures as specified in **Mitigation Measure M-NO-1, Construction Noise Control Measures**, that reduce noise levels by as much as 10 dBA²³ would ensure that all construction equipment noise subject to the noise ordinance be maintained at or below the 86-dBA limit, reducing potential construction-related noise impacts on offsite residents and future onsite residents affected by later construction phases to a less-than-significant level. Therefore, this impact would be *less than significant with mitigation*.

Nighttime Activities

Nighttime construction is proposed to occur during Phase 1 (approximately 2022 to 2025), prior to occupancy of the residential units to be built during this phase and, consequently, could only affect offsite receptors. Nighttime construction activities would occur throughout the nighttime hours (8 p.m. to 3 a.m.) and could include operation of the types of equipment associated with surface preparation, foundation construction, and building construction; nighttime construction activities

²² See section 2907(b) of the police code.

²³ U.S. Environmental Protection Agency (U.S. EPA), *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, pp. 14 and 26, December 1971, <https://nepis.epa.gov/>, (search for NTID3001), accessed on August 15, 2018.

**TABLE 4.F-7
TYPICAL CONSTRUCTION NOISE LEVELS**

Construction Equipment	Noise Level (dBA, L _{max} at 50 feet)	Noise Level (dBA, L _{max} at 100 feet)
Jackhammer/Mounted Impact Hammer (Demolition Hammer) ^a	89-90	83-84
Concrete Saw	90	84
Rock/Concrete Crusher ^b	90	84
Pile Driver ^a	101	95
Controlled Rock Fragmentation ^c	80-90	74-84
Rock Drill ^a	85	79
Crane	81	75
Drill Rig	84	78
Excavator	81	75
Grader	85	79
Backhoe	78	72
Loader	79	73
Dump Truck	76	70
Compactor	83	77
Tug Boat ^d	78	72
Paver	77	71
Concrete Truck	81	75
Flatbed Truck	74	68
Street Sweeper (vacuum)	82	76
Forklift (gas-powered)	83	77
Generator	81	75
Various Saws	78	72
Pneumatic Tools (stud impact guns, impact drills, etc.)	85	79
Welder	74	68
Pump	81	75
San Francisco Noise Ordinance Limit	86	80

NOTES: The above noise levels are calculated assuming a 100 percent usage factor at full load (i.e., L_{max} noise level). Noise levels in bold exceed the above ordinance limit, but as indicated, two of the four exceedances are exempt from this limit.

^a Exempt from the ordinance noise limit of 86 dBA at 50 feet or 80 dBA at 100 feet.

^b Noise measurements from various rock and concrete recycling crusher plants indicate that a crusher and conveyor plant can generate noise levels ranging between 81 and 90 dBA (Leq) at 50 feet. This evaluation conservatively applies the higher reference noise level. It is not certain that a rock or concrete crusher would be required onsite, but it is included in this analysis in the event it is required.

^c Controlled rock fragmentation techniques that could be employed include one or a combination of the following: pulse plasma rock fragmentation, controlled foam or hydraulic injection, and/or controlled blasting. Noise levels listed above for CRF would apply to all three of these methods and would vary within this range depending on the method used. Controlled blasting could generate noise levels of up to 100 dBA (L_{max}) for up to 30 seconds. Blasting events could occur up to a maximum of five times per day and each blast would be preceded by drilling noise for up to one hour. Prior to each CRF event, there would be one drilling event. Federal Transit Administration (2006) noise data indicate that rock drills can generate up to 98 dBA at 50 feet when they are operated aboveground on slope faces. However, since rock drilling would be underground (holes would be three to five feet deep), it is possible that noise levels would be in the range of 80 to 90 dBA (Leq) at 50 feet.

^d A tug boat will be needed to move barges as part of shoreline work. This noise level is Leq, not L_{max}.

SOURCES: U.S. Department of Transportation, Federal Highway Administration, 9.0 Construction Equipment Noise Levels and Ranges, Table 9.1, RCNM Default Noise Emission Reference Levels and Usage Factors, *Construction Noise Handbook*, Updated August 24, 2017, http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm, accessed August 15, 2018; U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006, https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf, accessed on August 15, 2018; Kapra and Associates, Pulse Plasma Technology, <http://kapra.org/catalog.pdf>, accessed on August 15, 2018.

would not include operation of drill rigs, pile drivers, or any equipment associated with dock construction. As indicated in Table 4.F-7, the noisiest types of equipment that could be operated during the nighttime hours for these construction activities (e.g., excavator, grader, backhoe, etc.) could generate noise levels of up to 85 dBA (L_{max}) at 50 feet. Such noise levels would likely exceed the City's "Ambient + 5 dBA" nighttime ordinance limit at project boundaries (as specified in section 2908 of the Police Code) when equipment is operated near the boundaries. When nighttime noise levels exceed this nighttime noise limit, section 2908 requires that a special permit be obtained, which is subject to the approval of the director of public works or director of building inspection, who must weigh factors such as traffic versus noise effects on neighboring uses, sleep disturbance effects, economic hardship, and general public interest. The permit would prescribe working times, types of construction equipment to be used, and permissible noise emissions, as required in the public interest. Permit approval by the City would ensure that the project would meet section 2908 ordinance requirements. Impact NO-2, below, addresses the potential for nighttime construction activities, allowed pursuant to the Noise Ordinance, to affect nearby sensitive receptors.

Mitigation Measure M-NO-1, Construction Noise Control Measures, below includes mitigation measures to ensure compliance with the Noise Ordinance limits and to reduce noise impacts identified in Impact NO-2.

Mitigation Measure M-NO-1: Construction Noise Control Measures

The project sponsor shall implement construction noise controls as necessary to ensure compliance with the Noise Ordinance limits and to reduce construction noise levels at sensitive receptor locations to the degree feasible. Noise reduction strategies that could be implemented include, but are not limited to, the following:

- Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds).
- Require the general contractor to locate stationary noise sources (such as the rock/concrete crusher, or compressors) as far from adjacent or nearby sensitive receptors as possible, to muffle such noise sources, and/or to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, to the maximum extent practicable.
- Require the general contractor to use impact tools (e.g., jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which would reduce noise levels by as much as 10 dBA.
- Include noise control requirements for construction equipment and tools, including specifically concrete saws, in specifications provided to construction contractors. Such requirements could include, but are not limited to, erecting temporary plywood noise

barriers around a construction site, particularly where a site adjoins noise-sensitive uses²⁴; utilizing noise control blankets on a building structure as the building is erected to reduce noise levels emanating from the construction site; performing all work in a manner that minimizes noise; using equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants; and selecting haul routes that avoid residential uses.

- Prior to the issuance of each building permit, along with the submission of construction documents, submit to the Planning Department and Department of Building Inspection or the Port, as appropriate, a plan to track and respond to complaints pertaining to construction noise. The plan shall include the following measures: (1) a procedure and phone numbers for notifying the San Francisco Department of Building Inspection or the Port, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted onsite describing permitted construction days and hours, noise complaint procedures, and a complaint hotline number that shall be answered at all times during construction; (3) designation of an onsite construction compliance and enforcement manager for the project; and (4) notification of neighboring residents and non-residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise-generating activities (such as pile driving and blasting) about the estimated duration of the activity.
- Wherever pile driving or controlled rock fragmentation/rock drilling is proposed to occur, the construction noise controls shall include as many of the following control strategies as feasible:
 - Implement “quiet” pile-driving technology such as pre-drilling piles where feasible to reduce construction-related noise and vibration.
 - Use pile-driving equipment with state-of-the-art noise shielding and muffling devices.
 - Use pre-drilled or sonic or vibratory drivers, rather than impact drivers, wherever feasible (including slipways) and where vibration-induced liquefaction would not occur.
 - Schedule pile-driving activity for times of the day that minimize disturbance to residents as well as commercial uses located onsite and nearby.
 - Erect temporary plywood or similar solid noise barriers along the boundaries of each project block as necessary to shield affected sensitive receptors.
 - Implement other equivalent technologies that emerge over time.
 - If controlled rock fragmentation (including rock drills) were to occur at the same time as pile driving activities in the same area and in proximity to noise-sensitive receptors, pile drivers should be set back at least 100 feet while rock drills should be set back at least 50 feet (or vice-versa) from any given sensitive receptor.

²⁴ Effective noise barriers typically reduce noise levels by 5 to 10 dBA (FHWA, Keeping the Noise Down, Highway Traffic Noise Barriers, February 2001, https://www.fhwa.dot.gov/environment/noise/noise_barriers/design_.pdf, accessed on August 15, 2018.

- If blasting is done as part of controlled rock fragmentation, use of blasting mats and reducing blast size shall be implemented to the extent feasible in order to minimize noise impacts on nearby sensitive receptors.

Significance after Mitigation: Less than Significant

Impact NO-2: Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project. (Significant and Unavoidable with Mitigation)

Construction-related Noise Sources

Project implementation would result in operation of heavy equipment on the project site for the demolition of about 20 existing structures, construction of new structures and associated infrastructure, open space improvements, and/or rehabilitation of existing structures for new uses. Construction activities would occur intermittently on the project site over the 15-year construction duration and could expose nearby existing and future sensitive receptors to temporary increases in noise levels substantially in excess of ambient levels.

Phase 0 (approximately 2020-2022) would include demolition activities and require the use of heavy trucks, material loaders, cranes, drill rigs, jackhammers/pavement breakers, concrete saws, rock/concrete crusher, and other mobile and stationary construction equipment listed in Table 4.F-7 on p. 4.F-29 above. Phase 0 would also include site stabilization and preparation (including *deep soil mixing/surcharge*²⁵) as well as rough grading for the entire project site. Construction activities during this phase would also include trenching and grading for placement of infrastructure, excavation and concrete work for placement of foundations for structures, erection of structures, and open space improvements inclusive of shore improvements. Site preparation activities and foundation construction would require the use of excavators, graders, loaders, pile drivers, drill rigs, controlled rock fragmentation equipment, rock drills, and concrete/heavy trucks. Site preparation and rough grading activities for all development phases would occur during Phase 0 (approximately 2020 to 2022). Activities during this phase could also include controlled rock fragmentation in the western and central portions of the site (west of the historic shoreline) if Greywacke bedrock is encountered. Controlled rock fragmentation technologies that could be employed include pulse plasma rock fragmentation, controlled foam or hydraulic injection, and controlled blasting. Depending on subsurface conditions, any one of these techniques or some combination of all these techniques could be employed.

²⁵ Deep soil mixing is a method by mixing soil, cement and water to create individual or overlapping columns of cement-treated soil with specified strengths and stiffness. A mixing rig with either single or multiple mixing augers is advanced to specified depths, and the cement and water are added during initial auger advancement, and also during auger withdrawal. Wick drains are installed in soft/compressible soil to accelerate drainage during surcharge programs. The prefabricated drains create pathways for water to be pushed out of soft/compressible soils, and are installed by attaching the drains to an anchor plate and pushing the anchor plate to specified depths. A surcharge of soils is then applied over the area of installed drains, and surface settlements and pore pressures within the soft/compressible material are monitored before additional soil surcharge is placed.

Phases 1 through 6 would involve land development (excavation, site preparation, relocation/installation of utilities, and street construction), vertical construction (finish grading, excavation for subgrade parking, construction of foundations/ footings/pile supports, building construction, and architectural coatings), and open space improvements (including hardscaping and landscaping improvements) within a two- to three-block area during each phase. Project-related site remediation to allow residential use, if required by the Regional Water Quality Control Board, would also occur during these phases. In general, infrastructure construction and any required project remediation would use similar construction equipment as would be used for the land development activities.

Foundation construction would include use of pile drivers in certain areas on the site during the land and open space development stages of Phase 1 (approximately 2022-2025), Phase 3 (approximately 2025-2026), and Phase 4 (approximately 2027-2032). Pile driving would not be required for foundations in other construction phases (i.e., Phases 2, 5, and 6). Pile driving associated with deep or intermediate foundations would occur on Blocks 3, 4, 5, 8, 9, 10, and 12 as well as at the proposed dock. Pile driving along the shoreline and in the bay for the recreational dock would generate underwater noise which could adversely affect marine life; these impacts are discussed in Impact BI-4, Section 4.I, Biological Resources, p. 4I-43.

Blasting or controlled rock fragmentation could also be required during Phases 1 through 6 if Greywacke bedrock is encountered during excavation of sub-grade parking levels (generally west of the historic shoreline).

General building construction would be less noise intrusive, involving cranes, generators, forklifts, and smaller equipment such as saws, pneumatic tools, welders, and pumps.

Construction-related Noise Levels

Because the project would be constructed in seven overlapping phases over a 15-year period, multiple construction activities could occur on different blocks simultaneously within the project site so that a noisy construction activity on one block could overlap with another nearby noisy construction activity. Maximum combined noise levels from operation of the noisiest pieces of equipment associated with overlapping construction phases throughout the 15-year construction period are presented in **Table 4.F-8, Maximum Combined Noise Levels from Project-related Construction Activities**.

The highest combined noise levels from overlapping activities presented in this table would range between 79 dBA and 94 dBA (Leq) at 50 feet, with the noisiest phases being Phase 0 (approximately 2020-2022) and the land and open space development stages of Phase 1 (approximately 2023-2025), Phase 3 (approximately 2025-2028), and Phase 4 (approximately 2027-2031). The highest combined noise level of 94 dBA (Leq) at 50 feet could occur during Phases 1, 3, and 4 if impact pile driving and rock drilling were to occur concurrently within 50 feet of the same noise-sensitive receptor. A slightly lower combined noise level of 90 dBA (Leq) at 50 feet could result if demolition activities (i.e., operation of a concrete crusher) were to occur at the same time as surface preparation activities (i.e., operation of a rock drill), and both demolition and surface preparation activities occurred within 50 feet of the same sensitive receptor. Nighttime construction activities during Phase 1 could generate combined noise levels of up to 84 dBA (Leq) at 50 feet.

TABLE 4.F-8
MAXIMUM COMBINED NOISE LEVELS FROM PROJECT-RELATED CONSTRUCTION ACTIVITIES

Construction Phase, Equipment Used in Estimate	Noise Level (Leq) at 50 Feet
Phase 0 – Surface Preparation and Demolition	
Concrete Crusher	90
Rock Drill	78
Combined Leq:	90^a
Phases 1, 3, and 4 – Impact Pile Driving and Controlled Rock Fragmentation for Land and Open Space Development	
Impact Pile Driver	94
Rock Drill (for CRF)	78
Combined Leq:	94^b
Phases 0 to 6 – Controlled Rock Fragmentation for Ground Excavation	
CRF Equipment	70
Rock Drill (for CRF)	78
Combined Leq:	79
Phase 1 – Night Work	
Concrete Mixer Truck	81
Dozer, Grader Excavator, Scraper	81
Combined Leq:	84^c
Phases 1 to 6 – Surface Preparation and Foundation Work	
Dozer, Grader Excavator, Scraper	81
Concrete Mixer Truck	81
Combined Leq:	83
Phases 1 to 6 – Building Construction	
Tower Crane	77
Pneumatic Tools	82
Combined Leq:	83
Phases 1 to 6 – Utilities/Infrastructure Development	
Backhoe	81
Concrete Mixer Truck	81
Combined Leq:	84

NOTES: Noise levels in bold are the combined noise level from simultaneous operation of both pieces of equipment in proximity to each other.

^a Rock drills would generate 85 dBA (Lmax) or 78 dBA (Leq) with a 20 percent usage factor at 50 feet. Noise measurements from various rock and concrete recycling crusher plants indicate that a crusher and conveyor facility can generate noise levels ranging between 81 and 90 dBA (Leq) at 50 feet. This evaluation conservatively applies the higher reference noise level and does not apply a usage factor since they tend to operate continuously when in use. The combined noise level from simultaneous operation of a rock drill and concrete crusher would be 90 dBA (Leq) at 50 feet.

^b Impact pile drivers would generate 101 dBA (Lmax) or 94 dBA (Leq) with a 20 percent usage factor at 50 feet. Controlled rock fragmentation-related equipment (including rock drills) generate noise levels of 85 to 90 dBA (Lmax) at 50 feet or 70 to 78 dBA (Leq) with a 20 percent usage factor. The combined noise level from simultaneous operation of an impact pile driver and a rock drill would be 94 dBA (Leq) at 50 feet.

^c This noise level assumes simultaneous operation of a concrete mixing truck and grader, which both generate 85 dBA (Lmax) at 50 feet or 81 dBA (Leq) at 50 feet with a 40 percent usage factor. The combined noise level from their simultaneous operation would be 84 dBA (Leq) at 50 feet. Simultaneous operation of other earthmoving equipment such as a dozer, excavator, dump truck, and scraper would generate a similar combined noise level.

SOURCE: Orion Environmental Associates, 2018.

Construction-related Noise Impacts on Existing Offsite Receptors

The existing offsite sensitive receptors closest to the project site are located on Third Street (between 22nd and 23rd streets), at least 380 feet from the west side of Block 13, as indicated in Table 4.F-3, p. 4.F-9 above. **Table 4.F-9, Estimated Combined Daytime Construction-Related Noise Levels at Closest Offsite Residential Receptors**, summarizes the project's daytime construction-related noise impacts on these receptors. In this table, the maximum combined construction-related noise levels presented in Table 4.F-9 were adjusted for distance to these receptors and then compared to both the Federal Transit Administration's limit of 90 dBA at sensitive receptor locations and the applicable "Ambient + 10 dBA" standard at each offsite receptor location to determine the significance of the project's daytime construction noise impact at the closest offsite receptors.

As indicated in Table 4.F-9, the combined noise level would not exceed the Federal Transit Administration's standard of 90 dBA at sensitive receptor locations nor would it exceed the 78-dBA "Ambient + 10 dBA" standard. Therefore, project-related construction noise impacts at the closest existing offsite receptors would be *less than significant*, and no mitigation would be required. Additionally, the American Industrial Center buildings to the west of the site (spanning both north and south of 22nd Street) would interrupt the *line-of-sight*²⁶ (at ground level and lower floors) between project construction activities (particularly ground level activities such as pile driving and controlled rock fragmentation) and existing residential receptors located west of the American Industrial Center building. Therefore, noise levels at these receptor locations would be lower than what is shown in Table 4.F-9.

Nighttime Activities

Table 4.F-8 shows the maximum estimated noise level expected to be generated during nighttime construction activities. This noise level was attenuated to nearby receptor locations based on distance from the noise source to the receptor and assuming a 25-dBA reduction in exterior noise transmission to the interior environment, consistent with the noise reduction expected from closed windows. **Table 4.F-10, Estimated Combined Nighttime Construction-Related Noise Levels at Closest Offsite Sensitive Receptors**, presents the project's nighttime noise levels at the closest offsite receptors. Nighttime noise levels at the closest receptor were compared to an interior 45-dBA sleep disturbance standard, which is equivalent to a 70-dBA exterior noise level with windows closed. Nighttime construction activities could generate combined noise levels of up to 84 dBA (Leq) at 50 feet along 23rd Street (east of Illinois Street). As indicated in Table 4.F-10, such levels would not exceed the 45-dBA interior / 70-dBA exterior sleep disturbance standard. Therefore, this impact would be *less than significant* and no mitigation would be required. As noted above, for some existing Third Street receptors located west of the American Industrial Center building (near 22nd Street), construction noise levels would be lower than what is shown in Table 4.F-10 because the intervening American Industrial Center building interrupts the line-of-sight and would block construction noise from Phase 1 nighttime construction activities at these receptors.

²⁶ Line-of-sight means a straight line along which an observer has unobstructed vision.

TABLE 4.F-9
ESTIMATED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT CLOSEST OFFSITE RESIDENTIAL RECEPTORS

Construction Phase and Noisiest Combined Construction Activities	Hourly Leq in dBA at 50 Feet ^a	Minimum Distance between Receptor and Closest Equipment (feet)	Noise Level (Leq) Adjusted for Distance ^b	Daytime FTA Standard at Residential Uses	Does Noise Level Exceed FTA Standard?	Ambient + 10 dBA Standard ^c at Closest Receptor	Does Noise Level Exceed Ambient + 10 dBA Standard?
Noise Receptors: Existing Residential Receptors located at 2502-2660 Third Street							
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phases 0 & 4 on Block 5 & Phase 6 on Block 13^d							
Phase 0 – Surface Preparation and Demolition (Concrete Crusher & Rock Drill for CRF)	90	630	68	90	No	78 ^e	No
Phases 1, 3, 4 – Pile Driving & CRF on Block 5 (Impact Pile Driver and Rock Drill for CRF)	94	630	72	90	No	78	No
Phases 0 to 6 – Controlled Rock Fragmentation/CRF (CRF Equipment & Rock Drill)	79	380	61	90	No	78	No
Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	83	380	65	90	No	78	No
Phases 1 to 6 – Building Construction (Tower Crane & Pneumatic Tools)	83	380	66	90	No	78	No
Phases 1 to 6 – Utilities (Backhoe & Concrete Mixer Truck)	84	380	66	90	No	78	No
Noise Receptors: Planned Pier 70 Residential Receptors on Pier 70 Parcels F/G and H1/H2							
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phase 0 on Blocks 1-4 & 14, Phase 3 on Blocks 3 & 4, Phase 4 on Block 5, & Phase 5 on Blocks 1 & 2^d							
Phase 0 – Surface Preparation and Demolition (Concrete Crusher & Rock Drill for CRF)	90	30 ^f	95	90	Yes	60-66 ^g	Yes
Phases 1 & 3 – Pile Driving & CRF on Blocks 3 & 4 (Impact Pile Driver and Rock Drill for CRF)	94	30 ^f	99	90	Yes	60-66	Yes
Phase 4 – Pile Driving & Rock Drill for CRF on Block 5	94	320	78	90	No	60-66	Yes
Phases 0 to 6 – Controlled Rock Fragmentation/CRF (CRF Equipment & Rock Drill)	79	30 ^f	83	90	No	60-66	Yes

TABLE 4.F-9 (CONTINUED)
ESTIMATED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT CLOSEST OFFSITE RESIDENTIAL RECEPTORS

Construction Phase and Noisiest Combined Construction Activities	Hourly Leq in dBA at 50 Feet ^a	Minimum Distance between Receptor and Closest Equipment (feet)	Noise Level (Leq) Adjusted for Distance ^b	Daytime FTA Standard at Residential Uses	Does Noise Level Exceed FTA Standard?	Ambient + 10 dBA Standard ^c at Closest Receptor	Does Noise Level Exceed Ambient + 10 dBA Standard?
Noise Receptors: Planned Pier 70 Residential Receptors on Pier 70 Parcels F/G & H1/H2 (cont.)							
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phase 3 on Blocks 3 & 4, Phase 4 on Block 5, & Phase 5 on Blocks 1 & 2^d							
Project Site	Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	30 ^f	87	90	No	60-66 ^g	Yes
	Phases 1 to 6 – Building Construction (Tower Crane & Pneumatic Tools)	30 ^f	88	90	No	60-66	Yes
	Phases 1 to 6 – Utilities (Backhoe & Concrete Mixer Truck)	30 ^f	88	90	No	60-66	Yes

NOTES: dBA = A-weighted decibel; FTA = Federal Transit Administration. Noise levels in bold exceed the indicated standard.

- a See Table 4.F-8 for derivation of combined noise levels by construction activity, which are applied in this table to the closest offsite residential receptor locations.
- b Combined hourly noise levels were attenuated for distance (6-dB reduction per doubling of distance) based on the minimum distances listed in the preceding column (to the left).
- c The San Francisco Planning Department generally considers an increase of 10 dBA over existing noise levels from persistent construction to be a substantial temporary increase in noise levels. As indicated in Table 4.F-2, the daytime ambient noise levels were measured as follows: 68 dBA (Leq) at Measurement Location ST-5 near existing Third Street receptors and 50 and 56 dBA (Leq) at Measurement Locations ST-4 and LT-2, respectively, near planned Pier 70 Parcels F/G and H1/H2 receptors.
- d This is the closest construction-related noise source to the identified sensitive receptors during specified phases.
- e Measurement Location ST-5 (Abaca Apartments at 2660 Third Street) is the closest noise measurement location to these receptors. Ambient noise levels were measured at 68 dBA (daytime Leq, rounded to the nearest whole decibel) at this location. When this ambient noise level is applied to the "Ambient + 10 dBA" standard, the standard applied at these receptors is 78 dBA (daytime Leq).
- f The Pier 70 Design for Development and the proposed project specify that each project set back buildings a minimum of 15 feet from the joint property line, which would create a 30-foot setback between the two projects.
- g Ambient noise levels were measured at 50-56 dBA (daytime Leq) at the northern project boundary (ST-4 and LT-2; see Table 4.F-2) and when this ambient noise level is applied to the "Ambient + 10 dBA" standard, the standard is 60 to 66 dBA (daytime Leq) at the closest offsite planned receptors.

SOURCE: Oron Environmental Associates, 2018.

TABLE 4.F-10
ESTIMATED NIGHTTIME CONSTRUCTION-RELATED NOISE LEVELS AT CLOSEST OFFSITE SENSITIVE RECEPTORS

Construction Phase and Noisiest Combined Construction Activities	Combined Hourly Leq in dBA at 50 Feet ^a	Minimum Distance between Receptor and Closest Equipment (feet)	Exterior Noise Level (Leq) Adjusted for Distance ^b	45-dBA Interior / 70-dBA Exterior Sleep Disturbance Standard Exceeded? ^c
Noise Receptors: Existing Residential Receptors located at 2660 Third Street				
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phase 1 on 23rd Street^d				
Night Work	84 ^e	350	67	No
Noise Receptors: Planned Pier 70 Receptors on Parcels F/G				
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phase 1 along 23rd Street Right-of-Way				
Night Work	84 ^e	700	61	No
Noise Receptors: Planned Pier 70 Receptors on Parcel PKN				
Noise Sources with Greatest Noise Impact on these Receptors: Construction in Phase 1 on Blocks 8 & 9				
Night Work	84 ^e	1,400	55	No

NOTES: dBA = A-weighted decibel; FTA = Federal Transit Administration. Noise levels in **bold** exceed the indicated standard.

- ^a See Table 4.F-8 for derivation of combined noise levels by construction activity, which are applied in this table to the closest offsite residential receptor locations.
- ^b Combined hourly noise levels were attenuated for distance (6-dB reduction per doubling of distance) based on the minimum distances listed in the preceding column (to the left).
- ^c The nighttime interior noise limit of 45 dBA between 10 p.m. and 7 a.m. is based on the noise level that is adequate to prevent sleep disturbance. This interior limit is equivalent to a nighttime exterior limit of 70 dBA with the windows closed because it assumes a 25-dBA reduction is achieved with the windows closed. Therefore, a 70-dBA exterior noise level attenuates to a 45-dBA interior noise level when closed windows provide a 25-dBA noise reduction.
- ^d This is the closest construction-related noise source to the identified sensitive receptors during Phase 1, which is the only phase when construction activities could extend into nighttime hours.
- ^e This noise level assumes simultaneous operation of a concrete mixing truck and grader; both generate 85 dBA (Lmax) at 50 feet or 81 dBA (Leq) at 50 feet with a 40 percent usage factor. The combined noise level from their simultaneous operation would be 84 dBA (Leq) at 50 feet. Simultaneous operation of other earthmoving equipment such as a dozer, excavator, dump truck, and scraper would generate a similar combined noise level.

SOURCE: Orion Environmental Associates, 2018.

Construction Noise Impacts on Future Onsite Receptors

Future project residents, hotel occupants (if a hotel is constructed), and/or childcare users living in or otherwise using new buildings built on the project site during earlier phases of construction would be exposed to construction noise generated during subsequent phases of project construction. **Table 4.F-11, Estimated Daytime Construction-Related Noise Levels at Closest Onsite Future Sensitive Receptors**, presents estimated construction noise levels at the closest onsite future receptors during all but the last phase of project construction (explained below) and compares these noise levels to the Federal Transit Administration's limit of 90 dBA at sensitive receptor locations and the "Ambient + 10 dBA" standard (see Figure 4.F-5, above, for location of phases and sensitive receptors).

- **Phase 1 Onsite Receptors:** Once Phase 1 has been completed and occupied in 2025, future noise-sensitive receptors (i.e., residents, hotel occupants, childcare users) at Block 8 and potentially also at Blocks 9 and 12 would be subject to construction noise on the project site for up to 10 years through 2034 (Phases 2 through 6).²⁷

Construction activities during Phases 2 and 3 could be as close as 80 feet away (across the street) from Phase 1 sensitive receptors. At this distance, Phase 1 receptors could be subject to construction noise levels of up to 90 dBA (Leq). Such noise levels would meet but not exceed the Federal Transit Administration's standard of 90 dBA, and would exceed the "Ambient + 10 dBA" standard at Blocks 8 and 9. Phase 1 receptors would be exposed to these maximum construction noise levels for the duration of Phases 2 and 3 (approximately three years) then relatively lower construction noise levels for the remaining six years of project construction (Phases 4, 5, and 6). Therefore, construction noise levels on future Phase 1 onsite residential receptors (and possible childcare users) would be a *significant* impact.

- **Phase 2 Onsite Receptors:** At the completion of Phase 2 construction in 2026, residential receptors and possible childcare users located on Blocks 7 and 11 would be subject to construction noise levels of 79 to 90 dBA (Leq) at 80 feet during Phase 4 construction activities and up to 90 dBA (Leq) from possible concurrent pile driving and controlled rock fragmentation during Phase 3 construction. Such noise levels would not exceed the Federal Transit Administration's standard of 90 dBA, but would exceed the "Ambient + 10 dBA" standard. Phase 2 receptors would be exposed to these maximum construction noise levels for the duration of Phases 3 and 4 (approximately five years) then relatively lower construction noise levels for the remaining three years of project construction (Phases 5 and 6). Therefore, construction noise levels on future Phase 2 onsite residential receptors (and possible childcare users) would be a *significant* impact.
- **Phase 3 Onsite Receptors:** If residences are occupied or childcare facilities are operating on Block 4 at the completion of Phase 3 construction in approximately 2028, these noise-sensitive receptors would be subject to construction noise levels of 65 to 67 dBA (Leq) at 370 feet from construction on nearby Block 2 for up to three years during Phase 5 (approximately 2030-2032). Such noise levels would not exceed the Federal Transit Administration's standard of 90 dBA, but would slightly exceed the "Ambient + 10 dBA" standard at this location. Because Phase 3 receptors could be exposed to construction noise exceeding this standard for up to three years, construction noise levels on future Phase 3 onsite residential receptors (and possible childcare users) would be a *significant* impact.

²⁷ It is possible that a childcare facility would be developed in any commercial block and this use is considered to be a noise-sensitive receptor similar to residential receptors.

TABLE 4.F-11
ESTIMATED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT CLOSEST ONSITE FUTURE SENSITIVE RECEPTORS

Construction Phase and Noisiest Combined Construction Activities	Hourly Leq in dBA at 50 Feet ^a	Minimum Distance between Receptor and Closest Equipment (feet)	Noise Level (Leq) Adjusted for Distance ^b	Does Noise Level Exceed 90-dBA daytime FTA Standard?	Daytime Ambient + 10 dBA Standard ^c at Closest Receptor	Does Noise Level Exceed Ambient + 10 dBA Standard?
Project Receptor: Phase 1 Residents & Possible Childcare Users on Block 8 (Noise Source: Phase 2 Construction on Block 7)						
Project Receptor: Phase 2 Residents & Possible Childcare Users on Blocks 7 & 11 (Noise Sources: Phase 3 Construction on Block 3 and Phase 4 Construction on Blocks 6 & 10)						
Project Site	Phase 3 – Pile Driving & CRF (Impact Pile Driver and Rock Drill for CRF)	80	90	No	66/72 ^d	Yes
	Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	80	79	No	66/72	Yes
	Phases 1 to 6 – Building Construction (Tower Crane & Pneumatic Tools)	80	79	No	66/72	Yes
	Phases 1 to 6 – Utilities (Backhoe & Concrete Mixer Truck)	80	80	No	66/72	Yes
Project Receptor: Phase 1 Residents/Hotel Occupants & Possible Childcare Users on Block 9 (Noise Source: Phase 3 Construction on Block 4)						
Project Site	Phase 3 – Pile Driving & CRF (Impact Pile Driver and Rock Drill for CRF)	80	90	No	64 ^e	Yes
	Phases 1 & 3 – Pile Driving & CRF (Impact Pile Driver and Rock Drill for CRF)	80	79	No	64	Yes
	Phases 0 to 6 – Controlled Rock Fragmentation/CRF (CRF Equipment & Rock Drill)	80	79	No	64	Yes
	Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	80	80	No	64	Yes
Project Receptor: Phase 3 Residents & Possible Childcare Users on Block 4 (Noise Source: Phase 5 Construction on Block 2)						
Project Site	Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	370	65	No	64 ^f	Yes
	Phases 1 to 6 – Building Construction (Tower Crane & Pneumatic Tools)	370	66	No	64	Yes
	Phases 1 to 6 – Utilities (Backhoe & Concrete Mixer Truck)	370	67	No	64	Yes

TABLE 4.F-11 (CONTINUED)
ESTIMATED COMBINED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT CLOSEST ONSITE FUTURE RESIDENTIAL RECEPTORS

Closest Offsite Residential Receptor Locations (Noise Source Location) and Noisiest Combined Construction Activities	Hourly Leq in dBA at 50 Feet ^a	Minimum Distance between Receptor and Closest Equipment (feet)	Noise Level (Leq) Adjusted for Distance ^b	Does Noise Level Exceed 90-dBA Daytime FTA Standard?	Daytime Ambient + 10 dBA Standard ^c at Closest Receptor	Does Noise Level Exceed Ambient + 10 dBA Standard?
Project Receptor: Phase 4 Residents & Possible Childcare Users on Block 5/6 (Noise Sources: Phase 5 Construction on Blocks 1/2 & Phase 6 Construction on Block 13)						
Project Receptor: Phase 5 Residents & Possible Childcare Users on Block 1 (Noise Source: Phase 6 Construction on Block 13)						
Phases 1 to 6 – Surface Preparation and Foundation Work (Earthmoving Equipment & Concrete Mixer Truck)	83	80	79	No	66 ^d	Yes
Phases 1 to 6 – Building Construction (Tower Crane & Pneumatic Tools)	83	80	79	No	66	Yes
Phases 1 to 6 – Utilities (Backhoe & Concrete Mixer Truck)	84	80	80	No	66	Yes

NOTES: dBA = A-weighted decibel; FTA = Federal Transit Administration. Noise levels in **bold** exceed the indicated standard.

- a See Table 4.F-8 for derivation of combined noise levels by construction activity, which are applied in this table to the closest offsite residential receptor locations.
- b Combined hourly noise levels were attenuated for distance (6-dB reduction per doubling of distance) based on the minimum distances listed in the preceding column (to the left).
- c The San Francisco Planning Department generally considers an increase of 10 dBA over existing noise levels from persistent construction to be a substantial temporary increase in noise levels. As indicated in Table 4.F-2, the daytime ambient noise levels were measured as follows in the vicinities of these blocks: Block 1: 56 dBA (daytime Leq) at Measurement Location LT-2; Block 4: 54 dBA (daytime Leq) at Measurement Location LT-6; Blocks 5, 6, and 7: 56 dBA (daytime Leq) at Measurement Location LT-3; Block 8: 62 dBA (daytime Leq) at Measurement Location LT-4; and Block 9: 54 dBA (daytime Leq) at Measurement Location LT-5.
- d Noise measurements indicate that the daytime ambient noise level in the Block 1 vicinity (LT-4) is 62 dBA (Leq) so that the "Ambient + 10 dBA" standard at this location is 72 dBA (Leq). Noise measurements indicate that the daytime ambient noise level in the Block 7 vicinity (LT-3) is 56 dBA (Leq) so the "Ambient + 10 dBA" standard at this location is 66 dBA (Leq).
- e Noise levels in the vicinity of Block 9 (Unit 3; LT-5) were measured to be 54 dBA (Leq) during the day and the "Ambient + 10 dBA" standard at Block 9 would be 64 dBA (Leq).
- f Noise measurements indicate that the daytime ambient noise level in the Block 4 vicinity (LT-6) is 54 dBA (Leq) so the "Ambient + 10 dBA" standard at this location is 64 dBA (Leq).
- g Noise measurements indicate that the daytime ambient noise levels in the Block 1 vicinity (LT-2) and Blocks 5 and 6 vicinity (LT-3) are both 56 dBA (Leq) so the "Ambient + 10 dBA" standard at these locations is 66 dBA (Leq).

SOURCE: Orion Environmental Associates, 2018.

- **Phase 4 Onsite Receptors:** After 2031, Phase 4 residential receptors and possible childcare users located on Blocks 5 and 6 would be subject to construction noise levels of 79 to 80 dBA (Leq) at 80 feet from construction on adjacent Blocks 1 and 2 for up to one year during Phase 5 (through approximately 2032). Such noise levels would not exceed the Federal Transit Administration's standard of 90 dBA at sensitive receptor locations, but would exceed the "Ambient + 10 dBA" standard. Because Phase 4 receptors could be exposed to construction noise exceeding this standard for up to one year, construction noise levels on future Phase 4 onsite residential receptors (and possible childcare users) would be a *significant* impact.
- **Phase 5 Onsite Receptors:** After approximately 2032, Phase 5 residential receptors and possible childcare users would be subject to construction noise levels of 79 to 80 dBA (Leq) at 80 feet from construction during Phase 6 (through approximately 2034). Such noise levels would not exceed the Federal Transit Administration's standard of 90 dBA, but would exceed the "Ambient + 10 dBA" standard at this location. Because Phase 5 receptors could be exposed to construction noise exceeding this standard for approximately two years, construction noise levels on future Phase 5 onsite residential receptors (and possible childcare users) would be a *significant* impact.
- **Phase 6 Onsite Receptors:** Phase 6 residential receptors and possible childcare users on Block 13 would not be subject to construction noise since this would be the last phase of construction (no impact).

With the exception of future residents on Block 13, future onsite residents, hotel occupants, and possible childcare users would be subject to *significant* construction-related noise levels for one to five years. Implementation of **Mitigation Measure M-NO-1, Construction Noise Control Measures**, would reduce the severity of noise impacts on future onsite sensitive receptors. However, even with implementation of this mitigation measure, the combined noise levels from simultaneous operation of the noisiest types of construction equipment could still exceed the "Ambient + 10 dBA" standard. Therefore, construction-related noise impacts on future onsite residential/hotel/childcare receptors would be *significant and unavoidable with mitigation*.

Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)

Significance after Mitigation: Significant and Unavoidable. Implementation of construction-related noise control measures in Mitigation Measure M-NO-1 would reduce the project's temporary or periodic increases in ambient noise levels. However, these measures would not necessarily reduce these noise increases to below the "Ambient + 10 dBA" standard because feasibility of the quieter, alternative pile driving methods in all areas cannot be determined at this time. Given this uncertainty and the 15-year construction duration, this impact is conservatively considered to remain significant and unavoidable, even with implementation of Mitigation Measure M-NO-1.

Nighttime Noise Impacts

Nighttime construction activities are proposed to cease once onsite residential units are occupied. Therefore, there would be no nighttime construction noise impacts on future onsite receptors.

Construction Noise Impacts on Future Planned Offsite Receptors

Table 4.F-9 summarizes the project's daytime construction-related noise impacts on the closest planned offsite noise-sensitive receptors, who would be located on the Pier 70 site. In this table, the maximum construction-related noise levels presented in Table 4.F-9 were adjusted for distance to the closest planned offsite noise-sensitive receptors and then compared to both the Federal Transit Administration's daytime standard of 90 dBA at sensitive receptor locations and the applicable "Ambient + 10 dBA" standard at each offsite receptor location to determine the significance of the project's daytime construction noise impact at the closest planned offsite receptors.

The closest planned offsite noise-sensitive receptors would be residential receptors on the Pier 70 site (see Table 4.F-3 and Figure 4.F-3, pp. 4.F-9 and 4.F-11, respectively, above). Based on the Pier 70 project's phased construction schedule, it is expected that the closest planned Pier 70 residential units would be located adjacent to the planned Craig Lane, which straddles the project site's northern boundary and the Pier 70 site's southern boundary. These residential units could be located as close as 30 feet from buildings constructed on Blocks 1, 2, 3, and 4 (some construction activities and staging may be closer than 30 feet) and as close as 0 feet on Block 14. In addition, planned Pier 70 residential units located adjacent to 22nd Street (between Illinois Street and Louisiana Street) could be located as close as 50 feet (estimated width of 22nd Street) from project-related construction activities on Block 13 (see Figure 4.F-5, above, p. 4.F-24).

As indicated in Table 4.F-9, during Phase 0 (approximately 2020-2022), simultaneous noisy activities may include demolition (i.e., operation of a concrete crusher) and surface preparation activities such as operation of a rock drill. Simultaneous operation of demolition equipment, such as a rock/concrete crusher and rock drill could generate noise levels of 90 dBA (Leq) at 50 feet, which would be equivalent to 95 dBA (Leq) at 30 feet. It is unlikely that planned offsite noise-sensitive receptors would be located within 30 feet of such equipment during this phase because this phase is expected to precede occupation of the closest planned Pier 70 residential buildings adjacent to the project site's northern boundary. However, if Phase 0 construction activities were delayed or extended and the Pier 70 buildings adjacent to the project site's northern boundary became occupied before Phase 0 was completed, the project's construction noise would exceed the Federal Transit Administration's standard of 90 dBA and would also exceed the "Ambient + 10 dBA" standard at the closest planned offsite sensitive receptor locations, and planned residential receptors on the Pier 70 site could be significantly affected by project-related construction activities during Phase 0, resulting in a *significant* noise impact.

During Phase 1 (approximately 2022-2025) and Phase 3 (approximately 2025-2028), simultaneous operation of an impact pile driver and a rock drill could generate noise levels of 94 dBA (Leq) at 50 feet (see Table 4.F-8). As indicated in Table 4.F-9, the maximum combined Leq noise level at planned residential units on Parcels F/G and possible residential units on Parcels H1/H2 could reach 99 dBA (Leq) if rock drilling and pile driving occurred at the same time and at 30 feet from these units; noise levels could be slightly higher on Parcel F if this equipment were operated at the property line on Block 14. Such noise levels would exceed the Federal Transit Administration's standard of 90 dBA and would also exceed the "Ambient + 10 dBA" standard at the closest planned offsite receptors. Table 4.F-9 also shows that maximum combined noise levels of 79 to 94

dBA (Leq) at 50 feet during other construction phases would not exceed the Federal Transit Administration's standard of 90 dBA, but would exceed the "Ambient + 10 dBA" standard at the closest planned offsite sensitive receptors. Therefore, the noise level increases at the closest planned offsite residential receptors during all phases of project construction would result in a *significant* noise impact.

Implementation of noise controls during all construction phases as specified in **Mitigation Measure M-NO-1, Construction Noise Control Measures**, would reduce construction noise levels at the closest planned offsite Pier 70 receptors to the north, assuming they are present when noisier construction activities (i.e., pile driving, and rock drilling, nighttime activities, etc.) occur. However, the feasibility of quieter, alternative pile driving methods in all areas cannot be determined at this time, and the potential would still exist that combined noise levels from simultaneous operation of the noisiest types of construction equipment could still exceed the Federal Transit Administration's standard of 90 dBA and the "Ambient + 10 dBA" standard for the duration of the project's construction activities. Given this uncertainty and the potential 12-year duration of this activity (from occupancy of Pier 70 Parcels F/G in 2024 through Phase 6 construction in 2034), this impact would remain *significant and unavoidable with mitigation*.

Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)

Significance after Mitigation: Significant and Unavoidable. While implementation of construction-related noise control measures in Mitigation Measure M-NO-1 would reduce the severity of the project's temporary or periodic increases in ambient noise levels, these measures would not necessarily reduce these noise increases to below the Federal Transit Administration's standard of 90 dBA or the "Ambient +10 dBA" standard because the feasibility of quieter, alternative pile driving methods in all areas cannot be determined at this time. Given this uncertainty and the extended construction duration, this impact is considered to remain significant and unavoidable, even with implementation of these measures.

Nighttime Noise Impacts

With respect to planned offsite receptors at the Pier 70 development site, nighttime activities during Phase 1 construction could generate noise levels of up to 61 dBA (Leq) at the closest planned residential receptors located on Craig Lane west of Maryland Street (Pier 70 Parcels F/G), which would be located a minimum of approximately 700 feet away from these nighttime activities. As indicated in Table 4.F-10, the estimated 61 dBA (Leq) would not exceed the 45-dBA interior / 70-dBA exterior sleep disturbance standard, resulting in a *less-than-significant* noise impact and no mitigation would be required.

Offsite Haul Truck Traffic

Impact NO-3: Construction truck traffic would not cause a substantial temporary or periodic increase in ambient noise levels along access streets in the project vicinity. (*Less than Significant*)

Project construction would generate a total of approximately 81,000 truck trips, which would be phased over the duration of the planned construction activities. During the 15-year period, the number of construction trucks traveling to and from the site would vary, depending on the phase and type of construction activity. The peak number of construction vehicle trips (equipment and materials deliveries, and haul trips) would occur in 2022 with between 100 and 150 trucks per day, and for four months in 2024 with about 200 trucks per day. For about 90 percent of the 15-year construction period, there would be fewer than 100 trucks per day, and for 60 percent of the construction period there would be fewer than 50 trucks per day. A peak volume of 200 daily truck trips over four months in 2024 and occurring over a nine-hour workday (7 a.m. to 4 p.m.) would average 22 truck trips per hour. Such a truck volume would generate a noise level of 63.5 dBA (Leq) at 50 feet from the roadway centerline. When added to the existing daytime noise level of 64.6 dBA (Leq) at 50 feet from the centerline of Illinois Street²⁸ or 70.6 dBA (Leq) at 50 feet from the centerline of Third Street,²⁹ the maximum noise level contributions from construction truck trips would increase noise levels along either of these roadways by 2.4 or 0.8 dBA, respectively, if all trucks were to travel on the same route. Such noise increases would not be perceptible and would not exceed the 3-dBA or 5-dBA noise increase standards for traffic noise (see Approach to Analysis, Methodology for Analysis of Operational Impacts above for more discussion of these standards). Therefore, increases in traffic noise resulting from truck traffic related to project construction would be *less than significant*.

Although construction-related traffic noise increases would be less than significant, it is recommended that project-related construction trucks be required to use truck routes and queuing and loading areas that avoid streets with adjacent residential uses to the extent feasible (or at least during phases with higher truck volumes) in order to minimize potential disturbances to residents in the Dogpatch neighborhood, as outlined in **Improvement Measure I-NO-A, Avoidance of Residential Streets**. This recommendation could be implemented as part of **Improvement Measure I-TR-A, Construction Management Plan and Public Updates**, described in Section 4.E, Transportation and Circulation.

Mitigation: None required.

Improvement Measure I-NO-A: Avoidance of Residential Streets

Trucks should use routes and queuing and loading areas that avoid existing and planned residential uses to the maximum extent feasible, including existing residential development

²⁸ Based on daytime Leq of 67.3 dBA at 27 feet from the centerline of Illinois Street (Measurement LT-1 in Appendix D, Summary of Long-term Noise Measurements) and adjusted to 50 feet from the roadway centerline.

²⁹ Based on daytime Leq of 67.6 dBA at 100 feet from the centerline of Third Street (Measurement ST-5 in Appendix D, Summary of Long-term Noise Measurements) and adjusted to 50 feet from the roadway centerline.

on Third Street (north of 23rd Street), existing residential development on Illinois Street (north of 20th Street), and planned Pier 70 residential development (north of 22nd Street).

Improvement Measure I-TR-A: Construction Management Plan and Public Updates
(see Section 4.E, Transportation and Circulation, Impact TR-1)

Vibration

Impact NO-4: Project construction would generate excessive groundborne vibration that could result in building damage. (*Less than Significant with Mitigation*)

The proposed project would include the types of construction activities that could produce substantial groundborne vibration: controlled rock fragmentation during excavation and pile driving for foundations, shoreline improvements, and the recreational dock. In addition, construction equipment used for demolition, site preparation, and shoring activities, such as jackhammers, impact hammers, impact or vibratory pile drivers, and rock drills, could generate varying degrees of temporary groundborne vibration, with the highest levels expected during demolition, excavation, shoreline improvements (including the recreational dock). Excavation for sub-grade parking would require excavation into bedrock and use of controlled rock fragmentation or impact hammers could be required. These types of vibration-generating activities would not be conducted during the night shift, which extends from 8 p.m. to 3 a.m. in order to avoid the more vibration-sensitive nighttime hours.

This analysis evaluates the significance of construction-related vibration on structures and people (receptors), specifically cosmetic damage effects on structures and sleep disturbance and associated health effects on people. For building damage, the threshold limit depends on the architectural characteristics of the potentially affected structure (see Table 4.F-5, above under “State Regulations” p. 4.F-13), but for modern industrial/commercial buildings (and older or historic buildings that have been restored to building code standards sufficient to withstand vibration from pile driving and controlled rock fragmentation activities), a standard of 0.5 in/sec peak particle velocity (PPV) is applied. The potential for sleep disturbance effects are evaluated only when construction activities are proposed during the nighttime hours. For sleep disturbance effects, this analysis applies Caltrans’s “strongly perceptible” threshold limit of 0.1 in/sec PPV.³⁰ Vibration impacts are considered significant if they would result either in levels substantial enough to damage nearby structures or buildings, or in vibration levels generally accepted as “strongly perceptible” to sensitive receptors during the nighttime hours. The reader is referred to Section 4.I, Biological Resources, Impact BI-4 for evaluation of vibration impacts on aquatic species.

Construction-related Vibration Impacts on Existing Buildings and Offsite Receptors

Typical vibration levels associated with the operation of various types of construction equipment at distances of 30, 80, 230, and 340 feet away from the vibration source are listed in Table 4.F-12,

³⁰ Caltrans, *Transportation and Construction Vibration Guidance Manual*, September 2013.

Vibration Levels for Construction Equipment. These distances generally correspond to the closest setback distances between construction activities and existing adjacent structures, as well as future onsite project structures and planned structures on the Pier 70 site. While vibration attenuation with distance can vary depending on subsoils, typical attenuation rates indicate that vibration generated by impact pile drivers or blasting associated with controlled rock fragmentation could result in cosmetic damage to adjacent structures if they occur within approximately 80 feet of a structure, assuming maximum reference vibration levels. Use of sonic or vibratory pile drivers, if feasible, or other controlled rock fragmentation techniques, as indicated in Table 4.F-12, would generate lower levels of vibration (below the 0.5 in/sec PPV standard) with commensurately smaller minimum setback distances of approximately 35 feet from project structures required for pile driving (for typical impact or vibratory pile drivers), 22 feet for controlled rock fragmentation hydraulic techniques, and 12 feet for controlled rock fragmentation pulse plasma rock fragmentation to avoid cosmetic damage.

TABLE 4.F-12
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Peak Particle Velocity (PPV) (in/sec) ^a			
	At 30 Feet	At 80 Feet	At 230 Feet	At 340 Feet
Impact or Vibratory Pile Driver				
Range	0.139 – 1.242	0.047 – 0.422	0.015-0.132	0.010-0.086
Typical	0.532	0.181	0.057	0.037
Other Construction Equipment				
CRF using PPRP Technique ^b	0.176	0.060	0.019	0.012
CRF using Hydraulic Technique	0.350	0.119	0.037	0.024
CRF using Controlled Blasting	0.164 – 1.637	0.056 – 0.556	0.017 - 0.174	0.011-0.113
Vibratory Roller/Compactor	0.172	0.058	0.018	0.012
Large Bulldozer	0.073	0.058	0.008	0.005
Caisson Drilling	0.073	0.025	0.008	0.005
Loaded Trucks	0.062	0.021	0.007	0.004
Jackhammer	0.029	0.010	0.003	0.002
Small Bulldozer	0.002	0.001	0.000	0.000

NOTES: Vibration levels in bold exceed the 0.5 in/sec PPV standard for cosmetic damage.

^a Vibration amplitudes for construction equipment assume normal propagation conditions and were calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$ where:

- PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
- PPV (ref) = the reference vibration level in in/sec from pages 31-33 and Table 18 of the Caltrans Vibration Guidance Manual as well as Table 12-2 of the Federal Transit Administration's Noise and Vibration Guidance Manual
- D = the distance from the equipment to the receiver

Distances represent the following: (1) 30 feet: minimum distance between closest Pier 70 structures that would be present (Phase 3 is scheduled for completion by 2023) during construction of Blocks 1-4 (Phases 3 and 5: 2025-2032); (2) 80 feet: minimum separation between closest construction activities to the existing adjacent building to the west (AIC Building) as well as minimum distance between future (project) structures in different phases; (3) 230 feet: minimum distance between closest Pier 70 structures (on the north side of the 22nd Street extension) that would be present (Phase 2 is scheduled for completion by 2020) during all PPS construction phases; and (4) 340 feet: minimum distance between proposed impact pile driving on Block 5 and closest existing structure to the west (AIC Building).

^b Controlled rock fragmentation (CRF) using pulse plasma rock fragmentation (PPRF) technique.

SOURCES: Caltrans, *Transportation and Construction Vibration Guidance Manual*, September 2013, pp. 29-34, <http://www.dot.ca.gov/hq/env/noise/publications.htm>, accessed on August 15, 2018; Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006, <https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration>, accessed on August 15, 2018.

As described in Table 4.F-5, p. 4.F-14 above, depending on the type of vibration (transient versus continuous), groundborne vibration generated by project-related demolition and construction activities above 0.5 in/sec PPV could cause cosmetic damage to new or older nearby structures, including some older and historic buildings. Historic resources located on or adjacent to the project site are identified on Section 4.D, Historic Architectural Resources, Figure 4.D-1, Historic Resources, p. 4.D-10. The existing Boiler Stack located on the eastern portion of the project site is proposed to be retained and could be adversely affected by construction-related vibration effects if vibration levels exceed 0.5 in/sec PPV, which would depend on how close pile driving and controlled rock fragmentation activities occur to the Boiler Stack. Since the proximity of such activities is currently unknown, potential vibration effects on this structure is conservatively considered to be significant. However, implementation of **Mitigation Measure M-NO-4a, Construction Vibration Monitoring**, together with **Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack** (see Section 4.D, Historic Architectural Resources, Impact CR-5) would establish measures to ensure that retained character-defining features of the Boiler Stack would be protected both during and after construction, and would include, if necessary, stabilization of historic resources prior to construction to prevent damage. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring

The project sponsor shall undertake a monitoring program to ensure that construction-related vibration does not exceed 0.5 in/sec PPV at the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses as required pursuant to Mitigation Measures M-NO-4b (Vibration Control Measures During Controlled Blasting and Pile Driving), M-NO-4c (Vibration Control Measures During Use of Vibratory Equipment), and M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack). The monitoring program shall include the following components:

- Prior to any controlled blasting, pile driving, or use of vibratory construction equipment (vibration-inducing construction), the project sponsor shall engage a historic architect or qualified historic preservation professional and a qualified acoustical/vibration consultant or structural engineer to undertake a pre-construction survey of the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource, a structural engineer or other qualified entity shall establish a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions and anticipated construction practices in use at the time. The qualified consultant shall conduct regular periodic inspections of each historical resource within 80 feet of vibration-inducing construction throughout the duration of vibration-inducing construction. The pre-construction survey and inspections shall be conducted in concert with the Historic Preservation Plan required pursuant to Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack.

- Prior to the start of any vibration-inducing construction, the qualified acoustical/vibration consultant or structural engineer shall undertake a pre-construction survey of any offsite structures or onsite structures constructed by the project within 80 feet of such vibration inducing construction. The qualified acoustical/vibration consultant or structural engineer shall conduct periodic inspections of any such structures throughout the duration of vibration inducing construction.
- The qualified historic and acoustical/structural consultant shall submit monitoring reports to San Francisco Planning documenting vibration levels and findings from regular inspections.
- Based on planned construction activities for the project and condition of the adjacent structures, an acoustical consultant shall monitor vibration levels at each structure and shall prohibit vibration inducing construction activities that generate vibration levels in excess of 0.5 in/sec PPV. Should vibration levels be observed in excess of 0.5 in/sec PPV or should damage to any structure be observed, construction shall be halted and alternative construction techniques put in practice, to the extent feasible. For example, smaller, lighter equipment might be able to be used or pre-drilled piles could be substituted for driven piles, if soil conditions allow.

Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack (see Section 4.D, Historic Architectural Resources, Impact CR-5)

To the west of the project site, the closest existing structure is the American Industrial Center building, which is a contributor to the historic Third Street Industrial District and is located approximately 80 feet from Block 13 (where controlled rock fragmentation could be required) and 340 feet from Block 5 (where pile driving could occur; see footnote "a" in Table 4.F-12). To the south of the project site, the Western Sugar Warehouses are also contributors to the Third Street Industrial District, and they are located on the south side of 23rd Street, approximately 80 to 100 feet from Blocks 10, 11, and 12, where controlled rock fragmentation and/or pile driving could be required. At a distance of 80 feet, vibration levels generated from controlled rock fragmentation and pile driving would not exceed the 0.5 in/sec PPV standard for cosmetic damage with one exception: if controlled blasting (associated controlled rock fragmentation) occurs at distances of 80 feet or less from these two buildings, and maximum controlled blasting levels are generated. Table 4.F-12 lists a range of vibration levels associated with controlled blasting, which demonstrates that lower vibration levels (below 0.5 in/sec PPV) could be achieved at a distance of 80 feet by using other controlled blasting techniques. Therefore, maximum vibration levels generated by controlled blasting at the American Industrial Center building and Western Sugar Warehouses would have the potential to exceed the 0.5 in/sec PPV standard, a significant impact. However, implementation of **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, would require that appropriate controlled blasting techniques (smaller charge sizes or using other controlled rock fragmentation techniques) be used so as to not exceed the 0.5 in/sec PPV standard. Additionally, **Mitigation Measure M-NO-4a, Construction Vibration Monitoring** would ensure that vibration levels set

in Mitigation Measure M-NO-4b would not be exceeded. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving

Vibration controls shall be specified to ensure that the vibration limit of 0.5 in/sec PPV can be met at all nearby structures when all potential construction-related vibration sources (onsite and offsite) are considered. These controls could include smaller charge sizes if controlled blasting is used, pre-drilling pile holes, using the pulse plasma fragmentation technique, or using smaller vibratory equipment. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.

To the north of the project site, the Union Iron Works Historic District, includes contributors to the Third Street Industrial District. As part of the Pier 70 Mixed-Use District project, Buildings 2 and 12 of the Union Iron Works Historic District would be retained and renovated. Building 12, the closest of these two structures, would be located approximately 250 feet from Blocks 1, 2, and 14, where controlled rock fragmentation could occur and 300 feet from Blocks 3 and 4 where pile driving could be required. At these distances, vibration levels would not exceed the 0.5 in/sec standard. Therefore, the project's construction-related vibration impacts on this existing historical district from impact pile driving or controlled rock fragmentation would be *less than significant*, and no mitigation would be required.

Vibratory pile drivers are proposed to be used for construction of the recreational dock, which would be located approximately 230 feet from the closest existing structure to the south (401 23rd Street, which is also one of the Western Sugar Warehouses and is currently used by DHL Express). As indicated in Table 4.F-12, vibration levels at 230 feet would not exceed the 0.5 in/sec PPV standard at this existing structure. However, while vibratory pile driving (or similar continuous vibration sources) can reduce the potential impacts to structures and marine life that can result from impact pile driving, continuous vibration can also cause liquefaction (or differential settlement in sandy soils), due to the continuous nature of the vibration. A liquefaction analysis was completed as part of the preliminary geotechnical report prepared for the proposed project and the result of this analysis indicates that portions of the site east of the historic mapped shoreline are potentially liquefiable.³¹

The deep fill portions on the eastern half of the project site (east of the historic shoreline) are mapped as a potential liquefaction hazard zone identified by the California Geological Survey.³² American Association of State Highway and Transportation Officials³³ states: "Saturated, loose,

³¹ ENGEO, *Potrero Power Plant, San Francisco, California, Preliminary Geotechnical Report*, Revised September 14, 2017.

³² California Department of Conservation, Division of Mines and Geology, *State of California Seismic Hazard Zones, City and County of San Francisco, Official Map*, November 17, 2000, http://gmw.conservacion.ca.gov/SHP/EZRIM/Maps/SAN_FRANCISCO_NORTH_EZRIM.pdf, accessed August 15, 2018.

³³ American Association of State Highway Transportation Officials (AASHTO), *Evaluation of Transportation-Related Earthborne Vibrations*, R 8-96, 2004.

uniformly or poorly graded sands and silts are sensitive to cyclic vibration such as might be produced by vibratory pile driving. These activities can produce noticeable settlement even at low vibration levels (0.1 to 0.7 in/sec), which are known to produce threshold cracking.” As shown in Table 4.F-12, vibratory pile driving at 230 feet could result in vibration levels of up to 0.13 in/sec PPV at the existing DHL Express Service Point facility (401 23rd Street) and up to 0.21 in/sec PPV at the Boiler Stack, which is located at 150 feet from the proposed recreational dock. Thus, use of vibratory pile drivers for construction of the recreational dock could result in the potential for vibration-induced liquefaction and associated structural damage to the DHL building and Boiler Stack. This would be a significant impact. However, implementation of **Mitigation Measure M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment**, would require establishment of a vibration limit for vibratory construction equipment as part of a subsequent site-specific geotechnical investigation, as required to provide information about geotechnical hazards under section 1803 of the building codes. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment

In areas with a “very high” or “high” susceptibility for vibration-induced liquefaction or differential settlement risks, as part of subsequent site-specific geotechnical investigations, the project’s geotechnical engineer shall specify an appropriate vibration limit based on proposed construction activities and proximity to liquefaction susceptibility zones. At a minimum, the vibration limit shall not exceed 0.5 in/sec PPV, unless the geotechnical engineer demonstrates, to the satisfaction of the Environmental Review Officer (ERO), that a higher vibration limit would not result in building damage. The geotechnical engineer shall specify construction practices (such as using smaller equipment or pre-drilling pile holes) required to ensure that construction-related vibration does not cause liquefaction hazards at nearby structures. The project sponsor shall ensure that all construction contractors comply with these specified construction practices. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.

Significance after Mitigation: Less than Significant

Nighttime Activities

During Phase 0, activities associated with the construction of 23rd Street (including utility installation and street improvements) would extend into the nighttime hours (until about 3 a.m.), which would have the potential to result in sleep disturbance from construction-related vibration from the use of heavy equipment. As discussed in the project description, nighttime construction activities would not involve construction activities or equipment that could produce substantial noise and vibration, such as controlled rock fragmentation, impact or vibratory pile drivers, jackhammers, impact hammers, or rock drills. The closest existing residential receptors are located at 2660 Third Street, approximately 360 feet from the proposed 23rd Street improvements. Street improvements would involve use of bulldozers, similar earthmoving equipment, and vibratory rollers/compactors, as listed in Table 4.F-12. At 360 feet, vibration levels generated by operation

of such equipment would not exceed 0.1 in/sec PPV. As indicated in Table 4.F-6, Vibration Guidelines for Annoyance, continuous vibration levels of 0.1 in/sec PPV or higher are “strongly perceptible”, and are considered to potentially have sleep disturbance effects. Estimated vibration levels from nighttime construction at the closest existing receptors would not exceed 0.1 in/sec PPV, and therefore, vibration from nighttime construction would be *less than significant* and no mitigation would be required.

Construction-related Vibration Impacts on Future Onsite Buildings and Receptors

Construction-related vibration sources that could affect future onsite buildings and noise-sensitive receptors on the project site would be the same as described above. Proposed onsite structures would be separated from each other by a minimum of 80 feet. As indicated in Table 4.F-12, construction-related vibration levels (including pile driving) at this distance would not exceed the 0.5 in/sec PPV level with one exception: the maximum vibration levels from controlled blasting associated with controlled rock fragmentation could exceed the 0.5 in/sec PPV standard, which would be a significant impact. However, vibration levels from controlled blasting can be highly variable depending on the size of the charge, and there are other controlled rock fragmentation techniques (e.g., pulse plasma rock fragmentation) that could be used, as necessary, to maintain vibration below levels that could result in damage to nearby structures. Therefore, conducting vibration monitoring and implementing alternative construction techniques as required in **Mitigation Measure M-NO-4a, Construction Vibration Monitoring**, together with using smaller charge sizes, other controlled rock fragmentation techniques, as required in **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, would reduce this potential impact to a less-than-significant level, and this impact would be *less than significant with mitigation*.

Vibratory pile drivers are proposed to be used for construction of the recreational dock during Phase 1, and operation of vibratory equipment could affect any future structures that are built prior to or during operation of vibratory equipment during this phase. However, implementation of **Mitigation Measure M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment**, which would be required to protect existing onsite structures to be retained and offsite structures, would also protect any future onsite buildings completed during Phase 1. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see above)

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see above)

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see above)

Significance after Mitigation: Less than Significant

Nighttime Activities

As explained above, nighttime construction along 23rd Street would have the potential to result in sleep disturbance from construction-related vibration. However, because nighttime

construction activities are proposed to cease once onsite residential units are occupied, there would be no nighttime construction-related vibration impacts on future onsite receptors.

Construction-related Vibration Impacts on Planned Offsite Buildings and Receptors

Construction-related vibration sources that could affect planned noise-sensitive receptors on the Pier 70 Mixed-Use District project site would be the same as described above for other offsite buildings and receptors. Construction-related vibration levels from the various construction techniques that could be used on the site would be the same as listed in Table 4.F-12.

The closest planned offsite structures on the Pier 70 site would be the buildings on Parcels F/G and H1/H2. These future structures would be located across the proposed Craig Lane, which straddles the Pier 70/project boundary, and with proposed 15-foot building setbacks on both properties, Pier 70 structures could be located as close as 30 feet from future structures on Blocks 1 through 4. However, there may be no setback between the buildings on Parcel F (Pier 70 site) and Block 14 because these two parcels share a property line and there is no intervening street. Assuming minimum setbacks of zero to 30 feet, pile driving and controlled blasting could exceed the 0.5 in/sec PPV limit (see Table 4.F-12), resulting in a significant vibration impact. However, by conducting vibration monitoring and implementing alternative construction techniques as required in **Mitigation Measure M-NO-4a, Construction Vibration Monitoring**, together with limiting use of impact or vibratory pile drivers and controlled blasting charge sizes, as required in **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, this potential impact would be reduced to a less-than-significant level, and this impact would be *less than significant with mitigation*.

Proposed use of vibratory pile drivers for construction of the recreational dock during Phase 1 and potential effects from vibration-induced liquefaction effects would not adversely affect any planned structures on the Pier 70 site. The closest planned structure would be on Parcel H2, which is located 600 feet from the proposed dock. In addition, Figure 4.F-5, p. 4.F-24 above, indicates that construction of Parcel H2 would not occur until 2027, which would be after proposed dock construction in Phase 1 (2023-2025). Therefore, potential vibration-induced liquefaction effects at the closest planned offsite structures would be *less than significant* and no mitigation would be required.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see above)

Mitigation Measure M-NO-4b: Vibration Control Measures During Pile Driving and Controlled Blasting (see above)

Significance after Mitigation: Less than Significant. Table 4.F-12 indicates that other construction techniques and equipment are available that would reduce vibration levels to the lower ends of the ranges for pile driving and controlled blasting, and use of these techniques would ensure that the 0.5 in/sec PPV limit is not exceeded. Use of pulse plasma rock fragmentation and hydraulic controlled rock fragmentation techniques would generate lower vibration levels than pile driving and blasting such that they could be employed as close as 22 feet from adjacent structures and not result in cosmetic damage.

Nighttime Activities

During Phase 0, activities associated with the construction of 23rd Street (including utility installation and street improvements) would extend into the nighttime hours (until about 3 a.m.), which would have the potential to result in sleep disturbance from construction-related vibration. The closest planned residential receptors would be on Parcels F/G, which are located approximately 730 feet from the proposed 23rd Street improvements. Street improvements would involve use of bulldozers, similar earthmoving equipment, and vibratory rollers/compactors, as listed in Table 4.F-12. At 730 feet, vibration levels generated by operation of such equipment would not exceed 0.1 in/sec PPV, a *less than significant* impact and no mitigation would be required.

Summary of Construction Vibration Impact

Vibration Impacts on Existing Buildings and Offsite Receptors

Groundborne vibration generated by project-related demolition and construction activities above 0.5 in/sec PPV could cause cosmetic damage to new or older nearby structures, including some older and historic buildings, such as the Boiler Stack, a significant impact. However, implementation of **Mitigation Measure M-NO-4a, Construction Vibration Monitoring**, and **Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack** (see Section 4.D, Impact CR-5) would establish measures to ensure that retained character-defining features of the Boiler Stack would be protected both during and after construction. Maximum vibration levels generated by controlled blasting at the American Industrial Center building and Western Sugar Warehouses would have the potential to exceed the 0.5 in/sec PPV standard, a significant impact. However, implementation of **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, would require that appropriate controlled blasting techniques be used so as to not exceed the 0.5 in/sec PPV standard. The project's construction-related vibration impacts on the Union Iron Works Historic District to the north of the project site would not exceed the 0.5 in/sec standard, and would be less than significant. Use of vibratory pile drivers for construction of the recreational dock could result in the potential for vibration-induced liquefaction and associated structural damage to the DHL building and Boiler Stack, a significant impact. However, implementation of **Mitigation Measure M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment**, would require establishment of a vibration limit for vibratory construction equipment as part of a subsequent site-specific geotechnical investigation. Estimated vibration levels from nighttime construction at the closest existing receptors would not exceed 0.1 in/sec PPV, and therefore, vibration from nighttime construction would be *less than significant* and no mitigation would be required.

Vibration Impacts on Future Onsite Buildings and Receptors

Construction-related vibration levels (including pile driving) on proposed onsite structures would not exceed the 0.5 in/sec PPV level with one exception: the maximum vibration levels from controlled blasting associated with controlled rock fragmentation could exceed the 0.5 in/sec PPV standard, which would be a significant impact. **Mitigation Measure M-NO-4a, Construction Vibration Monitoring** and **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, would reduce this impact to a less-than-significant level. Vibratory pile drivers are proposed to be used for construction of the recreational dock during

Phase 1, and operation of vibratory equipment could affect any future structures that are built prior to or during operation of vibratory equipment during this phase. However, implementation of **Mitigation Measure M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment**, which would be required to protect existing onsite structures to be retained and offsite structures, would also protect any future onsite buildings completed during Phase 1. There would be no nighttime construction-related vibration impacts on future onsite receptors.

Vibration Impacts on Planned Offsite Buildings and Receptors

Pile driving and controlled blasting at the closest planned offsite structures on the Pier 70 site could exceed the 0.5 in/sec PPV limit (see Table 4.F-12), resulting in a significant vibration impact, but with **Mitigation Measure M-NO-4a, Construction Vibration Monitoring**, and **Mitigation Measure M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving**, this impact would be reduced to a less-than-significant level. Proposed use of vibratory pile drivers for construction of the recreational dock during Phase 1 and potential effects from vibration-induced liquefaction effects would not adversely affect any planned structures on the Pier 70 site, a less-than-significant impact. The closest planned residential receptors would be located sufficiently distant from nighttime construction activities such that vibration levels would not exceed 0.1 in/sec PPV, a less-than-significant impact.

Therefore, overall project construction would generate vibration levels that could result in building damage at existing onsite buildings to be retained and future onsite buildings (described above), and this impact would be *less than significant with mitigation*.

Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see above)

Mitigation Measure M-CR-5e: Historic Preservation Plan and Review Process for Alteration of the Boiler Stack (see Section 4.D, Historic Architectural Resources, Impact CR-5)

Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see above)

Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see above)

Significance after Mitigation: Less than Significant

Operational Impacts

Impact NO-5: Operation of the stationary equipment on the project site could result in a substantial permanent increase in ambient noise levels in the immediate project vicinity, and permanently expose noise-sensitive receptors to noise levels in excess of standards in the San Francisco Noise Ordinance. (*Less than Significant with Mitigation*)

Stationary Noise Impacts on Existing Offsite and Future Onsite Receptors

Operation of the proposed project would increase ambient noise levels in the immediate vicinity primarily through the onsite use of stationary equipment, such as heating/ventilation/air conditioning (HVAC) systems and emergency generators. Operation of HVAC equipment (and any other stationary equipment) would be subject to the San Francisco Noise Ordinance and two noise limits specified in section 2909 of the police code. First, sections 2909 (a), (b), and (c) state that stationary sources are not permitted to result in noise levels that exceed the existing ambient (L90) noise level by more than 5 dBA on residential property, 8 dBA on commercial and industrial property, and 10 dBA on public property. Second, section 2909(d) states that in order to prevent sleep disturbance, no fixed noise source may cause the noise level measured inside any sleeping or living room in a dwelling unit on residential property to exceed 45 dBA between 10 p.m. and 7 a.m. or 55 dBA between 7 a.m. and 10 p.m. with windows open, except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

Although emergency generators would be exempt from noise limits specified in sections 2909(a) and (b),³⁴ this analysis uses these ordinance limits to determine if this noise increase is a significant impact under CEQA. Potential noise increases at the closest existing offsite noise-sensitive receptors and future onsite sensitive receptors from operation of HVAC systems and emergency generators is presented in **Table 4.F-13, Estimated Stationary Equipment Operational Noise Levels at Closest Sensitive Receptors**, and these levels are compared to the "Ambient + 5 dBA"³⁵ and 45-dBA interior³⁶ standards at the closest residential receptors.

The proposed project would result in installation of new mechanical equipment, such as HVAC systems, which would produce operational noise. Depending on size, noise from HVAC equipment could generate noise levels of up to 75 dBA (Leq or L90³⁷) at 30 feet. The closest existing offsite

³⁴ City and County of San Francisco, *San Francisco Police Code, Article 29: Regulation of Noise Guidelines for Noise Control Ordinance Monitoring and Enforcement, December 2014 Guidance* (Supersedes All Previous Guidance), December 2014. Available online at <https://www.sfdph.org/dph/files/EHSdocs/ehsNoise/GuidelinesEnforcement.pdf>, accessed August 15, 2018.

³⁵ Although the ordinance limit is 8 dBA at the property plane for commercial/industrial properties, the impact analysis applies the Ambient + 5 dBA threshold to all proposed uses for purposes of analysis and capturing all potential noise impacts. However, the mitigation measure specifies both the 5-dBA for residential properties and 8-dBA standard for commercial/industrial properties, consistent with section 2909 of the police code.

³⁶ The 45-dBA nighttime interior limit is equivalent to an exterior limit of 60 dBA with the windows open because it assumes a 15-dBA reduction is achieved with the windows open. Open windows are assumed in this analysis because these are permanent noise sources, whereas closed windows are assumed (with a 25-dBA reduction) for construction noise because it is temporary.

³⁷ Because these noise sources produce a constant noise level when operating (as opposed to variable noise levels), the Leq noise level for this type of equipment is also considered to be equivalent to L90.

TABLE 4.F-13
ESTIMATED STATIONARY EQUIPMENT OPERATIONAL NOISE LEVELS AT CLOSEST SENSITIVE RECEPTORS

Project Stationary Source and Closest Receptors	Reference Noise Level (Leq/L90) in dBA at 50 Feet	Minimum Distance to Closest Receptor (feet)	Distance Adjustment (dBA)	Adjusted Noise Level (Leq) at Receptor (dBA)	Ambient Noise Level at Closest Property Line ^a	Ambient + 5 dBA Standard at Closest Property Line	Is Ambient + 5 dBA Standard Exceeded?	Is 45-dBA Interior / 60-dBA Exterior Nighttime Ordinance Standard Exceeded? ^b
Closest Existing Offsite Sensitive Receptor: Existing Residential Receptors located at 2502-2660 Third Street^d								
HVAC Equipment	71 ^c	410 ^d	-18	53	48	53	No	No
Emergency Generator	71 ^c	630 ^e	-22	49	48	53	No	No
Closest Future Onsite Sensitive Receptors: Phase 1 Residents/Hotel Occupants & Possible Childcare Users								
HVAC Equipment	71 ^c	809	-4	67	45	50	Yes	Yes
Emergency Generator	71 ^c	809	-4	67	45	50	Yes	Yes
Closest Planned Offsite Sensitive Receptor: Pier 70 Residential Receptors on Pier 70 Parcels F/G and H1/H2								
HVAC Equipment	71 ^c	45 ^f	1	72	45	50	Yes	Yes
Emergency Generator	71 ^c	45 ^f	1	72	45	50	Yes	Yes

NOTES: dBA = A-weighted decibel; numbers in **bold** exceed at least one of the specified standards.

- a Section 2901 (a) states that the "ambient" be no less than 45 dBA. Noise measurements indicate that the existing ambient (Leq) noise levels averaged 43 dBA over most of the site (LT-2 through LT-6; see Appendix D, Summary of Long-term Noise Measurements). The minimum ordinance limit of 45 dBA + 5 dBA or 50 dBA at residential-zoned properties is applied in this impact because application of the lower residential standard provides for the most conservative analysis. The slightly higher noise level of 48 dBA (LT-1, adjacent to existing PG&E Switchyards and Illinois Street) was applied at the western property line.
- b The nighttime interior noise limit of 45 dBA between 10:00 p.m. and 7:00 a.m. is based on the noise limits specified in Section 2909(d) of the Noise Ordinance, and applied in this analysis as the standard. This interior limit is equivalent to a nighttime exterior limit of 60 dBA with the windows open because it assumes a 15-dBA reduction is achieved with the windows open. Open windows are assumed for operational noise because these are permanent noise sources, whereas closed windows are assumed (with a 25-dBA reduction) for construction noise because it is temporary. Therefore, a 60-dBA exterior noise level attenuates to a 45-dBA interior noise level when open windows provide a 15-dBA noise reduction.
- c Meyers Engineers, Letter to Perkins + Will, January 16, 2018. The project sponsor is proposing to use generators that would not exceed 75 dBA (Leq) at 30 feet, which is equivalent to 71 dBA at 50 feet. The same conversion was made for HVAC equipment, which could be as high as 75 dBA (Leq) at 30 feet. Because these noise sources produce a constant noise level when operating (as opposed to variable noise levels), these noise levels are also considered to be equivalent to L90.
- d The distance between HVAC equipment and the closest existing offsite receptor would be 380 feet (between the closest residential receptor on the west side of Third Street and Block 13) plus a 30-foot setback of the equipment from the project property line (380 feet plus 30 feet is 410 feet).
- e The distance between the emergency generator and the closest existing offsite receptor would be 630 feet (between the closest residential receptor on the west side of Third Street and Block 5) plus a 30-foot setback of the equipment from the project property line (600 feet plus 30 feet is 630 feet).
- f Since emergency standby diesel generators are proposed to be located at least 30 feet from property lines and Pier 70 buildings could be located as close as 15 feet from the northern property line, the minimum setback distance between the generators and the closest Pier 70 receptors would be 45 feet (30 feet plus 15 feet).
- g This setback distance represents the minimum distance between a future project sensitive receptor (resident, hotel occupant, or childcare user) and an adjacent block by including the minimum 50-foot roadway right-of-way separating some project blocks (even though some road rights-of-way are 80 feet wide) plus a 30-foot setback of the equipment from the project block property line (50 feet plus 30 feet).

SOURCE: Orion Environmental Associates, 2018

receptors are located 410 feet to the west of Block 13, while the closest future onsite receptors could be as close as 80 feet from these stationary noise sources. As indicated in Table 4.F-13, noise increases from project-related HVAC equipment on each block would not exceed the “Ambient + 5 dBA” standard at the closest existing receptors to the west, nor would it exceed the 45-dBA interior/60-dBA exterior noise limits at these receptors. However, these noise increases could exceed both of these standards at future onsite receptors, a significant impact.

Emergency generators would be required in at least 14 of the new buildings proposed to be constructed on the project site (all buildings except those on Blocks 4 and 13), plus one at the proposed wastewater pump station. The closest existing offsite sensitive receptors to the west are located 630 feet or more from these buildings (on Block 5), while the closest future onsite receptors could be located as close as 80 feet from an emergency generator. The emergency generators would be a periodic noise source since they would only be used during maintenance operations to ensure reliability and during a power failure. Operation of generators during a power failure or other emergency would be exempt from the restrictions of the City’s noise ordinance. Maintenance operation of emergency standby diesel generators would occur for approximately four hours per month (50 hours annually) for testing and such a short noise event would not substantially alter ambient noise levels.

Emergency standby diesel generators typically generate noise levels between 75 dBA and 85 dBA (Leq) at 50 feet and the project sponsor is proposing to use generators that would not exceed 75 dBA (Leq or L90³⁸) at 30 feet.³⁹ As indicated in Table 4.F-13, noise increases from the operation of proposed emergency generators would not exceed the “Ambient + 5 dBA” standard at the closest existing receptors to the west, nor would it exceed the 45-dBA interior / 60-dBA exterior noise limits at these receptors, which would be a *less-than-significant* impact on existing receptors. However, these generators could result in noise increases that exceed both of these standards at future onsite receptors, a significant impact.

With incorporation of noise attenuation measures into HVAC equipment and emergency generators (e.g., provision of sound enclosures/barriers, addition of roof parapets to block noise) and compliance with the 45-dBA interior/60-dBA exterior noise limits specified in **Mitigation Measure M-NO-5, Stationary Equipment Noise Controls**, stationary equipment noise would be reduced, and acceptable noise levels would be achieved at all future onsite sensitive receptors (residents, hotel occupants, and childcare users). With mitigated noise levels not exceeding the “Ambient + 5 dBA” and 45-dBA nighttime interior (with windows open) noise standards at the closest onsite sensitive receptors (consistent with section 2909(d)), potential noise impacts on future onsite receptors would be *less than significant with mitigation*.

³⁸ Because these noise sources produce a constant noise level when operating (as opposed to variable noise levels), the Leq noise level for this type of equipment is also considered to be equivalent to L90.

³⁹ Meyers Engineers, Letter to Perkins + Will, January 16, 2018. Emergency standby diesel generators would be located at grade and exhaust stacks would be 15 feet high.

Mitigation Measure M-NO-5: Stationary Equipment Noise Controls

For all stationary equipment on the project site, noise attenuation measures shall be incorporated into the design of fixed stationary noise sources to ensure that the noise levels meet section 2909 of the San Francisco Police Code. A qualified acoustical engineer or consultant shall verify the ambient noise level based on noise monitoring and shall design the stationary equipment to ensure that the following requirements of the noise ordinance are met:

- Fixed stationary equipment shall not exceed 5 dBA above the ambient noise level at the property plane at the closest residential uses (Blocks 1, 5 - 8, 13 and possibly Blocks 4, 9, 12, and 14, depending on the use ultimately developed) and 8 dBA on blocks where commercial/industrial uses are developed (Blocks 2, 3, 10, 11, and possibly Blocks 4, 12, and 14, depending on the use ultimately developed);
- Stationary equipment shall be designed to ensure that the interior noise levels at adjacent or nearby sensitive receptors (residential, hotel, and childcare receptors) do not exceed 45 dBA.

Noise attenuation measures could include installation of critical grade silencers, sound traps on radiator exhaust, provision of sound enclosures/barriers, addition of roof parapets to block noise, increasing setback distances from sensitive receptors, provision of intake louvers or louvered vent openings, location of vent openings away from adjacent residential uses, and restriction of generator testing to the daytime hours.

The project sponsor shall demonstrate to the satisfaction of the Environmental Review Officer (ERO) that noise attenuation measures have been incorporated into the design of all fixed stationary noise sources to meet these limits prior to approval of a building permit.

Significance after Mitigation: Less than Significant

Stationary Noise Impacts on Planned Offsite Receptors

Operation of the proposed project would increase ambient noise levels on the Pier 70 site's southern boundary, primarily through the use of onsite stationary equipment, such as HVAC systems and emergency generators. Potential noise increases at the closest planned offsite noise-sensitive receptor from operation of HVAC systems and emergency generators are presented in Table 4.F-13.

As indicated in Table 4.F-13, noise increases from project-related HVAC equipment and emergency diesel standby generators would have the potential to exceed the "Ambient + 5 dBA" and 45-dBA interior/60-dBA exterior standards at the closest planned offsite receptors. With incorporation of noise attenuation measures into HVAC equipment and emergency generators (e.g., provision of sound enclosures/barriers, addition of roof parapets to block noise) and compliance with the "Ambient + 5 dBA" and 45-dBA interior/60-dBA exterior noise standards specified in **Mitigation Measure M-NO-5, Stationary Equipment Noise Controls**, HVAC and emergency generator noise would be reduced and acceptable noise levels would be achieved at all planned offsite sensitive receptors. With mitigated noise levels not exceeding the "Ambient + 5 dBA" and 45-dBA nighttime interior (with windows open) noise standards (consistent with

section 2909(d)), potential noise impacts on planned offsite receptors would be reduced to *less than significant with mitigation*.

Mitigation Measure M-NO-5: Stationary Equipment Noise Controls (see above)

Significance after Mitigation: Less than Significant

Impact NO-6: Events that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels. (*Less than Significant*)

Development of open space uses in proximity to future onsite sensitive receptors (residents, hotel occupants, and childcare users) would increase the potential for noise conflicts or sleep disturbance. Sources of noise typically associated with non-residential uses that can cause conflicts or sleep disturbance at adjacent noise-sensitive uses include playing of amplified sound at outdoor events and noisy activities in open space areas. The potential for noise conflicts or sleep disturbance would be greatest where amplified sound systems are used and events occur during the more noise-sensitive late evening/nighttime hours.

The significance criterion for evaluating whether events would result in a significant impact is based on a perceived doubling of loudness, which is generally equivalent to a 10-dBA increase above ambient noise levels, and the potential for sleep disturbance, which is evaluated based on the potential for event noise between the hours of 10 p.m. and 7 a.m. to exceed 45 dBA at residential interior locations. In addition to these quantitative standards, the evaluation also considers the frequency of events.

Events could include movie nights in the park, farmers markets, fairs, performances, food trucks, block parties, and weddings. Noise levels associated with farmers markets, food trucks, or block parties are not expected to exceed the above significance criteria (doubling in the loudness or cause sleep disturbance), a *less-than-significant* noise impact.

However, other events would be allowed in all open space areas. Key components of the open space program for the proposed project include the Waterfront Park, Potrero Point Park, Louisiana Paseo, and Power Station Park (see Figure 2-8 in Chapter 2, Project Description, p. 2-23). The Waterfront Park would extend along the project site's shoreline, providing spill-out spaces for retail, quiet spaces, waterfront viewing terraces, and a waterfront playground. Louisiana Paseo would be a plaza-type open space that would extend north-south through the interior of the project site between Blocks 6 and 7, Blocks 6 and 10, and Blocks 10 and 11. It would have spill-out space for outdoor dining in these open space areas. Power Station Park would extend east-west through the interior of the project site and connect the Louisiana Paseo to Waterfront Park, providing flexible lawn spaces suitable to accommodate two soccer fields and other active and passive recreational opportunities. These active/passive recreational activities (including soccer fields and rooftop recreational facilities) would not involve large crowds and would be subject to noise ordinance limits. Therefore, noise generated by these recreational uses is not expected to exceed the above significance criteria (doubling in the loudness or cause sleep disturbance), which would be a *less-than-significant* noise impact.

In general, events such as weddings can generate noise levels of 80 to 100 dBA when dance music is played depending on proximity to the speakers, while a loud orchestra or rock band can generate noise levels of 90 to 115 dBA (front rows of audience).^{40,41} With future onsite ambient noise levels expected to be in the range of 60 to 65 dBA (L_{dn}), performances, fairs, weddings, or any events involving amplified sound generating noise levels of 80 to 115 dBA would have the potential to cause a 10-dBA noise increase (generally perceived as a doubling of loudness) above future onsite ambient noise levels of 60 to 65 dBA (L_{dn}). However, compliance with noise limits and permit requirements, as specified in sections 49 and 1060.1 of the police code, would ensure that noise impacts from amplified sound generated at such events would minimize potential noise disturbance effects for the following reasons:

- Section 49 prohibits the operation of amplified sound equipment between the hours of 10 p.m. and 7 a.m. so as to be plainly audible at a distance of 50 feet from the property line of the property where the sound is generated.
- Section 1060.1 requires a permit for limited live performance locales (live performances presented in an area of 200 square feet or less), one-time events (such as a concert, parade, fair, festival, athletic event, or block party), and one-time outdoor amplified sound events (an outdoor gathering, occurrence or event at which no entertainment is furnished). The San Francisco Entertainment Commission is required to hold a public hearing as part of the permit review process.
- As part of the permit application process for limited live performance locales, section 1060.5.1 requires preparation of a plan for the business to operate, specifying information such as the days and hours of operation, number of patrons, the types or classes of live performances (in terms of the types of instruments, number of performers, and sound levels), specific description of the sound amplification system, and whether the business intends to project sound outside of any building or at an outdoor location. If amplified sound would occur outdoors, a statement certifying compliance with maximum noise levels established under the police and health codes, and whether the event would take place within 300 feet of a hospital, school, place of worship, courthouse, public library, or mortuary, would be required.
- Permits for one-time events (section 1060.29(a) and (g)) and one-time sound amplification events (section 1060.29.2(a) and (c)(2)) would limit events to no more than 12 days at the same premises within any 12-month period. If amplified sound equipment would be used in an outdoor area, a plan for the business to operate such outdoor equipment is required and must specify information such as the equipment location, days and hours of operation, specific description of the sound amplification system including the sound to be amplified (music or speech), a statement certifying compliance with maximum noise levels established under the police and health codes, and whether the event would take place within 300 feet of a hospital, school, place of worship, courthouse, public library, or mortuary.

⁴⁰ DJSPACEBAR Entertainment Services, *How loud is a decibel (dB)?*, http://www.djspacebar.com/Site_Popups/.html, accessed on August 15, 2018; Sound Advice Working Group, *Sound Advice Note 11, Pubs and Clubs, Amplified music played in nightclubs, bars, pubs and restaurants*, 2007, <http://www.soundadvice.info/thewholestory/san11.htm#>, accessed on August 3, 2018.

⁴¹ This allows comfortable conversation (not raised voices) at distances of six feet or less. (US Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, Appendix D, Table D-1, p. D-5 (p. 157 online), March 1974, <https://nepis.epa.gov/> (search for publication number 550974004), accessed on August 6, 2018.

Compliance with noise limits established under the San Francisco Police and Health codes (which limits residential interior noise levels to 45 dBA or less between 10 p.m. and 7 a.m.), time restrictions (i.e., amplified sound cannot be audible at 50 feet from the property line after 10 p.m.), and other permit requirements specified in sections 49 and 1060 of the police code would ensure that periodic and temporary noise increases from amplified sound associated with the various proposed events would be *less than significant*.

Mitigation: None required.

Impact NO-7: Proposed rooftop bars and restaurants that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels. (*Less than Significant*)

Development of rooftop bars and restaurants on any of the non-residential buildings in proximity to future onsite sensitive receptors (residents, hotel occupants, and childcare users) would increase the potential for noise conflicts or sleep disturbance, particularly if they include amplified sound systems that are used during the more noise-sensitive late evening/nighttime hours.

The significance criterion for evaluating whether amplified sound would result in a significant impact is based on a perceived doubling of loudness, which is generally equivalent to a 10-dBA increase above ambient noise levels, and the potential for sleep disturbance, which is evaluated based on the potential for event noise between the hours of 10 p.m. and 7 a.m. to exceed 45 dBA at residential interior locations.

Background amplified music in bars or restaurants is typically set below conversation levels (60 to 70 dBA) so that patrons are able to converse. Such noise levels would not exceed expected future onsite ambient noise levels (60 to 65 dBA, L_{dn}) at the closest residential, hotel or childcare receptors, which could be located as close as across the street (a minimum of 80 feet away). These commercial uses could operate after 10 p.m., but are required to comply with various noise ordinance limits. Section 49 of the San Francisco Police Code would prohibit the operation of amplified sound equipment between the hours of 10 p.m. and 7 a.m. so as to be plainly audible at a distance of 50 feet from the property line of the property where the sound is generated. Therefore, operation of these commercial uses in compliance with this noise limit would ensure that amplified music would not be audible at any nearby residential or hotel receptors during the nighttime hours and would not cause residential interior noise levels to exceed 45 dBA. In addition, residential and hotel uses would be subject to Title 24 noise insulation standards and compliance with these standards would reduce the transmission of outdoor noise to indoor environments, which would minimize potential noise impacts on residential receptors and hotel occupants, (including occupants of hotel rooms located directly below a rooftop bar or restaurant). Therefore, periodic and temporary noise increases from amplified music associated with rooftop bars or restaurants would be *less than significant*.

Mitigation: None required.

Impact NO-8: Project traffic would result in a substantial permanent increase in ambient noise levels. (*Significant and Unavoidable with Mitigation*)

Project Level Traffic Noise Impacts

Operation of the proposed project would result in permanent increases in ambient noise levels along roadways in the project vicinity, primarily through project-related increases in traffic. As explained above under “Methodology for Analysis of Operational Impacts,” p. 4.F-23 the following thresholds are applied to determine the significance of project-related traffic noise increases: (1) an increase of more than 5 dBA is considered a significant traffic noise increase; and (2) in places where the existing or resulting noise environment is “Conditionally Acceptable,” “Conditionally Unacceptable,” or “Unacceptable” for noise-sensitive uses based the San Francisco Land Use Compatibility Chart for Community Noise (Figure 4.F-4, p. 4.F-16 above), any noise increase greater than 3 dBA is considered a significant traffic noise increase.

Noise modeling was completed to estimate existing (baseline) and future (with the proposed project) traffic noise levels along 75 street segments in the project area based on traffic volumes presented in Section 4.E, Transportation and Circulation. Noise modeling results are presented in Table 4.F-14, **Summary of Existing and Project Traffic Noise Levels**.

Traffic Noise Impacts on Existing and Planned Offsite Receptors

Table 4.F-14 indicates that project implementation would result in traffic noise increases ranging from 0 to 18.8 dBA on local roadways near the project site. Of the 75 roadway segments examined, traffic noise increases would not exceed the above thresholds except on the following seven street segments, resulting in significant impacts at these locations:

- Illinois Street between 20th and 22nd Streets (adjacent to Pier 70 site)
- Illinois Street between 22nd Street and Humboldt Street (adjacent to project site)
- 22nd Street east of Illinois Street (at the project site and Pier 70 boundaries)
- 22nd Street between Third and Illinois streets (adjacent to the project site)
- Humboldt Street east of Illinois Street (on the project site)
- 23rd Street east of Illinois Street (at southern project boundary)
- 23rd Street between Third and Illinois streets (adjacent to the project site)

Three of these street segments are located on the project site while the remaining four are located adjacent to the project site or Pier 70 site. The greatest noise increases (5.5 to 18.8 dBA) would occur on streets providing access to the project site: Illinois Street, 22nd Street, Humboldt Street, and 23rd Street. Substantial noise increases (4 to 5 dBA) would occur on two segments adjacent to the project site or Pier 70 site and on two more distant cross-street segments between Third and Illinois streets: 19th and 20th streets. Noise increases on the remaining 68 street segments analyzed would be less than 3 dBA.

TABLE 4.F-14
SUMMARY OF EXISTING AND PROJECT TRAFFIC NOISE LEVELS

Street	Segment or Cross-Street	Ldn/CNEL Noise Level (dBA) at 50 Feet from Roadway Centerline		
		Existing	With Proposed Project	Project Change
Illinois Street	North of 20th	59.3	61.7	2.4
	20th to 22nd	59.2	63.1	3.9
	22nd to Humboldt	59.2	63.5	4.3
	Humboldt to 23rd	59.2	63.7	4.5 ^a
	23rd to 24th	59.0	62.7	3.8 ^a
	24th to 25th	58.8	62.6	3.8 ^a
	25th to Cesar Chavez	58.6	61.9	3.3 ^a
	South of Cesar Chavez	59.3	59.3	0.0
Third Street	North of 16th	67.0	67.7	0.7
	16th to 18th	66.5	67.8	1.2
	18th to 19th	65.7	67.5	1.8
	19th to 20th	65.7	67.3	1.6
	20th to 22nd	65.9	67.0	1.1
	22nd to 23rd	66.0	67.4	1.4
	23rd to 24th	66.1	67.9	1.9
	24th to 25th	66.2	68.0	1.8
	25th to 26th	66.2	67.6	1.4
	26th to Cesar Chavez	65.9	67.5	1.5
	South of Cesar Chavez	66.2	66.4	0.1
Indiana Street	North of 22nd	54.5	55.0	0.5
	22nd to 23 rd	56.9	57.5	0.6
	23rd to 25th	57.3	58.1	0.8
	South of 25th	57.4	57.4	0.0
Pennsylvania Avenue	North of 22nd	58.5	58.9	0.3
	22nd to 23rd	60.6	61.4	0.9
	23rd to 25th	62.6	63.8	1.2
	25th to Cesar Chavez	64.3	65.4	1.1
	South of Cesar Chavez	62.9	64.5	1.6
Tennessee Street	North of 18th	52.0	53.0	1.1
	18th to 19th	55.0	55.6	0.6
	19th to 20th	55.1	55.6	0.6
	20th to 22nd	54.0	54.6	0.7
	South of 22nd	50.3	50.3	0.0
Minnesota Street	North of 18th	54.2	54.3	0.2
	18th to 22nd	56.0	56.2	0.1
	South of 22nd	49.3	49.3	0.0

TABLE 4.F-14 (CONTINUED)
SUMMARY OF EXISTING AND PROJECT TRAFFIC NOISE LEVELS

Street	Segment or Cross-Street	Ldn/CNEL Noise Level (dBA) at 50 Feet from Roadway Centerline		
		Existing	With Proposed Project	Project Change
16th Street	East of Third	59.3	59.9	0.6
	West of Third	64.9	65.7	0.8
18th Street	East of Third	55.4	57.4	2.0
	Third to Tennessee	58.2	60.4	2.2
	Tennessee to Minnesota	59.2	60.2	1.0
	West of Minnesota	61.0	61.0	0.0
19th Street	East of Third	48.8	53.8	5.0 ^a
	Third to Tennessee	50.8	50.8	0.0
	West of Tennessee	50.0	50.0	0.0
20th Street	East of Illinois	49.5	49.5	0.0
	Illinois to Third	56.3	59.9	3.6
	Third to Tennessee	57.7	58.4	0.6
	West of Tennessee	58.1	58.4	0.2
22nd Street	East of Illinois	51.2	62.7	11.5
	Illinois to Third	55.9	61.4	5.5
	Third to Indiana	57.0	59.2	2.2
	Indiana to Pennsylvania	57.2	59.2	2.0
	Pennsylvania to Tennessee	57.5	59.4	1.9
	Tennessee to Minnesota	57.1	59.3	2.2
	West of Minnesota	57.0	58.0	1.0
Humboldt Street	East of Illinois	41.5	60.4	18.8
23rd Street	East of Illinois	53.9	64.8	10.9
	Illinois to Third	55.0	64.2	9.1
	Third to Indiana	57.2	60.1	2.9
	Indiana to Pennsylvania	57.6	60.1	2.5
	West of Pennsylvania	47.1	47.1	0.0
24th Street	East of Illinois	46.1	46.1	0.0
	Illinois to Third	47.6	47.6	0.0
	West of Third	50.7	50.7	0.0
25th Street	East of Illinois	49.7	49.7	0.0
	Illinois to Third	52.9	55.0	2.1
	Third to Indiana	60.3	62.2	2.0
	Indiana to Pennsylvania	60.1	61.6	1.5
	West of Pennsylvania	58.8	58.8	0.0

TABLE 4.F-14 (CONTINUED)
SUMMARY OF EXISTING AND PROJECT TRAFFIC NOISE LEVELS

Street	Segment or Cross-Street	Ldn/CNEL Noise Level (dBA) at 50 Feet from Roadway Centerline		
		Existing	With Proposed Project	Project Change
26th Street	East of Third	33.1	33.1	0.0
	West of Third	49.1	49.1	0.0
Cesar Chavez Boulevard	East of Illinois	56.7	56.7	0.0
	Illinois to Third	61.4	64.0	2.7
	Third to Pennsylvania	66.6	68.6	2.0
	West of Pennsylvania	66.2	67.2	1.0

NOTES:

Noise levels may vary by up to one-tenth of a decibel due to rounding. Noise levels in bold exceed either of the following threshold increases when compared to baseline noise levels: (1) an increase of more than 5 dBA, or (2) an increase of more than 3 dBA in areas where the existing or resulting noise increase exceeds acceptable (or satisfactory) levels for the affected use (see Figure 4.F-4, above).

Change in noise levels in bold indicate a significant noise increase and noise levels in bold indicate a significant impact on future onsite residential, childcare, and hotel uses.

Traffic noise modeling was completed using the Federal Highway Administration RD-77-108 model. Assumptions include: speed limit on all streets is 25 mph except on 16th, Third, and Cesar Chavez, where the posted speed limit is 30 mph; vehicle mix is 98% Autos/1.5% Medium Trucks/0.5% Heavy Trucks; day-night split: 76% day (7 a.m. to 7 p.m.), 12% evening (7 p.m. to 10 p.m.), and 12% night (10 p.m. to 7 a.m.). Background noise levels due to traffic on other roadways (such as cross-streets or nearby freeways) and non-traffic-related activities are not reflected in these noise levels. Noise levels in this table are intended to indicate incremental noise changes due to project implementation. Since they do not include background noise levels, they may not necessarily reflect actual noise levels along these roadway segments if there are other nearby sources of noise. Changes between scenarios analyzed may not show change due to rounding in the noise modeling results.

Modeled noise levels in this table reflect traffic diversions that could result from project-related impacts on Muni (see Impact TR-5 in Section 4.E, Transportation and Circulation for more details). In addition, the project would include a shuttle service program as part of its proposed TDM program to provide access to the BART 16th Street station and Caltrain 22nd Street station. The future shuttle bus schedule is not known at this time, but it is anticipated that any increase in noise levels due to shuttle trips would be relatively minor and these trips have been adequately accounted for in the modeled traffic noise analysis above.

- ^a Although this noise increase exceeds 3 dBA, it is not determined to be significant because existing or future noise levels are Acceptable to existing adjacent industrial/commercial uses.

SOURCE: Orion Environmental Associates, 2018

Traffic generated by the proposed project would result in a substantial permanent increase in ambient noise levels in the project vicinity, at times resulting in increases of up to 18.8 dBA, a significant noise impact. Implementation of vehicle trip reduction measures, as required in **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay**, would reduce project-related traffic noise levels. However, since the effectiveness of this mitigation measure and the resulting level of traffic noise reduction is unknown, traffic noise increases along these roadway segments are considered to be *significant and unavoidable with mitigation*. There are no other feasible measures that could further reduce project-related vehicle trips and consequent traffic noise.

Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Chapter 4, Section 4E, Transportation and Circulation, Impact TR-5)

Significance after Mitigation: Significant and Unavoidable. With traffic noise increases on four of the street segments of more than 9 dBA, these noise increases would likely continue to be significant even with additional vehicle trip reduction measures required under Mitigation Measure M-TR-5. There are no other feasible measures that could further reduce noise generated by project-related vehicle trips.

Traffic Noise Impacts on Future Onsite Receptors

Based on the San Francisco Land Use Compatibility Chart for Community Noise (Figure 4.F-4, p. 4.F-16), noise levels up to 60 dBA (Ldn) are considered satisfactory (Acceptable) for residential, hotel, and childcare⁴² uses, and no special noise insulation measures are required; between 60 dBA and 70 dBA (Ldn), noise levels are considered Conditionally Acceptable for residential and childcare uses, while noise levels between 60 dBA and 80 dBA are considered Conditionally Acceptable for hotel uses.

As indicated in Table 4.F-14, future with-project traffic noise levels along the sections of 22nd, Humboldt, and 23rd streets east of Illinois Street and along the section of Illinois Street adjacent to the project site are considered to be Conditionally Acceptable for residential, childcare, and hotel uses. Since all project blocks have frontage along one or more of these streets, these noise-sensitive uses could be exposed to Conditionally Acceptable noise levels in the future, a significant impact. However, with the required incorporation of noise attenuation measures, as specified in **Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses**, this impact would be *less than significant with mitigation*. This mitigation measure would ensure that noise attenuation features will achieve acceptable interior noise levels at noise-sensitive receptor locations based on future (existing plus project and cumulative) traffic noise levels.

Mitigation Measure M-NO-8: Design of Future Noise-Sensitive Uses

Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 60 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses.

Significance after Mitigation: Less than Significant. Implementation of the above mitigation measure would ensure that the proposed project's increases in ambient noise levels on the project site would not significantly affect the proposed project's noise sensitive uses because interior noise environments would be designed to meet a 45-dBA interior noise limit.

⁴² The City's Land Use Compatibility Chart for Community Noise (Figure 4.F.3) does not specify acceptable noise levels for child care facilities, but the City considers childcare uses to be as noise-sensitive as residential uses.

Cumulative Impacts

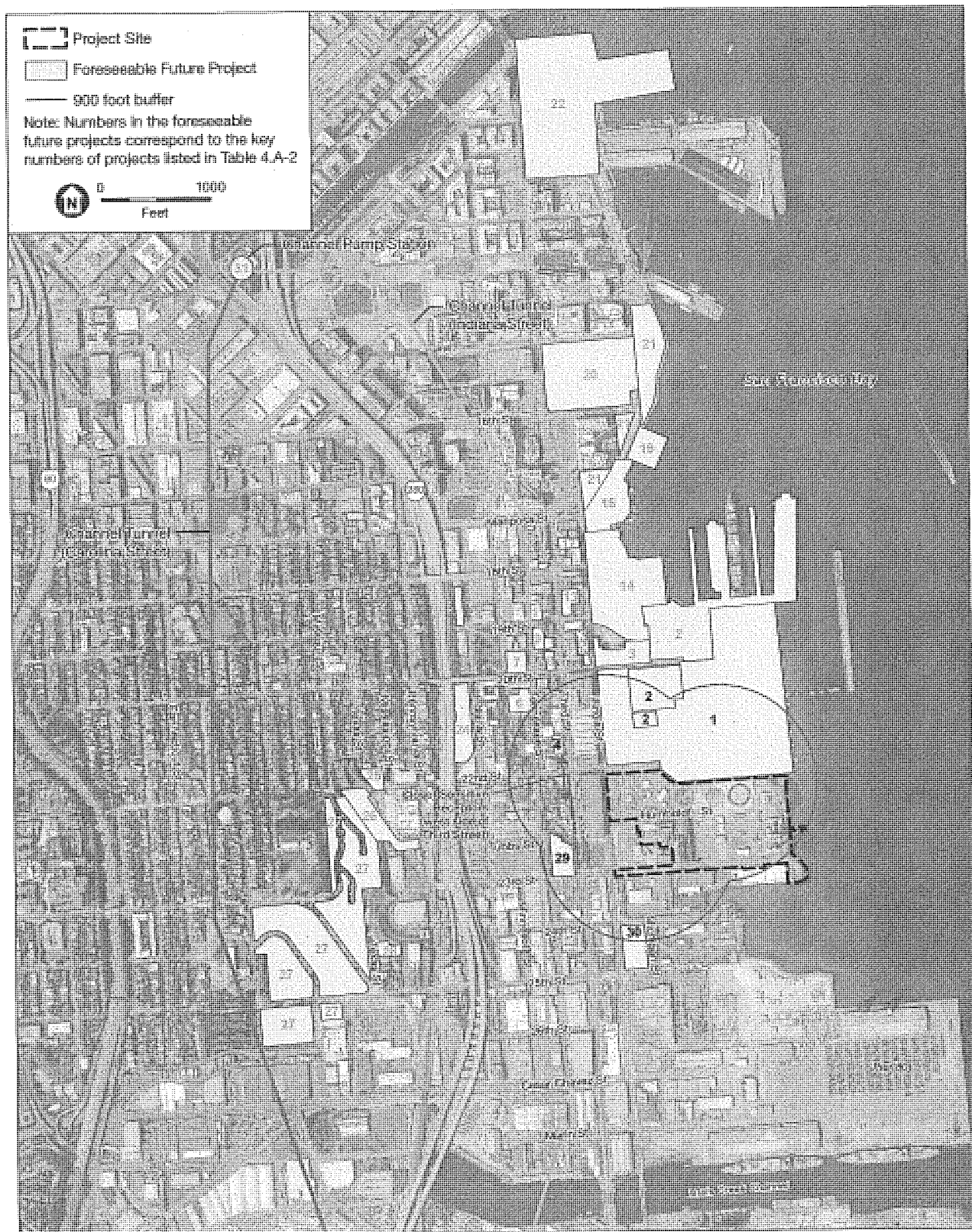
Construction

Impact C-NO-1: Cumulative construction of the proposed project combined with construction of other past, present, and reasonably foreseeable future projects would cause a substantial temporary or periodic increase in ambient noise levels. (*Significant and Unavoidable with Mitigation*)

In general, the potential for cumulative noise increases associated with project construction would result if there are any other projects located nearby that could be constructed at the same time and could affect the same sensitive receptors. The closest existing sensitive receptors to the project site are residential units located along the west side of Third Street approximately 380 feet west of the project site. The locations of these and other nearby sensitive receptors are generally indicated with orange shading in Figure 4.F-2, p. 4.F-10 above. A nursery school and church are located one block farther to the west, and construction noise levels would be lower at these two sensitive receptors because they are farther away. Based on the possible construction phasing of the proposed project and Pier 70 project (see Figure 4.F-5, p. 4.F-24), the closest future sensitive receptors that could be affected by cumulative construction noise increases from both of these projects would be Parcel G on the Pier 70 site.

As noted in the Setting section above under "Existing and Future/Planned Sensitive Receptors," the project's area of noise influence is 900 feet, and this 900-foot area is delineated on **Figure 4.F-6, Cumulative Projects – Noise**. As indicated in this figure, cumulative projects located within the 900-foot area are as follows:

- Pier 70 Mixed-Use District project (#1 on Figure 4.F-6) is located north of the project site and at least 380 feet from the closest existing sensitive receptors west of Third Street (described above). This cumulative analysis assumes that this project could generate construction-related noise levels and peak construction truck traffic levels similar to and at the same time as the proposed project. Given the proximity of this project, construction traffic would likely affect the same roads.
- SF Port Re-Tenancing of Pier 70 Shipyard (#2 on Figure 4.F-6) is also located immediately north of the Pier 70 site, approximately 570 feet north of the project site, and a minimum of about 700 feet northeast of the closest existing sensitive receptors located west of Third Street. This project is located farther from the closest existing sensitive receptors west of Third Street than the Pier 70 site and the project site. The extent and timing of construction of this project is unknown. This cumulative analysis assumes that the proposed Re-Tenancing project could generate construction-related noise levels associated with surface preparation and building construction activities. Potential construction-related truck traffic from this cumulative project could not be estimated.
- 1201-1225 Tennessee Street (#29 on Figure 4.F-6) is located south of the closest existing sensitive receptors located west of Third Street. Since this residential project has already been constructed, it is now a noise-sensitive residential receptor that is located approximately 380 feet from project-related construction activities, and therefore, would not contribute to cumulative construction-related noise increases.



SOURCE: Google Earth; ESA, 2017

Potrero Power Station Mixed-Use Development Project

Figure 4.F-6
Cumulative Projects - Noise

- 1499 Illinois Street/1401-1443 Illinois Street/700 25th Street commercial-office project (#30 on Figure 4.F-6) is located 650 feet southeast of the closest existing sensitive receptors located west of Third Street and 625 feet southwest of the project site. The extent of construction and timing of this project is unknown, and this cumulative analysis assumes that construction-related noise levels for this project would be associated with surface preparation and building construction activities. Construction-related truck traffic is expected to travel to/from the south and not contribute to cumulative noise increases at residential uses in the Dogpatch neighborhood to the north of this commercial-office project site.

Cumulative Noise Impacts on Existing Offsite Receptors

With respect to existing offsite receptors, the closest cumulative project where concurrent construction would have the potential to cumulatively increase noise levels at existing sensitive receptors would be the Pier 70 Mixed-Use District project, which is also located at least 380 feet from the closest existing sensitive receptors west of Third Street. When noise levels of 94 dBA (Leq) associated with impact pile driving and rock drilling on the Pier 70 site are combined with noise levels of 94 dBA (Leq) associated with impact pile driving and rock drilling on the project site, and are adjusted for distance, the two projects could generate a cumulative noise level of 75 dBA (Leq) at these closest sensitive receptors on the west side of Third Street. When construction-related noise levels of 83 dBA (Leq), from the SF Port Re-Tenancing of Pier 70 Shipyard project and 1499 Illinois Street/1401-1443 Illinois Street/700 25th Street commercial-office project, typically associated with surface preparation and foundation work, are adjusted for distance to the closest sensitive receptors located west of Third Street, cumulative construction noise would not measurably increase above 75 dBA (Leq) at these receptors. This cumulative noise level of 75 dBA (Leq) at the closest sensitive receptors would not exceed the “Ambient + 10 dBA” limit of 78 dBA (Leq) during the daytime hours.⁴³ Furthermore, this cumulative construction noise level would be below the Federal Transit Administration’s limit of 90 dBA at sensitive receptor locations. Therefore, potential cumulative noise increases would be *less than significant* at existing offsite sensitive receptor locations. In addition, industrial buildings located between Third and Illinois streets would attenuate construction noise generated at the Pier 70 site and most of the project site for the closest existing sensitive receptors located on the west side of Third Street, reducing the cumulative construction noise level and further minimizing the potential for cumulative noise impacts at these receptors.

Cumulative Noise Impacts on Future Planned Offsite and Proposed Onsite Receptors

With respect to future onsite and offsite receptors, concurrent construction of the proposed project and Pier 70 project could cumulatively increase noise levels at future sensitive receptors on the project site as well as on the Pier 70 site, particularly near where the project sites abut one another (see Figure 4.F-3, Future Planned Noise-Sensitive Receptors at the Pier 70 Site and Planned Construction Dates, p. 4.F-11 above). In general, the proposed project’s construction phases along the northern project boundary would be completed after the Pier 70 project’s construction phases along this boundary, which would minimize the potential for cumulative construction-related noise impacts on future onsite sensitive receptors located along this boundary. However, if

⁴³ The “Ambient + 10 dBA” limit is based on the measured daytime Leq of 68 dBA at ST-5, which was located adjacent to 2660 Third Street (see Table 4.F-2).

residential receptors occupy the Pier 70 project's Parcel G by 2024, they would be subject to cumulative noise increases from concurrent construction activities on the Pier 70 project's Parcel H1 (2027-2029) and the proposed project's adjacent Block 3 (2025-2028) for possibly up to two years (2027 and 2028). Pier 70 residential receptors located at the east end of Parcel G could be subject to cumulative noise increases of up to 93 dBA if impact pile driving and controlled rock fragmentation occurred on the west end of Parcel H1 and Block 3 at the same time, which would exceed the Federal Transit Administration's limit of 90 dBA and "Ambient + 10 dBA" limit of 60 dBA (Leq).⁴⁴ The project's contribution of up to 89 dBA from such activities would contribute considerably to this significant cumulative impact.

Implementation of noise controls during all construction phases as specified in **Mitigation Measure M-NO-1, Construction Noise Control Measures**, would reduce the project's contribution to this cumulative impact on the closest Pier 70 receptors on Parcel G, assuming they are present when construction on Block 3 occurs. However, the feasibility of quieter, alternative pile driving methods cannot be determined at this time, and the potential would still exist that cumulative noise levels from simultaneous operation of the noisiest types of construction equipment on both Parcel H1 and Block 3 could still exceed the Federal Transit Administration's standard of 90 dBA and the "Ambient + 10 dBA" standard for the duration of the project's construction activities. Given this uncertainty, this cumulative impact would be *significant and unavoidable with mitigation*.

Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)

Significance after Mitigation: Significant and Unavoidable

Cumulative Vibration Impacts on Existing and Future Receptors

In order to evaluate whether vibration from construction of the proposed project in combination with vibration from construction of other nearby projects could result in significant cumulative vibration impacts on the closest existing and future sensitive receptors, threshold distances can be derived from vibration levels listed in Table 4.F-12. As indicated in this table, vibration from pile driving could exceed the 0.5 in/sec PPV standard for cosmetic damage at a distance of 100 feet from the vibration source and such levels could adversely affect buildings, particularly historic buildings.

Operation of heavy equipment during nighttime hours within approximately 50 feet of a receptor could exceed the 0.1 in/sec PPV sleep disturbance standard.⁴⁵ Of the above-listed cumulative projects, all would be located well beyond these threshold distances except for the Pier 70 Mixed-Use District project. Since there would be no nighttime construction proposed as part of the Pier 70 project, there would be no potential for cumulative sleep disturbance impacts on any future planned receptors on the Pier 70 site (no cumulative impact).

⁴⁴ The "Ambient + 10 dBA" limit is based on the measured daytime Leq of 50 dBA at ST-4, which was located at the northern site boundary on the north side of proposed Block 3 (see Table 4.F-2).

⁴⁵ No pile driving or controlled rock fragmentation would occur at the project site or any cumulative projects during the nighttime hours.

There would be a potential for significant cumulative construction-related vibration impacts if pile driving occurred simultaneously on both the project site and the Pier 70 site within 100 feet of a building. There are no existing historic structures located within this proximity. The following structures could be located within 100 feet of both project-related and Pier 70-related pile driving activities: new buildings on project Blocks 1 – 4, 13, and 14 and new buildings on Pier 70 Parcels HDY 1/2, F, G, and H1/H2. As described above in Impact NO-2, pile driving associated with deep or intermediate foundations would occur on Blocks 3 and 4, and blasting or controlled rock fragmentation could also be required if Greywacke bedrock is encountered during excavation of sub-grade parking levels at any of these blocks. A significant cumulative impact would occur if concurrent construction activities at the Pier 70 parcels involved pile driving or other vibration-inducing activities, and the project's contribution to this cumulative impact would be considerable (i.e., significant). Implementation of **Mitigation Measure M-NO-4a, Vibration Control Measures During Controlled Blasting and Pile Driving**, would reduce the project's contribution to this cumulative impact to less than cumulatively considerable. This measure would require vibration controls sufficient to ensure that vibration levels would not exceed the 0.5 in/sec PPV vibration limit, and all potential vibration sources would need to be considered when determining the need for vibration controls. Therefore, this cumulative vibration impact from simultaneous construction of the proposed project and the Pier 70 project would be *less than significant with mitigation*.

Mitigation Measure M-NO-4a: Vibration Control Measures During Controlled Blasting and Pile Driving (see Impact NO-4, above)

Cumulative Increases in Offsite Haul Truck Traffic

Construction activities associated with the proposed project in combination with construction of the Pier 70 Mixed-Use District project could result in temporary cumulative increases in construction-related traffic (including truck traffic) on construction routes such as Third Street, Illinois Street, 25th Street, and Cesar Chavez Street. These are the streets that provide access to/from the I-280 and SR 101 freeways. The project's 15-year construction duration from 2020 through 2034 would overlap with Pier 70 project's 11-year construction duration from 2018 through 2029, resulting in an increased potential for cumulative temporary truck traffic noise increases along local access roads during the nine to ten years of construction overlap. Since peak truck traffic increases only occur for short periods during certain construction activities, the likelihood that the highest truck traffic increases from both projects would occur at the same time would be low given that highest truck volume of up to 200 trips per day would occur for only four months of the 15-year construction duration and that fewer than 100 truck trips per day would occur over 90 percent of the construction duration. However, if the highest levels of truck traffic from these two projects were to occur simultaneously, and truck volumes from both projects were approximately twice the highest level estimated for the project (2.4 dBA increase on Illinois Street or 0.8 dBA increase on Third Street, see Impact NO-3), a cumulative increase of 4.0 dBA on Illinois Street and 1.4 dBA increase on Third Street would result. Such increases would not exceed the 3-dBA or 5-dBA noise increase standards for traffic noise on Third Street or the 5-dBA standard on Illinois Street, but could exceed the 3-dBA standard at existing and future residential receptors located on Illinois Street north of the project site if all construction trucks associated with both projects traveled north on Illinois Street (see Approach to Analysis, Methodology for Analysis of Operational Impacts above for more discussion of these standards).

Given that: (1) it is unlikely that peak truck traffic increases from both projects would overlap; (2) it is unlikely that all these trucks would travel north on Illinois Street; (3) any peak overlapping cumulative increases would occur for a limited time (a maximum of four months); and (4) Conditionally Acceptable noise levels on Illinois Street (north of Humboldt Street) are only slightly above the 60-dBA level of acceptability for residential uses, cumulative haul truck traffic noise increases from both projects is considered to be *less than significant*.

Nevertheless, these less-than-significant cumulative noise increases would still increase ambient noise levels along truck routes as a result of these two projects' overlapping construction schedules and could result in disturbance of residents in the Dogpatch neighborhood. Therefore, implementation of **Improvement Measure I-NO-A**, which would encourage project-related construction trucks to use truck routes that avoid streets where there are residential uses to the extent feasible, would help reduce the effects of the project's construction-related truck traffic noise increases. There are existing residential receptors on Third Street between 22nd and 23rd streets and on Illinois Street north of 20th Street, and residential development is planned on the Pier 70 site along Illinois Street between 20th and 22nd streets. Since there are no existing or planned residential uses along Illinois Street to the south (between 23rd Street and Cesar Chavez Street), Cesar Chavez Street, and 25th Street (between Illinois and 25th streets) between Third Street and the I-280 and SR 101 freeways, the project's construction-related trucks should maximize use of this route for regional freeway access. This improvement measure could be incorporated into and implemented as part of the **Improvement Measure I-TR-A**, in Section 4.E, Transportation and Circulation.

Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)

Improvement Measure I-NO-A: Avoidance of Residential Streets (see Impact NO-3 above)

Improvement Measure I-TR-A, Construction Management Plan and Public Updates (see Section 4.E, Transportation and Circulation, Impact TR-1)

Significance after Mitigation: Significant and Unavoidable

Operation

Impact C-NO-2: Cumulative traffic increases would cause a substantial permanent increase in ambient noise levels in the project vicinity. (*Significant and Unavoidable with Mitigation*)

As indicated in **Table 4.F-15, Summary of Cumulative Traffic Noise Levels**, traffic noise increases related to cumulative development (including the proposed project and the Pier 70 Mixed-Use District project) in the project area would result in cumulative traffic noise increases of up to 18.3 dBA (L_{dn}) when compared to existing traffic noise levels on local street segments. Cumulative traffic noise increases along the following 28 street segments would exceed the 3-dBA

or 5-dBA noise increase significance standards for traffic noise (see Approach to Analysis, Methodology for Analysis of Operational Impacts above for more discussion of these standards):

- Illinois Street (7 segments from north of 20th Street to Cesar Chavez)
- Third Street (3 segments from 16th to 23rd streets)
- Indiana Street (2 segments from 23rd to south of 25th streets)
- 16th Street (2 segments from west of Third Street to Illinois Street)
- 20th Street (2 segments from east of Third Street to east of Illinois Street)
- 22nd Street (3 segments from west of Third Street to east of Illinois Street)
- Humboldt Street (1 segment east of Illinois Street)
- 23rd Street (3 segments from Indiana Street to east of Illinois Street)
- 24th Street (2 segments from Third Street to east of Illinois Street)
- 25th Street (1 segment from Third Street to Illinois Street)
- Cesar Chavez (2 segments from Third Street to Illinois Street and west of Pennsylvania Street)

These street segments are adjacent to or within six blocks of the project site and several provide direct access to the site. As noted in Table 4.F-15, there are existing residential uses adjacent to at least seven of these street segments, while there are commercial or industrial uses adjacent to the remaining 19 street segments. Given that traffic noise levels along these street segments would exceed an increase of 5 dBA, or 3 dBA where the resulting noise levels are Conditionally Acceptable, Conditionally Unacceptable, or Unacceptable, these cumulative traffic noise increases on the above-listed 26 street segments would be a significant impact.

Of the 28 street segments where significant cumulative traffic noise increases would occur, the project would contribute more than 10 percent of the significant cumulative traffic noise increase to 23 of the above 28 street segments (see Table D-2 in Appendix D for more details); and, therefore, the project's contribution to cumulative traffic noise increases would be cumulatively considerable, a significant impact.

Incorporation of noise attenuation measures specified in **Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses**, would achieve acceptable interior noise levels at future onsite noise-sensitive receptors based on future (existing plus project and cumulative) traffic noise levels, reducing this cumulative impact to *less than significant with mitigation*. In addition, implementation of additional transportation demand management measures required in **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay**, could reduce project-related traffic noise levels and the project's contribution to the cumulative traffic noise increases. However, the resulting level of traffic noise reduction cannot be quantified at this time, and it is likely that cumulative noise increases at existing and planned offsite receptors would still exceed the significance standards for traffic noise increases on some of the above-listed street segments. Since the effectiveness of this mitigation measure to substantially reduce project-related traffic noise increases is unknown, this EIR assumes that the proposed project would result in a considerable contribution to this significant cumulative impact. Therefore, this impact is *significant and unavoidable with mitigation*.

TABLE 4.F-15
SUMMARY OF CUMULATIVE TRAFFIC NOISE LEVELS

Street	Segment or Cross-Street	Ldn/CNEL Noise Level (dBA) at 50 Feet from Roadway Centerline		
		Existing	Cumulative (2040) ^a	Cumulative Change
Illinois Street	North of 20th	59.3	66.5	7.1
	20th to 22nd	59.2	67.5	8.4
	22nd to Humboldt	59.2	67.0	7.8
	Humboldt to 23rd	59.2	67.1	7.9
	23rd to 24th	59.0	65.7	6.8
	24th to 25th	58.8	65.8	7.0
	25th to Cesar Chavez	58.6	64.9	6.3
	South of Cesar Chavez	59.3	60.9	1.5
Third Street	North of 16th	67.0	69.7	2.7
	16th to 20th	66.5	70.1	3.6
	20th to 22nd	65.9	69.6	3.7
	22nd to 23rd	66.0	70.6	4.6
	23rd to 25th	66.1	70.5	4.4 ^b
	25th to Cesar Chavez	66.2	70.2	4.0 ^b
	South of Cesar Chavez	66.2	68.3	2.1
Indiana Street	North of 23rd	56.9	57.5	0.6
	23rd to 25th	57.3	61.3	4.0
	South of 25th	57.4	61.0	3.6
Pennsylvania Avenue	North of 23rd	60.6	63.4	2.8
	23rd to 25th	62.6	65.9	3.3 ^b
	25th to Cesar Chavez	64.3	67.4	3.0
	South of Cesar Chavez	62.9	66.0	3.1
16th Street	East of Third	59.3	65.3	6.0
	West of Third	64.9	69.0	4.1
20th Street	East of Illinois	49.5	65.3	15.8
	Illinois to Third	56.3	64.3	8.0
	West of Third	58.1	58.3	0.2
22nd Street	East of Illinois	51.2	65.8	14.6
	Illinois to Third	55.9	65.4	9.5
	West of Third	57.5	60.6	3.1
Humboldt Street	East of Illinois	41.5	59.8 ^b	18.3
23rd Street	East of Illinois	53.9	64.3	10.4
	Illinois to Third	55.0	65.1	10.1
	Third to Indiana	57.2	62.6	5.4
	Indiana to Pennsylvania	57.6	62.5	5.0 ^b
	West of Pennsylvania	47.1	50.7	3.6 ^b
24th Street	East of Illinois	46.1	54.8	8.7
	West of Illinois	47.6	53.3	5.7

TABLE 4.F-15 (CONTINUED)
SUMMARY OF CUMULATIVE TRAFFIC NOISE LEVELS

Street	Segment or Cross-Street	Ldn/CNEL Noise Level (dBA) at 50 Feet from Roadway Centerline		
		Existing	Cumulative (2040) ^a	Cumulative Change
25th Street	East of Illinois	49.7	54.8	5.0 ^b
	Illinois to Third	54.6	61.4	6.8
	Third to Indiana	60.3	64.7	4.4 ^b
	Indiana to Pennsylvania	60.1	63.8	3.7 ^b
	West of Pennsylvania	58.8	60.3	1.5
Cesar Chavez Boulevard	East of Illinois	56.7	57.4	0.7
	Illinois to Third	61.4	66.6	5.3
	Third to Pennsylvania	66.6	70.4	3.8 ^b
	West of Pennsylvania	66.2	69.3	3.1

NOTES:

Noise levels may vary by up to one-tenth of a decibel due to rounding. Noise levels in bold exceed either of the following threshold increases when compared to baseline noise levels: (1) an increase of more than 5 dBA, or (2) an increase of more than 3 dBA in areas where the existing or resulting noise increase exceeds acceptable (or satisfactory) levels for the affected use (see Figure 4.F-4, above).

Noise levels in bold indicate a significant noise increase and also indicate a significant impact on future onsite residential, childcare, and hotel uses.

Traffic noise modeling was completed using the Federal Highway Administration RD-77-108 model. Assumptions include: speed limit on all streets is 25 mph except on 16th, Third, and Cesar Chavez, where the posted speed limit is 30 mph; vehicle mix is 98% Autos/1.5% Medium Trucks/0.5% Heavy Trucks; day-night split: 76% day (7 a.m. to 7 p.m.), 12% evening (7 p.m. to 10 p.m.), and 12% night (10 p.m. to 7 a.m.). Background noise levels due to traffic on other roadways (such as cross-streets or nearby freeways) and non-traffic-related activities are not reflected in these noise levels. Noise levels in this table are intended to indicate incremental noise changes due to project implementation and future growth. Since they do not include background noise levels, they may not necessarily reflect actual noise levels along these roadway segments if there are other nearby sources of noise. Changes between scenarios analyzed may not show change due to rounding in the noise modeling results.

The project would include a shuttle service program as part of its proposed TDM program to provide access to the BART 16th Street station and Caltrain 22nd Street station. The future shuttle bus schedule is not known at this time, but it is anticipated that any increase in noise levels due to shuttle trips would be relatively minor and these trips have been adequately accounted for in the modeled traffic noise analysis above.

^a Cumulative traffic noise levels are based on existing traffic in addition to traffic generated by the proposed project, Pier 70 project and all other foreseeable projects identified in Section 4.A.6, Approach to Cumulative Impact Analysis.

^b Although this noise increase exceeds 3 dBA, it is not determined to be significant because existing or future noise levels are Acceptable to existing adjacent industrial/commercial uses.

SOURCE: Orion Environmental Associates, 2018

Mitigation Measure M-NO-8: Design of Future Noise-Sensitive Uses (see Impact NO-8, above)

Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Chapter 4, Section 4.E, Transportation and Circulation, Impact TR-5)

Significance after Mitigation: Significant and Unavoidable. Significant cumulative noise increases on 23 street segments would likely continue to be significant even with additional transportation demand management measures required in Mitigation Measure M-TR-5. There are no other feasible measures that could further reduce project-related vehicle trips. However, incorporation of noise attenuation measures specified in Mitigation Measure M-NO-8 would achieve acceptable interior noise levels at future onsite noise-sensitive receptors, reducing this cumulative impact to *less than significant with mitigation*.

4.G Air Quality

4.G.1 Introduction

This section discusses the existing air quality conditions in the project area, presents the regulatory framework for air quality management, and analyzes the potential for the proposed project to affect existing air quality conditions, both regionally and locally; including impacts from emissions generated on a temporary basis from construction activities as well as those generated over the long term from operation of the proposed project. The analysis determines whether those emissions are significant under applicable air quality standards and identifies feasible mitigation measures for significant adverse impacts. This section also includes an assessment of potential odor impacts and an analysis of cumulative air quality impacts. Greenhouse gas (GHG) emissions resulting from the proposed project's operations and the consequent impacts on climate change are addressed in Appendix B, the initial study for the proposed project. Supplemental air quality information supporting the analysis in this section is provided in Appendix E, Air Quality Supporting Information.

The analysis in this section is based on a review of existing air quality conditions in the Bay Area region and air quality regulations administered by the U.S. Environmental Protection Agency (U.S. EPA), the California Air Resources Board, and the Bay Area Air Quality Management District. This analysis includes methodologies identified in the current Bay Area Air Quality Management District CEQA Air Quality Guidelines¹ and its companion documentation.

4.G.2 Environmental Setting

Climate and Meteorology

The project site is in the San Francisco Bay Area Air Basin. Air quality in the basin is influenced by such natural factors as topography, meteorology, and climate, in addition to the presence of existing air pollution sources and ambient conditions. The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms often affect the region from November through April. San Francisco's proximity to the onshore breezes stimulated by the Pacific Ocean provides generally very good air quality in the city and at the project site.

Annual temperatures in the project area average in the mid-50s (degrees Fahrenheit), ranging from the low 40s on winter mornings to the mid-70s during summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from November through April. Precipitation varies widely from year to year as shifts in the annual storm track of a few hundred miles can mean the difference between a very wet year and drought conditions.

¹ Bay Area Air Quality Management District *CEQA Air Quality Guidelines*, Updated May 2017, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed April 23, 2018.

Atmospheric conditions such as wind speed and direction, and variable air temperatures interact with the physical features of the landscape to influence the movement and dispersal of air pollutants, regionally. The project site is within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor affecting dispersal of air pollutants within the region. The prevailing wind direction on the San Francisco mainland is from the west at an average annual wind speed of 10.3 miles per hour.² At higher temperatures ozone formation can increase.

Ambient Air Quality – Criteria Air Pollutants

As required by the 1970 Federal Clean Air Act, the U.S. EPA initially identified six air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants “criteria air pollutants” and the agency has regulated them by developing specific public health-based and welfare-based criteria as the basis for setting permissible levels. *Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead* are the six criteria air pollutants originally identified by the U.S. EPA. Later, subsets of PM were identified and permissible levels were established. These include *PM of 10 microns in diameter or less (PM₁₀)* and *PM of 2.5 microns in diameter or less (PM_{2.5})*.

The Bay Area Air Quality Management District has jurisdiction to regulate air quality within the nine-county San Francisco Bay Area Air Basin. Accordingly, the region’s air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. **Table 4.G-1, Summary of San Francisco Air Quality Monitoring Data (2013-2017)**, presents a five-year summary for 2013 to 2017 of the highest annual criteria air pollutant concentrations, recorded at the air quality monitoring station operated and maintained by the air district at 16th and Arkansas streets, approximately 1 mile northwest of the project site. It also compares these concentrations with the most stringent applicable ambient air quality standards (whether state or federal). As attainment with air quality standards is determined on a basin-wide basis, it is possible for the basin to be in attainment with state or federal standards for a given pollutant notwithstanding an exceedance for a given pollutant standard at a local monitoring station. Concentrations shown in bold indicate only a localized exceedance of that standard.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of *photochemical reactions* involving *reactive organic gases (ROG, also sometimes referred to as volatile organic compounds or VOCs by some regulatory agencies)* and *oxides of nitrogen (NO_x)* in the presence of sunlight.

² Western Regional Climate Center, Website query, Prevailing Wind Direction in California, https://wrcc.dri.edu/Climate/west_lcd_show.php?iyear=2008&ssstate=CA&stag=sanfrancisco&sloc=San+Francisco, accessed April 23, 2018.

TABLE 4.G-1
SUMMARY OF SAN FRANCISCO AIR QUALITY MONITORING DATA (2013-2017)

Pollutant	Most Stringent Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured ^a				
		2013	2014	2015	2016	2017
Ozone						
Maximum 1-Hour Concentration (ppm)	>0.09 ^b	0.069	0.079	0.085	0.070	0.087
Days 1-Hour Standard Exceeded		0	0	0	0	0
Maximum 8-Hour Concentration (ppm)	>0.070 ^c	0.059	0.069	0.067	0.057	0.054
Days 8-Hour Standard Exceeded		0	0	0	0	0
Carbon Monoxide (CO)						
Maximum 1-Hour Concentration (ppm)	>20 ^b	1.8	1.6	1.8	1.7	2.5
Days 1-Hour Standard Exceeded		0	0	0	0	0
Maximum 8-Hour Concentration (ppm)	>9.0 ^b	1.4	1.2	1.3	1.1	1.4
Days 8-Hour Standard Exceeded		0	0	0	0	0
Suspended Particulates (PM ₁₀)						
Maximum 24-Hour Concentration (µg/m ³)	>50 ^b	44	36	47	29	77
Monitoring Days 24-Hour Standard Exceeded ^d		0	0	0	0	2
Suspended Particulates (PM _{2.5})						
Maximum 24-Hour Concentration (µg/m ³)	>35 ^c	49	33	35	20	50
Days 24-Hour Standard Exceeded		2	0	0	0	7
Annual Average (µg/m ³)	>12 ^{b,c}	10.1	7.7	7.6	7.5	9.7
Nitrogen Dioxide (NO ₂)						
Maximum 1-Hour Concentration (ppm)	>0.100 ^c	0.07	0.08	0.07	0.06	0.07
Days 1-Hour Standard Exceeded		0	0	0	0	0

NOTES:

Bold values are in excess of applicable standard.

ppm = parts per million.

µg/m³ = micrograms per cubic meter.

^a Number of days exceeded is for all days in a given year, except for PM₁₀. PM₁₀ has been monitored every 12 days effective January 2013.

^b State standard, not to be exceeded.

^c Federal standard, not to be exceeded.

^d Based on a sampling schedule of approximately 30 samples per year for PM₁₀. All other pollutants are monitored continuously, including PM_{2.5}.

SOURCE: Bay Area Air Quality Management District (BAAQMD), Bay Area Air Pollution Summary, 2013 – 2017, <http://www.baaqmd.gov/air-quality/air-quality-summaries>, accessed April 18, 2018.

The main sources of ROG and NO_x, often referred to as *ozone precursors*, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

According to published data, and as shown in Table 4.G-1, above, the most stringent applicable standards for ozone (state one-hour standard of 0.09 parts per million [ppm] and the federal eight-hour standard of 0.075 ppm) were not exceeded in San Francisco between 2013 and 2017. In 2015, the U.S. EPA strengthened the eight-hour ozone standard to 0.070 ppm, and the new standard became effective December 28, 2015.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce *angina* (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. The table also shows that the more stringent state CO standards were not exceeded between 2013 and 2017. Measurements of CO indicate hourly maximums ranging between 8 and 13 percent of the more stringent state standard, and maximum 8-hour CO levels that are approximately 12 to 16 percent of the allowable 8-hour standard.

Particulate Matter

Particulate matter is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from human-made and natural sources. Particulate matter is measured in two size ranges: PM₁₀ and PM_{2.5}. In the Bay Area, motor vehicles generate about one-half of the San Francisco Bay Area Air Basin's particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the California Air Resources Board, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks." Studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children."³ The California Air Resources Board also reports that statewide attainment of PM standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease and asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.⁴ Among the criteria air pollutants that are regulated, particulates appear to represent a serious ongoing health hazard. As long ago as 1999, the Bay Area Air Quality Management District was reporting in its *CEQA Air Quality Guidelines* that studies had shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay Area. PM_{2.5} is of particular concern because epidemiologic studies have demonstrated that people who live near freeways, especially people who live within 500 feet of freeways or high-traffic roadways, have poorer health outcomes,

³ California Air Resources Board, *Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution*, November 2007, p.1.

⁴ Ibid.

including increased asthma symptoms and respiratory infections and decreased pulmonary function and lung development in children.⁵

As presented above in Table 4.G-1, the state 24-hour PM₁₀ standard was exceeded on two monitored occasions between 2013 and 2017 in San Francisco. It may conservatively be estimated that the state 24-hour PM₁₀ standard of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) was exceeded on up to 24 days per year between 2013 and 2017, and the state 24-hour PM_{2.5} standard was exceeded on nine monitored occasions between 2013 and 2017.⁶ The federal and state annual average standards were not exceeded between 2013 and 2017.

Nitrogen Dioxide

NO₂ is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are its main sources. Aside from its contribution to ozone formation, NO₂ can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component of the air on high pollution days, especially in conjunction with high ozone levels. The current state one-hour standard for NO₂ (0.18 ppm) is being met in San Francisco. In 2010, the U.S. EPA implemented the current one-hour NO₂ standard (0.10 ppm), which is presented in Table 4.G-2, **State and Federal Ambient Air Quality Standards and Attainment Status for the San Francisco Bay Area Air Basin**, below. Currently, the San Francisco Bay Area Air Basin is designated as an attainment area for the NO₂ standard.⁷ As shown in Table 4.G-1, this new federal standard was not exceeded at the San Francisco station between 2013 and 2017.

The U.S. EPA has also established requirements for a new monitoring network to measure NO₂ concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen new near-roadway monitoring sites are required in California, three of which are in the Bay Area. These monitors are located in Berkeley, Oakland, and San Jose. The Oakland station commenced operation in February 2014, the San Jose station commenced operation in March 2015, and the Berkeley station commenced operation in July 2016. The new monitoring data may result in a need to change area designations in the future. The California Air Resources Board will revise the area designation recommendations, as appropriate, once sufficient monitoring data become available.

Sulfur Dioxide

SO₂ is a colorless, acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO₂ has the potential to damage materials and can cause health effects at high concentrations. It can irritate lung tissue and increase the risk of acute and chronic respiratory disease.⁸ Pollutant trends suggest that the San Francisco Bay Area Air Basin currently meets and will continue to meet the state standard for SO₂ for the foreseeable future.

⁵ San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008, p. 7.

⁶ PM₁₀ is sampled every 12th day; therefore, actual days over the standard may have been up to 12 times the numbers listed in the table. PM_{2.5} is continuously monitored.

⁷ U.S. EPA, Nitrogen Dioxide Designations June 2017, <https://www.epa.gov/nitrogen-dioxide-designations/2010-nitrogen-dioxide-standards-state-recommendations-and-epa>, accessed March 15, 2018.

⁸ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed April 23, 2018.

TABLE 4.G-2
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS
FOR THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	Averaging Time	State (SAAQS ^a)		Federal (NAAQS ^b)	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1-hour	0.09 ppm	N	NA	See Note c
	8-hour	0.070 ppm	N	0.070 ppm ^d	N/Marginal
Carbon Monoxide (CO)	1-hour	20 ppm	A	35 ppm	A
	8-hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	A	0.075 ppm	A
	24-hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	N	150 µg/m ³	U
	Annual ^e	20 µg/m ³ ^f	N	NA	NA
Fine Particulate Matter (PM _{2.5})	24-hour	NA	NA	35 µg/m ³	N
	Annual	12 µg/m ³	N	12 µg/m ³	U/A
Sulfates	24-hour	25 µg/m ³	A	NA	NA
Lead	30-day	1.5 µg/m ³	A	NA	NA
	Cal. Quarter	NA	NA	1.5 µg/m ³	A
	Rolling 3-month average	NA	NA	0.15	U
Hydrogen Sulfide	1-hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8-hour	See Note g	U	NA	NA

NOTES:

A = Attainment; N = Non-attainment; U = Unclassified; NA = Not Applicable, no applicable standard; ppm = parts per million; µg/m³ = micrograms per cubic meter.

^a SAAQS = state ambient air quality standards (California). SAAQS for ozone, CO (except Lake Tahoe), SO₂ (1-hour and 24-hour), NO₂, PM, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

^b NAAQS = national ambient air quality standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the 3-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM₁₀ standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM_{2.5} standard is attained when the 3-year average of the 98th percentile is less than the standard.

^c The U.S. Environmental Protection Agency (EPA) revoked the national 1-hour ozone standard on June 15, 2005.

^d This Federal 8-hour ozone standard was approved by U.S. EPA in October 2015 and became effective on December 28, 2015.

^e State standard = annual geometric mean; national standard = annual arithmetic mean.

^f In June 2002, the California Air Resources Board established new annual standards for PM_{2.5} and PM₁₀.

^g Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

SOURCES: Bay Area Air Quality Management District, Standards and Attainment Status, 2017, <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>, accessed April 23, 2018.

U.S. EPA National Ambient Air Quality Standards, 2016. Available online at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. Accessed January 19, 2016.

In 2010, the U.S. EPA implemented a new one-hour SO₂ standard, which is presented in Table 4.G-2. The U.S. EPA initially designated the San Francisco Bay Area Air Basin as an attainment area for SO₂. Similar to the new federal standard for NO₂, the U.S. EPA established requirements for a new monitoring network to measure SO₂ concentrations beginning in January 2013.⁹ No additional SO₂ monitors are required for the Bay Area because the Bay Area Air Quality Management District jurisdiction has never been designated as non-attainment for SO₂ and no state implementation plans or maintenance plans have been prepared for SO₂.¹⁰

Lead

Leaded gasoline (phased out in the United States beginning in 1973), paint (on older houses, cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated.

Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California. On October 15, 2008, the U.S. EPA strengthened the national ambient air quality standard for lead by lowering it from 1.50 µg/m³ to 0.15 µg/m³ on a rolling three-month average. The U.S. EPA revised the monitoring requirements for lead in December 2010.¹¹ These requirements focus on airports and large urban areas resulting in an increase in 76 monitors nationally. Lead monitoring stations in the Bay Area are located at Palo Alto Airport, Reid-Hillview Airport (San Jose), and San Carlos Airport. Non-airport locations for lead monitoring are in Redwood City and San Jose.

Air Quality Index

The U.S. EPA developed the Air Quality Index scale to make the public health impacts of air pollution concentrations easily understandable. The index, much like an air quality “thermometer,” translates daily air pollution concentrations into a number on a scale between 0 and 500. The numbers in the scale are divided into six color-coded ranges, with numbers 0 through 500 as outlined below.

- Green (0-50) indicates “good” air quality. No health impacts are expected when air quality is in the green range.
- Yellow (51-100) indicates air quality is “moderate.” Unusually sensitive people should consider limiting prolonged outdoor exertion.
- Orange (101-150) indicates air quality is “unhealthy for sensitive groups.” Active children and adults, and people with respiratory disease, such as asthma, should limit outdoor exertion.

⁹ U.S. EPA, *Fact Sheet: Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide*, June 2, 2010.

¹⁰ Bay Area Air Quality Management District, *2013 Air Monitoring Network Plan*, July 2014, p.27, http://www.baaqmd.gov/~media/Files/Technical%20Services/2013_Network_Plan.aspx?la=en, accessed January 19, 2016.

¹¹ U.S. EPA *Fact Sheet Revisions to Lead Ambient Air Quality Monitoring Requirements*, December 14, 2012.

4.G Air Quality

- Red (151-200) indicates air quality is “unhealthy.” Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
- Purple (201-300) indicates air quality is “very unhealthy.” Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.
- Maroon (301-500) indicates air quality is “hazardous.” This would trigger health warnings of emergency conditions, and the entire population is more likely to be affected.

The Air Quality Index numbers refer to specific amounts of pollution in the air. They are based on the federal air quality standards for ozone, CO, NO₂, SO₂, PM₁₀, and PM_{2.5}. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the index chart. Thus, if the concentration of any of these pollutants rises above its respective standard, the air quality can be unhealthy for the public. In determining the air quality forecast, local air districts, including the Bay Area Air Quality Management District, use the anticipated concentration measurements for each of the major pollutants, convert them into index numbers, and determine the highest index for each zone in a district.

Readings below 100 on the Air Quality Index scale would not typically affect the health of the general public. Levels above 300 rarely occur in the United States. Index statistics over recent years indicate that air quality in the Bay Area is predominantly in the “Good” or Moderate” categories and is healthy on most days for most people. Historical air district data indicate that the San Francisco Bay Area Air Basin experienced air quality in the red level (unhealthy) on 13 days between the years 2013 and 2017. The October 2017 fires in Northern California resulted in the federal 24-hour PM_{2.5} standard being exceeded on up to seven days just in the first part of the month of October 2017 in certain counties.¹² Even though the air district’s data have not been validated yet, these levels of PM_{2.5} in many counties have been the highest levels recorded in recent times. As a result, the index in several neighboring counties reached the “very unhealthy” designation, ranging from values of 201 to 300. During that period, the air district issued “Spare the Air” alerts and recommended that individuals stay inside with windows closed and refrain from significant outdoor activity. However, this was an extraordinary event and is a rare occurrence in the Bay Area.

As shown in Table 4.G-3, **Air Quality Index Statistics for the San Francisco Bay Area Air Basin**, the basin had a total of 15 orange-level (unhealthy for sensitive groups) days in 2013, 11 days in 2014, 19 days in 2015, 13 days in 2016, and nine days in 2017. Between 2013 and 2017, the air basin experienced a total of 13 red-level (unhealthy) days and in 2017, three purple-level (very unhealthy) days.

¹² Bay Area Air Quality Management District, Air Monitoring Data, <http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=monthly&DataView=tech&StartDate=10/24/2017&Parameter=316>, accessed October 24, 2017.

TABLE 4.G-3
AIR QUALITY INDEX STATISTICS FOR THE SAN FRANCISCO BAY AREA AIR BASIN

Air Quality Index Statistics for San Francisco Bay Area Air Basin	Number of Days by Year				
	2013	2014	2015	2016	2017
Unhealthy for Sensitive Groups (Orange)	15	11	19	13	9
Unhealthy (Red)	1	1	0	2	9
Very Unhealthy (Purple)	0	0	0	0	3

SOURCE: Bay Area Air Quality Management District, 2018

Toxic Air Contaminants and Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may emit *toxic air contaminants* (TACs). TACs collectively refer to a diverse group of air pollutants that may cause chronic (i.e., of long duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Thus, individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs are not subject to ambient air quality standards but are regulated by the Bay Area Air Quality Management District using a risk-based approach to determine which sources and which pollutants to control as well as the degree of control. A *health risk assessment* is an analysis that estimates human health exposure to toxic substances, and when considered together with information regarding the toxic potency of the substances, a health risk assessment provides quantitative estimates of health risks.¹³

Exposures to fine PM (PM_{2.5}) are strongly associated with mortality, respiratory diseases, and poor lung development in children, and other health effects, such as hospitalization for cardiopulmonary disease.¹⁴ *Diesel particulate matter* (DPM), a byproduct of diesel fuel combustion, is also of concern. The California Air Resources Board identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.¹⁵ The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region.

¹³ In general, a health risk assessment is required if the Bay Area Air Quality Management District concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

¹⁴ San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review*, May 2008.

¹⁵ California Air Resources Board, Fact Sheet, "The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines," October 1998.

San Francisco Modeling of Air Pollution Exposure Zones

In an effort to identify areas of San Francisco most adversely affected by sources of TACs and elevated concentrations of particulate matter, the City of San Francisco partnered with the Bay Area Air Quality Management District to inventory and assess air pollution exposure from vehicles, stationary sources, and area sources within San Francisco. Citywide dispersion modeling was conducted using AERMOD¹⁶ to assess the emissions from the following primary sources: vehicles on local roadways, permitted stationary sources, port and maritime sources, and diesel emissions from Caltrain. Emissions of PM₁₀ (DPM is assumed equivalent to PM₁₀), PM_{2.5}, and total organic gases (TOG) were modeled on a 20 by 20-meter receptor grid covering the entire city. The citywide modeling results represent a comprehensive assessment of existing cumulative exposures to air pollution throughout the city. The methodology and technical documentation for modeling citywide air pollution are available in the document entitled, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*.¹⁷

Model results were used to identify areas in the city with poor air quality, which were designated as *Air Pollutant Exposure Zones* (APEZ), based on the following health-protective criteria: (1) cumulative PM_{2.5} concentrations greater than 10 µg/m³ and/or (2) excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per one million persons exposed. See below for evidence supporting these standards.

An additional health vulnerability layer was incorporated in the APEZ for those San Francisco ZIP codes in the worst quintile of Bay Area Health Vulnerability scores (ZIP Codes 94102, 94103, 94105, 94124, and 94130). In these areas, the standard for identifying areas as being within the zone were lowered to: (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 90 per one million persons exposed and/or (2) cumulative PM_{2.5} concentrations greater than 9 µg/m³.

Lastly, all parcels within 500 feet of a major freeway were also included in the APEZ, consistent with findings in California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective, which suggests air pollutant levels decrease substantially at approximately 500 feet from a freeway.¹⁸

Citywide modeling results identified that the project site is currently not located in an area that meets the APEZ criteria.

Fine Particulate Matter

In April 2011, the U.S. EPA published Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards (Particulate Matter Policy Assessment). In this document,

¹⁶ AERMOD is the U.S. EPA's preferred or recommended steady state air dispersion plume model. For more information on AERMOD and to download the AERMOD Implementation Guide, www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod, accessed September 17, 2018.

¹⁷ Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*, December 2012.

¹⁸ California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, <http://www.arb.ca.gov/ch/handbook.pdf>, accessed April 23, 2018.

U.S. EPA staff concluded that the then-current federal annual PM_{2.5} standard of 15 µg/m³ should be revised to a level within the range of 13 to 11 µg/m³, with evidence strongly supporting a standard within the range of 12 to 11 µg/m³. The APEZs for San Francisco are based on the health protective PM_{2.5} standard of 11 µg/m³, as supported by the U.S. EPA's Particulate Matter Policy Assessment, although lowered to 10 µg/m³ to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.

Excess Cancer Risk

The 100 per one million persons exposed (100 excess cancer risk) criterion discussed above in the "San Francisco Modeling of Air Pollution Exposure Zones" section is based on U.S. EPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.¹⁹ As described by the Bay Area Air Quality Management District, the U.S. EPA considers a cancer risk of 100 per one million or less to be within the "acceptable" range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking,²⁰ the U.S. EPA states that it "...strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand [100 in one million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on air district regional modeling.²¹

In addition to monitoring criteria pollutants, both the Bay Area Air Quality Management District and California Air Resources Board operate TAC monitoring networks in the San Francisco Bay Area Air Basin. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that traditionally have been found in the highest concentrations in ambient air and therefore tend to produce the most significant risk. The nearest air district ambient TAC monitoring station to the project area is the station at 10 Arkansas Street in San Francisco. The ambient concentrations of carcinogenic TACs measured at the Arkansas Street station, approximately 0.5 mile west of the project site, are presented in **Table 4.G-4, 2017 Annual Average Ambient Concentrations of Carcinogenic Toxic Air Contaminants Measured at Bay Area Air Quality Management District Monitoring Station, 10 Arkansas Street, San Francisco**. The estimated cancer risk from a lifetime exposure (70 years) to these substances is also reported in the table. When TAC measurements at this station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the San Francisco station do not appear to be any greater than for the Bay Area as a region.

¹⁹ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 67, <http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/revised-draft-ceqa-thresholds-justification-report-oct-2009.pdf?la=en>, accessed April 23, 2018.

²⁰ 54 *Federal Register* 38044, September 14, 1989.

²¹ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 67.

TABLE 4.G-4
2017 ANNUAL AVERAGE AMBIENT CONCENTRATIONS OF CARCINOGENIC TOXIC AIR CONTAMINANTS
MEASURED AT BAY AREA AIR QUALITY MANAGEMENT DISTRICT MONITORING STATION,
10 ARKANSAS STREET, SAN FRANCISCO

Substance	Concentration	Cancer Risk per Million ^a
Gaseous TACs (ppb)		
Acetaldehyde	0.69	10
Benzene	0.216	56
1,3-Butadiene	0.036	39
Carbon Tetrachloride*	0.093	71
Formaldehyde	1.64	35
Perchloroethylene	0.009	1
Methylene Chloride	0.114	1
Chloroform	0.028	2
Trichloroethylene	0.010	0.3
Particulate TACs (ng/m³)		
Chromium (Hexavalent)*	0.078	32
Total Risk for All TACs		248.3

NOTES:

TACs = toxic air contaminants; ppb = part per billion; ng/m³ = nanograms per cubic meter; * = 2016 data provided for this substance as 2017 data was insufficient per the California Air Resources Board.

^a Cancer risks were estimated by applying published unit risk values to the measured concentrations.

SOURCE: CARB, Ambient Air Toxics Summary-2016, <http://www.arb.ca.gov/adam/toxics/sitesubstance.html>, accessed April 19, 2018.

Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases, and vehicles also contribute to particulates by generating road dust and tire wear. Epidemiologic studies have demonstrated that people living close to freeways or busy roadways have poorer health outcomes, including increased asthma symptoms and respiratory infections, and decreased pulmonary function and poor lung development in children. Air pollution monitoring conducted in conjunction with epidemiologic studies has confirmed that roadway-related health effects vary with modeled exposure to PM and NO₂. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and was strongest within 300 feet.²² As a result, the California Air Resources Board recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day. The project site is not located within 500 feet of such a freeway or roadway.

²² California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005. <http://www.arb.ca.gov/ch/handbook.pdf>, accessed April 23, 2018.

Diesel Particulate Matter

The California Air Resources Board identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways. The board estimated that as of 2000, the average Bay Area cancer risk from exposure to DPM, based on a population-weighted average ambient DPM concentration, is approximately 480 in one million, which is much higher than the risk associated with any other toxic air pollutant routinely measured in the region. The statewide risk from DPM as determined by the board declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, the board estimated the average statewide cancer risk from DPM at 540 in one million.^{23,24}

In 2000, the California Air Resources Board approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent board regulations apply to new trucks and diesel fuel. With new controls and fuel requirements, 60 trucks built in 2007 would have the same particulate exhaust emissions as one truck built in 1988.²⁵ The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Despite notable emission reductions, the board recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The board notes that these recommendations are advisory and should not be interpreted as defined “buffer zones,” and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary, the California Air Resources Board’s position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.²⁶

Sensitive Receptors

Air quality does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. More sensitive population groups include: the elderly and the young; those with higher rates of respiratory disease, such as asthma and chronic obstructive pulmonary disease; and those with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. The air district defines sensitive receptors as children, adults, and seniors occupying or residing in residential

²³ California Air Resources Board, *California Almanac of Emissions and Air Quality - 2009 Edition*, Table 5-44 and Figure 5-12, <http://www.arb.ca.gov/aqd/almanac/almanac09/chap509.htm>, accessed April 23, 2018.

²⁴ This calculated cancer risk value from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which for men is more than 40 percent (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million, according to the American Cancer Society. (American Cancer Society, last revised October 1, 2014, <http://www.cancer.org/cancer/lifetime-probability-of-developing-or-dying-from-cancer>.)

²⁵ Pollution Engineering, *New Clean Diesel Fuel Rules Start*. July, 2006.

²⁶ California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005, <http://www.arb.ca.gov/chl.pdf>, accessed April 23, 2018.

dwelling, schools, day care centers, hospitals, and senior-care facilities. Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupational Safety and Health Administration to ensure the health and well-being of their employees.²⁷

The proximity of sensitive receptors to motor vehicles is an air pollution concern, especially in San Francisco where building setbacks are limited and roadway volumes are higher than most other parts of the Bay Area. Vehicles also contribute to particulates by generating road dust and through tire wear.

Existing sensitive receptors evaluated in this EIR include a representative sample of known residents (child and adult) in the surrounding neighborhood, and other sensitive receptors (school children, hospital/nursing home patients, etc.) located in the surrounding community and along the expected travel routes of the on-road delivery and haul trucks. The health risk impact analysis in this document also includes receptor locations out to a distance of 3,280 feet (1,000 meters) from the project site, consistent with citywide health risk modeling discussed above. In addition to the residential receptors, four schools and a daycare within 1,200 feet of the project site were identified: Dogpatch Alternative School (site 2), Potrero Kids Daycare, La Piccola Scuola Italiana, and Friends of Potrero Hill Nursery School.

The project site is not located within an area with risk factors that meet the APEZ criteria. Background cancer risk values on the project site range from 27 to 99 in one million, with background values ranging from seven to 695 in one million within 3,280 feet (1,000 meters) of the site. Background PM_{2.5} concentrations range from 8.4 to 8.6 µg/m³ on the project site, with background values varying between 8.1 and 58 µg/m³ within 3,280 feet (1,000 meters) of the site. The nearest offsite receptors within an APEZ are located approximately 900 feet to the west and are so designated due to the proximity of Interstate 280. Receptors within 3,280 feet (1,000 meters) of the project boundary are located both within and outside of the APEZ and impacts are assessed accordingly as discussed below in the "Approach to Analysis" section.

Existing Stationary Sources of Air Pollution

The Bay Area Air Quality Management District's inventory of permitted stationary sources of emissions shows eight permitted stationary emission facilities present within or near the 1,000-foot zone of influence²⁸ of the project site. The sources at these permitted facilities include printers, stationary diesel engines for power generators, a gas station, and the now decommissioned Potrero Power Plant (which was removed from the City's baseline model as part of this analysis). The BAE Systems ship repair facility north of the project site, which once operated diesel-fired electric generators to maintain power for ships while at dry dock and also conducted sandblasting activities, has not been an active facility for over one year.

²⁷ Bay Area Air Quality Management District, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2011, p. 12.

²⁸ For assessing community risks and hazards, a 1,000-foot radius is recommended around the project property boundary. The Bay Area Air Quality Management District recommends that any proposed project that includes the siting of a new source or receptor assess associated impacts within 1,000 feet, taking into account both individual and nearby cumulative sources. As explained above, the health risk assessment evaluated sources within a larger area of 3,280 feet (1,000 meters).

Major Roadways Contributing to Air Pollution

Third Street, Mariposa Street, 25th Street, and Cesar Chavez Street are arterial roadways within 3,280 feet (1,000 meters) of the project site that carry at least 10,000 vehicles in annual average daily traffic based on the City's *SF CHAMP* roadway model.²⁹ This traffic contributes to concentrations of PM_{2.5}, DPM, and other air contaminants emitted from motor vehicles near the street level. Both Interstate 280 and the Caltrain rail line are also located within 3,280 feet (1,000 meters) from the project site. Aside from the surrounding major roadways, the only other areas of mobile-source activity or otherwise "non-permitted" sources (e.g., railyards, trucking distribution facilities, and high-volume fueling stations) located within 3,280 feet (1,000 meters) of the project site are the SF MUNI Woods Division storage and maintenance yards located at 22nd and Indiana streets and the Islais Creek Motor Coach Maintenance and Operations Facility at Cesar Chavez and Illinois streets.

4.G.3 Regulatory Framework

Federal Regulations

The 1970 Clean Air Act (last amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants are planned to be controlled in order to achieve all standards by the deadlines specified in the act. These ambient air quality standards are intended to protect the public health and welfare, and they specify the concentration of pollutants (with an ample margin of safety) to which the public can be exposed without adverse health effects. They are designed in consideration of those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards without the risk of adverse health effects.

The current attainment status for the San Francisco Bay Area Air Basin, with respect to federal standards, is summarized above in Table 4.G-2. In general, the basin experiences low concentrations of most pollutants when compared to federal standards, except for ozone and PM (PM₁₀ and PM_{2.5}), for which standards are exceeded periodically (see Table 4.G-1).

State Regulations

California Clean Air Act

Although the Federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological conditions in California, there is considerable diversity between the state and national ambient air quality standards, as shown in

²⁹ San Francisco County Transportation Authority, Chained Activity Modeling Process version 4.3.0, Average Daily Traffic Volumes, provided to ESA, August 2, 2012.

Table 4.G-2. California ambient standards are at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code sections 39600 et seq.), which, like its federal counterpart, required the designation of areas as in attainment or in non-attainment, but based these designations on state ambient air quality standards rather than the federal standards. As indicated in Table 4.G-2, the San Francisco Bay Area Air Basin is designated as “non-attainment” for state ozone, PM₁₀, and PM_{2.5} standards, and is designated as “attainment” for the other pollutants.

Toxic Air Contaminants

In 2005, the California Air Resources Board approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations generally limit idling of commercial motor vehicles (including buses and trucks) within 100 feet of a school or residential area for more than five consecutive minutes or periods aggregating more than five minutes in any one hour. Buses or vehicles also must turn off their engines upon stopping at a school and must not turn their engines on more than 30 seconds before beginning to depart from a school. Also, state law Senate Bill 352 was adopted in 2003 and limits locating public schools within 500 feet of a freeway or busy traffic corridor (section 17213 of the Education Code; section 21151.8 of the Public Resources Code).

Title 24 (Building Energy Efficiency Standards)

Title 24 of the California Code of Regulations is the means by which California regulates energy consumption. The Title 24 Building Energy Efficiency Standards apply to energy consumed for heating, cooling, ventilation, water heating, and lighting in new residential and nonresidential buildings. The Title 24 standards, first adopted by the California Energy Commission in 1978, are updated periodically to incorporate new energy efficiency technologies and methods.

The California Green Building Standards Code was adopted as part of Title 24 in 2008 and was last updated in 2016. The code establishes voluntary standards for planning and design for energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, sustainable site development, and internal air contaminants.

The project sponsor is including sustainability elements within both the proposed Design for Development and Infrastructure Plan documents addressing renewable energy considerations. So the project would, at minimum, comply with the state’s Title 24 energy efficiency requirements and the state Green Building Requirements (discussed below).

In May of 2018, the California Energy Commission adopted its triennial (2019) update to the California Energy Code (Title 24, part 6; Building Energy Efficiency Standards). The updated standards are anticipated for publication on January 1, 2019 and will be effective January 1, 2020. The 2019 Energy Standards focus on three key areas: residential photovoltaic systems, residential and nonresidential ventilation requirements, and nonresidential lighting requirements. For ventilation, the updates will increase air filtration requirements to a *Minimum Efficiency Reporting*

Value (MERV) of 13, necessary for filtering out the smallest category of potentially harmful particulates. This filtration requirement applies to all habitable spaces in high-rise residential buildings³⁰, hotel/motel buildings, and nonresidential buildings other than healthcare facilities that are mechanically heated or mechanically cooled.

The filtration requirement reduces indoor exposure to particulate matter including DPM and thus will reduce cancer risk to occupants of applicable buildings for which an application for a building permit or renewal of an existing permit is filed after January 1, 2020.

California Green Buildings Standards Code (CALGreen)

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24) was adopted as part of the California Building Standards Code (Title 24 California Code of Regulations). The 2013 California Green Building Standards Code (24 California Code of Regulations, Part 11), also known as the CALGreen Code, contains mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California. The development of the CALGreen Code is intended to reduce energy and water consumption, reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impacts during and after construction.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others.

Regional Regulations

Bay Area Air Quality Management District

The Bay Area Air Quality Management District is the regional agency with jurisdiction over the nine-county San Francisco Bay Area Air Basin, which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara, and Napa counties and portions of Sonoma and Solano counties. It is responsible for attaining and maintaining federal and state air quality standards in the basin. Specifically, it monitors ambient air pollutant levels throughout the basin and develops and implements strategies to attain these standards. It also establishes and enforces local air quality rules and regulations for these purposes. A list of some of the applicable air district rules is provided below.

- **Regulation 2, Rule 2 (New Source Review):** This regulation contains requirements for best available control technology and emissions offsets.

³⁰ A high-rise residential building is defined as a building, other than a hotel/motel, of Occupancy Group R-2 or R-4 with four or more habitable stories.

- **Regulation 2, Rule 5 (New Source Review of TACs):** This regulation outlines guidance for evaluating TAC emissions and their potential health risks.
- **Regulation 6, Rule 1 (Particulate Matter):** This regulation restricts emissions of particulate matter darker than No. 1 on the Ringlemann Chart to less than three minutes in any one hour.
- **Regulation 7 (Odorous Substances):** This regulation establishes general odor limitations on odorous substances and specific emissions limitations on certain odorous compounds.
- **Regulation 8, Rule 3 (Architectural Coatings):** This regulation limits the quantity of volatile organic compounds (VOCs) in architectural coatings.
- **Regulation 9, Rule 6 (NO_x emissions from natural gas-fired boilers and water heaters):** This regulation limits emissions of NO_x generated by natural gas-fired boilers.
- **Regulation 9, Rule 8 (Stationary Internal-Combustion Engines):** This regulation limits emissions of NO_x and CO from stationary internal-combustion engines of more than 50 horsepower.
- **Regulation 11, Rule 2 (Hazardous Pollutants):** This regulation limits emissions of asbestos during demolition, renovation, milling, and manufacturing and establishes appropriate waste disposal procedures.

Per its *Engineering Policy and Procedure Manual*,³¹ the air district requires implementation of best available control technology for toxics and would deny an authority to construct or a permit to operate for any new or modified source of TACs that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0. The permitting process under the air district Regulation 2, Rule 5 requires a Health Risk Screening Analysis, the results of which are posted on the air district's website.

Bay Area Air Quality Planning Relative to State and Federal Standards

Federal Air Quality Plan

Air quality plans developed to meet federal requirements are referred to as State Implementation Plans. The federal and state clean air acts require plans to be developed for areas designated as non-attainment (with the exception of areas designated as non-attainment for the state PM₁₀ standard). The most recent Bay Area ozone plan prepared in response to federal air quality planning requirements is the 2001 Ozone Attainment Plan.

California Air Quality Plan

Bay Area plans addressing state standards are prepared with the cooperation of the Bay Area Air Quality Management District, the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG). In April 2017, the air district adopted the 2017 *Clean*

³¹ Bay Area Air Quality Management District, *Engineering Policy and Procedure Manual*, 2013, http://www.baaqmd.gov/~files/engineering/policy_and_procedures/engineering-policy-and-procedure-manual.pdf?la=en, accessed April 23, 2018.

*Air Plan*³² whose primary goals are to protect public health and to protect the climate. The plan includes a wide range of proposed control measures to reduce combustion-related activities, decrease fossil fuel combustion, improve energy efficiency, and decrease emissions of potent GHGs. The 2017 *Clean Air Plan* updates the *Bay Area 2010 Clean Air Plan* and complies with state air quality planning requirements as codified in the California Health and Safety Code. The San Francisco Bay Area Air Basin is designated non-attainment for both the one- and eight-hour state ozone standards. In addition, emissions of ozone precursors in the basin contribute to air quality problems in neighboring air basins. Under these circumstances, state law requires the Clean Air Plan to include all feasible measures to reduce emissions of ozone precursors and to reduce the transport of ozone precursors to neighboring air basins.

The 2017 Clean Air Plan contains 85 measures to address reduction of several pollutants: ozone precursors, particulate matter, air toxics, and/or GHGs. Other measures focus on a single type of pollutant, potent GHGs such as methane and black carbon, or harmful fine particles that affect public health. These control strategies are grouped into the following categories:

- Stationary Source Measures;
- Transportation Control Measures;
- Energy Control Measures;
- Building Control Measures;
- Agricultural Control Measures;
- Natural and Working Lands Control Measures;
- Waste Management Control Measures;
- Water Control Measures; and
- Super GHG Control Measures.

Local Regulations

San Francisco General Plan

The San Francisco General Plan includes the 1997 Air Quality Element.³³ The plan objectives are as follows:

- **Objective 1:** Adhere to State and Federal air quality standards and regional programs.
- **Objective 2:** Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.
- **Objective 3:** Decrease the air quality impacts of development by coordination of land use and transportation decisions.

³² Bay Area Air Quality Management District, *Draft 2017 Clean Air Plan, Spare the Air, Cool the Climate*, 2017, http://www.baaqmd.gov/-/media/files/planning-and-research/plans/2017-clean-air-plan/baaqmd.pdf?=CAP+2017+Draft&utm_medium=email&utm_content=article3_link1, accessed on April 23, 2018.

³³ San Francisco Planning Department, Air Quality Element of the *San Francisco General Plan*, July 1997, updated in 2000.

- **Objective 4:** Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.
- **Objective 5:** Minimize particulate matter emissions from road and construction sites.
- **Objective 6:** Link the positive effects of energy conservation and waste management to emission reductions.

San Francisco Construction Dust Control Ordinance

The City of San Francisco has adopted San Francisco Health Code article 22B and San Francisco Building Code section 106.A.3.2.6, which together are the Construction Dust Control Ordinance. The ordinance requires that all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or to expose or disturb more than 10 cubic yards or 500 square feet of soil comply with specified dust control measures whether or not the activity requires a permit from the San Francisco Department of Building Inspection. For projects larger than 0.5 acre, the Dust Control Ordinance requires that the project sponsor submit a dust control plan for approval by the San Francisco Department of Public Health prior to issuance of a building permit by San Francisco Department of Building Inspection or Port of San Francisco.

Building permits will not be issued without written notification from the director of public health that the applicant has a site-specific dust control plan, unless the director waives the requirement. The Construction Dust Control Ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site or implement other practices that result in equivalent dust control that are acceptable to the director of public health. Dust suppression activities may include watering of all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by article 21, section 1100 et seq. of the San Francisco Public Works Code. The project site is about 29 acres in size, and therefore the project sponsor would be required to prepare a dust control plan.

San Francisco Health Code Provisions for Urban Infill Development (Article 38)

San Francisco adopted article 38 of the San Francisco Health Code in 2008, with revisions that took effect in December 2014. The revised code requires that sensitive land use developments within the mapped Air Pollutant Exposure Zones (APEZ) incorporate Minimum Efficiency Reporting Value 13 (MERV-13)-equivalent ventilation systems to remove particulates from outdoor air. This regulation also applies to conversion of uses to a sensitive use (residential, senior care facilities, day care centers, etc.). The project site is not currently identified as within an APEZ.³⁴ See Impact AQ-4 below for more information on the background of health risks on the project site.

³⁴ San Francisco Department of Public Health, Air Pollution Exposure Zone Map, Inset 2, <https://www.sfdph.org/EHSdocs/AirQuality/AirPollutantExposureZoneMap.pdf>, accessed April 23, 2018.

4.G.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department. For the purpose of this analysis, implementation of the project would have a significant effect on air quality if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Approach to Analysis

Project Features

Construction Activities

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment, construction workers' vehicle trips, and truck hauling trips. In addition, fugitive dust emissions would result from site disturbance including controlled rock fragmentation, dry-mix concrete batch plant, and rock crushing, and fugitive ROG emissions would result from application of architectural coatings and paving.

Project Operations, Stationary Sources and Transportation Sources

The proposed project would generate operational emissions from a variety of sources, including stationary sources (diesel emergency generators); area sources (natural gas combustion for cooking, consumer products, architectural coatings, and landscape equipment); and from mobile sources (daily automobile and truck trips and operation of the proposed shuttle service program).

Transportation Demand Management Plan

The project sponsor has developed a draft Transportation Demand Management (TDM) plan and would implement a final approved TDM plan, which would reduce operational air pollutant emissions by reducing the number of vehicle trips that would otherwise be generated by the project. The TDM plan would implement measures to encourage non-auto modes of transportation by building a dense, walkable, mixed-use, transit-oriented development, reducing onsite parking, and prioritizing safety, especially for bicyclists and pedestrians.

Key strategies in the draft TDM plan include bike sharing stations, ample bicycle parking facilities, bike lanes, unbundled parking, car-sharing and shuttle services, and other approaches to discourage use of single-occupant private vehicles. The TDM plan would implement amenities and education strategies regarding transportation choices, including real-time occupancy data for shared parking facilities and production of brochures and newsletters.

Methodology for Analyzing Air Quality Impacts

In general, the proposed project would result in two categories of potential air quality impacts. First, the project would result in air pollution through construction activity. Second, the project would generate air pollutants during project operations, due to increased vehicle travel and new stationary sources (i.e., up to 15 new emergency standby diesel generators). The proposed project includes a variety of proposed uses including some that could potentially generate TAC emissions from fume hoods or other sources, such as research and development (R&D)/life science uses and production, distribution, and repair (PDR) uses. During the approximately 15-year construction period, operation of earlier phases of the project would overlap with construction of later phases.

Each of these categories of project impacts would result in: (1) impacts from criteria air pollutant emissions, which are generally regional in nature, and (2) impacts associated with exposure to TACs and PM_{2.5}, which is a localized health impact expressed in terms of exposure to PM_{2.5} annual average concentrations and the probability of contracting cancer per 100 in one million persons exposed to TAC concentrations. The assessment of criteria air pollutant impacts addresses the second and third bulleted significance thresholds identified above. The assessment of localized health risk and exposure to PM_{2.5} concentrations addresses the fourth bulleted significance threshold identified above.

With respect to odors, the assessment methodology used is the screening distance approach. The Bay Area Air Quality Management District's 2017 CEQA Guidelines provide guidance in the form of screening distances, to help evaluate potential odor impacts. They identify potential odor sources of particular concern, such as wastewater treatment plants, oil refineries, asphalt plants, chemical manufacturing, painting/coating operations, coffee roasters, food processing facilities, recycling operations and metal smelters, and recommend buffer zones around them to avoid potential odor conflicts.

Air quality analysis conducted for this impact assessment uses the emission factors, models, and tools distributed by a variety of agencies including California Air Resources Board, the California Air Pollution Control Officers Association, the California Office of Environmental Health Hazard Assessment (March 2015), and the U.S. EPA. Additionally, the analysis uses methodologies identified in the Bay Area Air Quality Management District *CEQA Air Quality Guidelines* (May 2017). While the air district is currently developing an update to its *CEQA Air Quality Guidelines* which may or may not include changes to its thresholds of significance, no draft has yet been made public and therefore this analysis applies the most recent guidance available.

Air Quality Plan Consistency

The applicable air quality plan is the Bay Area Air Quality Management District's 2017 Clean Air Plan. Consistency with the Clean Air Plan can be determined if the project supports the goals of the plan, includes applicable control measures from the plan and would not disrupt or hinder implementation of any plan control measures. Consistency with the Clean Air Plan is the basis for determining whether the proposed project would conflict with or obstruct implementation of an applicable air quality plan, the first bulleted significance criterion identified above.

Criteria Air Pollutants

Table 4.G-5, **Criteria Air Pollutant Thresholds**, identifies quantitative criteria air pollutant significance thresholds followed by a discussion of each threshold. Projects that would result in criteria pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the San Francisco Bay Area Air Basin.³⁵

TABLE 4.G-5
CRITERIA AIR POLLUTANT THRESHOLDS

Pollutant	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	10
NOx	54	10
PM ₁₀	82	15
PM _{2.5}	54	10
Fugitive Dust	Construction dust ordinance or other best management practices to control fugitive dust emissions	

SOURCE: Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, June 2017, p. 2-2, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed March 26, 2018.

The thresholds of significance for criteria air pollutants are based on substantial evidence presented in Appendix D of the 2017 Bay Area Air Quality Management District *CEQA Air Quality Guidelines* and the district's 2009 *Revised Draft Options and Justification Report* concerning CEQA thresholds.³⁶

The significance thresholds are based on the state and federal Clean Air Acts' emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, Bay Area Air Quality Management District Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NOx, the offset emissions level is an annual

³⁵ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, p. 2-1, May 2017, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed March 26, 2018.

³⁶ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. 2-2; Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, p. 17, October 2009.

average of 10 tons per year (or 54 pounds per day).³⁷ These levels represent emissions below which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants that could result in increased health effects.

The Federal New Source Review program was created under the federal Clean Air Act to ensure that stationary sources of air pollution are constructed in a manner that is consistent with attainment of federal health-based ambient air quality standards. For PM₁₀ and PM_{2.5}, the emissions limit under the New Source Review program is 15 tons per year (82 pounds per day) and 10 tons per year (54 pounds per day), respectively. These emissions limits represent levels at which a source is not expected to have a significant impact on air quality.³⁸

Although these regulations apply to new or modified stationary sources, land use development projects also generate ROG, NO_x, PM₁₀, and PM_{2.5} emissions from increases in vehicle trips, energy use, architectural coating, and construction activities. Therefore, the identified thresholds are applied to the construction and operational phases of land use projects. Those projects that would result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or PM.

The proposed project incorporates several options associated with four of the project elements. As further described in Chapter 2 under Section 2.E.1, Proposed Land Use Plan, the proposed project incorporates a flexible land use program in which certain blocks on the project site are designated for either residential or commercial uses (referred to as “flex blocks”), where future market conditions would ultimately determine the type and amount of land uses to be developed on those blocks. A *sensitivity analysis*³⁹ was undertaken which showed that the operational emissions from the maximum office scenario would be higher than the maximum residential scenario, primarily resulting from greater vehicle trips that would be generated by commercial uses. Therefore, the operational impact analysis is based on the maximum office scenario. A similar sensitivity analysis was performed for construction emissions but, except for emissions of ROG, construction emissions were generally similar among foreseeable buildout scenarios. Consequently, construction-related emissions of ROG were calculated assuming implementation of the maximum residential scenario.

Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly controls fugitive dust,⁴⁰ and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.⁴¹ The Bay Area Air Quality Management District has identified

³⁷ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, p. 17, October 2009.

³⁸ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, p. 16, October 2009.

³⁹ A sensitivity analysis is a technique used to determine how different values of an independent variable will impact a particular dependent variable under a given set of assumptions. In this case, it was used to determine which land use assumptions would yield the most emissions.

⁴⁰ Western Regional Air Partnership, *WRAP Fugitive Dust Handbook*, September 7, 2006, wrapair.org/forums/dejff/fdhl/content/FDHandbook_Rev_06.pdf, accessed April 23, 2018.

⁴¹ Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 27.

eight BMPs to control fugitive dust emissions from construction activities.⁴² San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The project would be subject to the Construction Dust Control Ordinance, which is the basis for determining the significance of air quality impacts from fugitive dust emissions.

Construction Emissions of Criteria Air Pollutants

Mass average daily and annual combustion criteria pollutant and off-gassing emissions⁴³ were estimated using the emission factors from California Air Resources Board's OFFROAD and Emission FACTors 2014 (EMFAC2014) model.^{44,45} Emissions were evaluated consistent with the methodology used by the California Emissions Estimator Model (CalEEMod) (version 2016.3.2), an emissions estimation/evaluation model that was developed in collaboration with the air quality management districts of California. CalEEMod separates the construction process into multiple phases to account for various construction scenarios, including demolition, site preparation, grading, building, architectural coating, and paving phases. From these construction phases, CalEEMod estimates emissions from the following sources:

- Off-road equipment;
- On-road mobile vehicle trips associated with workers, vendors and hauling;
- Fugitive dust emissions (PM₁₀ and PM_{2.5}) associated with demolition, excavation and grading, truck loading and entrained road dust; and
- ROG emission associated with application of architectural coatings (paints and finishes) and paving.

In addition, fugitive dust emissions would also be generated by controlled rock fragmentation, the dry mix concrete batch plant, and rock crushing activities.

Total construction emissions by phase were calculated and converted from tons per year to pounds per day using the estimated construction duration of each phase of construction for comparison against the significance thresholds. As there would be an overlap of construction and operational activities and variations in the duration of construction activities for each phase, estimated emissions are compared to both the average daily and maximum annual thresholds in Table 4.G-5 above. Please refer to Appendix E, Air Quality Supporting Information, for a detailed list of project-specific equipment considered and duration assumptions.

During the project's approximately 15-year construction period, construction activities would result in emissions of ozone precursors and PM, as discussed below. Because operation of earlier phases would occur during construction of later phases, the construction analysis accounts for operational emissions that would occur simultaneously with construction of later phases. Therefore, operational

⁴² Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2011, pp. 8-3.

⁴³ For example, evaporative emissions of ROG from the application of architectural coatings and asphalt paving.

⁴⁴ California Air Resources Board. 2014. *EMFAC2014*. Version 1.0.7. <https://www.arb.ca.gov/msei/categories.htm>.

⁴⁵ While the California Air Resources Board has published updated EMFAC2017 emission factors in December of 2017, these updated factors have not yet been approved by U.S. EPA. Please refer to Appendix E for a technical memorandum on the ramifications of using the latest EPA-approved model.

emissions are evaluated after each of the six phases of construction and upon buildout of each phase using the CalEEMod model. This allows for an analysis of the total emissions that would occur from construction activities and simultaneous operations during the 15-year construction period.

The emissions estimates provided in this analysis are based on conservative assumptions, including the expectation that a relatively large amount of construction takes place during a relatively intensive and overlapping schedule. Because of this conservative assumption, actual average daily or maximum annual emissions could be less than those estimated in this analysis. The phasing of project implementation would be subject to changes due to market conditions and other unanticipated factors, and construction could extend beyond 2034. If construction is delayed or occurs over a longer period, extending beyond 2034, emissions could be reduced because of (1) newer and cleaner-burning construction equipment fleet mix and/or (2) a less intensive and overlapping buildout schedule (i.e., fewer daily emissions occurring over a longer period). Conversely, if construction is accelerated and occurs over a shorter period, average daily emissions could increase. However, the project sponsor has indicated that the construction schedule used in this analysis is a reasonable and conservative schedule of actual construction activities for purposes of analyzing impacts, and that construction would not likely occur at a more rapid pace than is analyzed in this section.

Assumptions regarding construction phasing and equipment use were based on information received from the project sponsor and its construction consultants.⁴⁶ A complete list of the construction equipment for each phase, construction phase duration assumptions, and changes to modeling default values used in this analysis is included in Appendix E. The assessment of construction air quality impacts considers each of the following emissions sources:

1. Off-road construction vehicles and equipment (including generators)
2. Asphalt paving
3. Application of architectural coatings
4. On-road vehicles (travel and idling)
5. Controlled rock fragmentation
6. In-water equipment (tugs, cranes, pile drivers and clamshell dredging)

Sources one through three were analyzed using CalEEMod methodologies, as described above. Idling and travel emissions from on-road vehicles were estimated using emission factors from the EMFAC2014 model.⁴⁷ Emissions from in-water equipment were estimated using the methodology from the California Air Resource Board's Emissions Estimation Methodology for Commercial Harbor Craft Operating in California.⁴⁸

⁴⁶ California Barrel Company, spreadsheet, email communication with ESA, January 10, 2018.

⁴⁷ California Air Resources Board. EMFAC2014. Version 1.0.7, effective December 14, 2015, <https://www.arb.ca.gov/msei/categories.htm#emfac2014>, accessed March 1, 2018.

⁴⁸ California Air Resources Board. 2012. Emissions Estimation Methodology for Commercial Harbor Craft Operating in California. Appendix B, <https://www.arb.ca.gov/msei/chc-appendix-b-emission-estimates-ver02-27-2012.pdf>, accessed May 2, 2018.

Operational Emissions of Criteria Air Pollutants

Mass average daily and annual mobile and area source emissions were estimated using the CalEEMod (version 2016.3.2) emissions model. CalEEMod quantifies emissions from operational activities based on the project land use types and user-defined inputs for project location, operational year, and climate zone.

The project would generate operational emissions from a variety of sources, including stationary sources (diesel emergency generators); area sources (natural gas combustion in stoves, consumer products, architectural coatings, and landscape equipment); and from mobile sources (daily automobile and truck trips). Potential emissions from 15 emergency diesel generators (stationary sources) were estimated based on California Air Resources Board/U.S. EPA Tier 2 emission standards, conservatively assuming that each parcel with buildings higher than 75 feet would require such equipment. All emergency generators would range in size from 120 kilowatts (kW) to 2,000 kW, per information provided by the project sponsor. Specifications for generators is not available but it is assumed that generators would operate a maximum of 50 hours per year (consistent with Bay Area Air Quality Management District permitting limits). Project operational emissions of criteria pollutants from vehicle, stationary (backup generators), and area sources are summed to determine total operational emissions.

Area-source and energy emissions were calculated using the CalEEMod model based on the type and size of land uses associated with the proposed project, including the estimated number of residents. Other area sources are consumer products, architectural coatings⁴⁹, and landscaping equipment. San Francisco County-specific consumer product emission rate data⁵⁰ were used in the CalEEMod model to estimate daily VOC emissions.

Mobile-source emissions would result from vehicle trips (auto and truck) associated with the proposed project and were also calculated using the CalEEMod model based on the number of vehicle trips identified in the transportation analysis conducted for the project, which considered operation of the proposed shuttle service program.⁵¹ Operational emission calculations for entrained road dust are based on San Francisco-specific silt loadings.⁵²

A detailed quantification of operations-related criteria air pollutant emissions was conducted for the proposed project assuming the maximum office scenario⁵³ at project build out, year 2034, as well as at the completion of each incremental phase of construction: in 2025 (completion of Phase 1), in 2026

⁴⁹ A sensitivity analysis was performed for construction emissions but, except for emissions of ROG, construction emissions were generally similar among foreseeable buildout scenarios. Consequently, construction-related emissions of ROG were calculated assuming implementation of the maximum residential scenario.

⁵⁰ San Francisco's ROG emissions from consumer products in 2008 was 5.30 tons (California Air Resources Board. 2009 *Estimated Annual Average Emissions, San Francisco County*, https://www.arb.ca.gov/appl/emsin/lemssumcat_query.php?F_2008&F_DIV=4&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=38&F_COAB, accessed September 26, 2018); and San Francisco's assumed square footage was 703,541,231 square feet. Therefore, the emission factor used was 1.51e-5 lbs/(sq.ft-day). The total building square footage the City of San Francisco Environmental Planning Department relied upon in this calculation is San Francisco Planning Department 2011 Land Use data.

⁵¹ Adavant Consulting, Memorandum: Potrero Power Station Mixed-use Development Project Estimation of Project Travel Demand, DEIR Appendix C.

⁵² CARB, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust, Revised April 2016.

⁵³ The Maximum Office Scenario reflects the worst case emissions of possible development options because vehicle trip generation would be greatest under this option.

(completion of Phase 2), in 2028 (completion of Phase 3), in 2031 (completion of Phase 4), and in 2032 (completion of Phase 5). The criteria air pollutant significance thresholds reflect when a project would contribute considerably to significant air quality impacts. Operational emissions are added to construction emissions when they would occur concurrently.

Other Criteria Pollutants

Regional concentrations of CO in the Bay Area have not exceeded the state standards in the past 24 years, and SO₂ concentrations have never exceeded the standards. The primary source of CO emissions from development projects is vehicle traffic. Construction-related SO₂ emissions represent a negligible portion of basin-wide emissions, and construction-related CO emissions represent less than 5 percent of the Bay Area basin-wide CO emissions. As discussed previously, the Bay Area is in “attainment” for both CO and SO₂. Furthermore, the Bay Area Air Quality Management District has demonstrated, based on modeling, that to exceed the California ambient air quality standard of 9.0 ppm (eight-hour average) or 20.0 ppm (one-hour average) for CO, project traffic in addition to existing traffic would need to exceed 44,000 vehicles per hour at affected intersections (or 24,000 vehicles per hour where vertical and/or horizontal mixing is limited). The transportation analysis indicates that the intersections near the project site with the greatest vehicle volumes would be Cesar Chavez Street and Pennsylvania Avenue with hourly volumes of 5,791 in year 2040 with the project, which is less than 24,000. Therefore, given the Bay Area’s attainment status and the limited CO and SO₂ emissions that could result from the project, a quantitative analysis of these criteria pollutants is not required.

Local Health Risks and Hazards

In addition to criteria air pollutants, the proposed project would emit TACs. The project-related impact of toxic substances in soil that may become airborne, such as naturally occurring asbestos, is discussed in Section 4.K, Hazards and Hazardous Materials.

As part of this project, Ramboll conducted a health risk assessment for the proposed project to estimate health risks from exposures to TACs. The assessment examined all sensitive receptors within 3,280 feet (1,000 meters) of the project boundary, updated the citywide Community Risk Reduction Plan (CRRP) model to include specific locations of existing stationary sources, and updated cancer risk values based on the latest (2015) guidance by the California Office of Environmental Health Hazard Assessment. A previously performed review of citywide CRRP modeling data found that the emissions from the BAE Systems sources were incorrectly located causing the adjacent Pier 70 Mixed-Use District project site to the north to be incorrectly designated as being within an Air Pollutant Exposure Zone (APEZ). Ramboll worked with the air district to more accurately locate these emissions within the citywide model, and revised modeling was conducted to reassess cancer risk and PM_{2.5} concentrations within the project area and its surroundings. This updated modeling demonstrated that the adjacent Pier 70 Mixed-Use District project site does not meet the criteria for being within an APEZ at this location, meaning that the existing excess cancer risk is below 100 per one million and PM_{2.5} concentrations are below 10 µg/m³.

The proposed project would locate new sensitive receptors (primarily residential land uses and potential day care facilities) under both of the analyzed scenarios. The entirety of the project site

was assessed as a potential sensitive receptor area using a 66-foot (20-meter) receptor grid. Refer to Figure 2-5, p. 2-16, of Chapter 2, Project Description, for specific locations of proposed onsite residential uses. Exposure assessment guidance⁵⁴ assumes that people in residences would be exposed to air pollution 24 hours per day, 350 days per year, for 30 years as the basis for calculating cancer risk in all health risk assessments. Therefore, the air pollutant exposure to residents typically results in the greatest adverse health outcome for all population groups.

As discussed previously, neither the onsite receptors nor the nearest offsite receptors are located within an area that currently meets the APEZ criteria. For receptors not located in areas that meet the APEZ criteria, a health risk assessment is conducted to determine whether the proposed project would, in combination with other existing sources in the area, result in a given offsite or onsite receptor meeting the APEZ criteria.

If a receptor point that is not in the APEZ under existing conditions would meet the APEZ criteria with the project, a significant project-level health risk impact would occur if the magnitude of the project-level contribution is more than $0.3 \mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$ or if the project would contribute an additional excess cancer risk greater than 10.0 per million persons exposed. The $0.3 \mu\text{g}/\text{m}^3$ $\text{PM}_{2.5}$ concentration and the excess cancer risk of 10.0 per one million persons exposed are the levels below which the air district considers new sources to not make a considerable contribution to cumulative health risks.⁵⁵

Health Risk Assessment Methodology

A health risk assessment is used to determine if a particular chemical poses a significant risk to human health and, if so, under what circumstances. The assessment prepared for this project focuses on $\text{PM}_{2.5}$ and TACs because these pose significant health impacts at the local level.⁵⁶ The methodologies for the TAC analysis were based on the most recent Bay Area Air Quality Management District Recommended Methods for Screening and Modeling Local Risks and Hazards,⁵⁷ which recommends the use of the U.S. EPA's AERMOD model.

Consistent with the Community Risk Reduction Plan-Health Risk Assessment (CRRP-HRA), the air toxics analysis evaluated health risks and $\text{PM}_{2.5}$ concentrations resulting from the proposed project upon the surrounding community. For the proposed project, this would include construction emissions over the course of buildout, operational traffic (which was assessed using the air district's screening tables as described in Appendix E), and stationary sources (the 15 emergency generators). The methodologies used to evaluate emissions for the proposed project and cumulative health risk

⁵⁴ California Environmental Protection Agency, *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment*, February 2015, http://oehha.ca.gov/air/hot_spots/2015/.pdf, accessed March 26, 2018.

⁵⁵ Bay Area Air Quality Management District, *California Environmental Quality Act Guidelines Update, Proposed Air Quality CEQA Thresholds of Significance*, May 3, 2010, www.baaqmd.gov/~media/Files/Planning%20and%20Research/Thresholds_Report_%20May_3_2010_Final.ashx?la=en, accessed March 26, 2018.

⁵⁶ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. 5-1.

⁵⁷ Bay Area Air Quality Management District, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2012, <http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>, accessed April 23, 2018.

assessment are based on the most recent air district CEQA Guidelines and the most recent Air Toxics Hot Spots Program Risk Assessment Guidelines.⁵⁸

Some onsite parcels are designated as flexible land uses (i.e., those that could potentially serve as residential or commercial buildings). For the health risk assessment, a conservative approach was adopted whereby the worst-case air concentrations from the project were estimated by assuming the higher emissions among all the land use scenarios, as well as assessing the entirety of the project site as a potential sensitive receptor area using a 66-foot (20-meter) receptor grid, given that residential uses and child care facilities could be located across the project site.

The cancer risk analysis in the health risk assessment for the project is based on DPM concentrations from on- and off-road construction equipment, as well as the operational DPM concentrations from the emergency generators. Concentrations of TACs from the proposed project construction emissions were estimated using the U.S. EPA's preferred atmospheric dispersion modeling system (AERMOD), as were project-related operational stationary sources (emergency generators). The most recent version of the American Meteorological Society/Environmental Protection Agency regulatory air dispersion model (AERMOD Version 16216r) was used to evaluate ambient air concentrations of DPM and PM_{2.5} at on- and offsite receptors.⁵⁹

The incremental health risks and hazards attributed to project-related traffic were predicted using the air district's Roadway Screening tools which were adjusted to account for the updates based on the Office of Environmental Health Hazard Assessment risk assessment guidelines (2015).

AERMOD requires a number of inputs including meteorological data. For this health risk assessment, Bay Area Air Quality Management District's Mission Bay meteorological data for 2008 were used, which aligns with the San Francisco CRRP-HRA Methodology.⁶⁰ For detail with regard to terrain and land use considerations, emission rates, source parameters, and risk characterization methods applied in the assessment, please refer to Appendix E.

In order to evaluate health impacts to onsite and offsite receptors, receptors were placed at locations co-located with the receptors used in the CRRP-HRA and within 3,280 feet (1,000 meters) of the project site, including future residents on the planned Pier 70 Mixed-Use District project. With the exception of Block 4, sensitive receptors were modeled at a height of 6 feet (1.8 meters), above terrain height, a default breathing height for ground-floor receptors, consistent with the CRRP-HRA analysis. On Block 4, sensitive receptors were modeled at a height of 15 feet (4.8 meters) above terrain height as no sensitive uses would be allowed at ground-level due to deed restrictions.

⁵⁸ California State the Office of Environmental Health Hazard Assessment (OEHHA), 2015, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August, http://www.oehha.ca.gov/hot_spots//.pdf, accessed April 23, 2018.

⁵⁹ U.S. EPA. 2015. Addendum: User's Guide for the AMS/U.S. EPA Regulatory Model - AERMOD. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. U.S. EPA-454/B-03-001, September 2004). June, https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.zip, accessed April 23, 2018.

⁶⁰ Bay Area Air Quality Management District, San Francisco Department of Public Health, & San Francisco Planning Department. 2012. The San Francisco Community Risk Reduction Plan: Technical Support Document. December.

Offsite sensitive receptors were identified based on residential land use and/or zoning, and field confirmation. Parcels that are characterized as “residential” using data from SF OpenData, the City and County of San Francisco’s official open data portal⁶¹ as well as onsite locations categorized as residential or those that could potentially be used for residential housing were modeled as sensitive receptors. The project sponsor has indicated that daycare facilities could be located anywhere on the project site. Therefore, daycare uses were assumed to be located on all blocks within the project site. Offsite daycare facilities and schools were also identified and modeled. State health risk assessment guidance assumes greater exposure durations for residential receptors than for child care facilities, both of which are assumed to have children present. Consequently, all receptors were modeled as residential receptors as a worst-case analysis.

Excess lifetime cancer risks were estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor. Estimated excess cancer risks were calculated using the sensitivity factors and breathing rates recommended by the Office of Environmental Health Hazard Assessment.⁶²

Children living offsite were assumed to be present at one location during the entire construction period. Other offsite and onsite residents were assumed to be present at one location for 30 years, consistent with the Office of Environmental Health Hazard Assessment guidance.

The health risk assessment evaluated excess cancer risk and PM_{2.5} concentrations as a result of exposure to both construction and operational emissions.

Odors

This analysis evaluates whether the proposed project would create objectionable odors that would affect a substantial number of people (e.g., by introducing new land uses that are typically associated with odor complaints).

Methodology for Analyzing Cumulative Impacts

By definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size, by itself, to cause non-attainment of air quality standards. The contribution of a project’s air emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from past, present, and reasonably foreseeable future projects in the vicinity also have or will contribute to adverse regional air quality impacts on a cumulative basis. No single project by itself would be sufficient in size to result in non-attainment of ambient air quality standards in the San Francisco Bay Area Air Basin. Instead, a project’s individual emissions contribute to existing cumulative air quality conditions.⁶³ As described above, the project-level thresholds for

⁶¹ San Francisco City and County. 2016. SF OpenData, <https://data.sfgov.org/>, accessed April 23, 2018.

⁶² Office of Environmental Health Hazard Assessment, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2015, http://www.oehha.ca.gov/air/_spots/pdf/HRAguidefinal.pdf, accessed April 23, 2018.

⁶³ Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2017, p. 2-1.

criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, if a project's emissions are below the project-level thresholds, the project would not result in a considerable contribution to cumulative regional air quality impacts.

Similarly, the health risk assessment takes into account the cumulative contribution of localized health risks to sensitive receptors from sources included in the citywide modeling plus the proposed project's sources. Additionally, the construction-related and operational TAC emissions from the planned Pier 70 Mixed-Use District project parcels immediately north of the project site are considered in the cumulative health risk analysis. Other future projects, whose emissions have not been incorporated into the existing citywide health risk modeling are also taken into consideration. However, unlike criteria air pollutants, health risks are localized impacts because beyond 1,000 feet from an emission source, pollutants disperse, and pollutant levels tend to return to background levels. Thus, cumulative health risks are typically assessed based on cumulative emissions sources within 1,000 feet of a project site, which, for purposes of this EIR, include those on the Pier 70 Mixed-Use District project site.

A modified construction schedule for the Pier 70 Mixed-Use District project was used to evaluate cumulative health risks to future residents of the Pier 70 Mixed-Use District project. This was done in order to evaluate a hypothetical reasonable worst-case scenario for exposure of future Pier 70 Mixed-Use District project residents to construction and operational emissions from both the project and subsequent phases of the Pier 70 Mixed-Use District project, in the event that the construction phase is modified in the future. The modification includes: (1) moving the start of construction to 2019 (originally assumed to begin at 2018 per the Pier 70 Mixed-Use District project EIR), (2) having Phase 3 and Phase 5 construction occur simultaneously (2021 – 2023) after Phase 1 construction, (3) having Phase 2 and Phase 4 construction occur simultaneously (2024 – 2026). Construction Phases 2 – 5 are assumed to apply construction emissions minimization mitigation that is required by the Pier 70 Mixed-Use District project EIR approvals. The residential blocks on the Pier 70 Mixed-Use District project closest to the proposed project (Blocks F, G, H1 and H2) are assumed to begin occupancy in 2024, as they would be built during construction phases 3 and 5. Thus, residents occupying these blocks would be exposed to emissions not only from subsequent phases of construction for the Pier 70 Mixed-Use District project but also from the proposed project's construction emissions beginning in year 2024 and onwards.

Impact Evaluation

Impact AQ-1: During construction the proposed project would not generate fugitive dust that could violate an air quality particulate standard, contribute substantially to an existing or projected particulate violation, or result in a cumulatively considerable net increase in particulate concentrations. (*Less than Significant*)

Construction of the proposed project has the potential to create temporary air quality impacts through emissions of fugitive dust. Fugitive dust emissions would result from site disturbance including excavation, grading, trenching, rock crushing, controlled rock fragmentation and operation of an onsite dry mix concrete batch plant. Dust emissions would be generated by proposed controlled

rock fragmentation techniques that could be employed and could include one or a combination of the following: pulse plasma rock fragmentation, controlled foam or hydraulic injection, and/or controlled blasting (see Section 2.F.1 Construction Overview and Schedule for a more detailed description of controlled rock fragmentation techniques). Controlled rock fragmentation emissions of fugitive dust would primarily result from controlled blasting operations and crushing equipment, if such techniques are employed.

Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust, which would contribute particulate matter to the local atmosphere. The Construction Dust Control Ordinance, described above under Local Regulations, requires all site preparation work, demolition, or other construction activities within San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards, or 500 square feet, of soil to comply with specified dust control measures, whether or not the activity requires a permit from the director of public health.

Building permits will not be issued without written notification from the director of public health that states that the applicant has a site-specific Dust Control Plan. A Dust Control Plan is required for projects that would disturb 0.5 acres or more. Since the project site is about 29 acres in size, a Dust Control Plan is required. The Construction Dust Control Ordinance requires the project sponsor and the contractors who are responsible for construction activities to minimize visible dust on the site. Minimum dust control measures that apply to all projects include watering all construction areas sufficiently to prevent dust from becoming airborne; providing as much water as necessary to control dust (without creating runoff) in any area of land clearing, earth movement, excavation, drillings, and other dust-generating activity; during excavation and dirt-moving activities, wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday; covering any inactive stockpiles greater than 10 cubic yards or 500 square feet of excavated materials, and using dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.

Other dust control measures in the required site-specific Dust Control Plan could include but are not limited to: wetting down the area around soil improvements; an analysis of wind direction; placement of dust monitors; recordkeeping for particulate monitoring results; inspections and record keeping for visible dust; and establishing a hotline for surrounding community members to call and report visible dust problems. Reclaimed water must be used for watering down the construction area if required by article 21, section 1100 et seq., of the San Francisco Public Works Code. City Ordinance 175-91 requires the use of non-potable water for soil compaction and dust control undertaken in conjunction with any construction or demolition project occurring within the boundaries of San Francisco, unless permission is obtained from the San Francisco Public Utilities Commission (SFPUC). SFPUC operates a recycled water fill station at the Southeast Water Pollution Control Plant, which provides recycled water at no charge.

In addition to the requirements listed above, the site-specific Dust Control Plan would require the project sponsor to submit a map to the director of public health that shows all sensitive receptors within 1,000 feet of the site. The project sponsor would be required to designate an individual to monitor project compliance with these dust control requirements. Compliance with the regulations

and procedures set forth by the Construction Dust Control Ordinance would ensure that potential dust-related air quality impacts during project construction would be reduced to a less-than-significant level.

Mitigation: None required.

Impact AQ-2: During construction (including construction phases that overlap with project operations), the proposed project would generate criteria air pollutants which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (*Significant and Unavoidable with Mitigation*)

Construction of the proposed project has the potential to create temporary air quality impacts through emissions of criteria air pollutants associated with the use of heavy-duty construction equipment, construction workers' vehicle trips, and truck hauling trips. Fugitive ROG emissions would result from application of architectural coatings and paving. The assessment of construction air quality impacts considers each of these potential sources. Demolition and construction activities would require the use of drill rigs, heavy trucks, excavators, material loaders, cranes, and other mobile, marine-based and stationary construction equipment. During the project's approximately 15-year construction period, construction activities would result in emissions of ozone precursors and PM, as discussed below. Because operation of earlier phases would occur during construction of later phases, the construction analysis accounts for operational emissions that would occur simultaneously with construction of later phases.

As stated in the methodology section, construction emissions of NO_x, PM₁₀ and PM_{2.5} would be similar under the different buildout scenarios, but ROG emissions would be greater under the maximum residential scenario. Consequently, construction-related emissions of ROG were calculated assuming the maximum residential scenario as a worst-case assumption.

Tables 4.G-6A and 4.G-6B, Unmitigated Average Daily and Maximum Annual Emissions for the Project During Construction, presents construction-period emissions for the proposed project. Phase 0.1⁶⁴ involves site preparation activities by the project sponsor (grading, soil excavation) in the future PG&E remediation area, but it should be noted that PG&E's environmental remediation activities are independent of the project. As shown in Tables 4.G-6A and 4.G-6B, construction-related emissions of NO_x would exceed significance thresholds for all phases of construction; this would be a *significant* impact. The primary source of NO_x emissions would be off-road construction equipment (representing approximately 95 percent of total unmitigated NO_x emissions). ROG and NO_x thresholds would be exceeded when the majority of construction activities would occur and when the greatest number of construction phases would overlap with project operations; this would also be a *significant* impact. The primary source of ROG emissions would be fugitive emissions from

⁶⁴ Project construction schedule provided by the Project Sponsor. Phase 0 involves demolition, site preparation, and rough grading for the entire Project between 2020 and 2022. Phase 0.1 is included within the boundary of Phase 0 but is subject to PG&E remediation efforts which could impact schedule for completion of work in this area and would occur in 2024.

architectural coatings and asphalt paving activities (representing approximately 58 percent of total unmitigated ROG emissions). Emissions of construction-related PM₁₀ and PM_{2.5} would be below significance thresholds (i.e., *less-than-significant* impact) during all construction phases.

TABLE 4.G-6A
UNMITIGATED AVERAGE DAILY EMISSIONS FOR THE PROJECT DURING CONSTRUCTION, INCLUDING
OVERLAPPING CONSTRUCTION AND OPERATION IN LB/DAY

	Average Daily Emissions (lb/day)*			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Thresholds	54	54	82	54
Phase 0 Construction	10	98	4.2	4.0
Above Threshold?	No	Yes	No	No
Phases 0 and 1 Construction	35	206	8.9	8.4
Above Threshold?	No	Yes	No	No
Phase 1 and 2 Construction	45	154	6.5	6.2
Above Threshold?	No	Yes	No	No
Phase 0.1, 1 and 2 Construction	48	190	7.4	7.1
Above Threshold?	No	Yes	No	No
Phase 1, 2 and 3 Construction	56	197	8.2	7.8
Above Threshold?	Yes	Yes	No	No
Phase 2 and 3 Construction + Phase 1 Operation	55	124	17	7.9
Above Threshold?	Yes	Yes	No	No
Phase 3 Construction + Phase 1 and 2 Operation	53	91	20	8.2
Above Threshold?	No	Yes	No	No
Phase 3 and 4 Construction + Phase 1 and 2 Operation	70	142	22	9.9
Above Threshold?	Yes	Yes	No	No
Phase 4 Construction + Phase 1 through 3 Operation	67	111	24	9.7
Above Threshold?	Yes	Yes	No	No
Phase 4, 5 and 6 Construction + Phase 1 through 3 Operation	98	160	25	11
Above Threshold?	Yes	Yes	No	No
Phase 5 and 6 Construction + Phase 1 through 4 Operation	103	128	32	12
Above Threshold?	Yes	Yes	No	No
Phase 6 Construction + Phase 1 through 5 Operation	100	109	37	14
Above Threshold?	Yes	Yes	No	No
Phases 1 through 6 Operation**	105	102	42	15
Above Threshold?	Yes	Yes	No	No

NOTES: **Bolded** numerical values are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a **bolded "Yes"** response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** See Table 4.G-8, below for breakdown of operational emissions.

*** Detailed construction and operational emissions by Phase can be found in Tables 5a, 8a, 8b, 8e and 8f of the Air Quality Appendix.

**** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

TABLE 4.G-6B
UNMITIGATED MAXIMUM ANNUAL EMISSIONS FOR THE PROJECT DURING CONSTRUCTION, INCLUDING
OVERLAPPING CONSTRUCTION AND OPERATION IN TON/YEAR

	Maximum Annual Emissions (ton/year)			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Threshold	10	10	15	10
Phase 0 Construction	1.3	13	0.55	0.52
Above Threshold?	No	Yes	No	No
Phases 0 and 1 Construction	4.6	27	1.2	1.1
Above Threshold?	No	Yes	No	No
Phases 1 and 2 Construction	5.8	20	0.85	0.81
Above Threshold?	No	Yes	No	No
Phases 0.1, 1 and 2 Construction	6.0	22	0.89	0.85
Above Threshold?	No	Yes	No	No
Phases 1, 2 and 3 Construction	7.3	26	1.1	1.0
Above Threshold?	No	Yes	No	No
Phases 2 and 3 Construction + Phase 1 Operation	8.4	18	2.8	1.3
Above Threshold?	No	Yes	No	No
Phase 3 Construction + Phases 1 and 2 Operation	9.0	14	3.6	1.4
Above Threshold?	No	Yes	No	No
Phases 3 and 4 Construction + Phases 1 and 2 Operation	11	21	3.9	1.6
Above Threshold?	Yes	Yes	No	No
Phase 4 Construction + Phases 1 through 3 Operation	11	18	4.3	1.7
Above Threshold?	Yes	Yes	No	No
Phases 4, 5 and 6 Construction + Phases 1 through 3 Operation	15	24	4.4	1.8
Above Threshold?	Yes	Yes	No	No
Phases 5 and 6 Construction + Phases 1 through 4 Operation	17	21	5.8	2.2
Above Threshold?	Yes	Yes	No	No
Phase 6 Construction + Phases 1 through 5 Operation	18	19	6.7	2.5
Above Threshold?	Yes	Yes	No	No
Phases 1 through 6 Operation**	19	19	7.6	2.8
Above Threshold?	Yes	Yes	No	No

NOTES: Bolded numerical values are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a bolded "Yes" response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** See Table 4.G-8, below for breakdown of operational emissions.

*** Detailed construction and operational emissions by Phase can be found in Tables 5a, 8a, 8b, 8e and 8f of the Air Quality Appendix.

**** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

Health Implications of Significant Impacts Related to Emissions of Ozone Precursors

ROG and NO_x are ozone precursors, and the main health concern of exposure to ground-level ozone is effects on the respiratory system, especially on lung function. Several factors influence these health impacts: the concentrations of ground-level ozone in the atmosphere; the duration of exposure; the average volume of air breathed per minute; the length of intervals between short-term exposures; and the sensitivity of the person to the exposure.^{65,66} The concentration of ground-level ozone in the atmosphere is influenced by the volume of air available for dilution, the temperature, and the intensity of ultraviolet light. In the Bay Area, the worst case conditions for ozone formation occur in the summer and early fall on warm, windless, sunny days.⁶⁷

Given these various factors, it is difficult to predict the magnitude of health effects from the project's exceedance of significance criteria for regional ROG and NO_x emissions. The increase in emissions associated with the proposed project represents a fraction of total San Francisco Bay Area Air Basin regional ROG emissions (up to 19 tons per year or 0.05 tons per day compared to an estimated 213 tons per day in the basin region in 2017)⁶⁸ and NO_x emissions (up to 27 tons per year or 0.07 tons per day compared to an estimated 244 tons per day in the basin region in 2017). Although Table 4.G-1 in the Setting section above indicates that the most stringent applicable ozone standards were not exceeded at the San Francisco-Arkansas Street monitoring station between 2013 and 2017, the San Francisco Bay Area Air Basin experienced an average of 9.2 days of ozone exceedance per year between 2013 and 2017.⁶⁹ The proposed project's ROG and NO_x increases could contribute to new or exacerbated air quality violations in the basin region by contributing to more days of ozone exceedance or result in Air Quality Index values that are unhealthy for sensitive groups and other populations. As shown in Table 4.G-3 in the Setting section above, the basin has averaged between nine and 19 days per year that are considered unhealthy for sensitive groups and had 13 unhealthy (red) days in the last five years for which data are available. On unhealthy days, persons are recommended to avoid both prolonged and heavy-exertion outdoor activities.⁷⁰ In addition, there were three days designated as very unhealthy (purple) in 2017 during the October fires in the north bay.

Mitigation of Construction-Related and Operational Air Quality Impacts

To address ROG and NO_x emissions that would exceed significance thresholds during construction of the proposed project, **Mitigation Measure M-AQ-2a, Construction Emissions Minimization**, shown below, has been identified and would apply during all construction phases.

⁶⁵ The World Bank Group, *Pollution Prevention and Abatement Handbook 1998: Toward Cleaner Production*, pp. 227–230, 1999, www.ifc.org/wps/wcm/connect/dd7c9800488553e0b0b4f26a6515bb18/pdf?MOD=AJPERES, accessed April 23, 2018.

⁶⁶ U.S. EPA, *Air Quality Guide for Ozone*, March 2015b, <https://airnow.gov/index.cfm?action=pubs.aqiguideozone>, accessed April 23, 2018.

⁶⁷ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. C-15. Accessed January 19, 2016.

⁶⁸ California Air Resources Board, *CEPAM 2016- Standard Emission Tool* February 15, 2017, <https://www.arb.ca.gov/app/emsinfo/fcemssumcat/fcemssumcat2016.php>, accessed June 6, 2018.

⁶⁹ Bay Area Air Quality Management District, *Annual Bay Area Air Quality Summaries*, 2017, <http://www.baaqmd.gov/about-air-quality/air-quality-summaries>, accessed April 23, 2018.

⁷⁰ U.S. Environmental Protection Agency, *Air Quality Index, A Guide to Air Quality and Your Health*, February 2014, www.epa.gov/airnow/aqi_brochure_02_14.pdf, accessed April 23, 2018.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization

The project sponsor or the project sponsor's contractor shall comply with the following:

A. Engine Requirements.

1. The project sponsor shall ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the project site (such as haul trucks, water trucks, dump trucks, and concrete trucks) be model year 2010 or newer.
2. All off-road equipment (including water construction equipment used onboard barges) greater than 25 horse power shall have engines that meet Tier 4 Final off-road emission standards. Tug boats used during project construction shall comply with U.S. EPA Tier 3 Marine standards for Marine Diesel Engine Emissions.
3. Since grid power will be available, portable diesel engines shall be prohibited.
4. Renewable diesel shall be used to fuel all diesel engines unless it can be demonstrated to the Environmental Review Officer (ERO) that such fuel is not compatible with on-road or off-road engines and that emissions of ROG and NOx from the transport of fuel to the project site will offset its NOx reduction potential.
5. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit.
6. The contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications.

B. Waivers.

The ERO may waive the equipment requirements of Subsection (A)(1) if: a particular piece of off-road equipment is technically not feasible; the equipment would not produce desired emissions reduction due to expected operating modes; installation of the equipment would create a safety hazard or impaired visibility for the operator; or, there is a compelling emergency need to use other off-road equipment. If the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the table below.

The ERO may waive the equipment requirements of Subsection (A)(2) if: a particular piece of off-road equipment with an engine meeting Tier 4 Final emission standards is not regionally available to the satisfaction of the ERO. If seeking a waiver from this requirement, the project sponsor must demonstrate to the satisfaction of the ERO that the health risks from existing sources, project construction and operation, and cumulative sources do not exceed a total of 10 µg/m³ or 100 excess cancer risks for any onsite or offsite receptor.

The ERO may waive the equipment requirements of Subsection (A)(3) if: an application has been submitted to initiate on-site electrical power, portable diesel engines may be temporarily operated for a period of up to three weeks until on-site electrical power can be initiated or, there is a compelling emergency.

- C. **Construction Emissions Minimization Plan.** Before starting onsite ground disturbing, demolition, or construction activities, the contractor shall submit a Construction Emissions Minimization Plan to the ERO for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the requirements of Section A, Engine Requirements.
1. The Construction Emissions Minimization Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used.
 2. The project sponsor shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The plan shall include a certification statement that the contractor agrees to comply fully with the plan.
 3. The contractor shall make the Construction Emissions Minimization Plan available to the public for review onsite during working hours. The contractor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way.
- D. **Monitoring.** After start of construction activities, the contractor shall submit quarterly reports to the ERO documenting compliance with the Construction Emissions Minimization Plan. After completion of construction activities and prior to receiving a final certificate of occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.

Residual Impact with Implementation of Mitigation Measure M-AQ-2a

Mitigation Measure M-AQ-2a would reduce construction-related ROG emissions by approximately 31 percent during the construction of phases 1, 2 and 3. Emissions of construction-related NO_x would be reduced by approximately 75 percent during construction of phases 1, 2 and 3. The large reduction in construction emissions is a result of starting with fleetwide average emission factors for the construction fleet from OFFROAD for the unmitigated scenario to applying Tier 4 Final emission factors to off-road construction equipment for the mitigated scenario. Mitigated emissions also include emissions reduction from compliance of marine engines with Mitigation Measure M-AQ-2a. Mitigated emissions are presented in **Tables 4.G-7A and 4.G-7B, Mitigated Average Daily and Maximum Annual Emissions for the Project During Construction**. Mitigated construction emissions, alone, would be below significance thresholds. However, simultaneous emissions from construction and operations would still exceed thresholds but would be substantially reduced by this measure. For instance, without mitigation, significant criteria pollutant impacts would occur in 2020 starting with phase 0, while with mitigation, significant impacts would not occur until phases 2 and 3 of construction (combined with phase 1 operations) in 2025. Additionally, as discussed below under Impact AQ-4, particulate emission reductions from this measure would be necessary to reduce

potential health risk impacts to onsite receptors to less than significant levels. Implementation of this mitigation measure would not result in any adverse environmental effects.

TABLE 4.G-7A
MITIGATED AVERAGE DAILY EMISSIONS FOR THE PROJECT DURING CONSTRUCTION, INCLUDING OVERLAPPING CONSTRUCTION AND OPERATION IN LB/DAY

	Average Daily Emissions (lb/day)*			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Thresholds	54	54	82	54
Phase 0 Construction	2.6	19	0.52	0.51
Above Threshold?	No	No	No	No
Phases 0 and 1 Construction	19	43	0.88	0.87
Above Threshold?	No	No	No	No
Phases 1 and 2 Construction	31	36	0.50	0.49
Above Threshold?	No	No	No	No
Phases 0, 1 and 2 Construction	32	47	0.59	0.59
Above Threshold?	No	No	No	No
Phases 1, 2 and 3 Construction	39	48	0.67	0.67
Above Threshold?	No	No	No	No
Phases 2 and 3 Construction + Phase 1 Operation	46	55	12	4.3
Above Threshold?	No	Yes	No	No
Phase 3 Construction + Phases 1 and 2 Operation	48	54	17	6.1
Above Threshold?	No	Yes	No	No
Phases 3 and 4 Construction + Phases 1 and 2 Operation	60	71	17	6.3
Above Threshold?	Yes	Yes	No	No
Phase 4 Construction + Phases 1 through 3 Operation	60	67	20	7.2
Above Threshold?	Yes	Yes	No	No
Phases 4, 5 and 6 Construction + Phases 1 through 3 Operation	85	88	20	7.4
Above Threshold?	Yes	Yes	No	No
Phases 5 and 6 Construction + Phases 1 through 4 Operation	94	86	28	10
Above Threshold?	Yes	Yes	No	No
Phase 6 Construction + Phases 1 through 5 Operation	94	84	32	12
Above Threshold?	Yes	Yes	No	No
Phases 1 through 6 Operation**	101	85	37	14
Above Threshold?	Yes	Yes	No	No

NOTES: **Bolded** numerical values are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a **bolded "Yes"** response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** See Table 4.G-9, below for breakdown of operational emissions.

*** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

TABLE 4.G-7B
MITIGATED MAXIMUM ANNUAL EMISSIONS FOR THE PROJECT DURING CONSTRUCTION, INCLUDING
OVERLAPPING CONSTRUCTION AND OPERATION IN TON/YEAR

	Maximum Annual Emissions (ton/year)			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Threshold	10	10	15	10
Phase 0 Construction	0.34	2.5	0.067	0.067
Above Threshold?	No	No	No	No
Phases 0 and 1 Construction	2.5	5.6	0.11	0.11
Above Threshold?	No	No	No	No
Phases 1 and 2 Construction	4.1	4.7	0.064	0.064
Above Threshold?	No	No	No	No
Phases 0.1, 1 and 2 Construction	4.1	5.2	0.069	0.068
Above Threshold?	No	No	No	No
Phases 1, 2 and 3 Construction	5.1	6.3	0.087	0.087
Above Threshold?	No	No	No	No
Phases 2 and 3 Construction + Phase 1 Operation	7.2	8.7	2.2	0.78
Above Threshold?	No	No	No	No
Phase 3 Construction + Phases 1 and 2 Operation	8.3	9.2	3.1	1.1
Above Threshold?	No	No	No	No
Phases 3 and 4 Construction + Phases 1 and 2 Operation	9.9	11	3.1	1.1
Above Threshold?	No	Yes	No	No
Phase 4 Construction + Phases 1 through 3 Operation	10	11	3.6	1.3
Above Threshold?	Yes	Yes	No	No
Phases 4, 5 and 6 Construction + Phases 1 through 3 Operation	14	14	3.6	1.3
Above Threshold?	Yes	Yes	No	No
Phases 5 and 6 Construction + Phases 1 through 4 Operation	16	15	5.0	1.8
Above Threshold?	Yes	Yes	No	No
Phase 6 Construction + Phases 1 through 5 Operation	17	15	5.9	2.2
Above Threshold?	Yes	Yes	No	No
Phases 1 through 6 Operation**	18	15	6.7	2.5
Above Threshold?	Yes	Yes	No	No

NOTES: **Bolded numerical values** are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a **bolded "Yes"** response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** See Table 4.G-9, below for breakdown of operational emissions.

*** Detailed construction and operational emissions by Phase can be found in Tables 5b, 8c, 8d, 8g and 8h of the Air Quality Appendix.

**** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

To address emissions that would occur during operation of the proposed project, the following mitigation measures, have been identified: **Mitigation Measure M-AQ-2b, Diesel Backup Generator Specifications**; **Mitigation Measure M-AQ-2c, Promote Use of Green Consumer Products**; **Mitigation Measure M-AQ-2d, Electrification of Loading Docks**; **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay**; **Mitigation Measure M-AQ-2e, Additional Mobile Source Control Measures**; and **Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions**.

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications

To reduce NO_x associated with operation of the proposed project, the project sponsor shall implement the following measures:

- A. All new diesel backup generators shall:
 1. Have engines that meet or exceed California Air Resources Board Tier 4 off-road emission standards which have the lowest NO_x emissions of commercially available generators; and
 2. Be fueled with renewable diesel, if commercially available⁷¹, which has been demonstrated to reduce NO_x emissions by approximately 10 percent.
- B. All new diesel backup generators shall have an annual maintenance testing limit of 50 hours, subject to any further restrictions as may be imposed by the Bay Area Air Quality Management District in its permitting process.
- C. For each new diesel backup generator permit submitted to Bay Area Air Quality Management District for the project, the project sponsor shall submit the anticipated location and engine specifications to the San Francisco Planning Department ERO for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generator is located shall be required to maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and to provide this information for review to the planning department within three months of requesting such information.

Residual Impact with Implementation of Mitigation Measure M-AQ-2b

Implementation of Mitigation Measure M-AQ-2b would reduce ROG emissions from generators by 91 percent. NO_x emissions from generators would be reduced by 54 percent, and emissions of PM₁₀ would be reduced by 90 percent. Operational emissions would still exceed the significance thresholds as the overall contribution of generator emissions to total project emissions is very small. However, as discussed below under Impact AQ-4, particulate emission reductions from this measure are necessary to reduce potential health risk impacts to onsite receptors to less than significant levels. Implementation of this mitigation measure would not result in significant adverse environmental effects.

⁷¹ Neste MY renewable Diesel is available in the Bay Area through Western States Oil.

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products

The project sponsor shall provide educational programs and/or materials for residential and commercial tenants concerning green consumer products. Prior to receipt of any certificate of final occupancy and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to residential and/or commercial tenants of each building on the project site that encourages the purchase of consumer products that generate lower than typical volatile organic compound emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and website links to SF Approved (www.sfapproved.org). This website also may be used as an informational resource by businesses and residents.

Residual Impact with Implementation of Mitigation Measure M-AQ-2c

SF Approved (sfapproved.org) is administrated by the department of environment, and identifies products and services that are required and recommended for use by city departments in connection with the San Francisco's Precautionary Purchasing Ordinance (section 203 of the San Francisco Environment Code). Implementation of Mitigation Measure M-AQ-2c could reduce ROG emissions associated with the use of consumer products. Given that the project sponsor does not have authority to require use of certain products, the effectiveness of this measure is unknown and no reduction in ROG emissions can be estimated from this measure. Implementation of this mitigation measure would not result in any adverse environmental effects.

Mitigation Measure M-AQ-2d: Electrification of Loading Docks

The project sponsor shall ensure that loading docks for retail, light industrial, or warehouse uses that will receive deliveries from refrigerated transport trucks incorporate electrification hook-ups for transportation refrigeration units to avoid emissions generated by idling refrigerated transport trucks.

Residual Impact with Implementation of Mitigation Measure M-AQ-2d

Mitigation Measure M-AQ-2d would reduce emissions of ROG, NO_x, and PM₁₀. The number of deliveries from refrigerated transport trucks is estimated to be five deliveries per day, and application of this mitigation measure would result in a reduction of 5.6 lb/year of ROG, 42 lb/year of NO_x and 0.25 lb/year of PM₁₀. Implementation of this mitigation measure would not result in significant adverse environmental effects.

Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation, Impact TR-5)

Although designed to reduce transit delay, Mitigation Measure M-TR-5 would reduce vehicle trips generated by the proposed project by providing additional transportation demand management (TDM) measures to shift vehicle trips to other modes. The measure identifies a performance standard that would limit the number of project-generated vehicle trips during the p.m. peak hour to a maximum of 89 percent of the EIR-estimated values for each phase of project development. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.) or other measures identified by the City.

Residual Impact with Implementation of Mitigation Measure M-TR-5

Shifting of a portion of project-generated vehicle trips to other modes through implementation of **Mitigation Measure M-TR-5** would reduce projected vehicle trips. Consistent with Impact TR-5 of Section 4.E Transportation and Circulation it is estimated that this measure would reduce vehicle trips by 11 percent. Application of this mitigation measure would result in a reduction of 0.3 lb/year of ROG, 1.2 lb/year of NOx and 0.7 lb/year of PM₁₀.

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures

The following Mobile Source Control Measures from the Bay Area Air Quality Management District's 2010 Clean Air Plan shall be implemented:

- Promote use of clean fuel-efficient vehicles through preferential (designated and proximate to entry) parking and/or installation of charging stations beyond the level required by the City's Green Building code, from eight to 20 percent.
- Promote zero-emission vehicles by requesting that any car share program operator include electric vehicles within its car share program to reduce the need to have a vehicle or second vehicle and to reduce vehicle emissions as a part of the TDM program that would be required of all new developments.

Residual Impact with Implementation of Mitigation Measure M-AQ-2e

Mitigation Measure M-AQ-2e would marginally reduce mobile source emissions of ROG, NOx, and PM₁₀. No additional emissions reductions were quantified from implementation of this mitigation measure. Implementation of this mitigation measure would not result in any adverse environmental effects.

Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5 would reduce construction and operational emissions of ozone precursors to the extent feasible. However, as indicated in Tables 4.G-7A and 4.G-7B above, project emissions of ROG and NOx would still exceed significance thresholds, both during construction and at full buildout. Because emissions during construction would exceed thresholds, all feasible mitigation measures are identified, including those for project operations which would occur during construction of later phases. For ROG and NOx emissions, the greatest threshold exceedances with inclusion of all feasible mitigation would occur during post-construction operation under full buildout when annual emissions would be 8 tons per year and 5 tons per year greater than the 10-ton-per-year thresholds for ROG and NOx, respectively. These exceedances are addressed below in **Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions**. This offset requirement is intended to offset the criteria air pollutant emissions from construction and operations remaining above significance levels after implementing the emission source reduction mitigation measures discussed.

Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions

Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the ERO, shall either:

- (1) *Directly fund or implement a specific offset project within San Francisco* to achieve the equivalent to a one-time reduction of 13 tons per year of ozone precursors. To qualify under this mitigation measure, the specific emissions offset project must result

in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsor shall notify the ERO within six months of completion of the offset project for verification; or

- (2) ***Pay mitigation offset fees*** to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than 5 percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor, and the air district, and be based on the type of projects available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions of 13 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.

The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted 13 tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.

The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NO_x (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NO_x emissions offsets required.

- (3) ***Additional mitigation offset fee.*** The need for an additional mitigation offset payment shall be determined as part of the performance standard assessment of Mitigation Measure M-TR-5. If at that time, it is determined that implementation of Mitigation Measure M-TR-5 has successfully achieved its targeted trip reduction at project buildout, or the project sponsor demonstrates that the project's emissions upon the earlier of: (a) full buildout or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NO_x, then no further installment shall be required. However, if the performance standard assessment determines that the trip reduction goal has not been achieved, and the project sponsor is unable to demonstrate that the project's emissions upon the earlier of: (a) full buildout or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NO_x, then an additional offset payment shall be made in an amount reflecting the difference in emissions, in tons per year of ROG and NO_x, represented by the shortfall in trip reduction.

Documentation of mitigation offset payments, as applicable, shall be provided to the planning department.

When paying a mitigation offset fee, the project sponsor shall enter into a memorandum of understanding (MOU) with the Bay Area Air Quality Management District Clean Air

Foundation. The MOU shall include details regarding the funds to be paid, the administrative fee, and the timing of the emissions reductions project. Acceptance of this fee by the air district shall serve as acknowledgment and a commitment to (1) implement an emissions reduction project(s) within a time frame to be determined, based on the type of project(s) selected, after receipt of the mitigation fee to achieve the emissions reduction objectives specified above and (2) provide documentation to the planning department and the project sponsor describing the project(s) funded by the mitigation fee, including the amount of emissions of ROG and NOx reduced (tons per year) within the San Francisco Bay Area Air Basin from the emissions reduction project(s). To qualify under this mitigation measure, the specific emissions reduction project must result in emission reductions within the basin that are real, surplus, quantifiable, and enforceable and would not otherwise be achieved through compliance with existing regulatory requirements or any other legal requirement. The requirement to pay such mitigation offset fee shall terminate if the project sponsor is able to demonstrate that the project's emissions upon the earlier of: (a) full buildout or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx.

Residual Impact with Implementation of Mitigation Measure M-AQ-2f

Mitigation Measure M-AQ-2f would offset emissions of ROG and NOx that would exceed the respective thresholds of significance for these pollutants. Implementation of the emissions reduction project could be conducted by the Bay Area Air Quality Management District and is outside the jurisdiction and control of the City and not fully within the control of the project sponsor. Mitigation Measure M-AQ-2f also allows the project sponsor to directly fund or implement an offset project; however, no such project has yet been identified. Therefore, the residual impact of project emissions during construction and overlapping operations is conservatively considered ***significant and unavoidable with mitigation***, acknowledging the assumption that the project sponsor would implement Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5, in addition to Mitigation Measure M-AQ-2f. Although the specific offset projects are not known, it is anticipated that implementation of this mitigation measure would not result in any adverse environmental effects.

Summary

Construction emissions of criteria air pollutants, including emissions from operational components of the project that overlap with construction phases, would exceed significance thresholds for criteria air pollutants, a significant impact. Implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5 would reduce construction-related and operational emissions associated with the proposed project, as quantified in Tables 4.G-7A and 4.G-7B, above. However, as indicated in Tables 4.G-7A and 4.G-7B, project emissions of ROG and NOx would still exceed significance thresholds. Therefore, the project sponsor would also be required to implement Mitigation Measure M-AQ-2f, which requires the project sponsor to implement emission offsets. However, because implementation of the emissions reduction project could be conducted by the air district and is outside the jurisdiction and control of the City and not fully within the control of the project sponsor and because no specific offset project has been identified, the impact with respect to criteria air pollutants is conservatively considered ***significant and unavoidable with mitigation***.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see above)

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see above)

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see above)

Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see above)

Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Section 4.E Transportation and Circulation, Impact TR-5)

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see above)

Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions (see above)

Significance after Mitigation: Significant and Unavoidable.

Impact AQ-3: During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (*Significant and Unavoidable with Mitigation*)

Operation of the proposed project has the potential to create air quality impacts, which would be associated primarily with mobile, area, stationary, and energy sources. Motor vehicle traffic would include daily resident vehicle trips, commercial employee commute trips, visitor, delivery truck, and waste management truck trips. Area sources include landscaping equipment, and the off-gassing associated with reapplication of architectural coatings, and consumer products (e.g., solvents, cleaning supplies, cosmetics, toiletries). Foreseeable stationary sources would consist of emergency diesel generators. Energy sources include natural gas combustion for stoves and industrial uses. Each of these sources was taken into account in calculating the proposed project's long-term operational emissions.

Estimated operational emissions under the maximum office scenario are summarized in **Table 4.G-8, Unmitigated Average Daily and Maximum Annual Operational Emissions at Project Buildout**. Project design features incorporating sustainability elements, including building energy efficiency measures, are included in the project analysis presented in Table 4.G-8. As shown in Table 4.G-8, project operational emissions would be below thresholds of significance for PM₁₀ and PM_{2.5} but above the threshold of significance for ROG and for NO_x (starting in year 2031 and each year thereafter). At full buildout in 2034, operational emissions would total 105 pounds per day of ROG, which is 51 pounds per day over the threshold. At full buildout in 2034, operational emissions would total 102 pounds per day of NO_x, which is 48 pounds per day over the threshold. This is a *significant* impact. Therefore, mitigation measures are required to reduce operational emissions.

The majority of ROG emissions are generated from area sources, including architectural coatings, consumer products, and landscaping. Of the area-source emissions, the majority of the ROG emissions (approximately 83 percent) would be from consumer products, which are the various solvents that are used in nonindustrial applications and emit VOCs during their use. These typically include cleaning supplies, kitchen aerosols, cosmetics, and toiletries. Mobile-source emissions are estimated to generate the second-highest amount of ROG emissions (approximately 12 percent). The majority of NO_x emissions would be generated by mobile sources (approximately 60 percent), natural gas combustion (approximately 19 percent), and use of emergency generators (approximately 19 percent).

TABLE 4.G-8
UNMITIGATED AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS
AT PROJECT BUILDOUT FOR THE MAXIMUM OFFICE SCENARIO^a

	Average Daily Emissions (lb/day)			
	ROG	NOx	PM ₁₀	PM _{2.5}
Area Source	87	1.8	2.1	2.1
Natural Gas Combustion	2.2	19	1.5	1.5
Mobile Source	13	61	37	11
Stationary Source (generators)	2.9	19	0.67	0.67
Transportation Refrigeration Units	0.065	0.49	0.0030	0.0027
Total	105	102	42	15
Significance Threshold	54	54	82	54
Above Threshold?	Yes	Yes	No	No
	Maximum Annual Emissions (ton/year)			
	ROG	NOx	PM ₁₀	PM _{2.5}
Area Source	16	0.32	0.39	0.39
Natural Gas Combustion	0.40	3.5	0.27	0.27
Mobile Source	2.4	11	6.8	2.0
Stationary Source (generators)	0.53	3.4	0.12	0.12
Transportation Refrigeration Units	0.012	0.090	0.00054	0.00050
Total	19	19	7.6	2.8
Significance Threshold	10	10	15	10
Above Threshold?	Yes	Yes	No	No

NOTE: **Bolded** numerical values are totals during operation. If the total exceeds a threshold, then the exceedance is identified by a bolded "Yes" response.

^a The Maximum Office Scenario reflects the worst case emissions of possible development options because vehicle trip generation would be the greatest under this option. However, ROG emissions reflect the maximum residential development scenario which would result in the greatest area source emissions.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

The increase in emissions associated with the proposed project represents 0.02 percent of total San Francisco Bay Area Air Basin regional ROG emissions (19 tons per year or 0.05 tons per day compared to an estimated 213 tons per day in the basin region in 2017) and 0.04 percent of total basin regional NOx emissions (up to 19 tons per year or 0.05 tons per day compared to an estimated 244 tons per day in the basin region in 2017.⁷² Although Table 4.G-1 above, shows that the most stringent applicable ozone standards were not exceeded at the San Francisco-Arkansas Street monitoring station between 2013 and 2017, the San Francisco Bay Area Air Basin region as a whole experienced an average of nine days of exceedances per year between 2013 and 2017.⁷³ As discussed above in Impact AQ-1 under *Health Implications of Significant Impacts Related to Emissions of Ozone Precursors*, the ROG and NOx increase from the proposed project could contribute to an air quality violation in the air basin by contributing to more days of ozone exceedance or result in

⁷² California Air Resources Board, 2015, CEPAM 2016- Standard Emission Tool February 15, 2017, <https://www.arb.ca.gov/app/emsinv/fcemssumcat/fcemssumcat2016.php>, accessed June 6, 2018.

⁷³ Bay Area Air Quality Management District, *Annual Bay Area Air Quality Summaries*, <http://www.baaqmd.gov/about-air-quality/air-quality-summaries>, accessed April 23, 2018.

index values that would be unhealthy for sensitive groups and others. As shown in Table 4.G-3, the San Francisco Bay Area Air Basin averaged between nine and 19 days per year that were considered unhealthy for sensitive groups and zero to nine days per year that were considered unhealthy (red) in the last five years. On unhealthy days, it is recommended that people avoid both prolonged and heavy exertion in their outdoor activities.⁷⁴ In addition, there were three days designated as very unhealthy (purple) in 2017 during the October fires in the north bay.

Mitigation Measure M-AQ-2b (see Impact AQ-2, above) would require use of emergency diesel generators with Tier 4 engines to reduce significant NOx emissions. **Mitigation Measure M-AQ-2c** (see Impact AQ-2, above) would require the project sponsor to educate residential tenants and encourage commercial tenants to purchase products that are safer and better for the environment; however, given that the project sponsor does not have authority to require use of certain products, no reduction in ROG emissions can be attributed to this measure. **Mitigation Measure M-AQ-2d** (see Impact AQ-2, above) would require electrification of loading docks. The number of deliveries from refrigerated transport trucks is estimated to be five deliveries per day, and application of this mitigation measure would result in a reduction of 5.6 lb/year of ROG, 42 lb/year of NOx and 0.25 lb/year of PM₁₀. **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay** (see Section 4.E, Transportation and Circulation) would require implementation of additional Transportation Demand Management measures with a goal of reducing vehicle trips by 11 percent. It is estimated that this measure would result in a reduction of 0.3 tons/year of ROG, 1.2 tons/year of NOx and 0.7 tons/year of PM₁₀ at full buildout. **Measure M-AQ-2e** would require additional mobile source control measures through promoting use of clean fuel-efficient vehicles. **Mitigation Measure M-AQ-2f** (see Impact AQ-2, above) would require the project sponsor to be responsible, either directly or financially, for implementing mitigation offsets to compensate for the emissions remaining above significance levels after implementation of all other identified mitigation measures.

Table 4.G-9, Mitigated Average Daily and Maximum Annual Operational Emissions at Project Buildout, summarizes operational emissions with implementation of measures to reduce project impacts. As shown, with incorporation of identified mitigation measures, operational ROG and NOx emissions would remain in excess of the significance thresholds, which would occur once Phase 4 is operational in 2031 and in each operational year thereafter for the life of the project. Therefore, the residual impact of project emissions during operation at buildout is conservatively considered significant and unavoidable with mitigation, acknowledging the assumption that the project sponsor would implement Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5. As described in Impact AQ-2, above, implementation of these measures could potentially reduce emissions to levels below the significance thresholds, but due to the uncertainties and unknowns with some of these measures, particularly, Mitigation Measure M-AQ-2f (Offset Construction and Operational Emissions), this impact is conservatively deemed *significant and unavoidable with mitigation*.

⁷⁴ U.S. Environmental Protection Agency. 2014. *Air Quality Index, A Guide to Air Quality and Your Health*, www.epa.gov/airnow/air_quality_brochure_02_14.pdf, accessed: April 23, 2018.

TABLE 4.G-9
MITIGATED AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS
AT PROJECT BUILDOUT FOR THE MAXIMUM OFFICE SCENARIO^a

	Average Daily Emissions (lb/day)			
	ROG	NOx	PM ₁₀	PM _{2.5}
Area Source	87	1.8	2.1	2.1
Natural Gas Combustion	2.2	19	1.5	1.5
Mobile	12	54	33	10
Stationary Source (generators)	0.27	8.7	0.066	0.066
Transportation Refrigeration Units	0.050	0.38	0.0023	0.0021
Total	101	85	37	14
Significance Threshold	54	54	82	54
Above Threshold?	Yes	Yes	No	No

Maximum Annual Emissions (ton/year)				
Area Source	16	0.32	0.39	0.39
Natural Gas Combustion	0.40	3.5	0.27	0.27
Mobile	2.1	9.9	6.1	1.8
Stationary Source (generators)	0.049	1.6	0.012	0.012
Transportation Refrigeration Units	0.0091	0.068	0.00041	0.00038
Total	18	15	6.7	2.5
Significance Threshold	10	10	15	10
Above Threshold?	Yes	Yes	No	No

NOTE: **Bolded** numerical values are totals during operation. If the total exceeds a threshold, then the exceedance is identified by a **bolded** "Yes" response.

^a The Maximum Office Scenario reflects the worst case emissions of possible development options because vehicle trip generation would be the greatest under this option. However, ROG emissions reflect the maximum residential development scenario which would result in the greatest area source emissions.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)

Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)

Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation, Impact TR-5)

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)

Mitigation Measure M-AQ-2f: Offset Construction and Operational Emissions (see Impact AQ-2, above)

Significance after Mitigation: Significant and Unavoidable

Impact AQ-4: Construction and operation of the proposed project would generate toxic air contaminants, including DPM, which could expose sensitive receptors to substantial pollutant concentrations. (*Less than Significant with Mitigation*)

Site preparation activities, such as demolition, excavation, grading, foundation construction, and other ground-disturbing construction activity, would affect localized air quality during the construction phases of the proposed project. Short-term emissions from construction equipment during these site preparation activities would include directly emitted PM (PM_{2.5} and PM₁₀) and TACs such as DPM. Additionally, the long-term operational emissions from the project's mobile and stationary sources, as described in Impact AQ-3, would include PM (PM_{2.5}) and TACs such as DPM and some compounds or variations of ROG. The generation of these short- and long-term emissions could expose sensitive receptors to substantial pollutant concentrations of TACs, resulting in a localized health risk. Therefore, a health risk assessment was conducted for the proposed project to determine the health risk of project construction and operations to both offsite and onsite receptors (see Appendix E, Air Quality Supporting Information, for detailed presentation of methodology and assumptions).

Neither the proposed onsite receptors (residences and daycare facilities) nor the nearest offsite receptors are located within an area that currently meets the APEZ criteria (100 in one million excess cancer risk or a PM_{2.5} concentration of 10 µg/m³).⁷⁵ For receptors not located in areas that meet the APEZ criteria, a health risk assessment is conducted to determine whether the proposed project would, in combination with other existing sources in the area, result in a given offsite or onsite receptor meeting the APEZ criteria. If a receptor point meets the APEZ criteria, that otherwise would not without the project, a project would result in a significant health risk impact if the project would contribute to PM_{2.5} concentrations at or above 0.3 µg/m³ or result in an excess cancer risk at or greater than 10.0 per one million persons exposed.

Excess Cancer Risk from Construction and Operation Emissions at Offsite Receptors

The cancer risk analysis in the health risk assessment for the project is based on DPM concentrations from construction on- and off-road equipment, as well as the operational DPM concentrations from the emergency generators and project generated vehicle emissions. The assessment evaluated excess cancer risk and PM_{2.5} concentrations as a result of exposure to both construction and operational emissions.

⁷⁵ Ramboll previously performed a review of city-wide CRRP modeling data and found that the emissions from the BAE Systems sources were incorrectly located, causing the Pier 70 Mixed-Use District project site to be incorrectly designated as within an Air Pollutant Exposure Zone (APEZ). Ramboll worked with the air district to more accurately locate these emissions within the city-wide model, and revised modeling was conducted to reassess cancer risk and PM_{2.5} concentrations within the project area and its surroundings. This updated modeling demonstrated that neither the proposed project site nor the Pier 70 Mixed-Use District project site meet the criteria for being within an APEZ at this location, meaning that the existing excess cancer risk is below 100 per one million and PM_{2.5} concentrations are below 10 µg/m³.

The maximum estimated excess lifetime cancer risk from all project sources (assuming a receptor was born during construction and exposed to project-related emissions for 30 years) at offsite sensitive receptor locations⁷⁶ is presented in **Table 4.G-10, Lifetime Cancer Risk and PM_{2.5} Concentrations of the Proposed Project at Offsite Receptors**. Offsite receptors considered in the health risk assessment include both existing offsite receptors and planned future offsite receptors at the Pier 70 Mixed-Use District project site directly north of the proposed project. The majority of project-generated excess cancer risk at the *Maximum Exposed Individual Sensitive Receptor* would be attributable to construction emissions. The project's emissions would combine with existing background concentrations and would exceed the APEZ excess cancer risk criteria of an excess cancer risk of 100 per one million persons exposed, with the project contributing cancer risks of up to 388 per million at future Pier 70 Mixed-Use District project sensitive receptor locations. The project would also result in non-Pier 70 offsite sensitive receptor locations that meet the APEZ criteria, with the project contributing an excess cancer risk of up to 47 per million at these offsite residential locations. The project's excess cancer risk contribution would exceed the significance threshold of 10. Therefore, without mitigation, the impact with regard to increased cancer risk would be significant for offsite receptors. However, Table 4.G-10 also shows the cancer risk under the mitigated condition, which includes emission reductions quantified for **Mitigation Measures M-AQ-2a (Construction Emissions Minimization)**, and **M-AQ-2b (Diesel Backup Generator Specifications)**. As indicated in Table 4.G-10, construction emissions contribute over 90 percent of the unmitigated project's health risk. Consequently, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce this impact to a less than significant level, and the excess cancer risk impact to offsite receptors would be *less than significant with mitigation*.

Excess Cancer Risk from Construction and Operational Emissions at Onsite Receptors

The proposed project would include development of residential units and daycare facilities, which are considered sensitive land uses for purposes of the air quality evaluation. The proposed project would result in construction-related TAC emissions that would affect the occupants of the first phases of the proposed project and diesel backup generators may also impact these future residents. The estimated excess cancer risk from the emissions at the onsite maximum exposed individual sensitive receptor are presented in **Table 4.G-11, Lifetime Cancer Risk and PM_{2.5} Concentration at the Maximally Impacted Onsite Receptors**. The project's emissions would combine with existing background concentrations and would exceed the APEZ excess cancer risk criteria of 100 per one million persons exposed, with the project contributing cancer risks up to 349 per million. The project's contribution of an excess cancer risk of 349 per one million person exposed would exceed the significance threshold of 10. Therefore, the impact with regard to increased cancer risk would be significant for onsite receptors.

⁷⁶ For a list of existing offsite sensitive receptors within 900 feet of the project site, refer to Section 4.F, Noise, Table 4.F-4, Sensitive Receptors in the Project Vicinity. The health risk impact analysis also includes receptor locations out to a distance of 3,280 feet (1,000 meters) from the project site, consistent with citywide modeling. In addition to the residential receptors, four schools and a daycare within 1,200 feet of the project site were identified: Dogpatch Alternative School (site 2), Potrero Kids Daycare, La Piccola Scuola Italiana, and Friends of Potrero Hill Nursery School.

TABLE 4.G-10
LIFETIME CANCER RISK AND PM_{2.5} CONCENTRATION OF THE PROPOSED PROJECT AT OFFSITE RECEPTORS

Source	Lifetime Excess Cancer Risk (in one million)		PM _{2.5} Concentration ^c (µg/m ³)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Residential and Daycare Receptors (Pier 70)^a				
Background	31	31	8.3	8.4
Construction – Off-road Emissions	384	32	0.99	0.10
Construction – Vehicle Traffic	0.0087	0.0057	<0.001	<0.001
Operation – Emergency Generators	4.0	0.38	<0.001	<0.001
Operation – Vehicle Traffic	0.49	0.49	0.018	0.16
Existing plus Project Total	419	63	9.3	8.7
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No
Residential Receptor (non-Pier 70)				
Background	54	54	8.6	8.5
Construction – Off-road Emissions	42	4.2	0.099	0.010
Construction – Vehicle Traffic	0.025	0.012	0.0016	0.0018
Operation – Emergency Generators	0.57	0.053	0 ^b	0 ^b
Operation – Vehicle Traffic	4.4	4.4	0.21	0.21
Existing plus Project Total	100	62	8.9	8.8
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No
School Receptor				
Background	39	39	8.4	8.4
Construction – Off-road Emissions	8.8	1.0	0.028	0.0029
Construction – Vehicle Traffic	0.0039	0.0022	<0.001	<0.001
Operation – Emergency Generators	0.059	0.0051	0 ^b	0 ^b
Operation – Vehicle Traffic	1.5	1.5	0.055	0.055
Existing plus Project Total	49	42	8.5	8.5
APEZ Criteria	100	100	10.0	10.0
Significant?	No	No	No	No

NOTES:

^a Assumes Pier 70 resident will move in while construction of the Project is ongoing. The cancer risk resulting from Project emissions to the Pier 70 resident assumes exposure to Project emissions begins in 2024.

^b The annual PM_{2.5} concentrations from emergency generators for the offsite resident (Non-Pier 70) and the maximum exposed individual sensitive receptors for schools are zero because the maximum annual PM_{2.5} concentrations would occur in years before the emergency generators would be operational.

^c The maximum annual PM_{2.5} concentration would occur in the following years at the corresponding maximum exposed individual sensitive receptors:

Unmitigated: Offsite Resident (Pier 70): 2025; Offsite Resident (Non-Pier 70): 2024; School Receptor: 2024.

Mitigated: Offsite Resident (Pier 70): 2030; Offsite Resident (Non-Pier 70): 2030; School Receptor: 2022.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

TABLE 4.G-11
LIFETIME CANCER RISK AND PM_{2.5} CONCENTRATION AT THE PROPOSED PROJECT ONSITE RECEPTORS^a

Source	Lifetime Excess Cancer Risk (in one million)		PM _{2.5} Concentration ^b (µg/m ³)	
	Unmitigated	Mitigated ^a	Unmitigated	Mitigated
Background	38	38	8.4	8.4
Construction – Off-road Emissions	338	36	0.82	0.11
Construction – Vehicle Traffic	0.031	0.023	0.0022	0.0012
Operation – Emergency Generators	7.9	0.78	0.002	0.0005
Operation – Vehicle Traffic	3.2	3.2	0.12	0.062
Existing plus Project Total	387	77	9.3	8.6
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No

NOTES:

^a Onsite receptors include residences and potential daycare centers modeled as residential receptors, which result in a conservative (worst-case) exposure assumption.

^b The Maximum Annual PM_{2.5} Concentration occurred in the following years at the corresponding maximum exposed individual sensitive receptors:

Uncontrolled (Unmitigated): 2027. Controlled (Mitigated): 2031-2032.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

However, the mitigated condition assumed in the health risk assessment includes emission reductions quantified for Mitigation Measures M-AQ-2a (Construction Emissions Minimization) and M-AQ-2b (Diesel Backup Generator Specifications). As indicated in Table 4.G-11, construction emissions contribute over 90 percent of the unmitigated project's health risk. Consequently, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce the project's excess cancer risk impact to onsite receptors to a less than significant level, and this impact to onsite receptors would be *less than significant with mitigation*.

PM_{2.5} Concentrations from Construction and Operation Emissions at Offsite Receptors

The maximum estimated PM_{2.5} concentrations from all project sources at offsite receptor locations are presented in Table 4.G-10. As shown in the table, unmitigated emissions in combination with background concentrations would result in PM_{2.5} concentrations of 9.3 µg/m³ or less, which would be below the levels for causing a new location to meet the APEZ criteria of 10 µg/m³. Therefore, this would be a *less than significant* impact.

PM_{2.5} Concentrations from Construction and Operation Emissions at Onsite Receptors

The maximum estimated PM_{2.5} concentrations from all project sources at onsite receptor locations are presented in Table 4.G-11. As shown in the table, unmitigated emissions in combination with background concentrations would result in PM_{2.5} concentrations of 9.3 µg/m³ or less, which would be below the levels for causing a new location to meet the APEZ criteria of 10 µg/m³. Therefore, this would be a *less than significant* impact.

In summary, the proposed project would result in a significant health risk impact to both offsite and onsite sensitive receptors with respect to increased cancer risk. This impact would be reduced to less than significant with incorporation of Mitigation Measure M-AQ-2a.

Cancer Risk from Operation of Proposed Land Uses

The proposed project includes a variety of proposed uses that could potentially generate TAC emissions, such as research and development (R&D)/life science uses and production, distribution, and repair (PDR) uses. As indicated in Figure 2-5 in the Project Description, project blocks with potential for R&D uses would include Blocks 2, 3, 4, 10, 11, and/or 12.

Emissions from life sciences laboratories can include TACs. However, emissions of TACs are typically small for life science laboratories as the chemicals used in such labs tend towards aqueous-based solutions. Moreover, the Bay Area Air Quality Management District regulates emissions from laboratories. Laboratories with fewer than 50 fume hoods or less than 25,000 square feet of laboratory space are exempted from permitting as air quality impacts are likely *de minimis* sources of TACs. Laboratories that exceed this fume hood count or the square footage threshold can also be exempt from permitting requirements if it can be demonstrated that emissions of volatile organic compounds (VOCs) do not exceed five tons per year, cancer risk does not exceed 10 in a million, and chronic and acute health indices do not exceed 1.0. While laboratories of the size proposed for this development are not expected to come close to exceeding these emissions and health risk thresholds, it is not possible to reasonably estimate emissions from future laboratory uses at this time, so the potential for future health risk impacts from laboratory emissions is conservatively considered to be significant. However, implementation of **Mitigation Measure AQ-4, Siting of Uses that Emit TACs**, would reduce this impact to *less than significant with mitigation*.

Likewise, exact types of PDR activities have not been specified for the development and may include a wide range of light industrial activities. Oftentimes, these activities may require the use of stationary sources of air emissions such as, but not limited to, boilers, engines, and generators. Emissions may include products of combustion, particulate matter, and TACs. The exact types and quantities of stationary sources cannot be identified at this time as specific PDR activities have not yet been identified. It is expected that the impacts to air quality from these miscellaneous stationary sources would be *de minimis*. In fact, the Bay Area Air Quality Management District has permit exemptions for certain small equipment it deems to have a negligible impact to air quality such as natural gas boilers rated at less than 10 MMBtu/hr. If the level of air emissions from these sources rises to a level of concern, then the air district would require a permit to manage those emissions. Per its Engineering Policy and Procedure Manual,⁷⁷ the air district requires implementation of Best Available Control Technology for toxics and would deny an Authority to Construct or a Permit to Operate for any new or modified source of TACs that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0. The permitting process under air district Regulation 2, Rule 5 requires a Health Risk Screening Analysis. Therefore, the potential for future health risk impacts from potential laboratory emissions is addressed through implementation of **Mitigation Measure AQ-4, Siting of Uses that**

⁷⁷ Bay Area Air Quality Management District, Engineering Policy and Procedure Manual, 2013, http://www.baaqmd.gov/~files/engineering/_and_procedures/engineering-policy-and-procedure-manual.pdf?la=en, accessed April 19, 2018.

Emit Toxic Air Contaminants, which requires that for any future uses that would be expected to generate TACs as part of everyday operations, the project sponsor shall obtain written verification from the air district that these future uses comply with their permit requirements and the project sponsor shall submit written verification to the Planning Department that increased cancer risk associated with any such uses does not cumulatively exceed five in one million at any onsite receptor. The term cumulative here means the total contribution from all uses that would emit TACs. The performance standard of 10 in one million is based on the APEZ criteria of 100 in one million minus the mitigated cancer risk for the project of 89 in one million under cumulative conditions (see Table 4.G-14, below, under cumulative health risk impacts). With implementation of this measure, this impact would be *less than significant with mitigation*.

Mitigation Measure AQ-4: Siting of Uses that Emit Toxic Air Contaminants

For new development including R&D/life science uses and PDR use or other uses that would be expected to generate toxic air contaminants (TACs) as part of everyday operations, prior to issuance of the certificate of occupancy, the project sponsor shall obtain written verification from the Bay Area Air Quality Management District either that the facility has been issued a permit from the air district, if required by law, or that permit requirements do not apply to the facility. However, since air district could potentially issue multiple separate permits to operate that could cumulatively exceed an increased cancer risk of 10 in one million, the project sponsor shall also submit written verification to the San Francisco Planning Department that increased cancer risk associated with all such uses does not cumulatively exceed 10 in one million at any onsite receptor. This measure shall be applicable, at a minimum, to the following uses and any other potential uses that may emit TACs: gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; appliance repair shops; mechanical assembly cleaning; printing shops; medical clinics; laboratories, and biotechnology research facilities.

Summary

Impact AQ-4 addresses the potential for construction and operation of the proposed project to generate TACs at levels that would expose either offsite or onsite sensitive receptors to substantial pollutant concentrations. The health risk assessment conducted for this analysis determined that impacts associated with excess cancer risk at both offsite and onsite receptors would exceed significance thresholds without mitigation, but implementation of **Mitigation Measures M-AQ-2a (Construction Emissions Minimization) and M-AQ-2b (Diesel Backup Generator Specifications)** would reduce this impact to less than significant.

The health risk assessment also determined that maximum estimated PM_{2.5} concentrations would be below the significance thresholds at both offsite and onsite receptors, and this impact would be less than significant.

The analysis also examined the cancer risk from operation land uses that may emit TACs, specifically the potential for TACs from life science laboratories and PDR activities. Because the specific uses and associated magnitude and type of future emissions associated with these land uses are unknown, this impact is considered significant, but with implementation of **Mitigation Measure AQ-4, Siting of Uses that Emit Toxic Air Contaminants**, this impact would be reduced to less than significant.

For the reasons stated above, the impact associated with the project's potential to expose sensitive receptors to substantial pollutant concentrations would be *less than significant with mitigation*.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)

Mitigation Measure M-AQ-4: Siting of Uses that Emit Toxic Air Contaminants

Significance after Mitigation: Less than Significant

Impact AQ-5: The proposed project could conflict with implementation of the Bay Area 2017 Clean Air Plan. (*Less than Significant with Mitigation*)

The most recently adopted air quality plan for the San Francisco Bay Area Air Basin is the 2017 Clean Air Plan. The Clean Air Plan is a road map that demonstrates how the Bay Area will, in accordance with the requirements of the California Clean Air Act, implement all feasible measures to reduce ozone. It also provides a control strategy to reduce ozone, PM, air toxics, and GHGs. In determining consistency with the Clean Air Plan, this analysis considers whether the project would (1) support the primary goals of the Clean Air Plan, (2) include applicable control measures from the Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the Clean Air Plan.

The 2017 Clean Air Plan's primary goals are to protect public health and protect the climate, and it contains 85 measures some of which address the reduction of GHGs. These control strategies are grouped into the following categories:

- Stationary source measures;
- Transportation control measures;
- Energy control measures;
- Building control measures;
- Agricultural control measures;
- Natural and working lands control measures;
- Waste management control measures;
- Water control measures; and
- Super GHG control measures.

The Clean Air Plan recognizes that, to a great extent, community design⁷⁸ dictates individual travel modes and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and GHGs from motor vehicles is to channel future Bay Area growth into communities where goods and services are located nearby and people have a range of viable transportation options. To this end, the Clean Air Plan includes 85 control measures aimed at reducing air pollutants and GHGs in the San Francisco Bay Area Air Basin. Many of these measures address stationary sources and will be implemented by the Bay Area Air Quality Management District

⁷⁸ For people who live (and/or work) in low-density, car-oriented developments, the motor vehicle is often the only viable transportation option. In such situations, even the most robust strategy to promote alternative modes of travel can have, at best, only a very modest effect. In contrast, compact communities with a mixture of land uses make it much easier to walk, cycle, or take transit for at least some daily trips.

using its permit authority and therefore are not suited to implementation through local planning efforts or project approval actions. The potentially applicable 24 Clean Air Plan measures are identified in **Table 4.G-12, Project Consistency with Applicable Control Measures of the 2017 Clean Air Plan**. This table identifies each control strategy and correlates it to specific elements of the proposed project or explains why the strategy does or does not apply to the proposed project.

As shown in Table 4.G-12, without certain mitigation measures incorporated into the project, the project would not include applicable control measures from the 2017 Clean Air Plan. Because the proposed project would result in significant unavoidable criteria air pollutant emissions (see Impact AQ-2 and AQ-3) and because the project would not include all applicable control measures from the 2017 Clean Air Plan, this impact would be significant. However, with implementation of **Mitigation Measure M-AQ-5, Include Spare the Air Telecommuting Information in Transportation Welcome Packets**, plus the other mitigation measures identified in this EIR, as shown in Table 4.G-12, the proposed project would include applicable control strategies contained in the 2017 Clean Air Plan for the basin, and the impact would be *less than significant with mitigation*. Specifically, in addition to Mitigation Measure M-AQ-5, the implementation of the following measures would reduce this impact to less than significant: **Mitigation Measure M-AQ-2a, Construction Emissions Minimization; Mitigation Measure M-AQ-2b, Diesel Backup Generator Specifications; Mitigation Measure M-AQ-2d, Electrification of Loading Docks; Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay; Mitigation Measure M-AQ-2e, Additional Mobile Source Control Measures; and Mitigation Measure M-AQ-4, Siting of Uses that Emit Toxic Air Contaminants.**

Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets

The project sponsor shall include dissemination of information on Spare The Air Days within the San Francisco Bay Area Air Basin as part of transportation welcome packets and ongoing transportation marketing campaigns. This information shall encourage employers and employees, as allowed by their workplaces, to telecommute on Spare The Air Days.

The proposed project's impact with respect to GHGs is addressed on the initial study (see Appendix B), which found that the proposed project would be compliant with the San Francisco's Greenhouse Gas Reduction Strategy and thus would not result in any significant impacts associated with an increase in GHGs or conflict with measures adopted for the purpose of reducing such emissions.

In addition to the measures listed in Table 4.G-12, transportation control measures that are identified in the Clean Air Plan are implemented by the *San Francisco General Plan* and the San Francisco Planning Code (e.g., through the City's Transit First Policy, the bicycle parking requirements, and transit impact development fees). Additionally, the project would incorporate a TDM plan as well as additional TDM measures identified in Mitigation Measure M-TR-5. As indicated in Table 4.G-12, implementation of the TDM plan and additional TDM measures under **Mitigation Measure M-TR-5** and **Mitigation Measure M-AQ-2e**, which require additional mobile source control measures through promoting use of clean fuel-efficient and zero emission vehicles, would ensure the project includes relevant transportation control measures specified in the Clean Air Plan, further ensuring consistency with the plan and reducing this impact to less than significant.

TABLE 4.G-12
PROJECT CONSISTENCY WITH APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN

Control Measure	Measure Description	Existing or Proposed Implementation Mechanism	Consistency of Proposed Project with Measure
TR1 – Clean Air Teleworking Initiative	<p>The primary objective of the TR1 measure is to increase the number of employees who telework in the Bay Area, especially on Spare the Air days, by providing outreach and assistance to employees and employers.</p> <p>It directs MTC to provide support to employers for regional telecommuting programs in partnership with 511 Rideshare and the Bay Area Commuter Benefits Program and the Bay Area Air Quality Management District to include Spare the Air notifications to all Employer Program members that include the promotion of teleworking/telecommuting on Spare the Air Days.</p>	This strategy is directed at MTC and the Bay Area Air Quality Management District to support telecommuting, which is an employer-specific option and not universally implementable for all business types. The TDM Plan does not specifically address telecommuting or the Bay Area Air Quality Management District's Spare the Air Program.	Yes with Mitigation Measure M-AQ-5, which would include notification of Spare the Air days as part of the INFO category of the TDM Plan, consistent with the Bay Area Air Quality Management District Implementation Action.
TR2 – Trip Reduction Programs	TR2 includes a mandatory and voluntary trip reduction program. The regional Commuter Benefits Program, resulting from SB1339, and similar local programs in jurisdictions with ordinances that require employers to offer pre-tax transit benefits to their employees are mandatory programs. Voluntary programs include outreach to employers to encourage them to implement strategies that encourage their employees to use alternatives to driving alone.	All future employers of the proposed project would be required to comply with the Commuter Benefit Ordinance, which requires employers with 20 or more employees to offer pretax transit benefits. In addition, the project sponsor would implement the proposed TDM Plan with a goal of achieving sustainable land use development and reducing vehicle trips generated by the proposed project.	Yes Mitigation Measure M-TR-5 would further reduce vehicle trips.
TR3 – Local and Regional Bus Service	TR3 measure strive to improve existing transit service on the region's core transit systems, and include new bus rapid transit lines in San Francisco.	Transit services within study area include a Muni T-Line light rail stop at Third and 23rd streets, 800 feet from the project site, and a Caltrain stop at 22nd Street, less than 0.5 mile from the project site. Local Muni service in the project vicinity includes the 22 Fillmore and 48 Quintara/24th Street bus routes. Additionally, the project would implement shuttle bus service.	Yes
TR4 – Local and Regional Rail Service	TR4 strives to improve rail service by sustaining and expanding existing services and by providing funds to maintain rail-cars, stations, and other rail capital assets. Specific projects for implementation include BART extensions, Caltrain electrification, and Transbay Transit Center building and rail foundation.	Caltrain is located within 0.8 mile of the project site, and Bay Area Rapid Transit District (BART) interconnection is a 20-minute ride away on the T-Line.	Yes
TR5 – Transit Efficiency and Use	TR5 will improve transit efficiency and make transit more convenient for riders through continued operation of 511 Transit, full implementation of Clipper® fare payment system and the Transit Hub Signage Program.	As part of the proposed TDM Plan for the project, the project would provide a shuttle service program to provide access to the 16th Street Bay Area Rapid Transit (BART) station and the 22nd Street Caltrain station.	Yes

TABLE 4.G-12 (CONTINUED)
PROJECT CONSISTENCY WITH APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN

Control Measure	Measure Description	Existing or Proposed Implementation Mechanism	Consistency of Proposed Project with Measure
TR7 – Safe Routes to Schools and Safe Routes to Transit	TR7 will facilitate safe routes to schools and transit by providing funds and working with transportation agencies, local governments, schools, and communities to implement safe access for pedestrians and cyclists. Likely projects will include implementation of youth outreach and educational programs to encourage walking and cycling, the construction of bicycle facilities and improvements to pedestrian facilities.	The TDM Plan would prioritize pedestrian and bicycle access and implement measures to encourage alternative modes of transportation by building a dense, walkable, mixed-use, transit-oriented development, and prioritizing safety, especially for bicyclists and pedestrians.	Yes
TR8 - Ridesharing	TR8 will promote ridesharing services and incentives through the implementation of the 511 Regional Rideshare Program, as well as local rideshare programs implemented by Congestion Management Agencies. These activities will include marketing rideshare services, operating a rideshare information call center and website, and provide vanpool support services. In addition, this measure includes provisions for encouraging car sharing programs.	The proposed TDM Plan calls for designation of ride-hail waiting areas in building lobbies. The project would also result in a maximum of 38 designated car-share or scooter share spaces.	Yes
TR9 – Bicycle and Pedestrian Access and Facilities	<p>The bicycle component of TR9 strives to expand bicycle facilities serving employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers. Typical improvements include bike lanes, routes, paths, and bicycle parking facilities. The bicycle component also includes a bike share pilot project that was developed to assess the feasibility of bicycle sharing as a first- and last-mile transit option.</p> <p>The pedestrian component of this measure is intended to improve pedestrian facilities and encourage walking by funding projects that improve pedestrian access to transit, employment sites, and major activity centers. Improvements may include sidewalks/paths, benches, reduced street width and intersection turning radii, crosswalks with activated signals, curb extensions/bulbs, buffers between sidewalks and traffic lanes, and street trees.</p>	The proposed project would include a pedestrian and bicycle network that includes class I, II, III and IV bicycle facilities. Class I bike lanes are proposed on the Bay Trail multi-use path that would extend through the Waterfront and Potrero Point parks. Class II bike lanes are proposed on Georgia Lane and Maryland Street. Class III facilities (signed routes) are proposed on Humboldt, Georgia, and Delaware streets. The north side of 23rd Street would include a class IV parking-protected bike lane. For the proposed pedestrian network, all proposed streets and open space areas would include pedestrian walkways. These facilities would contribute to the continuous Blue Greenway/Bay Trail to provide continuous waterfront access from the Embarcadero, including Crane Cove Park, Slipways Commons, and Warm Water Cove.	Yes
TR10 – Land Use Strategies	This measure supports land use patterns that reduce VMT and associated emissions and exposure to TACs, especially within infill locations and impacted communities.	The project proposes building a dense, walkable, mixed-use, transit-oriented development, and prioritizing safety, especially for bicyclists and pedestrians consistent with the regional goals and targets expressed in the <i>Plan Bay Area 2040 Sustainable Communities Strategy</i> .	Yes with Mitigation Measure M-AQ-2a, M-AQ-2b, M-AQ-2d, and M-AQ-4.

TABLE 4.G-12 (CONTINUED)
PROJECT CONSISTENCY WITH APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN

Control Measure	Measure Description	Existing or Proposed Implementation Mechanism	Consistency of Proposed Project with Measure
TR10 – Land Use Strategies (cont.)		As discussed in Impact AQ-4, land use changes proposed by the project would not result in significant TAC exposure with implementation of mitigation measures M-AQ-2a, M-AQ-2b, M-AQ-2d, and M-AQ-4.	
TR13 - Parking Policies	This control measure outlines how MTC and the Air District, in cooperation with regional agency partners, will 1) take actions at the regional level to implement parking policies that will benefit air quality, and 2) encourage and support local agency parking policies to reduce motor vehicle travel and promote focused growth.	The project's TDM Plan would unbundle parking costs from all leases and sales and ensure that the users of parking are the ones who ultimately pay for it. The TDM Plan would also establish maximum parking ratios that are lower than the traffic analysis zone (TAZ) average for residential uses.	Yes
TR14 – Cars and Light Trucks	This control measures summarizes actions by the Air District, MTC, local businesses, city and county governments, and state and federal agencies to expand the use of Zero Emission Vehicles and Plug-in Electric passenger vehicles and light-duty trucks within the Bay Area.	San Francisco Green Building Requirements require new large commercial projects, new high-rise residential projects and commercial interior projects to provide designated parking for low-emitting, fuel efficient, and carpool/van pool vehicles and mark 8 percent of parking stalls for such vehicles. Mitigation Measure M-AQ-2e would increase the requirement for the project sponsor to provide preferential parking for alternative-fueled vehicles above that required by the planning code.	Yes
TR15 – Public Outreach and Education	TR15 includes activities to encourage Bay Area residents to make choices that benefit air quality. This measure includes various public outreach campaigns to educate the public about the health effects of air pollution and the air quality benefits of reducing motor-vehicle trips and choosing transportation modes that reduce motor vehicle emissions. The measure includes outreach and education regarding electric vehicles, smart driving, carpooling, vanpooling, taking public transit, biking, walking, and telecommuting.	As part of a broader transportation marketing campaign, the proposed project would provide new residents and employees with a transportation welcome packet upon move-in or upon starting work at the site. These informational packets would be continuously updated as local transportation options change. The site's transportation staff would also engage in ongoing efforts to provide information on and market the use of non-auto modes.	Yes
TR22 – Construction, Freight and Farming Equipment	TR22 directs the Bay Area Air Quality Management District to work to reduce emissions from off-road equipment used in the construction, freight handling and farming industries by pursuing the following strategies: 1) offering financial incentives between 2017 and 2030 to retrofit engines with diesel particulate filters or upgrade to equipment with electric or Tier IV off-road engines; 2) work with the California Air Resources Board, the California Energy Commission and others to develop more fuel-efficient off-road engines and drive trains; and 3) work with local communities to encourage use of renewable electricity and fuels.	Under Mitigation Measure M-AQ -2a above, the project applicant or its contractors would meet final Tier 4 standards for all construction equipment greater than 25 horsepower. It also requires use of renewable diesel in construction equipment and marine vessels engaged in construction. Mitigation Measure M-AQ-2d above requires the electrification of loading docks to reduce DPM associated with transportation refrigeration units.	Yes with Mitigation Measure M-AQ-2a and Mitigation Measure M-AQ-2d

TABLE 4.G-12 (CONTINUED)
PROJECT CONSISTENCY WITH APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN

Control Measure	Measure Description	Existing or Proposed Implementation Mechanism	Consistency of Proposed Project with Measure
EN1 – Decarbonize Electricity Production	EN1 focuses on lowering carbon emissions by switching the fuel sources used in electricity generation. The measure would promote and expedite a transition away from fossil fuels used in electricity generation (i.e., natural gas) to a greater reliance on renewable energy sources (e.g., wind, solar). In addition, this measure would promote an increase in cogeneration, which results in useful heat in addition to electricity generation from a single fuel source.	2019 Title 24 requires high-rise multi-family buildings with ten habitable stories or fewer to be solar ready. Additionally, CleanPowerSF is San Francisco's Community Choice Aggregation program that enables users in the City to opt into energy programs from 100% renewable resources although this is a voluntary election of the homeowner. Fifteen percent photovoltaic coverage is proposed for buildings on Blocks 2, 3, 5 6, and 8, while buildings on Blocks 1, 4, 7, and 9 through 14 would meet the requirements through use of 30 percent living roofs.	Yes
BL1 – Green Buildings	BL1 seeks to increase energy efficiency and the use of onsite renewable energy—as well as decarbonize existing end uses—for all types of existing and future buildings. The measure includes policy assistance, incentives, diffusion of public information, and targeted engagement and facilitation of partnerships in order to increase energy efficiency and onsite renewable energy in the buildings sector	All new non-residential buildings would be LEEDv4 Gold certified. All residential development would meet energy reduction requirements of the City, as listed in the greenhouse gas checklist.	Yes.
BL2 – Decarbonize Buildings	BL2 seeks to reduce greenhouse gas emissions, criteria pollutants and TACs by limiting the installation of space- and water-heating systems and appliances powered by fossil fuels. This measure is to be implemented by developing model policies for local governments that support low- and zero-carbon technologies as well as potentially developing a rule limiting the sale of natural-gas furnaces and water heaters	As discussed in the project description, a thermal energy system may serve the project. However, this EIR does not assume implementation of the thermal energy system for purposes of the air quality analysis. Until the City develops model policies for implementing this measure, development projects are considered consistent with its intent if an effort is made to explore feasibility of implementation.	Yes
BL4 – Urban Heat Island	This control measure aims to reduce the “urban heat island” phenomenon by increasing the application of “cool roofing” and “cool paving” technologies, as well as increasing the prevalence of urban forests and vegetation, through voluntary approaches and educational outreach.	Buildings on Blocks 1, 4, 7, and 9 through 14 would include living roofs on 30 percent of the building roof surface. The project would also result in the planting of new trees along both sides of Humboldt Street, Maryland and Delaware Streets, both sides of 23rd Street, and along Craig Lane, Georgia Lane, and Louisiana Street.	Yes
NW2 – Urban Tree Planting	NW2 promotes the planting of trees in urbanized settings to take advantage of the myriad benefits provided by these trees, including: shading to reduce both the “urban heat island” phenomenon and the need for space cooling, and the absorption of ambient criteria air pollutants as well as carbon dioxide.	The proposed project would comply with Public Works Code section 806(d) by placing new street trees along street frontages, provide sidewalk landscaping, and/or paying in-lieu fees as appropriate given the project's site constraints and objectives. While the specific number of trees to be planted have yet to be specified, the Design for Development indicates that medium to large deciduous or evergreen trees (35-40 feet tall at	Yes

TABLE 4.G-12 (CONTINUED)
PROJECT CONSISTENCY WITH APPLICABLE CONTROL MEASURES OF THE 2017 CLEAN AIR PLAN

Control Measure	Measure Description	Existing or Proposed Implementation Mechanism	Consistency of Proposed Project with Measure
NW2 – Urban Tree Planting (cont.)		maturity) would be planted along both sides of Humboldt Street, medium to large deciduous or evergreen trees (35-40 feet tall at maturity) would be planted along both sides of Maryland and Delaware Streets, medium to large evergreen trees (45-50 feet tall at maturity) would be planted along both sides of 23 rd Street, and medium deciduous trees (25-30 feet tall at maturity) would be planted along Craig Lane, Georgia Lane and Louisiana Street, far exceeding the 13 existing trees to be removed along pedestrian walkways.	
WA3 – Green Waste Diversion; and WA4 – Recycling and Waste Reduction	WA3 seeks to reduce the total amount of green waste being disposed in landfills by supporting the diversion of green waste to other uses, while WA4 seeks to reduce greenhouse gas emissions by diverting recyclables and other materials from landfill.	The proposed project would comply with San Francisco's Green Building Requirements by providing for recycling, compost, and solid waste collection and loading that is convenient for all users.	Yes
WR2 – Support Water Conservation	WR2 seeks to promote water conservation, including reduced water consumption and increased onsite water recycling, in residential, commercial and industrial buildings for the purpose of reducing greenhouse gas emissions.	<p>The proposed project would be subject to specific requirements because it includes a new landscape area greater than or equal to 500 sf. This requires that landscape projects be installed, constructed, operated, and maintained in accordance with rules adopted by the SFPUC that establish a water budget for outdoor water consumption. The proposed project would comply with all standards in the Residential Water Conservation Ordinance by meeting at least the minimum standards specified in the ordinance as applicable and/or required. For residential high-rise buildings this is a 30% reduction compared to that of the 2006 Plumbing Code.</p> <p>Although the city does not currently have an available source of recycled water at the project site, the project sponsor would install recycled water systems to provide the project site with non-potable water needs, such as irrigation, cooling, and/or toilet and urinal flushing. Once the city's recycled water system is constructed, the recycled water pipelines would connect to the city's recycled water system.</p>	Yes

SOURCE: Bay Area Air Quality Management District, Clean Air Plan, Spare the Air, Cool the Climate, 2017, Nelson Nygaard, *Potrero Power Station, TDM Plan, Working Draft*, December 2017.

Examples of a project that could cause the disruption or delay of Clean Air Plan control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond city parking requirements. The project proposes a development that would be a dense, walkable urban area near a concentration of regional and local transit service, including a Muni light rail stop at Third and 23rd streets, 800 feet from the project site, and a Caltrain stop at 22nd Street, less than 0.5 mile from the project site. The proposed project site is designated as a Priority Development Area pursuant to Plan Bay Area. This designation applies to new development areas that would support the day-to-day needs of residents and workers in a pedestrian-friendly environment served by transit. The proposed project would include bike lanes, bike-safety-oriented street design, and bike-parking facilities to promote bicycling on and around the project site.

The proposed project would not preclude the extension of a transit line or a bike path or any other transit improvement. The project proposes to provide a new bus stop and shuttle service and would extend the Bay Trail.

The City's planning code has minimum parking requirements for the existing Heavy Industrial zoning designation, including a minimum of 1 parking space for each 1,500 square feet of occupied floor space.⁷⁹ The planning code permitted parking for the nearby Urban Mixed-Use district is a maximum of 0.75 cars for each dwelling unit and, in some cases is one car per each unit.⁸⁰ The project would establish parking maximums of no more than 0.6 parking space per residential dwelling unit and no more than one parking space per 1,500 square feet of gross floor area for the office, commercial, arts, or light industrial uses and three spaces per 1,000 square feet of grocery uses. The proposed project would provide about 2,622 off-street vehicle parking spaces, of which 819 spaces would be located within a centralized parking facility. Even still, as discussed in Section 4.E, Transportation and Circulation, during both the midday and evening periods, the proposed vehicle parking supply would not accommodate the estimated demand. Consequently, the proposed project does not propose excessive parking beyond City parking requirements.

As described above, without mitigation measures identified in this EIR, the proposed project would not support all of the primary goals of the Clean Air Plan, but would not interfere with, disrupt or hinder implementation of the Clean Air Plan. However, with implementation of mitigation measures identified in this EIR and compliance with applicable regulations as described in Table 4.G-12, the project would include applicable control measures from the Clean Air Plan, thereby supporting the primary goals of the Clean Air Plan, and the project would not interfere with, disrupt, or hinder implementation of the Clean Air Plan. Therefore, this impact would be *less than significant with mitigation*.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)

⁷⁹ San Francisco Planning Code Table 151: Schedule of Required Off-Street Parking Spaces

⁸⁰ San Francisco Planning Code Table 151.1: Off Street Parking Permitted as Accessory

Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)

Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation, Impact TR-5)

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)

Mitigation Measure M-AQ-4: Siting of Uses that Emit Toxic Air Contaminants (see Impact AQ-4, above)

Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets (see above)

Significance after Mitigation: Less than Significant

Impact AQ-6: The proposed project would not create objectionable odors that would affect a substantial number of people. (Less than Significant)

Existing uses on the project site are entirely vacant buildings and facilities and are not an existing odor source. During construction, the various diesel-powered vehicles and equipment in use on site would create localized odors. These odors would be temporary and depend on specific construction activities occurring at certain times and are not likely to be noticeable for extended periods of time beyond the boundaries of the project site. Therefore, the potential for diesel odor impacts is considered less than significant.

Although there may be some potential for small-scale, localized odor issues to emerge around project sources such as solid waste collection, wastewater or stormwater collection/conveyance, food preparation, etc., substantial odor sources and consequent effects on onsite and offsite sensitive receptors would be unlikely. Bay Area Air Quality Management District Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds and applies to restaurants that employ more than five persons. Therefore, because the project would be required to implement odor controls as required by applicable regulations, odor impacts would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

This section discusses the cumulative impacts to air quality that could result from the proposed project in conjunction with past, present, and reasonably foreseeable future projects.

Impact C-AQ-1: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts. (Significant and Unavoidable with Mitigation)

The contribution of a project's individual air emissions to regional air quality impacts is, by its nature, a cumulative effect. Emissions from past, present, and reasonably foreseeable future projects in the region also have or will contribute to adverse regional air quality impacts on a cumulative basis, resulting in a potentially significant cumulative air quality impact. No single project by itself would be sufficient in size to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality conditions.⁸¹ As described in the Approach to Analysis section above, the project-level thresholds for criteria air pollutants are based on levels by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, because the proposed project's emissions exceed the project-level thresholds as explained in Impacts AQ-2 and AQ-3, the project would result in a considerable contribution to cumulative regional air quality impacts, a significant impact. As discussed above, implementation of **Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5** would reduce the severity of this impact, however, due to uncertainties in the implementation of these measures (particularly Mitigation Measure M-AQ-2f, Offset Construction and Operational Emissions), these measures would not reduce the project's contribution to the cumulative impact to a less-than-significant level for the same reasons described in Impacts AQ-2 and AQ-3. Therefore, the project's emissions of criteria air pollutants would be cumulatively considerable, and this cumulative impact would be *significant and unavoidable with mitigation*.

Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)

Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)

Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)

Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)

Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation, Impact TR-5)

Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)

Mitigation Measure M-AQ-2f: Offset Operational Emissions (see Impact AQ-2, above)

Significance after Mitigation: Significant and Unavoidable

⁸¹ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. 2-1.

Impact C-AQ-2: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, could contribute to cumulative health risk impacts on sensitive receptors. (Less than Significant with Mitigation)

As described in Impact AQ-4, above, the health risk assessment conducted for this EIR takes into account the contribution of existing localized health risks to sensitive receptors from sources included in the citywide modeling plus the proposed project's sources. There are, however, other reasonably foreseeable future projects, whose emissions have not been incorporated into the existing citywide health risk modeling. Additionally, the city has modeled health risks under 2040 conditions that account for anticipated growth in vehicle trips and also take into account the implementation of vehicle emission regulations.

The Bay Area Air Quality Management District has identified a distance of 1,000 feet as an appropriate zone of influence for assessing health risk impacts⁸² and specifies that cumulative sources represent the combined total risk values of each individual source within the 1,000-foot evaluation zone.

Cumulative projects that are within 1,000 feet of the project site are identified in Figure 4.A-1, p. 4.A-15, Baseline and Cumulative Projects, in Section 4.A, Impact Overview. Projects within this zone of influence of identified maximally impacted offsite receptors in the project level analysis are identified in **Table 4.G-13, Cumulative Projects within 1,000 feet of Maximally Impacted Offsite Receptors**. Each of these projects were reviewed using a combination of GoogleEarth street view and environmental documentation available through the San Francisco Planning Department to determine whether construction activity is complete or, if not, what determinations were made in CEQA-related documentation with respect to construction air quality emissions and health risks. As indicated in Table 4.G-13, there are three projects which either involve no construction or for which construction is complete and therefore construction-related emissions are not a cumulative consideration. Three other of these cumulative projects have undergone environmental reviews that determined that their construction-related emissions and risks were not substantial.

One of the remaining projects is a commercial/office development (1499 Illinois Street, 1401-1443 Illinois Street, and 700 25th Street). The Illinois/25th streets commercial/office development is currently under review by planning department staff and would consist of 2,500 square feet of commercial space and 230,000 square feet of office space. The BAAQMD prepared draft screening tables that provide conservative offset distances above which impacts from cancer risk and PM_{2.5} concentrations are less than significant.^{83,84} For the Illinois/25th streets commercial/office development, the offset distance is 656 feet (200 meters) for cancer risk and 492 feet (150 meters) for PM_{2.5} concentration.⁸⁵ The closest maximally impacted receptor identified from the project impact is roughly 656 feet (200 meters) for PM_{2.5} and 902 feet (275 meters) for cancer risk, both greater than the offset distances.⁸⁶

⁸² Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017, p. 5-2.

⁸³ BAAQMD. 2010. Screening Tables for Air Toxics Evaluation During Construction. May. Table 2.

⁸⁴ Screening distances are based on a project resulting in a 10 in a million for cancer risk and 0.3 µg/m³ for PM_{2.5} annual average concentration.

⁸⁵ This corresponds to a commercial development of 300,000 square feet.

⁸⁶ The closest MEISR for PM_{2.5} is the unmitigated MEISR corresponding to the offsite, non-Pier 70 residential receptor. The closest MEISR for cancer risk is the MEISR corresponding to the offsite, non-Pier 70 residential receptor.

TABLE 4.G-13
CUMULATIVE PROJECTS WITHIN 1,000 FEET OF MAXIMALLY IMPACTED OFFSITE RECEPTORS

Cumulative Project # (from Table 4.A-2)	Project Name (Case File No.)	Status as of NOP	How considered
1	Pier 70 Mixed-Use District (2014-001272ENV)	Planning Entitled	In a Health Risk Assessment
2	SF Port Re-Tenancing of Pier 70 Shipyard (2014.0713E)	Planning Entitled	No Construction
3	20th Street Historic Core at Pier 70 (2016-000346ENV)	Building Permit Approved	Construction Complete
4	2420 Third Street (2013.0673E)	Building Permit Approved	Initial Study determined construction emissions not substantial
5	901 Tennessee Street (2013.0321E)	Under Construction	Construction complete
6	950 Tennessee Street (2014.1434ENV)	Planning Entitled	Initial Study for Eastern Neighborhoods Plan determined construction emissions not substantial
12	600 20th Street	Under Review	Initial Study determined construction emissions not substantial
29	1201–1225 Tennessee Street (2012.0493E)	Under Construction	Construction complete
30	1499 Illinois Street, 1401-1443 Illinois Street, & 700 25th Street (2018-000949ENV)	Under Review	BAAQMD screening Tables

SOURCE: San Francisco Planning Department, Quarter 4, 2017 Pipeline Report. Available <http://sf-planning.org/pipeline-report>, and <http://developmentmap.sfplanning.org/>, accessed May 18, 2018. [The list was cross referenced with the City and County of San Francisco Pier 70 Mixed-Use District EIR, Case No. 2-14--1272ENV, August 9, 2017, and each project status and description was verified through the San Francisco Planning Department, 2018 San Francisco Property Information Map Version 8.5.7 <http://propertymap.sfplanning.org/>, accessed May 18, 2018.

TAC contributions from transportation increases from these projects are captured with the use of a 2040 health risk model. Therefore, the only project that may combine with impacts of the proposed project not already captured by the 2040 health risk model is the construction-related and operational TAC emissions from the Pier 70 Mixed-Use District project. Cumulative health risks were assessed based on cumulative emissions sources within 1,000 feet of the project site, inclusive of the planned Pier 70 Mixed-Use District project.

Cumulative Excess Cancer Risk at Offsite Receptors

The maximum estimated excess lifetime cancer risk and PM_{2.5} concentrations from all project sources and those of the Pier 70 Mixed-Use District project at offsite locations is presented in **Table 4.G-14, Cumulative Cancer Risk and PM_{2.5} Concentration at Offsite Receptors**.

Similar to Impact AQ-4, the cumulative cancer risk analysis in the health risk assessment for the project is based on DPM concentrations from construction on- and off-road equipment, as well as the operational DPM concentrations from the emergency generators and on-road vehicles. The cumulative health risk assessment evaluated excess cancer risk and PM_{2.5} concentrations as a result of exposure to existing emissions sources and both construction and operational emissions from the proposed project and the planned Pier 70 Mixed-Use District project.

TABLE 4.G-14
CUMULATIVE CANCER RISK AND PM_{2.5} CONCENTRATIONS AT OFFSITE RECEPTORS

Source	Lifetime Excess Cancer Risk (in one million)		PM _{2.5} Concentration (µg/m ³)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Residential and Daycare Receptors (Pier 70)^a				
Background 2040	30	30	8.4	8.5 ^c
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^b	4.7	4.7	0.018	0.019 ^c
Project Construction – Off-road Emissions	384	32	0.99	0.10
Project Construction – Vehicle Traffic	0.0087	0.0057	0.00033	0.00055 ^c
Project Operation – Emergency Generators	4.0	0.38	0.00055	0.00018
Project Operation – Vehicle Traffic	0.49	0.49	0.018	0.16
Cumulative Total	423	68	9.4	8.8
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No
Residential Receptor (non-Pier 70)^d				
Background 2040	56	56	8.8	8.6
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^e	6.9	6.9	0.017	0.034 ^c
Project Construction – Off-road Emissions	42	4.2	0.099	0.010
Project Construction – Vehicle Traffic	0.025	0.012	0.0016	0.0018
Project Operation – Emergency Generators	0.57	0.053	0 ^g	0 ^g
Project Operation – Vehicle Traffic	4.4	4.4	0.21	0.21
Cumulative Total	109	71	9.1	8.9
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No
School Receptor^{d,f}				
Background 2040	46	46	8.74	8.7
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^e	1.8	1.8	0.038	0.038
Project Construction – Off-road Emissions	8.8	1.0	0.028	0.0029
Project Construction – Vehicle Traffic	0.0039	0.0022	0.00017	0.00011
Project Operation – Emergency Generators	0.059	0.0051	0 ^g	0 ^g
Project Operation – Vehicle Traffic	1.5	1.5	0.055	0.055
Cumulative Total	59	51	8.8	8.7
APEZ Criteria	100	100	10.0	10.0
Significant?	No	No	No	No

NOTES:

^a Assumes Pier 70 resident will move in while construction of the proposed project is ongoing. The cancer risk contribution from project emissions for the Pier 70 resident assumes exposure to project emissions begins in 2024.

^b For the purpose of the cumulative analysis for the Pier 70 resident, the Pier 70 construction schedule was modified to represent a reasonable worst case exposure scenario for potential future Pier 70 receptors. It was assumed Phase 2-5 construction emissions from Pier 70 are mitigated using Tier 4 equipment consistent with the Pier 70 EIR mitigation requirements.

^c The mitigated PM_{2.5} concentration is higher than the unmitigated value because, with mitigation, the location of the maximally exposed receptor changes.

^d The cancer risk associated with project emissions for non-Pier 70 populations assumes exposure to project emissions begins in 2020.

^e For the purpose of the cumulative analysis for non-Pier 70 populations, the original Pier 70 construction schedule and mitigation scenarios as presented in the Pier 70 Project EIR is used as this resulted in the maximum cancer risks.

^f This analysis assumes the school receptor MEI is exposed to the project and Pier 70 emissions concurrently.

^g The annual PM_{2.5} concentrations from emergency generators for the offsite resident (non-Pier 70) and maximum exposed individual sensitive receptors for schools are zero because the maximum annual PM_{2.5} concentrations occurred in years before the emergency generators would be operational.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

The majority of project-generated excess cancer risk at the maximum exposed individual sensitive receptor would be attributable to construction emissions. The project's emissions would combine with cumulative 2040 background concentrations and concurrent emissions of the Pier 70 Mixed-Use District project⁸⁷ and would exceed the APEZ excess cancer risk criteria of 100 per one million at the planned Pier 70 sensitive receptors and 47 in one million at other sensitive receptors. These excess cancer risk contributions exceed the significance threshold of 10. Therefore, construction and operation of the proposed project when combined with construction and operation of the Pier 70 Mixed-Use District project and background 2040 cancer risk levels would be *significant*, for offsite receptors.

The emissions estimates provided in this analysis reflect a specific set of conservative assumptions, based on a construction scenario wherein a relatively large amount of construction takes place during a relatively intensive and overlapping schedule with the adjacent Pier 70 Mixed-Use District project. The proposed project phasing, as presented in this document, is an estimate, providing the most conservative scenario and actual risks are anticipated to be less than estimated in Table 4.G-14.

The mitigated condition in the health risk assessment for offsite receptors assumes the mitigated emissions from both the Pier 70 Mixed-Use District project and the proposed project and includes emission reductions quantified for Mitigation Measures M-AQ-2a (Construction Emissions Minimization) and M-AQ-2b (Diesel Backup Generator Specifications). As indicated in Table 4.G-14, construction emissions contribute over 90 percent of the unmitigated project's health risk at future residential receptors at the Pier 70 Mixed-Use District project site. Consequently, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce this impact at offsite receptors to a less than significant level. Therefore, the residual excess cancer risk impact would be *less than significant with mitigation* for offsite receptors.

Cumulative Excess Cancer Risk at Onsite Receptors

The proposed project would include onsite residential units and daycare facilities, which are considered sensitive land uses for purposes of this air quality evaluation. The proposed project in combination with the Pier 70 Mixed-Use District project would result in cumulative construction-related and operational TAC emissions that would affect the occupants of the first phases of the proposed project and subsequent phases thereafter and diesel backup generators and operational vehicle traffic emissions may also impact future onsite residents. The estimated excess cancer risk from cumulative emissions at the onsite maximum exposed individual sensitive receptors are presented in Table 4.G-15, **Cumulative Cancer Risk and PM_{2.5} Concentrations at Onsite Receptors**. The project's emissions would combine with those of the Pier 70 Mixed-Use District project and 2040 background concentrations and would exceed the APEZ excess cancer risk criteria of an excess cancer risk of 100 per one million persons exposed, with the project contributing a cancer risk of 349 in a million. Therefore, because the project's contribution to the cumulative impact would exceed an excess cancer risk of 10, the project would make a considerable contribution to cumulative cancer risk impacts at for onsite receptors, and this impact would be *significant*.

⁸⁷ The cumulative analysis takes into account the mitigated excess cancer risk and PM_{2.5} concentrations resulting from the Pier 70 Mixed-Use District project.

TABLE 4.G-15
CUMULATIVE CANCER RISK AND PM_{2.5} CONCENTRATIONS AT ONSITE RECEPTORS^a

Source	Lifetime Excess Cancer Risk (in one million)		PM _{2.5} Concentration (µg/m ³)	
	Unmitigated	Mitigated	Unmitigated	Mitigated
Background (2040)	38	38	8.4	8.5
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^b	11	11	0.032	0.0059
Construction – Off-road Emissions	338	36	0.82	0.11
Construction – Vehicle Traffic	0.031	0.023	0.0022	0.0012
Operation – Emergency Generators	7.9	0.78	0.0020	0.00049
Operation – Vehicle Traffic	3.2	3.2	0.12	0.062
Total	398	89	9.4	8.7
APEZ Criteria	100	100	10.0	10.0
Significant?	Yes	No	No	No

NOTES:

^a Onsite receptors include residences and potential daycare centers.

^b For the purpose of the cumulative analysis, the original Pier 70 Mixed-Use District project construction schedule and mitigation scenarios as presented in the EIR is used as this resulted in the maximum (worst-case) cancer risks.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2018. See Appendix E.

The mitigated condition assumed in the health risk assessment for onsite receptors assumes the mitigated emissions from the Pier 70 Mixed-Use District project and for the proposed project and includes emission reductions quantified for Mitigation Measures M-AQ-2a (Construction Emissions Minimization) and M-AQ-2b (Diesel Backup Generator Specifications). As indicated in Table 4.G-15, construction emissions contribute over 90 percent of the unmitigated project's health risk. Consequently, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce this impact to onsite receptors to a less than significant level. Therefore, the excess cancer risk impact would be *less than significant with mitigation* for onsite receptors.

The analysis of cumulative health risk impacts assumed conservative phasing as discussed above for offsite receptors of both the proposed project and the Pier 70 Mixed-Use District project, given the market-demand flexibility afforded the applicants for each project. Additionally, the pending 2019 update to the California Energy Code (Title 24, Part 6; Building Energy Efficiency Standards) requires MERV 13 filtration for residential uses of four or more stories with mechanical heating (see Section 4.G.3 Regulatory Framework, p. 4.G-16). MERV-13 air filtration devices installed on an HVAC air intake system can remove 80 to 90 percent of indoor particulate matter (greater than 0.3 microns in diameter).⁸⁸ This requirement would further reduce indoor exposure to pollutants, lowering the overall excess cancer risk impact.

⁸⁸ Bay Area Air Quality Management District, Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning Draft, January 2016, p.37, http://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/draft_planninghealthyplaces_marchworkshop-pdf.pdf?la=en, accessed June 21, 2018.

Cumulative PM_{2.5} Concentrations at Offsite Receptors

The maximum estimated PM_{2.5} concentrations under cumulative conditions at offsite locations are presented in Table 4.G-14, above. As shown in the table, unmitigated project emissions⁸⁹ in combination with background concentrations would result in PM_{2.5} concentrations of 9.4 µg/m³ or less, which would be below the APEZ criteria of 10 µg/m³. Therefore, this would be a *less than significant* cumulative impact.

Cumulative PM_{2.5} Concentrations at Onsite Receptors

The maximum estimated PM_{2.5} concentrations under cumulative conditions at onsite locations are presented in Table 4.G-15, above. As shown in the table, unmitigated project emissions in combination with background concentrations would result in PM_{2.5} concentrations of 9.4 µg/m³ or less, which would be below the APEZ criteria of 10 µg/m³. Therefore, the localized PM_{2.5} impact at onsite receptors would be a *less than significant* cumulative impact.

Summary

In summary, the proposed project in combination with nearby cumulative projects and 2040 background conditions could result in a significant health risk impact to offsite and onsite sensitive receptors with respect to increased cancer risk. This impact would be reduced to less than significant with incorporation of Mitigation Measures M-AQ-2a, and this impact would be *less than significant with mitigation*.

Mitigation Measures M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)

Significance after Mitigation: Less than Significant

⁸⁹ It should be noted that this analysis assumes the mitigated PM_{2.5} concentrations from the Pier 70 Mixed-Use District project.



DRAFT ENVIRONMENTAL IMPACT REPORT Volume 2

Potrero Power Station Mixed-Use Development Project

SAN FRANCISCO PLANNING DEPARTMENT
CASE NO. 2017-011878ENV
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PLANNING
DEPARTMENT

Draft EIR Publication Date:	OCTOBER 3, 2018
Draft EIR Public Hearing Date:	NOVEMBER 8, 2018
Draft EIR Public Comment Period:	OCTOBER 4, 2018 – NOVEMBER 19, 2018

Written comments should be sent to:
San Francisco Planning Department
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1650 Mission Street, Suite 400 | San Francisco, CA 94103
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CHAPTER 4

Environmental Setting, Impacts, and Mitigation Measures (continued)

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4.H Wind and Shadow

4.H.1 Introduction

Section 4.H, Wind and Shadow, discusses both wind and shadow impacts. Wind is discussed first, followed by the discussion of shadow that begins on p. 4.H-24. Supplemental supporting information on wind and shadow is contained in Appendix F of this EIR.

4.H.2 Wind

This wind subsection describes the project's impacts on ground-level wind speeds at various locations on and near the project site. This subsection is based on a pedestrian wind study prepared for the project.¹ The "Environmental Setting" discussion that follows includes a general description of the wind environment in San Francisco and existing wind conditions on the project site. The "Regulatory Framework" section discusses regulations related to wind impacts from proposed development projects. The "Impacts and Mitigation Measures" discussion describes the criteria for determining whether wind impacts are significant under CEQA, the wind impacts of the proposed project and cumulative development projects, and mitigation and improvement measures.

4.H.2.1 Environmental Setting

San Francisco's Existing Wind Environment

In San Francisco, average winds speeds are the highest in the summer and lowest in the winter. However, the strongest peak wind speeds occur in the winter and are generally associated with storm conditions. The highest average wind speeds occur in mid-afternoon and the lowest occur in the early morning. Based on over 40 years of recordkeeping, the highest mean hourly wind speeds (approximately 20 miles per hour [mph]) occur mid-afternoon in July, while the lowest mean hourly wind speeds (in the range of 6 to 9 mph) occur throughout the day in November.

Meteorological data collected at the old San Francisco Federal Building at 50 United Nations Plaza over a six-year period show that westerly² through northwesterly winds are the most frequent and strongest winds during all seasons.³ Of the 16 primary wind directions, five occur most frequently: northwest, west-northwest, west, west-southwest, and southwest. At the Federal Building during the hours from 6 a.m. to 8 p.m., 70 percent of the winds blow from five adjacent directions of the 16 compass directions, as follows: northwest (10 percent), west-northwest (14 percent), west (35 percent), west-southwest (2 percent), and southwest (9 percent). Over 90 percent of all measured winds with speeds over 13 mph—the speed at which winds typically begin to bother pedestrians—blow from these five directions.

¹ RWDI, *Potrero Power Station Mixed-Use Development Project, San Francisco, CA: Pedestrian Wind Study*, March 19, 2018. The wind study is included in Appendix F.

² Wind directions are reported as directions from which the winds blow.

³ Arens, E. et al., "Developing the San Francisco Wind Ordinance and its Guidelines for Compliance," *Building and Environment*, Vol. 24, No. 4, pp. 297–303, 1989.

Wind Effects on People

The comfort of pedestrians varies under different conditions of sun exposure, temperature, clothing, and wind speed.⁴ Winds up to about 4 mph have no noticeable effect on pedestrian comfort. With speeds from 4 to 8 mph, wind is felt on the face. Winds from 8 to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. For winds from 19 to 26 mph, the force of the wind will be felt on the body. With 26 to 34 mph winds, umbrellas are used with difficulty, hair is blown straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds over 34 mph and gusts can blow people over.

Wind Effects from Buildings

Tall buildings and exposed structures can strongly affect the wind environment for pedestrians. A building that stands alone or is much taller than the surrounding buildings can intercept and redirect winds that might otherwise flow overhead and bring them down the vertical face of the building to ground level, where they create ground-level wind and turbulence. This effect is often noticed near the northwest and southwest corners of tall buildings, where prevailing winds from the northwest and west strike west-facing building façades and are redirected and accelerated around the northwest and southwest corners of the building. These redirected winds can be relatively strong and turbulent and may be, in some instances, incompatible with the intended uses of nearby ground-level pedestrian spaces. Moreover, structure designs that present tall flat surfaces square to strong winds can create ground-level winds that can be hazardous to pedestrians. Conversely, a building with a height that is similar to the heights of surrounding buildings typically would cause little or no additional ground-level wind acceleration and turbulence.

Thus, wind impacts are generally caused by large building masses extending substantially above their surroundings, and by buildings oriented so that a large wall catches a prevailing wind, particularly if such a wall includes little or no articulation. In general, new buildings less than approximately 80 feet in height are unlikely to result in substantial adverse effects on ground-level winds such that pedestrians would be uncomfortable or hazardous wind conditions would result. Such winds may occur under existing conditions, but shorter buildings typically do not cause substantial changes in ground-level winds.

Analysis of Pedestrian-Level Winds

Winds experienced at ground level by pedestrians have long been evaluated in CEQA documents in San Francisco, with wind tunnel testing conducted for proposed high-rise structures since the 1970s. Until the mid-1980s, the City did not employ quantifiable criteria in consideration of a project's wind impacts, although quantification of relative changes in pedestrian wind conditions was undertaken as part of CEQA review. In 1985, section 148 was added to the San Francisco Planning Code, codifying wind requirements and establishing wind speed criteria for the Downtown (C-3) Use

⁴ Lawson, T.V., and A.D. Penwarden, "The Effects of Wind on People in the Vicinity of Buildings," *Proceedings of the Fourth International Conference on Wind Effects on Buildings and Structures, London, 1975*, Cambridge University Press, Cambridge, U.K., 605-622, 1976.

Districts.⁵ Section 148 defines *equivalent wind speed* as “an hourly mean wind speed adjusted to incorporate the effect of gustiness or turbulence on pedestrians.” Wind speeds discussed herein refer to this equivalent wind speed. Under section 148, a hazardous wind condition exists when the wind speed at a particular location exceeds 26 mph for a single hour of the year.⁶ Section 148 also establishes pedestrian *comfort wind speed* criteria of 11 mph for no more than 10 percent of the time year round, between 7 a.m. and 6 p.m., in areas of substantial pedestrian use and 7 mph for no more than 10 percent of the time year round, between 7 a.m. and 6 p.m., in public seating areas.⁷

Following the adoption of planning code section 148, the planning department developed procedures for implementation of the requirements, including a wind tunnel testing protocol that remains in use today. Although the proposed project is not within an area of the city where wind speed criteria are enforced through the planning code, CEQA review relies upon the section 148 hazard criterion citywide to determine whether a project would result in a significant wind impact and implements the section 148 procedures citywide in order to achieve comparable wind tunnel test results citywide.

Wind Conditions at the Project Site and in the Vicinity

The project site and vicinity are generally windy. Under existing conditions, winds exceed the 26-mph wind hazard criterion at nine of 165 locations tested for pedestrian wind conditions in the wind tunnel,⁸ for a total of 38 hours per year, and the average wind speed that is exceeded one hour per year is 28 mph. The nine locations where the existing wind hazard criterion is exceeded are at:

- the southwest corner of 22nd and Illinois streets, across Illinois Street from the project site and adjacent to the southerly building of the American Industrial Center (test point 150; two hours per year);
- the north side of 23rd Street adjacent to the southwest corner of Station A (test point 61; 1 hour);
- a location near the foot of 23rd Street (test point 119; 1 hour);

⁵ Other sections of the San Francisco Planning Code apply comparable standards in the Downtown Residential (DTR) Districts, the Folsom and Main Residential/Commercial Special Use District, the Van Ness Special Use District, and certain zoning districts in the South of Market (SoMa) neighborhood.

⁶ The wind hazard criterion of 26 mph is derived from a wind condition that would generate a 3-second gust of wind at 20 meters per second (45 mph), a commonly used guideline for wind safety. This wind speed, on an hourly basis, is 26 mph averaged for a full hour. However, because the Civic Center Federal Building wind data were collected at one-minute averages, the 26-mph one-hour average wind speed is converted to a corresponding one-minute average wind speed of 36 mph, which is then used to determine compliance with the 26-mph one-hour hazard criterion in the planning code. (Arens, E. et al., “Developing the San Francisco Wind Ordinance and its Guidelines for Compliance,” *Building and Environment*, Vol. 24, No. 4, pp. 297–303, 1989.) All hazard wind speeds in this analysis are presented based on the 36-mph wind speed averaged over one-minute, and the hazard criterion is based on 36 mph.

⁷ The wind comfort criteria are defined in terms of *equivalent wind speed*, which is an average wind speed (mean velocity), adjusted to include the level of gustiness and turbulence. Equivalent wind speed is defined as the mean wind velocity, multiplied by the quantity (one plus three times the turbulence intensity) divided by 1.45. This calculation magnifies the reported wind speed when turbulence intensity is greater than 15 percent.

⁸ As described in more detail under “Methodology,” wind test points were chosen to illustrate the general flow of winds around project buildings at select locations. An additional 19 points were located at mid-street locations on certain streets to evaluate wind effects on bicyclists, for informational purposes; see discussion on p. 4.H-22.

- a location north of the project site, within the approved Pier 70 Mixed-Use District project site, west of the north-south portion of 20th Street (test point 137; 3 hours);
- four onsite locations at and near the northeast corner of Station A (test points 9, 72, 76, and 77; 2, 8, 13, and 7 hours, respectively); and
- onsite in the paved, open yard east of Station A (test point 163; 1 hour).

Figure 4.H-1, Pedestrian Wind Hazards, Existing Conditions, depicts existing wind hazard conditions. Of the nine existing hazard criterion exceedances, only the first three above (test points 150, 61, and 119) are in locations that are publicly accessible. Existing wind speeds exceed the hazard criterion for an aggregate of four hours at these three locations. The great majority of the existing wind hazard exceedance duration (30 of 38 hours) occurs at the four closely spaced locations near the northeast corner of Station A, an area that is not currently publicly accessible.

Winds currently exceed the pedestrian comfort criterion at 140 of the 165 locations tested, including most onsite locations. The locations where the wind comfort criterion is not exceeded are typically in sheltered spots behind or adjacent to existing buildings that provide shelter from prevailing westerly and northwesterly winds, such as east of Station A and between Station A and other existing buildings. **Figure 4.H-2, Pedestrian Wind Comfort, Existing Conditions**, depicts existing wind comfort conditions.

4.H.2.2 Regulatory Framework

Local Regulations

San Francisco General Plan

Central Waterfront Plan

Policy 5.2.6: Ensure quality open space is provided in flexible and creative ways, adding a well-used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines:

- A. Designed to allow for a diversity of uses, including elements for children, as appropriate.
- B. Maximize sunlight exposure and protection from wind
- C. Adhere to the performance-based evaluation tool.

4.H.2.3 Impacts and Mitigation Measures

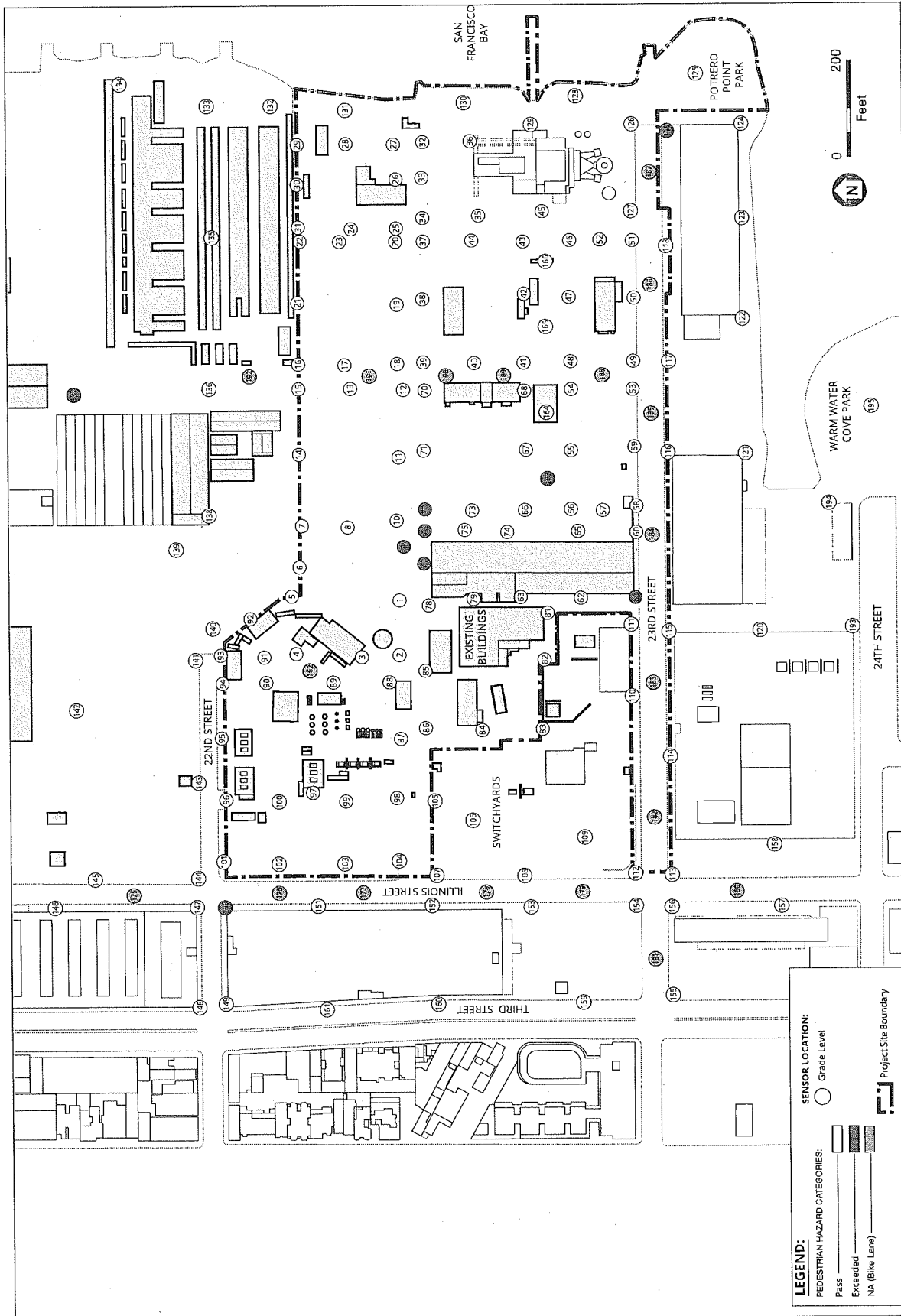
Significance Criteria

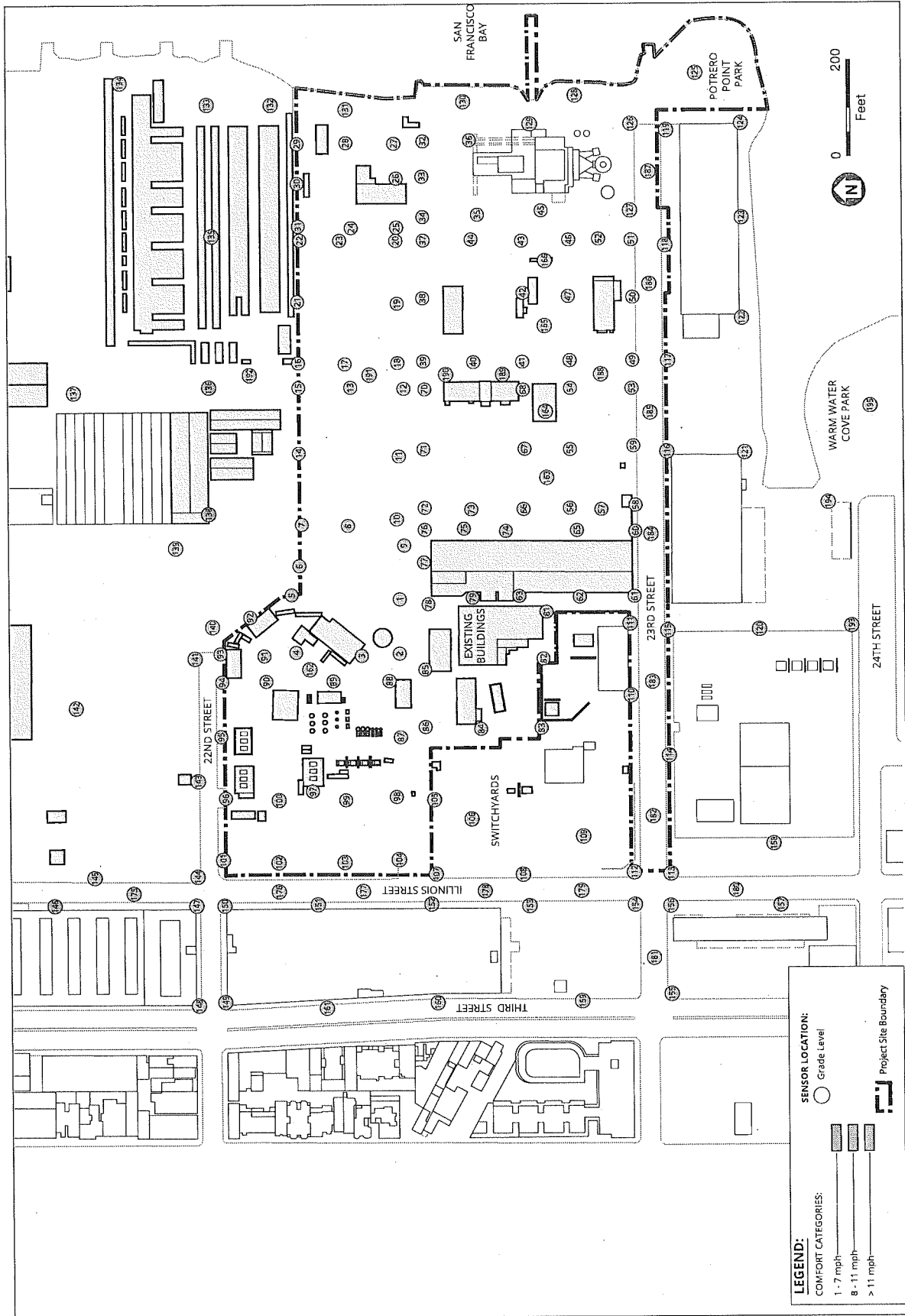
The following significance criterion is from Appendix B of the San Francisco Planning Department's Environmental Review Guidelines (which is the planning department's Initial Study Checklist) and is used to determine the level of impact related to wind. Implementation of the proposed project would have a significant effect related to wind if the project would:

- Alter wind in a manner that substantially affects public areas.

Figure 4.H-1
Pedestrian Wind Hazards, Existing Conditions

SOURCE: RWDI





Potrero Power Station Mixed-Use Development Project

Figure 4.H-2
Pedestrian Wind Comfort, Existing Conditions

SOURCE: RWDI

For purposes of determining whether a project would “alter wind in a manner that substantially affects public areas,” the planning department relies on the 26-mph wind hazard criterion of planning code section 148, described above in section 4.H.2.1 under “Analysis of Pedestrian-Level Wind.”

Approach to Analysis

Project Features

Building Locations and Maximum Building Heights

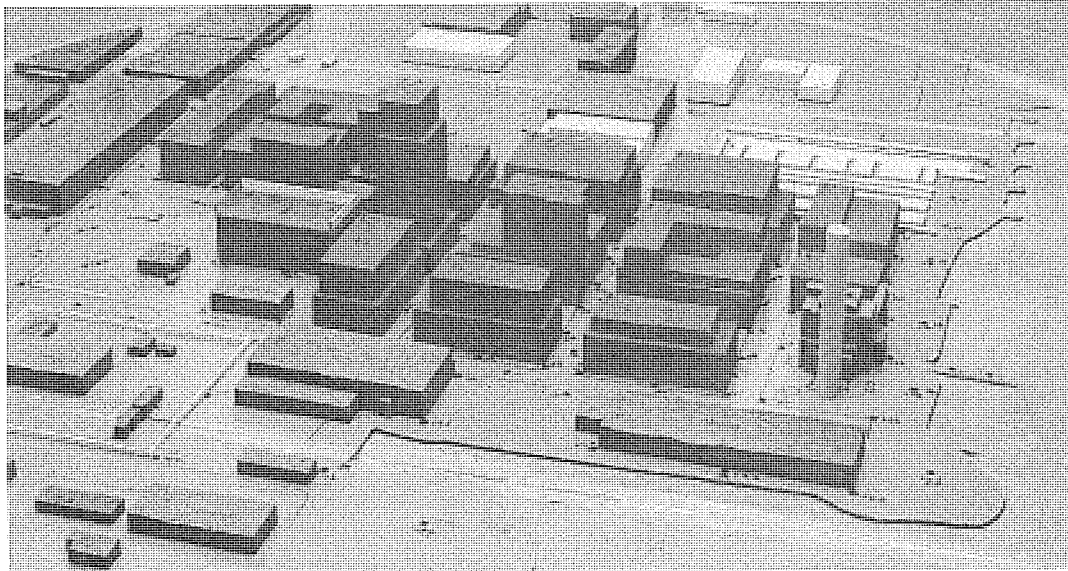
The proposed project would include amendments to the San Francisco General Plan and Planning Code, and create a new Potrero Power Station Special Use District (SUD). The existing Height and Bulk Districts on the 29-acre site are 40-X and 65-X (maximum building heights of 40 feet and 65 feet, respectively). The proposed project would increase the height limits to between 65 feet and 180 feet throughout the project site, and to 300 feet on Block 6, in the west-central portion of the site. As shown in Figure 2-7, in Chapter 2, Project Description, the proposed height limits would generally step up from east to west across the project site (i.e., increasing with greater distance from San Francisco Bay) and then step down again towards Illinois Street. The existing 300-foot-tall Boiler Stack would remain and would be accommodated by a corresponding height limit of 300 feet.⁹ Several blocks would have height limits that would permit taller towers on a portion of the block, with the remainder of the block to be a shorter podium, generally at a height of 65 to 85 feet.

As described below under “Methodology,” p. 4.H-10, wind tunnel testing involves development of a scale model to represent the proposed project. The wind tunnel model is based on the Proposed Height District Plan in Chapter 2, Figure 2-7, with towers and other building components above podium height, where applicable, that incorporate the upper-level setbacks and tower massing anticipated to be permitted under the proposed project. The Unit 3 Power Block is included in the wind tunnel model because it is a taller building than would be constructed at Block 9 if the power block is demolished, and thus retention of the power block results in a conservative analysis of project impacts. The model as tested is based on the “preferred project” described in Chapter 2, Project Description. However, the model would accommodate various project options described in Chapter 2, for the following reasons:

- the ultimate land use on the project’s flex blocks would not be anticipated to alter the overall building massing;
- the retention of the Unit 3 Power Block in the model is conservative, as explained above;
- the utility options would not affect building massing; and
- the potential variation in the width of Humboldt Street would affect only the westernmost portion of the site where the project would develop new buildings only on the north side of the street and only to a height of 85 feet, which would not result in substantial wind impacts.

⁹ If the Unit 3 power block is retained and rehabilitated as part of Block 9, it, too, would be accommodated with respect to the height limit of that structure.

While the location of the district parking garage, if different than in the preferred project, could result in minor alterations of building height, the height of the garage would not be anticipated to exceed 90 feet, and therefore would not meaningfully change wind impacts. **Figure 4.H-3, Wind Tunnel Model**, presents a photograph of the model used in the wind tunnel testing.



SOURCE: RWDI, 2018

Figure 4.H-3
Wind Tunnel Model

Proposed Open Space

The proposed project would construct approximately 6.2 acres of publicly accessible open space. Open spaces included as part of the proposed project are described below.

- **Waterfront Park.** An approximately 3.6-acre waterfront park would extend the Blue Greenway and Bay Trail through the project site, and provide spill-out spaces for retail, quiet spaces, and waterfront viewing terraces and recreational area. Additional amenities could include trellis structures, barbecues, a recreational dock, and public art.
- **Louisiana Paseo.** A 0.7-acre plaza-type open space adjacent to Blocks 6 and 10 could have gardens, trellis structures, and seating areas.
- **Power Station Park.** A 1.22-acre central green space would extend east-west through the interior of the project site and connect the Louisiana Paseo to the waterfront. This park could contain play structures, art, barbecues, and outdoor dining areas. The eastern portion of the park would contain lawn spaces that could accommodate soccer fields, while the western park would be intended for community activities and would include an outdoor game room.
- **Rooftop Soccer Field.** A publicly accessible open space is proposed on a portion of the roof of the parking structure on Block 5. This rooftop open space would include a 0.68-acre soccer field covered in artificial turf.

Project Features to Reduce Wind Impacts

The project as tested in the wind tunnel includes two features specifically designed to minimize potential pedestrian-level winds: a canopy between buildings on Blocks 6 and 10 and a porous wind screen surrounding the rooftop soccer field on a building on Block 5.

Methodology

The wind tunnel test was conducted using a 1:400 (1 inch = approximately 33 feet) scale model of the proposed project and surrounding buildings within an approximately 1,600-foot radius centered on the project site, which is sufficient to encompass buildings on the site as well as nearby buildings that could affect winds on and near the site. The circular study area extends west to Tennessee Street, north to 20th Street to encompass nearly the entirety of the Pier 70 Mixed-Use District project site, and south to approximately 25th Street. The test area also extends east into San Francisco Bay.

Using 16 compass directions (northwest, west-northwest, west, west-southwest, southwest, etc.) wind tunnel tests were conducted for the project site and vicinity using the following scenarios:

- Existing
- Existing plus Project
- Cumulative (with Project)

The existing scenario includes one recently completed project at 1201 Tennessee Street that was under construction when the wind tunnel testing was undertaken.¹⁰ The cumulative scenario includes the approved Pier 70 Mixed-Use District project to the north. No other cumulative projects identified in EIR section 4.A (Table 4.A-1) were sufficiently close to the project site to have a meaningful effect on pedestrian-level winds.

The scale model, which was equipped with permanently mounted wind speed sensors, was placed inside an atmospheric boundary layer wind tunnel. The model had 189 wind speed sensors (also known as wind sensor test points) to measure mean and gust wind speeds at an equivalent full-scale height of approximately 5 feet above ground. Of these test points, 165 were evaluated against the pedestrian wind criteria and 19 others, at locations in the middle of streets, were separately evaluated, for informational purposes only, with respect to wind conditions for bicyclists.¹¹ Under existing conditions test point locations 64, 69, 80, 167, and 168, are covered by existing buildings that are planned for demolition. Therefore, those five test point locations were not tested in the existing scenario, resulting in 165 pedestrian test locations under existing conditions and 170 test locations under existing-plus-project and cumulative conditions. Wind effects on bicyclists are discussed separately, for informational purposes, on p. 4.H-23.

¹⁰ The Pier 70 Historic Core project along 20th Street east of Illinois Street consists of rehabilitation of existing buildings and is also therefore included in the Existing scenario.

¹¹ Four additional test points (169-174) were located, for existing-plus-project and cumulative conditions only, on the rooftop soccer field on Block 5. However, those points are not included in the analysis and are discussed for informational purposes only.

Locations for wind speed sensors, or study test points, were selected to indicate how the general flow of winds would be directed around the project buildings. Consistent with planning code section 148, the locations of test points would primarily be publicly accessible sidewalks and open spaces under with-project conditions, which are assumed to be areas of substantial pedestrian use.¹² Although pedestrian traffic on most sidewalks in the project vicinity is currently light, with development of the proposed project, sidewalks within and surrounding the project site would experience substantially more pedestrian traffic. There are no existing public seating areas in the project vicinity. Such facilities are typically within parks, privately-owned publicly accessible open spaces, or other similar publicly accessible spaces or street furniture (e.g., benches), none of which exist in the project vicinity.

Pedestrian-level wind conditions are affected by the interaction of wind flows among multiple structures. Accordingly, winds at the base of a building may change once a nearby building is completed. Therefore, this analysis not only considers full-buildout conditions but also includes a qualitative discussion of interim conditions—when only a portion of the project is built—during the 15-year construction period.

Impact Evaluation

Impact WS-1: Full build out of the proposed project would not alter wind in a manner that substantially affects public areas on or near the project site. (*Less than Significant*)

Wind Hazard Analysis

Buildout under the project would alter wind patterns on and near the project site. The proposed project would substantially change building height and massing at the project site by developing a new urban neighborhood with more than a dozen buildings at heights of 65 feet to 180 feet throughout the project site, along with one 300-foot-tall tower on Block 6. Under existing conditions, winds exceed the hazard criterion at nine of 165 pedestrian test points, for a total of 38 hours per year. Under the existing-plus-project conditions, seven of the nine existing wind hazard criterion exceedance locations would be eliminated and there would be four new exceedance locations, for a total of six exceedance locations among 170 pedestrian test points.¹³ The wind hazard criterion would be exceeded for an aggregate 28 hours per year. This would represent a net decrease of three pedestrian hazard exceedance locations and 10 hours per year. **Table 4.H-1, Exceedances of Wind Hazard Criterion**, presents the results of the wind tunnel test for those points for which the pedestrian wind hazard criterion is exceeded under one or more scenarios.

¹² To study the effects of wind on pedestrians, sensors are located approximately 5 feet off of the ground.

¹³ As noted in the Setting, five ground-level test points under with-project conditions are covered by existing buildings; hence, there are five additional at-grade test points with project implementation. The 170 pedestrian test points does not include four points on the proposed rooftop soccer field on Block 5 or 19 mid-street (bicycle) locations, as these are not considered pedestrian locations. The soccer field and bicycle wind conditions are discussed separately for informational purposes, below.

TABLE 4.H-1
EXCEEDANCES OF PEDESTRIAN WIND HAZARD CRITERION (WIND HAZARD CRITERION = 36 MPH)¹

Test Point	Existing			Existing plus Project				Cumulative (including Project)					Open Space ²
	Wind Speed Exceeded 1 hr./yr. (mph)	Hrs./Yr. Wind Speed >Haz. Crit.	Exceeds Haz. Crit.?	Wind Speed Exceeded 1 hr./yr. (mph)	Hrs./Yr. Wind Speed >Haz. Crit.	Hours Change Rel. to Existing	Exceeds Haz. Crit.?	Wind Speed Exceeded 1 hr./yr. (mph)	Hrs./Yr. Wind Speed >Haz. Crit.	Hours Change Rel. to Existing	Exceeds Haz. Crit.?	Hours Change Rel. to Project	
2	27	0		42	18	18	Y	41	12	12	Y	-6	
9	37	2	Y	29	0	-2		33	0	-2		0	
17	30	0		38	2	2	Y	24	0	0		-2	
61	36	1	Y	38	2	1	Y	37	1	0	Y	-1	
72	40	8	Y	24	0	-8		24	0	-8		0	
76	41	13	Y	36	1	-12	Y	36	1	-12	Y	0	LP
77	38	7	Y	31	0	-7		31	0	-7		0	
83	28	0		39	4	4	Y	39	5	5	Y	1	
119	36	1	Y	25	0	-1		26	0	-1		0	
137	39	3	Y	28	0	-3		23	0	-3		0	
140	31	0		36	1	1	Y	26	0	0		-1	
150	37	2	Y	28	0	-2		28	0	-2		0	
163	36	1	Y	20	0	-1		20	0	-1		0	PSP
		Total Hours	Total		Total Hours	Hours Chg. fr. Existing	Total		Total Hours	Hours Chg. fr. Existing	Total	Hours Chg. fr. Project	
		38	9		28	-10	6		19	-19	4	-9	

NOTES:

¹ This table presents data for test points for which the pedestrian wind hazard criterion is exceeded in one or more scenarios. Refer to Appendix F for complete results of wind tunnel testing.

² Open Spaces: LP – Louisiana Paseo; PSP – Power Station Park

Bold-face indicates exceedance of hazard criterion; **Green shading** indicates proposed onsite open space.

SOURCE: RWDI

Under existing-plus-project conditions, the seven existing exceedances of the wind hazard criterion that would be eliminated are as follows:

- the southwest corner of 22nd and Illinois streets (test point 150);
- a location near the foot of 23rd Street, adjacent to Potrero Point Park (test point 119);
- the location north of the site, within the Pier 70 project site (test point 137);
- three of the four onsite locations at and near the northeast corner of Station A, which would be demolished (test points 9, 72, and 77); and
- onsite within what would be the Power Station Park open space (test point 163).

At test point 61, on the north side of 23rd Street, an existing wind hazard exceedance would increase in duration from 1 hour per year to 2 hours per year, while at test point 76, an existing wind hazard exceedance would decrease in duration from 13 hours per year to 1 hour per year.

Buildout of the proposed project would also create four new exceedances of the wind hazard criterion at the following locations:

- on 22nd Street between Georgia and Louisiana streets, just north of the project site and within the approved Pier 70 Mixed-Use District project site (test point 140; 1 hour per year);¹⁴
- onsite at the southwest corner of Block 1, adjacent to a proposed 180-foot-tall building (test point 2; 18 hours);
- onsite at the southwest corner of Block 5, adjacent to a proposed 90-foot-tall podium with a 180-foot-tall tower on the north side of this block (test point 83; 4 hours); and
- onsite on the east side of Maryland Street between the Humboldt Street Plaza and the northern property line, between two proposed buildings 125 feet in height (test point 17; 2 hours).

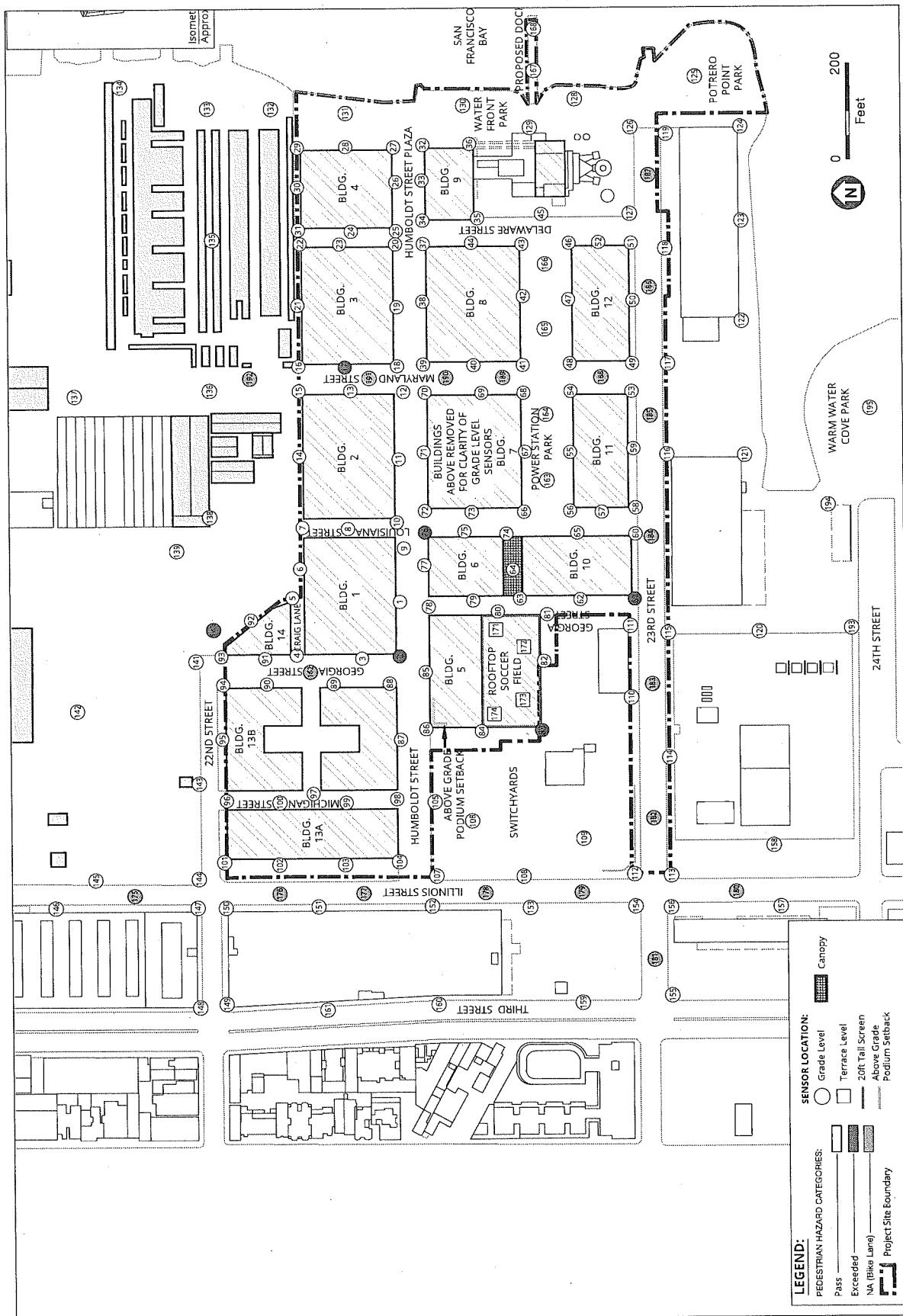
Figure 4.H-4, Pedestrian Wind Hazards, Existing-plus-Project Conditions, depicts wind hazard conditions under existing-plus-project conditions.

As would be expected with the physical development of relatively large buildings on a site with large vacant areas at present, the project would result in substantial changes in wind speeds at a number of test points. Overall, however, the proposed project would not alter wind in a manner that substantially affects public areas on and near the project site because (1) the number of test points at which the wind hazard criterion would be exceeded would decrease from nine under existing conditions to six under existing-plus-project conditions; (2) the proposed project would result in a 13-hour net reduction in the total number of hours that the wind hazard criterion is exceeded, from 38 hours per year to 28 hours per year; and (3) the average wind speed exceeded one hour per year under existing-plus-project conditions at all test points would be lower than under existing conditions (25 mph vs. 28 mph).

Additionally, the only exceedance of the wind hazard criterion in or adjacent to a proposed onsite open space would be at the northwest corner of the Louisiana Paseo (test point 76), where an existing exceedance of the wind hazard criterion would be reduced in duration from 13 hours per year under existing conditions to 1 hour per year under existing-plus-project conditions. At this location, the wind hazard speed exceeded 1 hour per year would be reduced from 41 mph to 36 mph. Therefore, buildout of the proposed project would result in *less-than-significant* wind impacts.

Mitigation: None required.

¹⁴ This point is at the northwest corner of Pier 70's Parcel F, which under that project would be developed with a 90-foot-tall building.



Potrero Power Station Mixed-Use Development Project

SOURCE: RWDI

There would be two locations under existing-plus-project conditions at which the wind hazard criterion would be exceeded for more than 2 hours per year: test point 2 (18 hours), at the southwest corner of Block 1 (northeast corner of the intersection of Georgia and Humboldt streets); and test point 83 (4 hours), at the southwest corner of Block 5 (near the project boundary and adjacent to an existing PG&E switchyard). Of these two locations, test point 2 would be expected to experience considerably more pedestrian activity, as it would be at a sidewalk location. **Improvement Measure I-WS-1, Wind Reduction Features for Block 1**, would improve wind conditions at this location. Despite the wind conditions at these locations, the project impact would be less than significant, as explained above, because the overall number of wind hazard exceedance locations, the number of hours of wind hazard exceedance, and the average wind speed exceeded one hour per year would all decrease, compared to existing conditions.

Improvement Measure I-WS-1: Wind Reduction Features for Block 1

As part of the schematic design of building(s) on Block 1, the project sponsor and the Block 1 architect(s) should consult with a qualified wind consultant regarding design treatments to minimize pedestrian-level winds created by development on Block 1, with a focus on the southwest corner of the block. Design treatments could include, but need not be limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. If recommended by the qualified wind consultant, the project sponsor should subject the building(s) proposed for this block to wind tunnel testing prior to the completion of schematic design. The goal of this measure is to improve pedestrian wind conditions resulting from the development of Block 1. The project sponsor should incorporate into the design of the Block 1 building(s) any wind reduction features recommended by the qualified wind consultant.

Impact WS-2: The phased construction of the proposed project could alter wind in a manner that substantially affects public areas on or near the project site. (*Significant and Unavoidable with Mitigation*)

Construction of the proposed project is expected to occur in one start-up plus six overlapping phases over a period of approximately 15 years. As described above in Impact WS-1, at full buildout the proposed project would generally improve wind conditions, compared to existing conditions, and the project's effect on wind would be less than significant. However, during the rather lengthy construction period, a particular building configuration resulting from development of one or more individual structures could result in localized wind conditions that would be different than those reported for the project at full buildout. It is possible that such individual building(s) could cause the wind hazard criterion to be exceeded, perhaps for one or more years. However, once surrounding buildings have been completed, and they provide effective wind shelter as reported in the project wind tunnel test, these temporary impacts would cease. Depending upon the circumstances and the actual phasing of the construction, these temporary impacts could continue at various locations until the full buildout is completed. Therefore, this EIR conservatively considers such an occurrence to be a significant, if temporary, wind impact. Furthermore, if the proposed project were not to be

completed in the time period anticipated, a partial buildout situation could occur for an extended period, resulting in different wind characteristics than those tested in the wind tunnel. This, too, could result in one or more new exceedances of the wind hazard criterion and thus a significant wind impact.

The wind tunnel analysis conducted for the proposed project does not provide test results for such interim wind conditions and, as a practical matter, cannot provide such information, due to the number of possible permutations of development and building designs. Based on the wind tunnel analysis and knowledge of the prevailing wind directions, development of buildings on the project site generally from the west to the east would provide the best protection from potential wind hazards because it would result in early-phase sheltering of locations farther downwind. However, given that the proposed construction phasing would be in the opposite direction—from east to west—significant wind effects could arise prior to full project buildout. Depending on circumstances, such as the heights and proximity of surrounding buildings, buildings less than 85 feet in height would be less likely to create wind hazards.

To minimize the potential for individual building(s) to result in localized wind hazard exceedances, design measures and landscape features, such as podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade, as well as ground-level fences or screens, shrubs and trees, and/or street furniture could offer protection from hazardous winds.

Implementation of **Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts**, shown below, would reduce the project's potentially significant wind impacts. However, because it cannot be stated with certainty that no such localized wind hazard exceedances would arise during the project construction period or that feasible interim wind-reduction measures would be available, this impact is considered *significant and unavoidable with mitigation*.

Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts

Prior to the approval of building plans for construction of any proposed building, or a building within a group of buildings to be constructed simultaneously, at a height of 85 feet or greater, the project sponsor (including any subsequent developer) shall submit to the San Francisco Planning Department for review and approval a wind impact analysis of the proposed building(s). The wind impact analysis shall be conducted by a qualified wind consultant. The wind impact analysis shall consist of a qualitative analysis of whether the building(s) under review could result in winds throughout the wind test area (as identified in the EIR) exceeding the 26-mph wind hazard criterion for more hours or at more locations than identified for full project buildout in the EIR. That is, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. The analysis shall compare the exposure, massing, and orientation of the proposed building(s) to the same building(s) in the representative massing models for the proposed project and shall include any then-existing buildings and those under construction. The wind consultant shall review the proposed building(s) design taking into account feasible wind reduction features including, but not necessarily

limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. Comparable temporary wind reduction features (i.e., those that would be erected on a vacant site and removed when the site is developed) may be considered. The project sponsor shall incorporate into the design of the building(s) any wind reduction features recommended by the qualified wind consultant.

If the wind consultant is unable to determine that the building(s) under consideration would not result in a net increase in hazardous wind hours or locations under partial buildout conditions compared to full buildout conditions, the building(s) under review shall undergo wind tunnel testing. The wind tunnel testing shall evaluate the building(s) to determine whether an adverse impact would occur. An adverse wind impact is defined as an aggregate net increase of 1 hour during which, and/or a net increase of 2 locations at which, the wind hazard criterion is exceeded, compared to full buildout conditions identified in the EIR and based on the existing conditions at the time of the subsequent wind tunnel test. As used herein, the existing conditions at the time of the subsequent testing shall include any completed or under construction buildings on the project site. As with the qualitative review above, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. Accordingly, wind tunnel testing, if required, would include the same test area and test points as were evaluated in the EIR.

If the building(s) would result in an adverse impact, as defined herein, additional wind tunnel testing of mitigation strategies would be undertaken until no adverse effect is identified, and the resulting mitigation strategies shall be incorporated into the design of the proposed building(s) and building site(s). All feasible means as determined by the Environmental Review Officer (such as reorienting certain buildings, sculpting buildings to include podiums and terraces or other wind reduction treatments noted above or identified by the qualified wind consultant, or installing landscaping) to eliminate hazardous winds, if predicted, shall be implemented.

Significance after Mitigation: Significant and Unavoidable. Since it cannot be stated with certainty that no such localized wind hazard exceedances would arise during the project construction period or that feasible interim wind-reduction measures would be available or effective, the impact could be significant during the interim period prior to full buildout, even with mitigation. Therefore, this impact would be considered *significant and unavoidable with mitigation*.

Cumulative Impacts

As noted above, the cumulative scenario includes the approved Pier 70 Mixed-Use District project to the north. No other cumulative projects identified in EIR section 4.A (Table 4.A-1) were sufficiently close to the project site to have a meaningful effect on pedestrian-level winds.

Impact C-WS-1: The proposed project at full buildout, when combined with other cumulative projects, would not alter wind in a manner that substantially affects public areas. (*Less than Significant*)

Wind Hazard Analysis

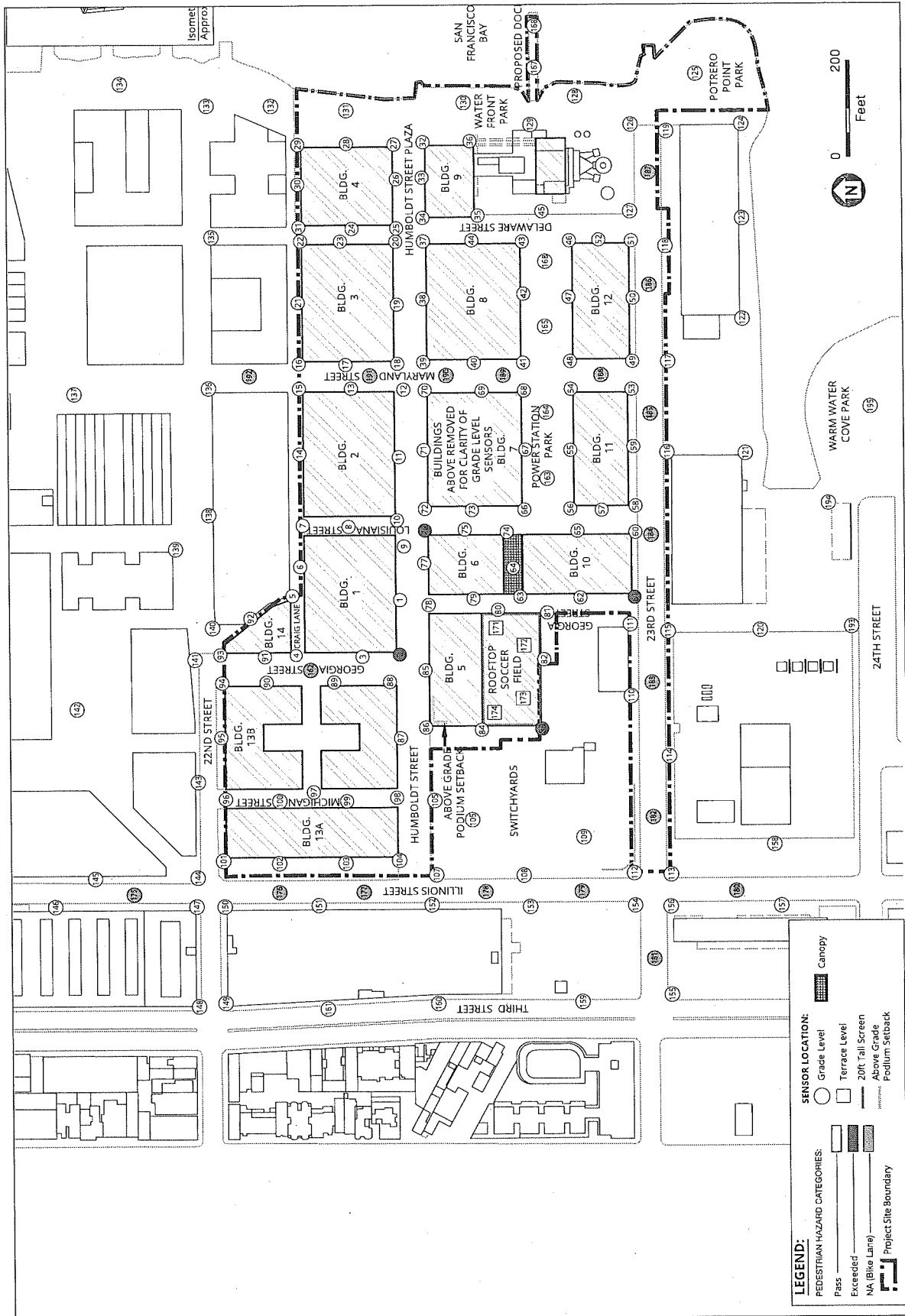
With the introduction of cumulative development (i.e., the Pier 70 Mixed-Use District project), wind hazard conditions would change very little, compared to conditions with the proposed project alone. The number of exceedances of the Planning Code hazard criterion would decrease to four, from six under existing-plus-project conditions. The number of hours during which the hazard criterion would be exceeded would decline from an aggregate of 28 hours per year to 19 hours per year. The average wind speed exceeded one hour per year would decline slightly from conditions with the project alone, from 25 mph to 23 mph. Two hazard criterion exceedances, both in the north-central portion of the project site (test points 17 and 140), would be eliminated with cumulative development, compared to with-project conditions, as buildings developed on the Pier 70 site would provide additional shelter from prevailing winds. The wind speed exceeded one hour per year would decline at these two points by 14 mph and 10 mph, respectively, from with-project conditions.

Four existing-plus-project scenario hazard exceedances (test points 2, 61, 76, and 83) would continue to exceed the wind hazard criterion under cumulative conditions (two of these exceedances are also present under existing conditions), generally for a similar duration except at test point 2, where the number of hours during which the wind hazard criterion would be exceeded would decline from 18 hours per year under existing-plus-project conditions to 12 hours per year under Cumulative conditions. **Figure 4.H-5, Pedestrian Wind Hazards, Cumulative Conditions**, depicts cumulative wind hazard conditions.

Because cumulative wind conditions would incrementally improve with the introduction of cumulative development, there would not be a significant impact. Therefore, the proposed project's cumulative wind impact would be *less than significant*.

Mitigation: None required.

In summary, the proposed project would not alter wind in a manner that substantially affects public areas near the project site because the project would result in a reduction in the number of test points at which the wind hazard criterion would be exceeded, a net reduction in the total number of hours that exceed the wind hazard criterion, and a reduction in the average wind speed exceeded one hour per year. The only wind hazard exceedance location in or adjacent to a proposed onsite open space, at the northwest corner of the Louisiana Paseo, would be substantially reduced in duration and in wind hazard with the project, compared to existing conditions. Therefore, buildout of the proposed project would result in *less-than-significant* wind impacts.



Potrero Power Station Mixed-Use Development Project
Figure 4.H-5
 Pedestrian Wind Hazards, Cumulative Conditions

SOURCE: RWDI

Supplemental Information

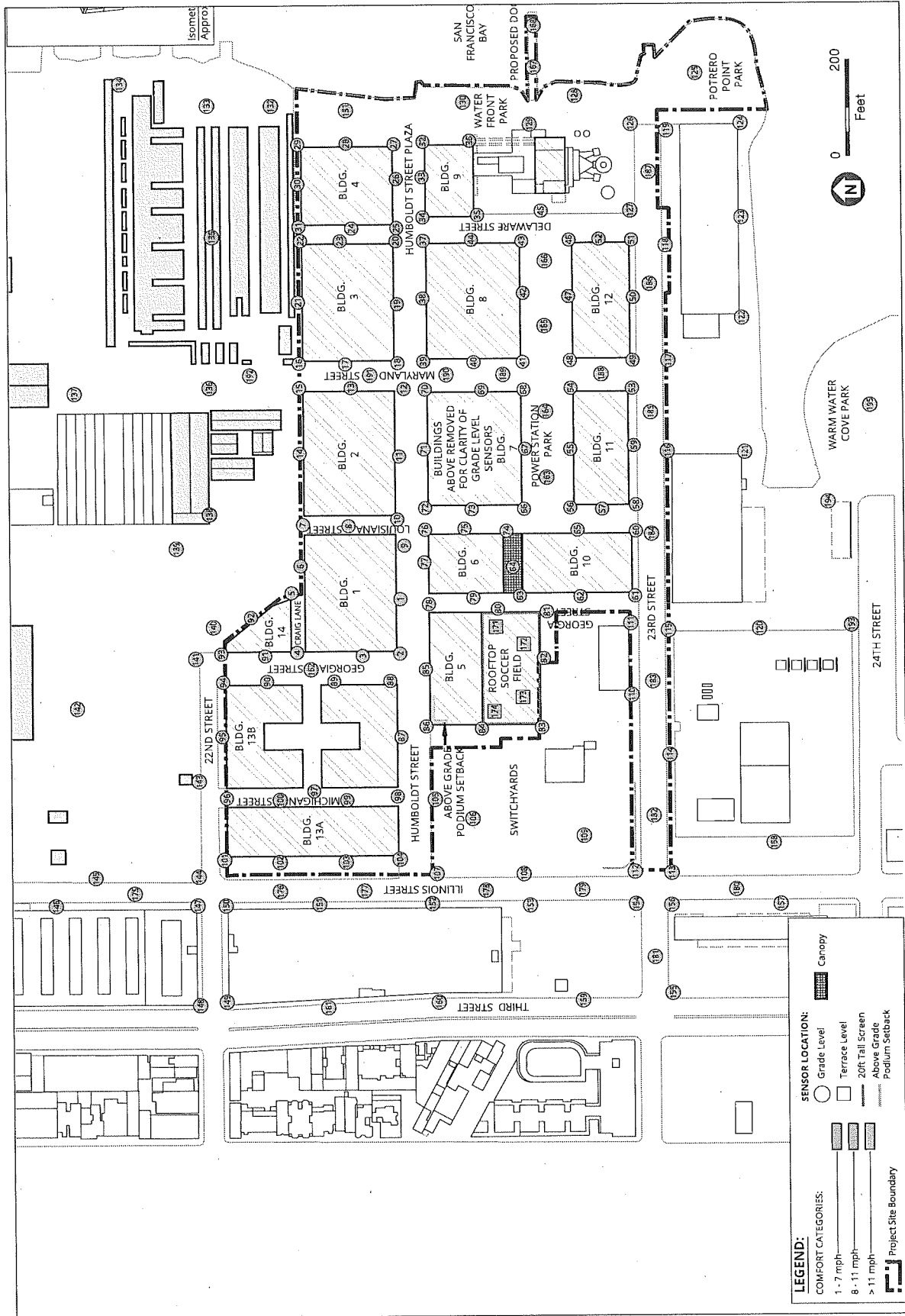
Wind Comfort

The wind comfort analysis is a measure of overall wind conditions, included in this EIR for informational purposes. The 11-mph wind comfort criterion is not a CEQA criterion of significance, so this discussion is not part of the impact analysis. The wind comfort criterion is useful in describing the overall wind environment because the comfort criterion wind speeds (those exceeded 10 percent of the time) are more representative of “typical” windy conditions than are the hazard criterion wind speeds, which are those exceeded only one hour per year, or approximately one one-hundredth of a percent of the time.

With project implementation, the wind comfort speeds would generally decrease across the eastern two-thirds of the project site and surrounding area, including along 23rd Street, adjacent to the site, because new project buildings would provide shelter from prevailing westerly and northwesterly winds. This is consistent with the general rule that a more densely built environment has lower pedestrian wind speeds than locations with scattered buildings that provide less wind shelter, particularly scattered tall buildings that may also accelerate ground-level winds. Conversely, the wind comfort speeds would increase at most locations in the western third of the project site, particularly near the bases of buildings along Georgia Street and along 23rd Street at the project site’s southwestern corner, as well as at the western edge of Block 5. This would also be consistent with typical wind conditions resulting from new development, which often result in increased pedestrian-level wind speeds at and near the northwest and southwest corners of buildings that are substantially taller than upwind development.

Currently, wind speeds exceed the 11-mph pedestrian comfort criterion at 140 of the 165 pedestrian locations tested, including most onsite locations. Under existing-plus-project conditions, wind speeds would exceed the pedestrian comfort criterion at 103 of 170 pedestrian test point locations. Locations where the pedestrian comfort criterion would no longer be exceeded would typically be shielded from prevailing westerly and northwesterly winds by project buildings. These locations would include much of the onsite open space, including most of Waterfront Park, Power Station Park, and the southerly portion of the Louisiana Paseo, and along 23rd Street. **Figure 4.H-6, Pedestrian Wind Comfort, Existing-plus-Project Conditions**, depicts wind comfort conditions under existing-plus-project conditions.

Of the 103 exceedances of the 11-mph pedestrian comfort criterion under existing-plus project conditions, 14 would be new, compared to existing conditions, while 49 existing exceedances of the pedestrian comfort criterion would be eliminated under with-project conditions. Most of the new comfort speed exceedances would be at locations that are currently sheltered from prevailing winds behind existing structures that would be demolished. However, several new exceedances would be concentrated around the base of Block 6, where the project’s tallest new structure, at 300 feet in height, would be built; wind speeds at some of these points, between Block 6 and the 180-foot-tall building on Block 5, would also be influenced by the Block 5 structure. Existing wind comfort exceedances that would be eliminated would be concentrated in the eastern portion of the project site and would include many currently unsheltered locations within areas proposed as open space under



Potrero Power Station Mixed-Use Development Project

Figure 4.H-6

Pedestrian Wind Comfort, Existing-plus-Project Conditions

SOURCE: RWDI

the proposed project. Of the 165 common test points in the existing and existing-plus project scenarios, wind comfort speeds would decrease at 103 and increase at 43, while wind speeds would remain unchanged at 19 points.

Proposed Onsite Open Spaces, Project Effects

Wind comfort speed conditions are discussed here for each of the four proposed onsite open spaces.

Waterfront Park. The only nearby sizable structures upwind of the Bayfront area that would become Waterfront Park are the slender Boiler Stack and the Unit 3 Power Block, the tallest part of which consists of a structural steel frame, with attached concrete elevator tower, that has less effect on pedestrian winds than would a solid structure of comparable size. With project implementation, wind speeds would exceed the pedestrian comfort criterion at five of the 19 test points in the park area.

While it is unknown precisely where in the proposed Waterfront Park there may be seating facilities, five points in the Waterfront Park area would meet the 7-mph seating comfort criterion with project implementation, while 14 would not.

Louisiana Paseo. With project implementation, wind speeds would exceed the pedestrian comfort criterion at eight of 11 test points within or adjacent to the Louisiana Paseo. Wind speeds would also exceed the seating comfort criterion at all 11 test points.

Power Station Park. With project implementation, wind speeds would exceed the pedestrian comfort criterion at three of 14 test points within the park. Wind speeds would exceed the seating comfort criterion at 11 of the 14 points.

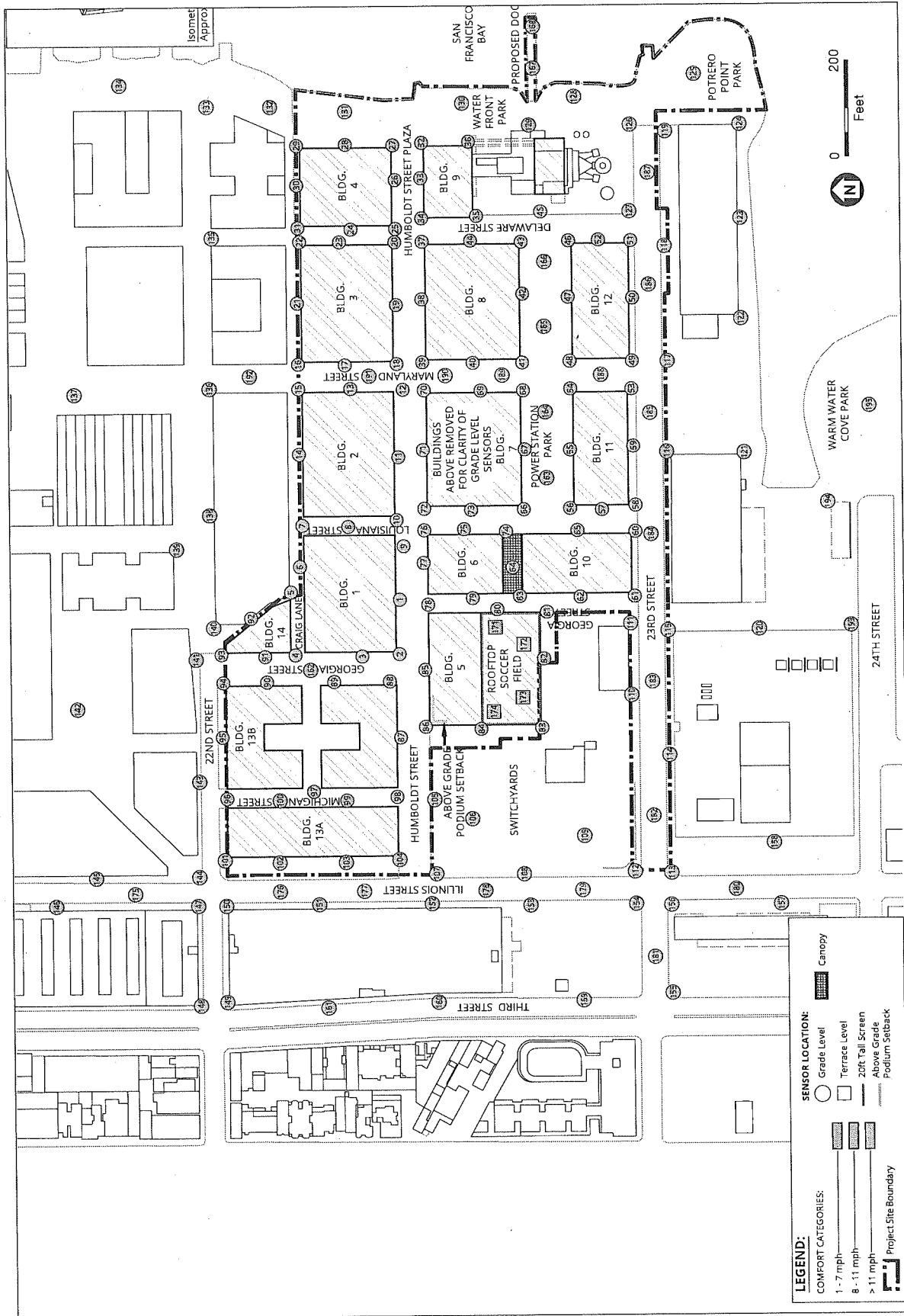
Rooftop Soccer Field. Under existing-plus project conditions, wind speeds would exceed the pedestrian comfort speed at one of four test points.

Cumulative Conditions

Cumulative wind comfort conditions would improve incrementally, compared to existing conditions and conditions with the proposed project, particularly in the northern portion of the project site and at test points within the Pier 70 Mixed-Use District project site. The number of locations at which wind speeds would exceed the pedestrian comfort criterion would decrease from 140 of 165 pedestrian test points under existing conditions to 103 of 170 points under with-project conditions and 90 of 170 points under cumulative conditions. Compared to the existing-plus-project conditions, under cumulative conditions there would be three new exceedances of the pedestrian comfort criterion, while 16 comfort exceedances would be eliminated. **Figure 4.H-7, Pedestrian Wind Comfort, Cumulative Conditions**, depicts cumulative wind comfort conditions.

Proposed Onsite Open Spaces, Cumulative Effects

Waterfront Park. Under cumulative conditions, wind speeds would exceed the pedestrian comfort criterion at three of the 19 test points in the park, compared to five exceedances under with-project conditions. Wind speeds would exceed the seating comfort criterion at 11 of the 19 points, compared to 14 exceedances under with-project conditions.



Potrero Power Station Mixed-Use Development Project

Figure 4.H-7
Pedestrian Wind Comfort, Cumulative Conditions

SOURCE: RWDI

Louisiana Paseo. Under cumulative conditions, wind speeds would exceed the pedestrian comfort criterion at seven of 11 test points within or adjacent to this open space, compared to eight exceedances under with-project conditions. Wind speeds would exceed the seating comfort criterion at all 11 test points, the same as under with-project conditions.

Power Station Park. Under cumulative conditions, wind speeds would exceed the pedestrian comfort criterion at three of 14 test points within the park, the same as under with-project conditions. Wind speeds would exceed the seating comfort criterion at 11 of the 14 points, also the same as under with-project conditions.

Rooftop Soccer Field. Under cumulative conditions, wind speeds would exceed the pedestrian comfort speed at two of four test points, compared to one exceedance under with-project conditions.

Wind Effects on Bicyclists

As indicated above, in addition to the pedestrian wind test points, 19 points were tested to gain some understanding of how winds could affect bicyclists. These points were located in the middle of certain streets, and thus would be closer to typical bicycle lanes (where present) than sidewalk test points, because typical bicycle lanes are separated from sidewalks by a parking lane. The points were located in Illinois Street (an existing bicycle route, with Class II bike lanes on either side of the street); 23rd Street (proposed with Class II bicycle lanes adjacent to the project site); and Maryland Street (proposed for a dedicated Class II bicycle lane on the project site, continuing north into the Pier 70 Mixed-Use Project site). One additional mid-street point was located on Georgia Street. Wind speeds exceeded one hour per year at mid-street (bicycle) test points are shown in Table 4.H-2.

As shown in Table 4.H-2, existing wind speeds exceeded one hour per year at the 19 mid-street test points range from a low of 19 mph to a high of 38 mph, at test point 187. Test point 187 is near the eastern end of 23rd Street, just west of San Francisco Bay and just south of the Boiler Stack on the project site. Because of its location, which is nominally closed to traffic other than that traveling to and from the existing DHL shipping facility on 23rd Street¹⁵ and from which access to the bay is prevented by a cyclone fence, this location is likely minimally used by cyclists under existing conditions. With project implementation, wind speeds exceeded one hour per year at the 19 mid-street test points would range from 20 mph to 35 mph, with the highest speeds at test point 184, in 23rd Street adjacent to Louisiana Paseo, and at test point 162, in Georgia Street. As noted, 23rd Street is proposed to have bicycle lanes at test point 184, while the affected portion of Georgia Street would be a shared auto-bicycle street. Under cumulative conditions, wind speeds exceeded one hour per year at the 19 mid-street test points would range from 21 to 37 mph, with the highest speeds at test point 175, in Illinois Street north of the project site, and at test point 184, in 23rd Street at Louisiana Paseo. As noted, Illinois Street has existing bicycle lanes, and 23rd Street is proposed to have bicycle lanes.

¹⁵ Although signage indicates that access on 23rd Street is prohibited to non-DHL users, in practice such prohibitions are not absolute when bicyclists are concerned.

**TABLE 4.H-2
WIND SPEEDS AT MID-STREET (BICYCLE) TEST POINTS**

Test Point	Existing	Existing plus Project	Cumulative (including Project)
	Wind Speed Exceeded 1 hour/year (mph)	Wind Speed Exceeded 1 hour/year (mph)	Wind Speed Exceeded 1 hour/year (mph)
162	25	34	33
175	19	23	37
176	35	29	25
177	28	30	31
178	24	24	25
179	29	24	23
180	25	27	27
181	30	29	30
182	28	29	28
183	31	29	29
184	31	35	36
185	33	23	23
186	27	21	21
187	38	26	26
188	34	26	27
189	26	31	34
190	34	26	27
191	31	27	23
192	19	20	21

4.H.3 Shadow

The Shadow subsection discusses the shadow impacts of the proposed project on open spaces and recreation facilities near the project site. The Environmental Setting discussion describes the existing and planned publicly accessible open spaces and recreation facilities near the project site that could potentially be affected by the proposed project; identifies applicable regulations related to shadow impacts; and summarizes the regulatory framework related to shadow.

The impact analysis describes whether the proposed project would cast shadow on parks and open spaces near the project site so as to reduce the use and enjoyment of those spaces. For informational purposes, this discussion also describes shadow impacts of new buildings on proposed public open space on the project site. The discussion also describes the cumulative shadow effects of the proposed project, combined with past, present, and reasonably foreseeable future projects.

The potential extent of shadow impacts of the proposed project is based on a digital shadow analysis prepared by an independent consultant that shows the location of project shadow on

existing and planned public open spaces on and near the proposed project at representative times of the year throughout the day between one hour after sunrise to one hour before sunset (see “Approach to Analysis,” below).¹⁶

4.H.3.1 Environmental Setting

Existing Open Spaces On and Near the Project Site

There are no existing publicly accessible open space areas within the project site. There are three existing publicly accessible open spaces within approximately 0.25 miles of the project site boundary, listed below. These open spaces are depicted in Figure 4.H-8, in the Impacts analysis, below.

Recreation and Park Department Properties

Esprit Park is approximately 0.25 miles northwest of the project site along the northern side of 20th Street at Minnesota Street. It is an approximately 1.8-acre field bordered with picnic tables, benches, and redwood trees. A perimeter path encompasses the north, east, and south sides of the park.

Other Publicly Accessible Open Spaces

Woods Yard Park is about 0.15 miles west of the project site and bounded by 22nd Street to the north, Indiana Street to the west, Minnesota Street to the east, and a San Francisco Municipal Transportation Agency (SFMTA) bus storage and maintenance facility (Woods Yard) to the south. This open space is an approximately 20,000-square-foot park with a mix of hardscape and elevated grassy areas, a children’s play area, seating areas, and trees. It is owned by the SFMTA and is accessible to the public.

Warm Water Cove Park is less than 0.01 miles south of the project site along the waterfront at the eastern terminus of 24th Street. However, there is no direct access from the project site across Warm Water Cove to the park, so walking distance is about 0.3 miles. Warm Water Cove Park is an approximately 1.85-acre publicly accessible open space owned by the Port of San Francisco.

Progress Park is 0.5-acre Caltrans property adjacent to the I-280 freeway, west of Indiana Street and north of 25th Street, and about 0.3 miles southwest of the project site. Developed as a community-led project, this park includes landscaping (trees, native grasses, and other plants), paths, benches, a pull up bar, bocce court, and an enclosed off-leash dog area.

Other publicly accessible open space facilities include the San Francisco Bay Trail, two landscaped sections of City rights-of-way—Angel Alley and Minnesota Grove—and a publicly accessible mid-block walkway built as part of the 1201 Tennessee Street project. The Bay Trail, a planned 500-mile walking and cycling path around the entire San Francisco Bay running through all nine Bay Area counties, 47 cities, and across seven toll bridges. While not yet completed or fully continuous, the

¹⁶ PreVision Design, Shadow Analysis Report for the Proposed Potrero Power Plant Project Per SF Planning and California Environmental Quality Act (CEQA) Standards, March 29, 2018. The shadow study is included in Appendix F.

trail is currently more than 350 miles long and connects communities to parks, open spaces, schools, transit, and also provides an alternative commute corridor. The ultimate goal of the Bay Trail is to build a continuous shoreline bicycle and pedestrian path. In the project vicinity, the existing Bay Trail is on the Illinois Street sidewalks, west of the project site. As described in Chapter 2, Project Description, the future Bay Trail configuration would be extended through the project site, in coordination with a similar planned route through the Pier 70 Mixed-Use District project site. Angel Alley, also a community-led project, occupies the west side of the portion of the Tennessee Street right-of-way that extends south from the street's dead end (for motor vehicles) south of 22nd Street to connect with the dead end of 22nd Street at Tubbs Street. This sloping linear open space, adjacent to Muni's Woods Yard to the west, is planted with palm trees and succulents and separated from the paved bicycle and pedestrian pathway by a stone retaining wall. It is about 0.1 mile west of the project site. Minnesota Grove occupies the east side of the Minnesota Street right-of-way south of 24th Street, about 0.25 mile southwest of the project site. It features a pathway through an extensively landscaped area that includes trees and plants. Finally, the mid-block alley adjacent to 1201 Tennessee Street links Third Street and Tennessee Street north of 22nd Street, connecting with Angel Alley at its west end. The concrete walkway includes plantings on each side.

Planned Open Spaces

The Historic Core Plaza is a planned, approximately 45,000-square-foot publicly accessible plaza within the Pier 70 Historic Core project, which is rehabilitating several historic buildings on Port of San Francisco-owned land on both sides of 20th Street east of Illinois Street.¹⁷ The plaza will be south of Pier 70's Building 113, a long brick building on the south side of Illinois Street and adjacent to the larger Pier 70 Mixed-Use District project to the south. The primary pedestrian access to the plaza will be from 20th Street through an atrium within Building 113. It will also be accessible from the project site from the south and east.¹⁸ The Historic Core Plaza is shown in the project shadow analysis graphics, Figures 4.H-8 – 4.H.23, below.

In addition, the approved Pier 70 Mixed-Use District project, just north of the project site, will include an extensive network of publicly accessible open space on that site, including 20th Street Plaza, Irish Hill Playground, Market Square Slipways Commons, the Waterfront Terrace, and the Waterfront Promenade. These open spaces are shown in the cumulative shadow analysis graphics, Figures 4.H-24 – 4.H.39, below.

¹⁷ Note that the Historic Core Plaza was planned as of the date of the project NOP. As on September 2018, this plaza has been completed and is open to the public. The completed status of the plaza does not alter the analyses of shadow impacts within this section.

¹⁸ Crane Cove Park is another planned open space on Port-owned land. It will be a 9-acre open space at 18th and Illinois streets, on an unused portion of the Pier 70 shipyard site. Construction began in 2017. This open space is too far north of the project site to be depicted on the shadow diagrams in this analysis.

4.H.3.2 Regulatory Framework

Local Regulations

San Francisco General Plan

Recreation and Open Space Element

Policy 1.9: Preserve sunlight in public open space.

Urban Design Element

Objective 3: Moderation of Major New Development to Complement the City Pattern, the Resources to be Conserved, and the Neighborhood Environment.

Accompanying text as part of “Fundamental Principles for New Development” states, “Plazas or parks located in the shadows cast by large buildings are unpleasant for the user.

“A. Large buildings can be oriented to minimize shadows falling on public or semi-public open spaces.

“B. The height and mass of tall, closely packed buildings can be shaped to permit sunlight to reach open spaces.”

Policy 3.4: Promote building forms that will respect and improve the integrity of open spaces and other public areas.

Central Waterfront Area Plan

Policy 5.2.6: Ensure quality open space is provided in flexible and creative ways, adding a well-used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines:

- A. Designed to allow for a diversity of uses, including elements for children, as appropriate.
- B. Maximize sunlight exposure and protection from wind.
- C. Adhere to the performance-based evaluation tool.

San Francisco Planning Code

Planning Code Section 101.1/Proposition M

In November 1986, the voters of San Francisco approved Proposition M (the Accountable Planning Initiative), which added section 101.1 to the Planning Code and established eight Priority Policies. These Priority Policies are the basis upon which inconsistencies with the General Plan are resolved. Priority Policy No. 8 calls for the protection of parks and open space and their access to sunlight and vistas.

Prior to issuing a permit for any project that requires an initial study under CEQA; prior to issuing a permit for any demolition, conversion, or change of use; and prior to taking any action that requires a finding of consistency with the General Plan, the City is required to find that the proposed project or legislation would be consistent with the Priority Policies.

Planning Code Section 295/Proposition K

In 1984, San Francisco voters approved an initiative known as “Proposition K, The Sunlight Ordinance,” which was codified in 1985 as Planning Code section 295. Section 295 prohibits the approval of “any structure that would cast any shade or shadow upon any property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission” if the Planning Commission, upon the recommendation of the General Manager of the Recreation and Park Department and after review and comment by the Recreation and Park Commission, has found that “the proposed project will have any adverse impact on the use of the property ... because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant.”

The shadow analysis determined that no properties under the jurisdiction of the Recreation and Park Commission are on the project site or within the potential reach of proposed project shadow.¹⁹ Therefore, Planning Code section 295 does not apply to the proposed project.

4.H.3.3 Impacts and Mitigation Measures

Significance Criteria

The following significance criterion is from Appendix B of the San Francisco Planning Department’s Environmental Review Guidelines, (which is the planning department’s Initial Study Checklist) and is used to determine the level of impact related to shadow. Implementation of the proposed project would have a significant effect related to shadow if the project would:

- Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.

Approach to Analysis

The project features that have the potential to result in potential shadow impacts are the same as those described above under Wind (p. 4.H-1), including amendments to the San Francisco General Plan and Planning Code and creating a new Potrero Power Station Special Use District. Height limits on the project site would be increased. Additionally, the project would construct some 6.2 acres of publicly accessible open space.

Methodology

To evaluate the shadow impacts of the proposed project, a 3D virtual model of the project was prepared. The model includes the project site, potentially affected open spaces, the surrounding urban environment, and cumulative development, which, for the shadow analysis, consists of the Pier 70 Mixed-Use District project.

The purpose of this analysis is to inform decision-makers of the potential effects of the proposed project’s shadow on existing public parks and publicly accessible open spaces, and to determine

¹⁹ PreVision Design, Shadow Analysis Report for the Proposed Potrero Power Plant Project Per SF Planning and California Environmental Quality Act (CEQA) Standards, March 29, 2018

whether or not the project would create new shadow that would substantially affect the use and enjoyment of these facilities, a significant impact under CEQA.

The shadow model considers the proposed project at full buildout, like the wind tunnel analysis described above. Specific architectural designs for the buildings within the project site are not available at this time. Unlike the wind model, the shadow analysis assumes that all project buildings would reach the maximum allowable height (65 to 300 feet) and cover the entire footprint of each block on the project site, as shown in Figure 2-7 in Chapter 2, Project Description. The shadow model does not include required building setbacks at upper stories, and is, therefore, a worst-case scenario.²⁰

The following scenarios were considered in the shadow model:

- Existing
- Existing plus Project
- Cumulative (with Project)

The existing-plus-project scenario compares shadow cast under existing conditions to shadow that would be cast by the proposed project. The cumulative scenario compares shadow cast under existing conditions to shadow that would be cast by the proposed project and the Pier 70 development; potential impacts to the planned Pier 70 publicly accessible open spaces are evaluated. The Pier 70 development assumed maximum building volumes, ranging between 66 to 106 feet in height depending on the parcel. Several proposed projects on Third, Tennessee, and Mariposa streets were initially considered for the cumulative analysis but were excluded, as the farthest potential reach of their shadows was determined to not reach the affected open spaces reviewed by the shadow analysis.²¹

Shadow Diagrams

In order to provide a visual understanding of the location, size, and extent of the new shading, graphics were prepared to accompany the qualitative analysis. The shadow diagrams graphically depict the movement of project shadows across the project site and surrounding area on four representative days of the year from one hour after sunrise to one hour before sunset:²² the summer solstice (June 21, the longest day of the year, when the sun is highest in the sky and shadows are the shortest at any given time of day); the spring/autumn equinoxes (March 20/September 22, when the sun's position is nearly identical to the opposite equinox and represent the midway point between the winter and summer solstices); and the winter solstice (December 20, the shortest day of the year, when the sun is lowest in the sky and shadows are the longest at any given time of day).

²⁰ Trees and landscaping are not included in the model. If a park is surveyed, existing shading from trees and landscaping may be described qualitatively.

²¹ PreVision Design, Shadow Analysis Report for the Proposed Potrero Power Plant Project Per SF Planning and California Environmental Quality Act (CEQA) Standards, March 29, 2018. Projects excluded from cumulative shadow analysis included 777, 888, 901, and 950 Tennessee Street; 2092, 2177, 2230, and 2290 Third Street; and 595 Mariposa Street.

²² The period analyzed is from the first hour after sunrise until the last hour before sunset, because before and after these hours, shadows are extremely long and move very quickly across the ground. Because of this, much of the city other than areas with no buildings or other structures is in shadow during the first and last hours of sunlight.

For each of these days (summer solstice, spring/autumn equinoxes, and winter solstice), this section presents representative shadow diagrams at five times of day: one hour after sunrise; the beginning, middle, and end of the midday period of peak use (10 a.m., 12 p.m., and 3 p.m.); and one hour before sunset. Presenting a series of shadow diagrams from the same day demonstrates how shadow moves across the space and expands and contracts over a specific period of time. They represent a representative range of dates and times, including the time of peak midday use of open space on the longest day of the year, on the equinoxes (when day and night are of approximately equal length), and on the shortest day of the year. From these shadow diagrams, shadow impacts on particular open spaces are described and evaluated.

Impact Evaluation

Impact WS-3: The proposed project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas. (*Less than Significant*)

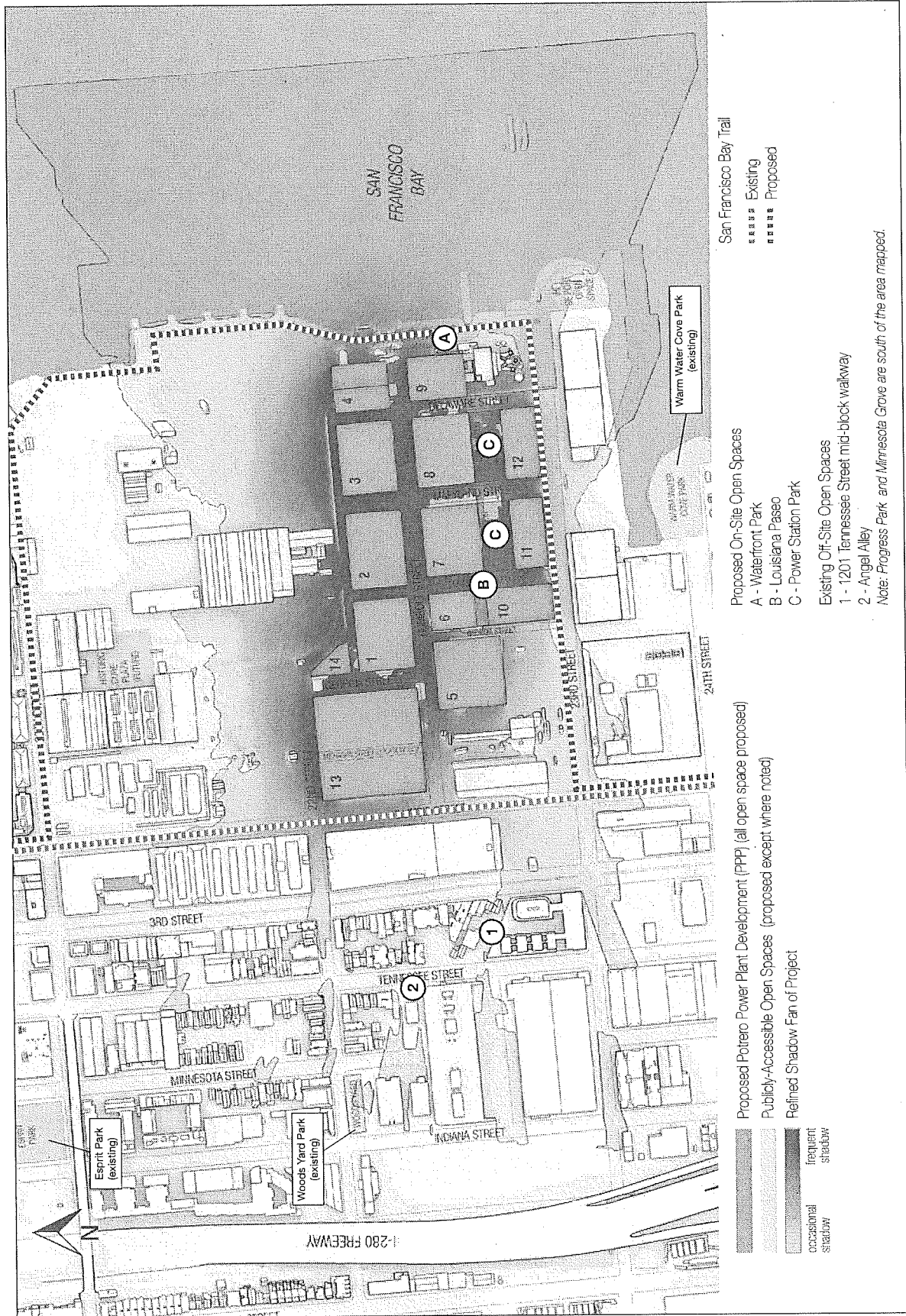
Introduction

Buildout as proposed by the project would increase shadow cast on and near the project site. The project site does not currently contain any developed or accessible public open space, but, as described above under Project Features, p. 4.H-7, publicly accessible open space would be constructed within the project site as part of the proposed project. Since these open spaces do not yet exist, project shadow on these open spaces would not interfere with any existing recreational use that may rely on access to sunlight and would have no impact under CEQA. For informational purposes only, this section describes and evaluates shadow that would be cast by the proposed project on publicly accessible open space to be constructed within the project site as part of the proposed project. This discussion appears on p. 4.H-49, following the CEQA impact analysis.

As can be seen in **Figure 4.H-8, Annual Net New Project Shadow Compared to Existing Conditions**, which presents an annual composite image of locations that would be newly shaded by the proposed project, shadow from the proposed project would not reach Esprit Park, a Recreation and Parks Department property. This is because Esprit Park is beyond the maximum extent of shadow from the tallest proposed building, the 300-foot tower on Block 6, during the hours covered by the shadow analysis. Likewise, due to their distance and/or location relative to the project site, the following existing and planned open spaces would not sustain any new shadow from the proposed project: Warm Water Cove Park, Progress Park, Minnesota Grove, and the planned Historic Core Plaza at Pier 70. Therefore, these open spaces are not discussed further.

Existing open space/recreation facilities within potential reach of project shadow include Woods Yard Park, the existing San Francisco Bay Trail route along Illinois Street, and Angel Alley and the 1201 Tennessee Street mid-block walkway. **Figure 4.H-9 through Figure 4.H-23, Project Shadow**, depict existing-plus-project shadow for five representative times on the summer solstice (June 21), the spring/fall equinoxes (March 20/September 22), and the winter solstice (December 20).²³

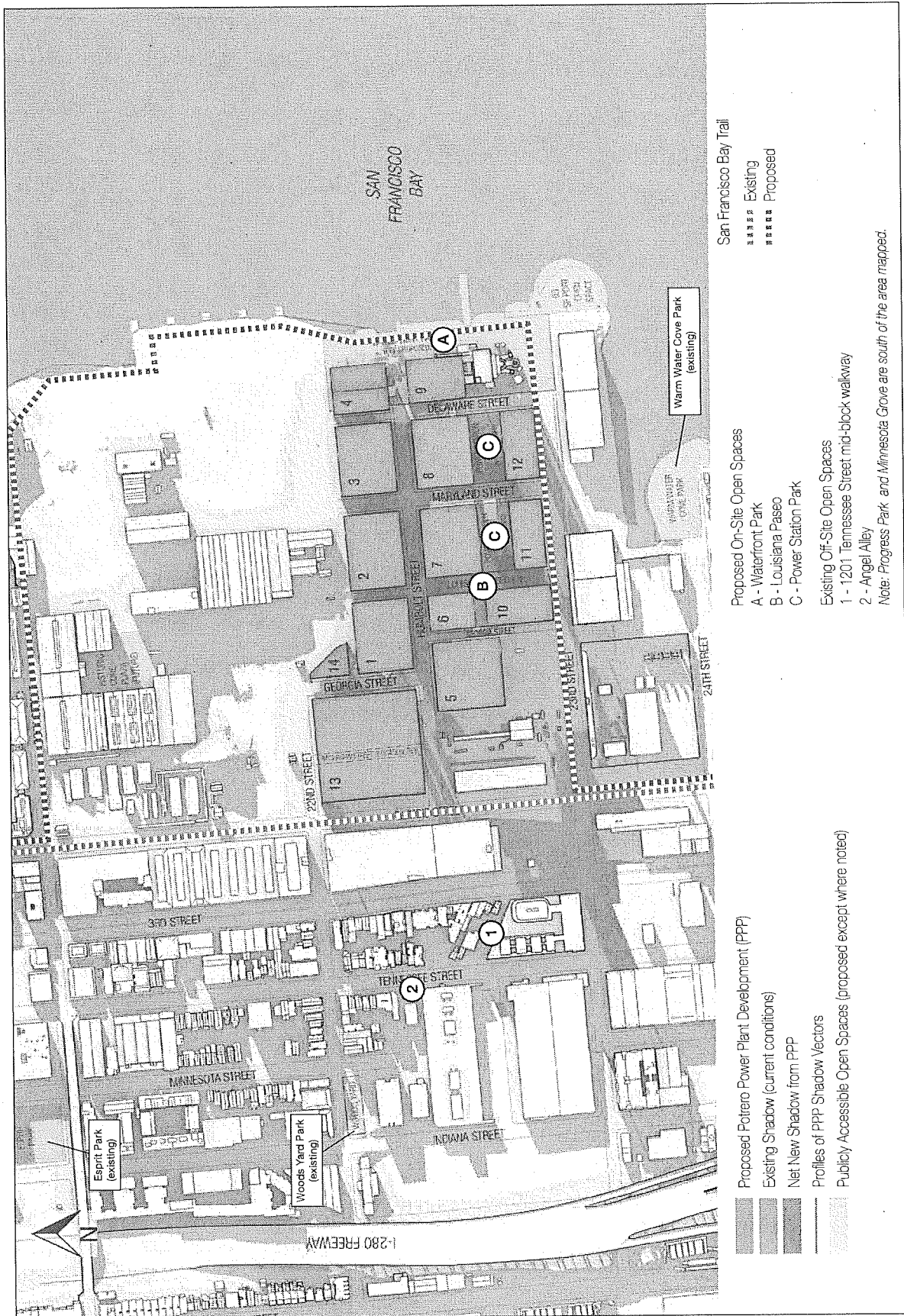
²³ These dates can vary slightly from year to year.



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

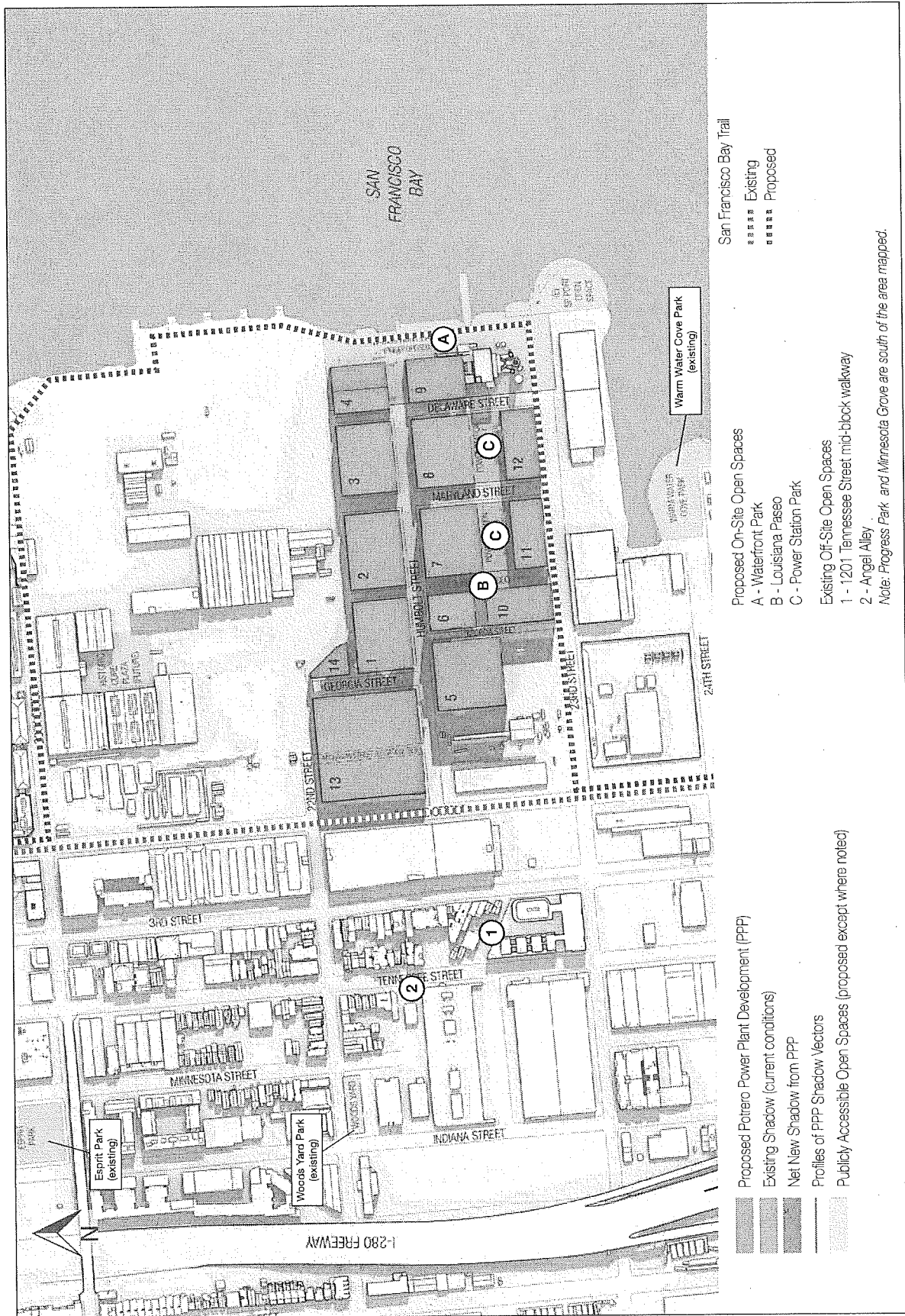
Figure 4.H-8
Annual Net New Project Shadow Compared to Existing Conditions



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

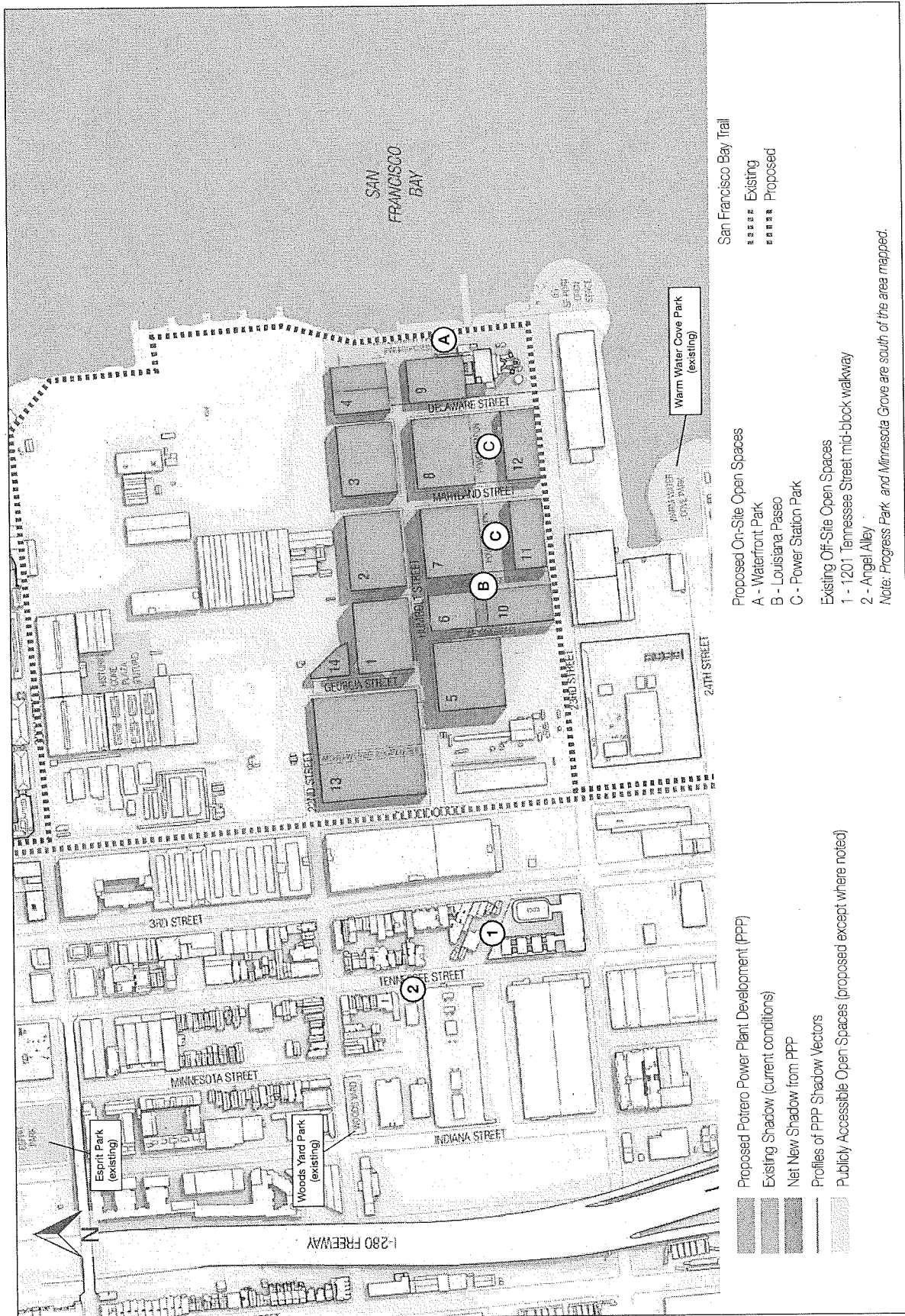
Figure 4.H-9
Project Shadow, Summer Solstice (June 21), 6:46 a.m.



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

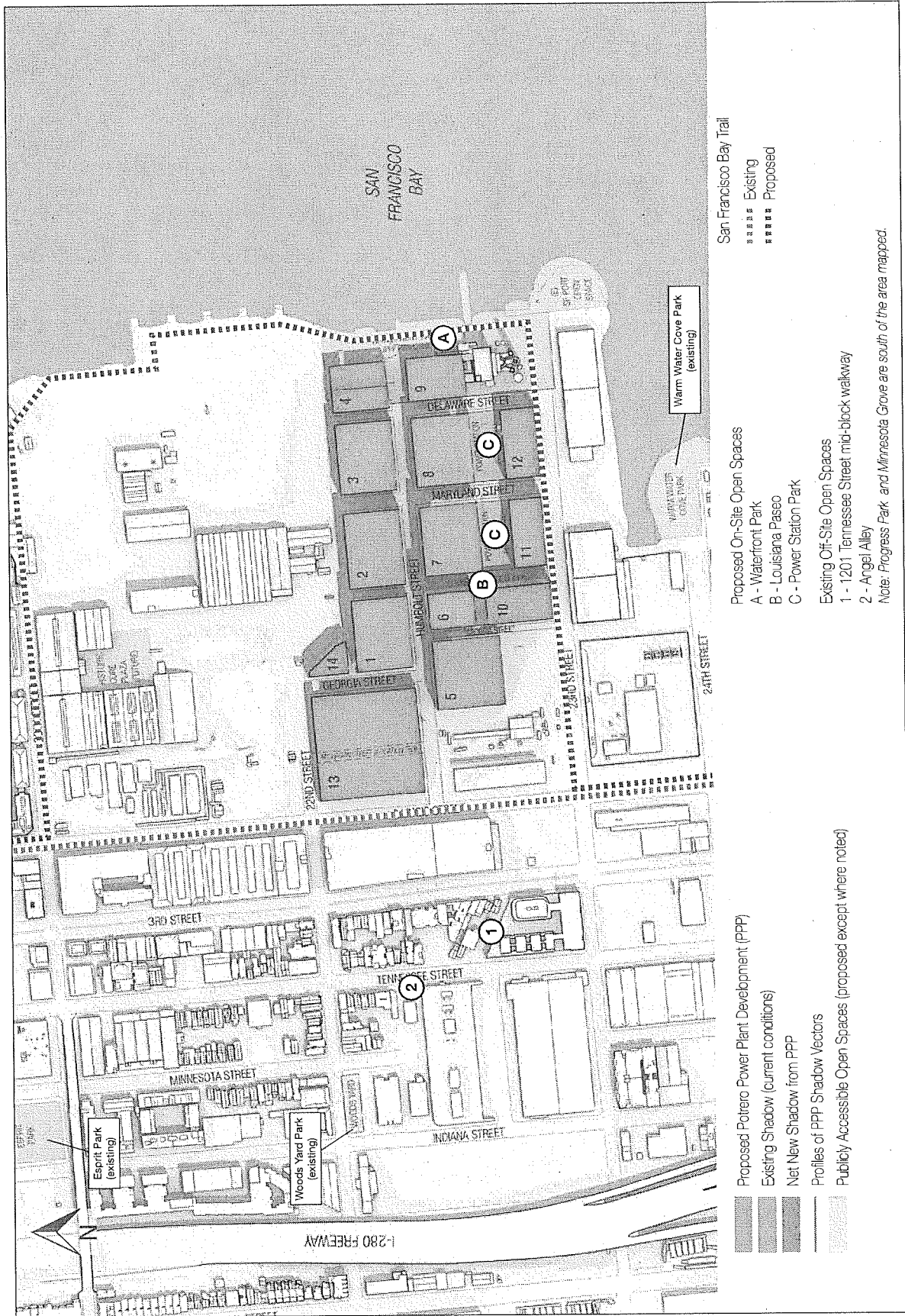
Figure 4.H-10
Project Shadow, Summer Solstice (June 21), 10:00 a.m.



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

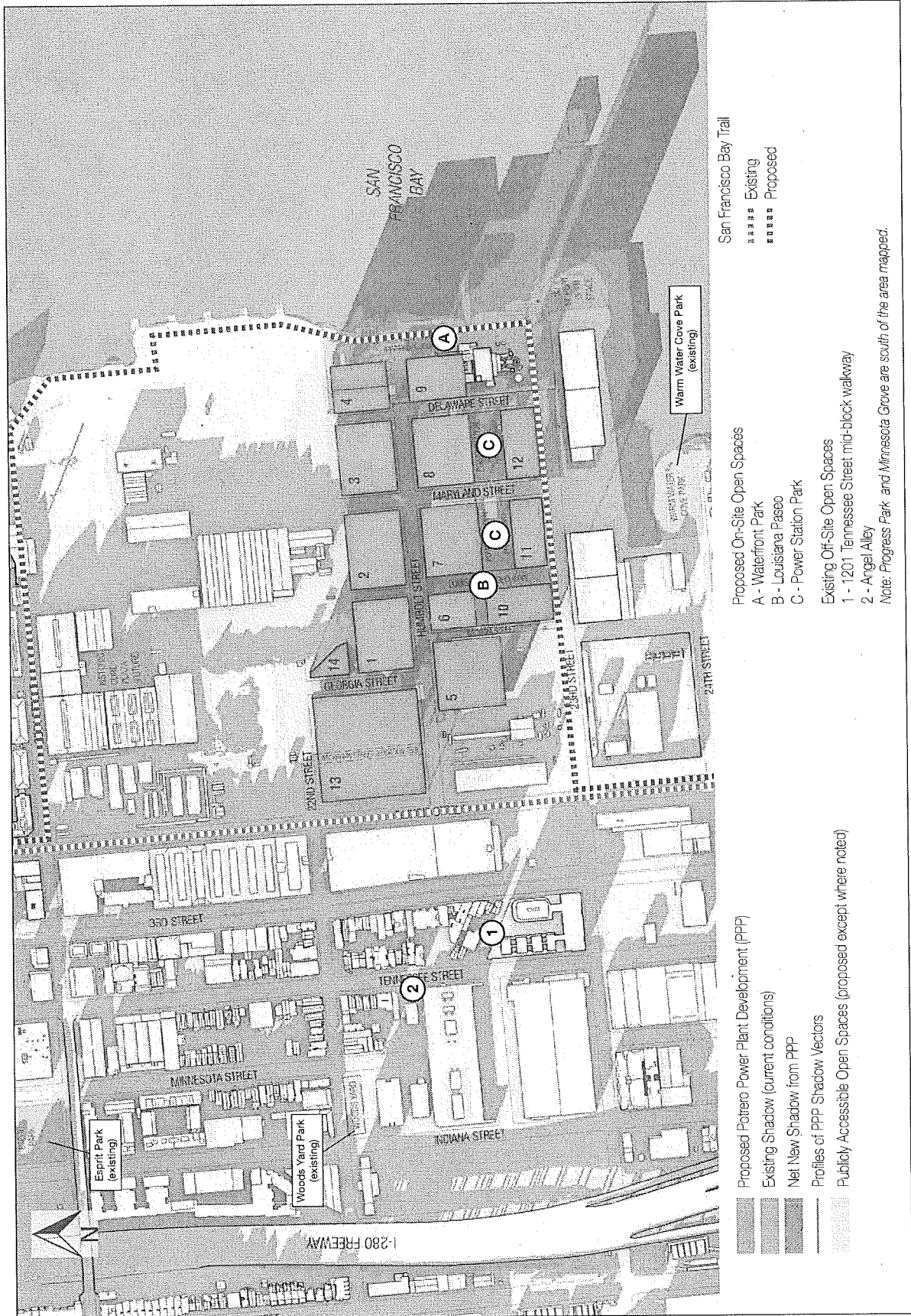
Figure 4.H-11
Project Shadow, Summer Solstice (June 21), 12:00 noon



SOURCE: Prevision Design

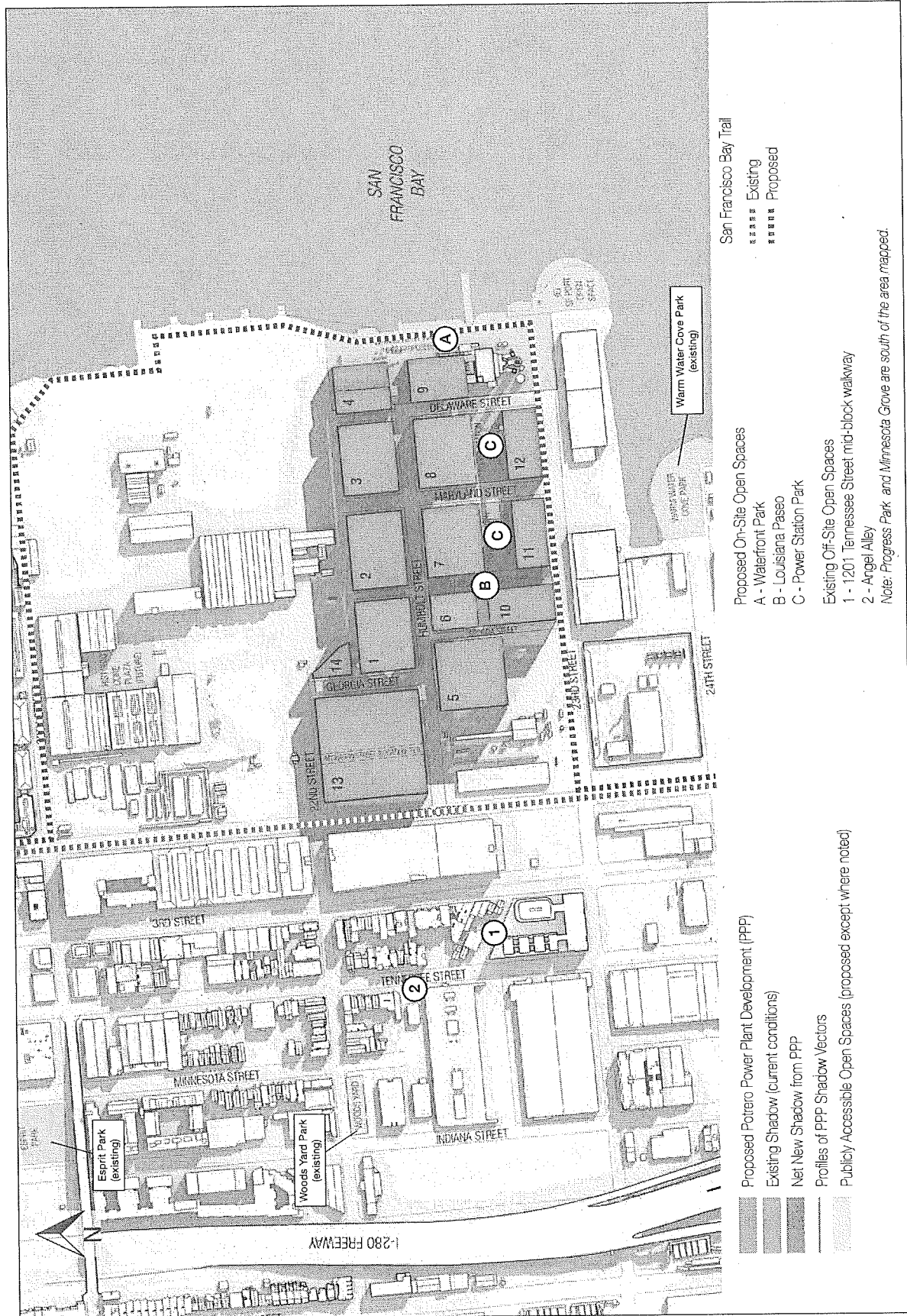
Potrero Power Station Mixed-Use Development Project

Figure 4.H-12
Project Shadow, Summer Solstice (June 21), 3:00 p.m.



SOURCE: Prevision Design

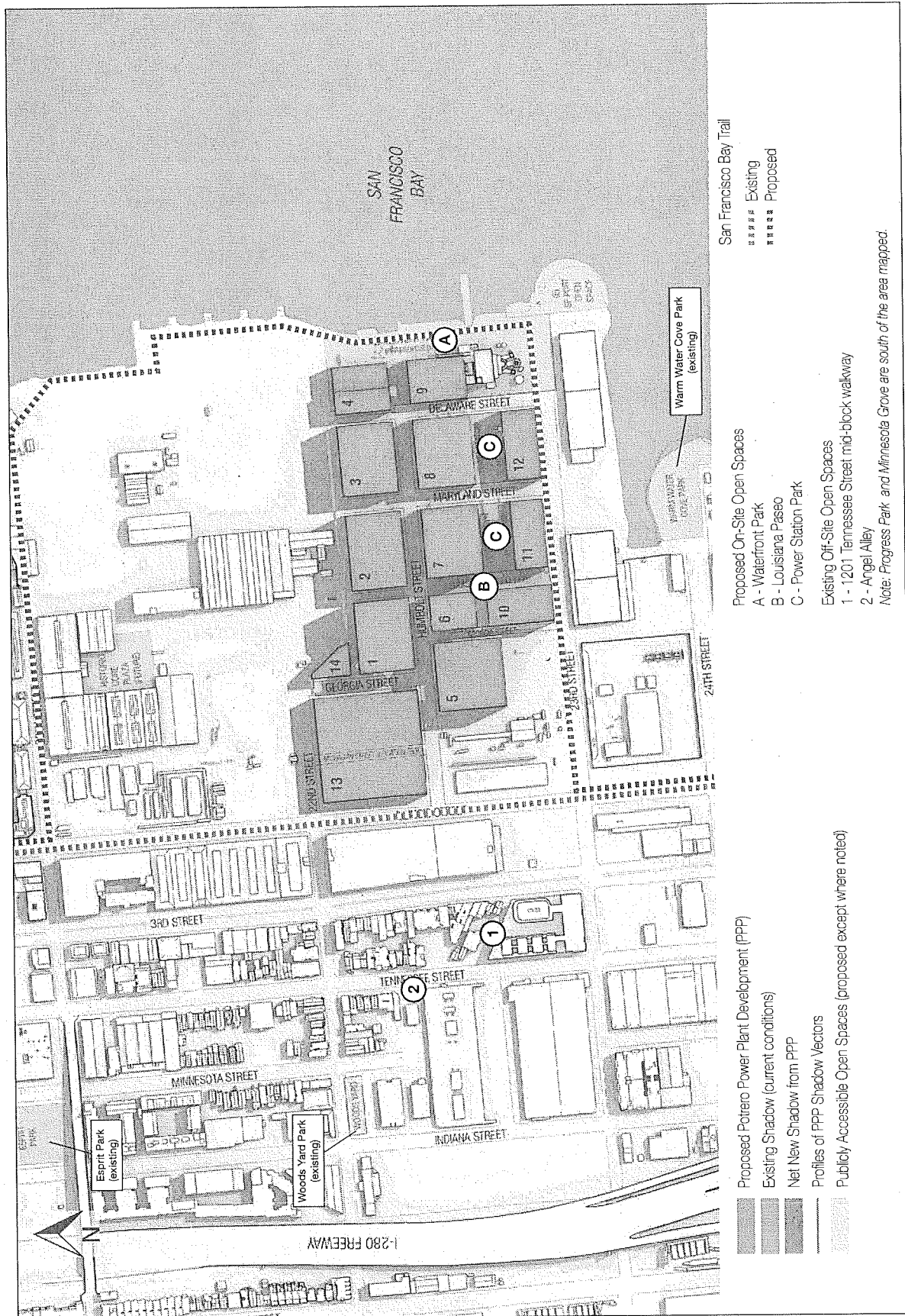
Potrero Power Station Mixed-Use Development Project



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

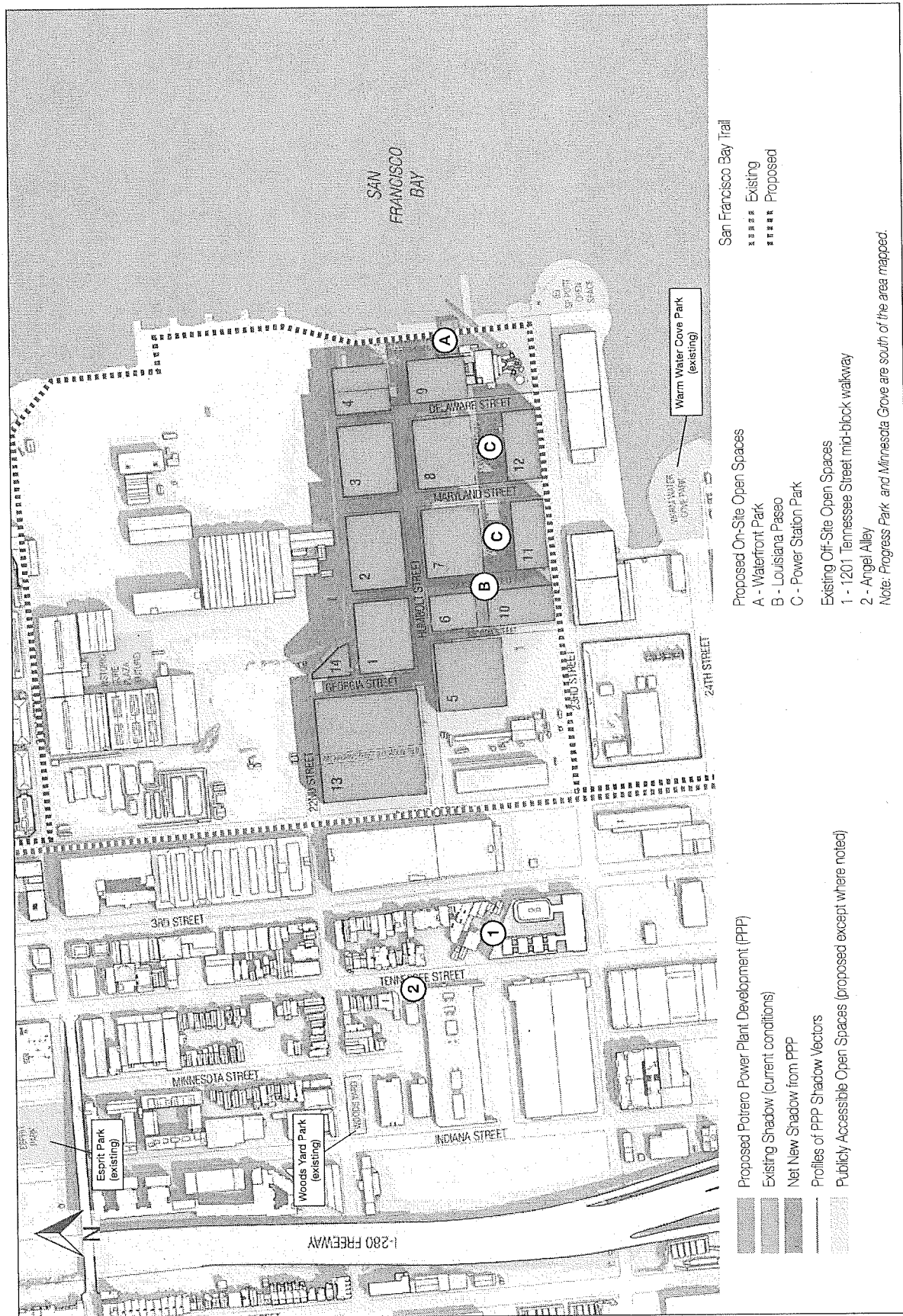
Figure 4.H-15
Project Shadow, Fall Equinox (September 20), 10:00 a.m. (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

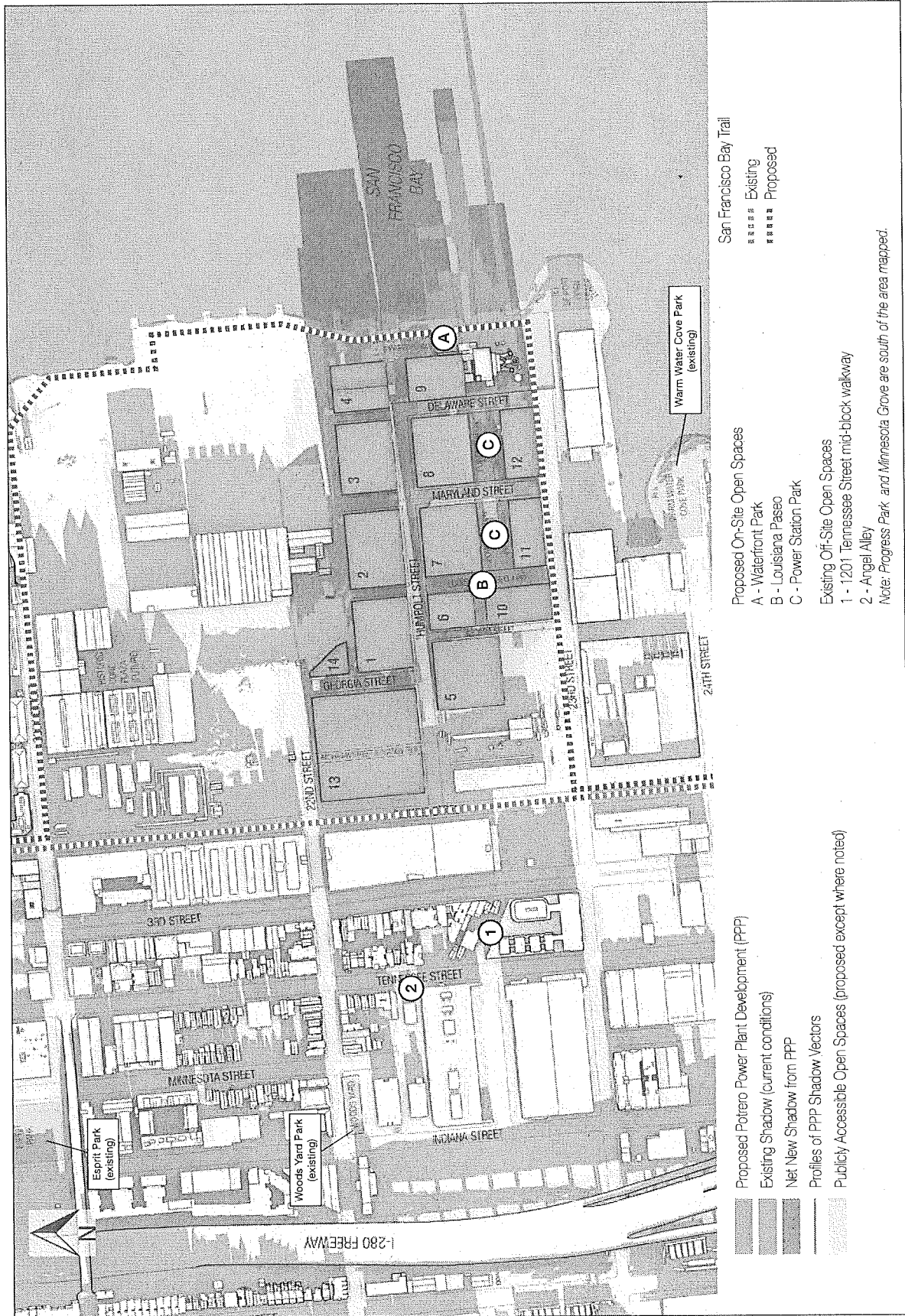
Figure 4.H-16
 Project Shadow, Fall Equinox (September 20), 12:00 noon (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

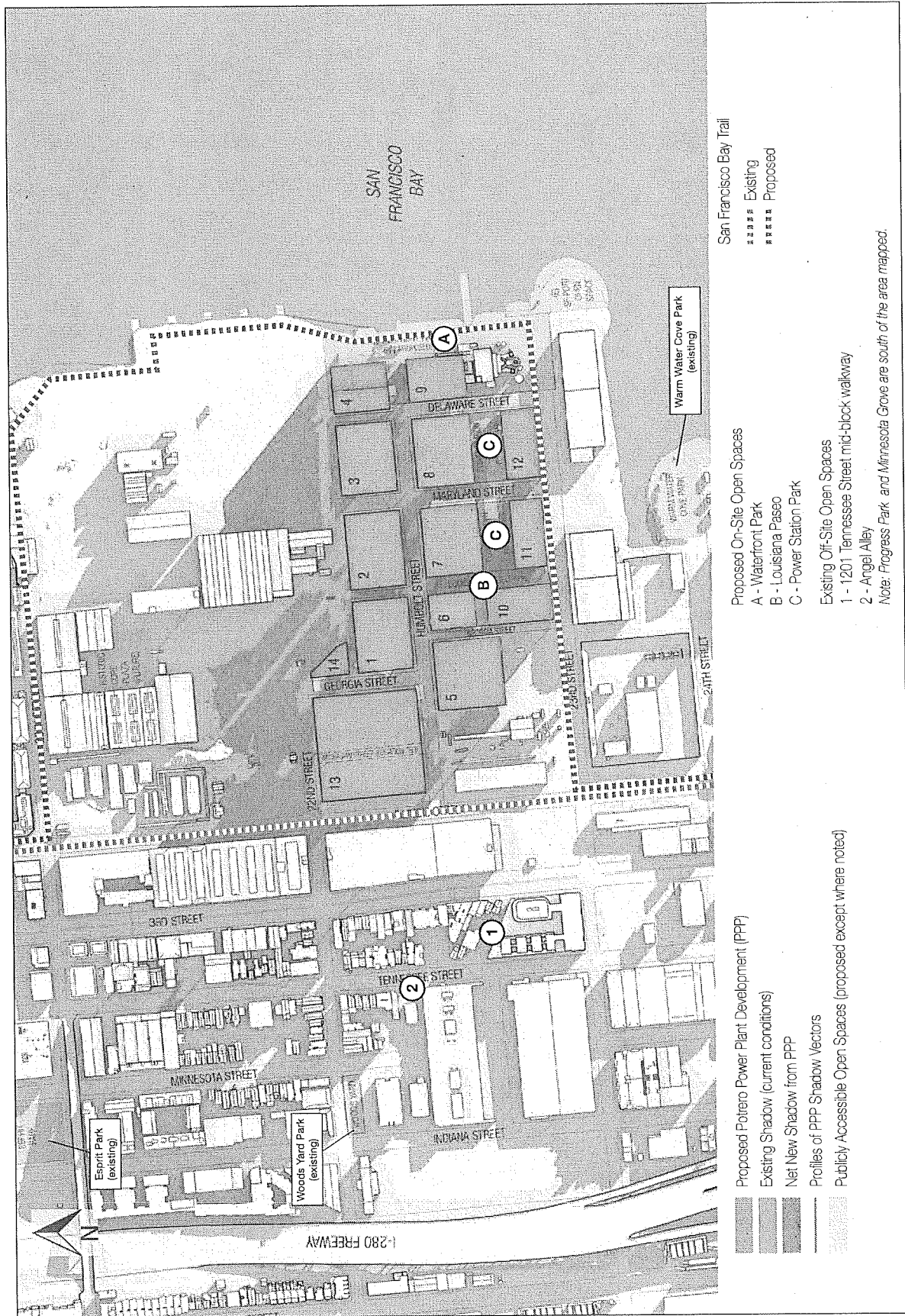
Figure 4.H-17
Project Shadow, Fall Equinox (September 20), 3:00 p.m. (Spring Similar)



SOURCE: Prevision Design

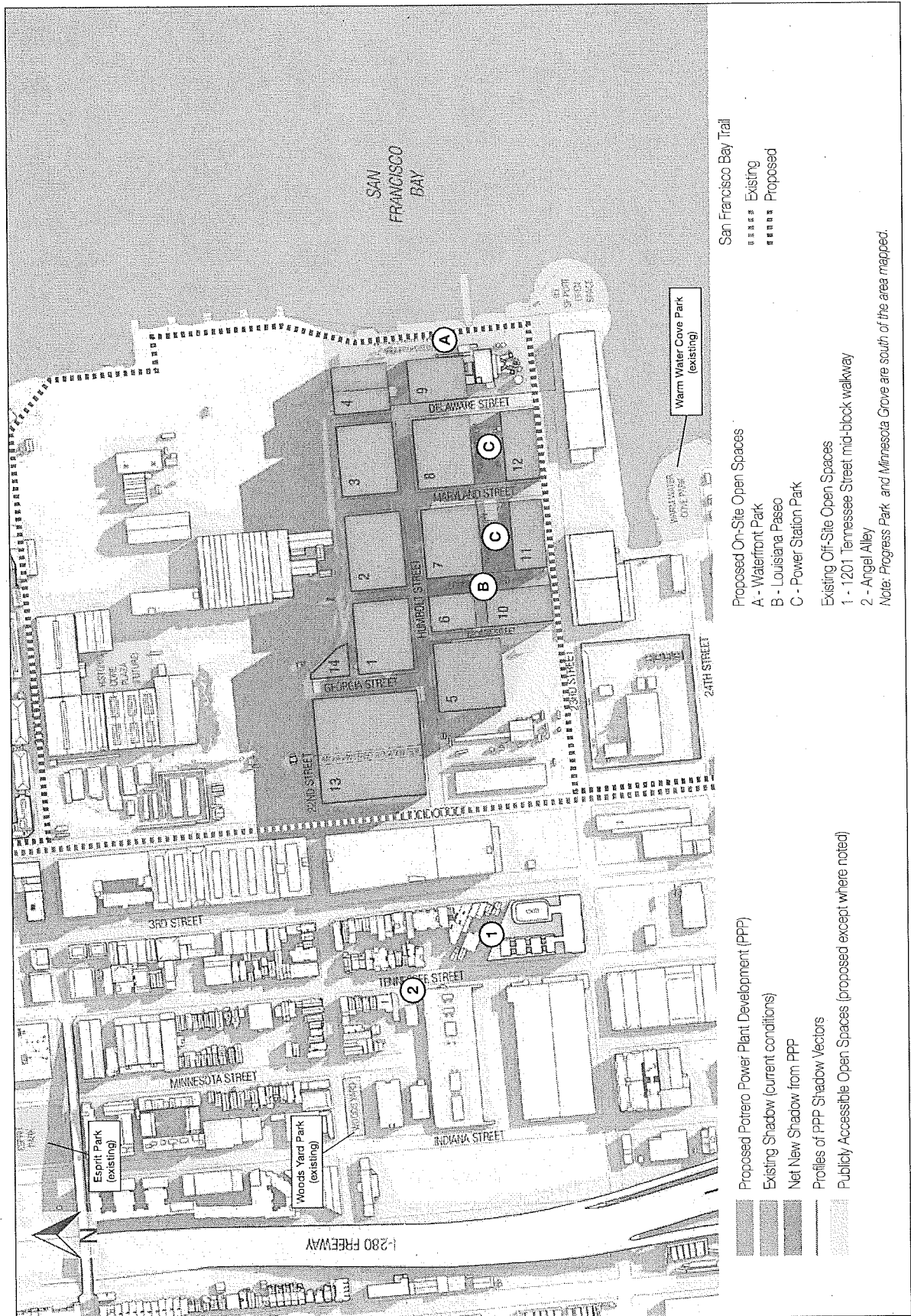
Potrero Power Station Mixed-Use Development Project

Figure 4.I-18
Project Shadow, Fall Equinox (September 20), 6:09 p.m. (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project
Figure 4.H-19
 Project Shadow, Winter Solstice (December 20), 8:19 a.m.

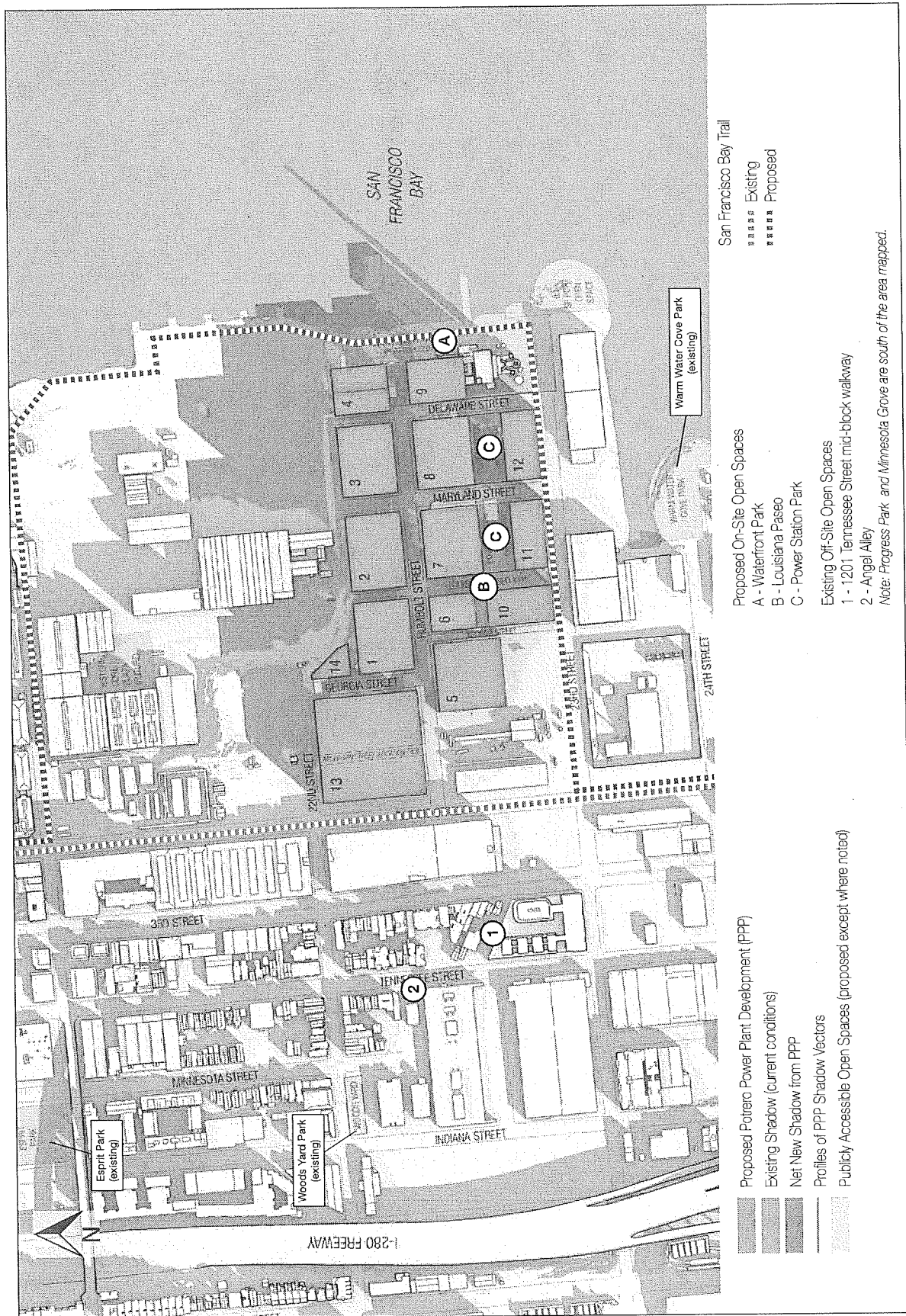


SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-20

Project Shadow, Winter Solstice (December 20), 10:00 a.m.

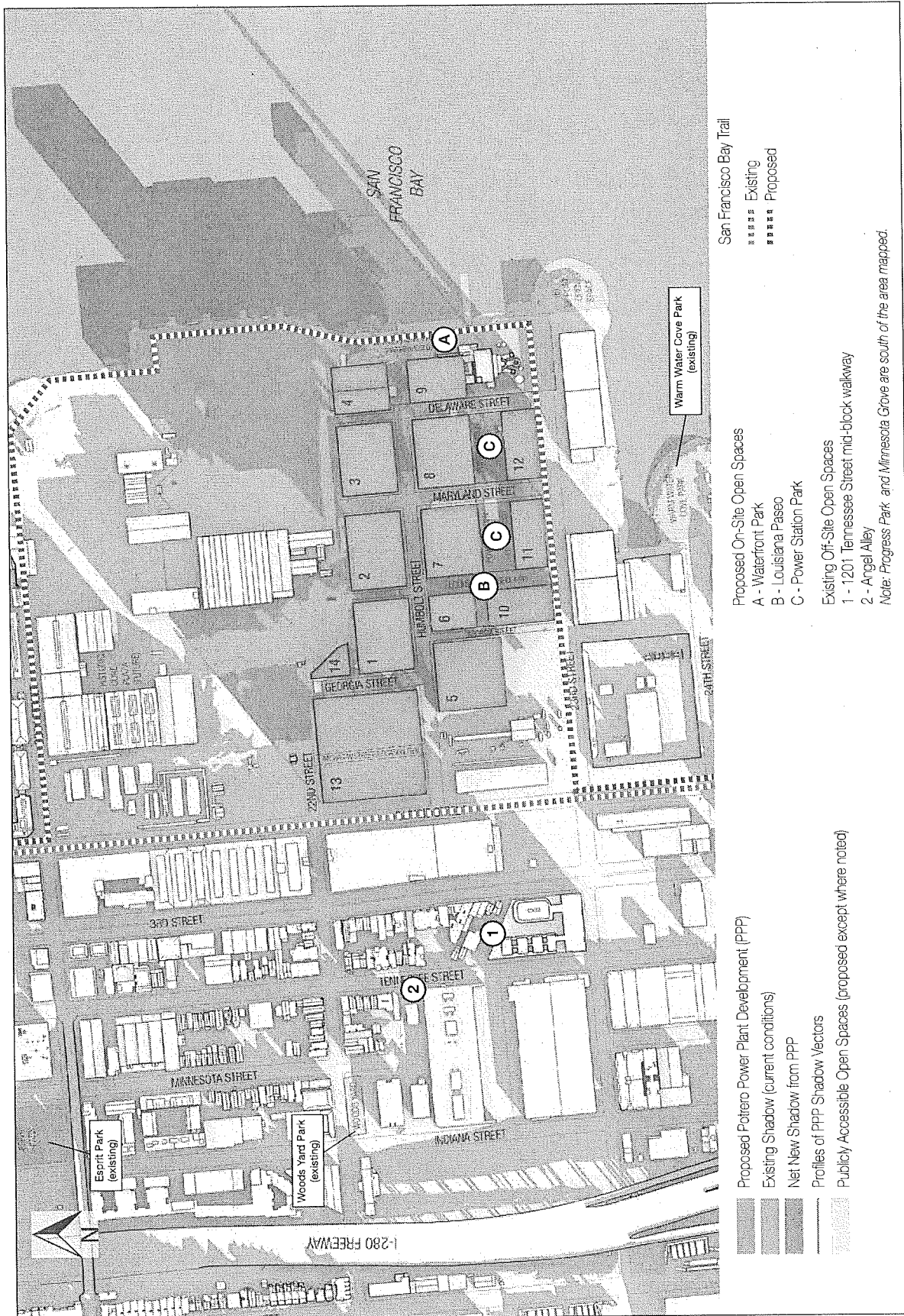


Potrero Power Station Mixed-Use Development Project

Figure 4.H-22

Project Shadow, Winter Solstice (December 20), 3:00 p.m.

SOURCE: Prevision Design



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-23
Project Shadow, Winter Solstice (December 20), 3:54 p.m.

Shadow on Existing Open Spaces

Woods Yard Park

The proposed project would cast new shadow on Woods Yard in the early morning (before 8:30 a.m.) for about three weeks in March, around the spring equinox, and again in the early morning (before 8:30 a.m.) in late September and early October, around the fall equinox. This new shadow would be cast by the proposed 300-foot-tall tower on Block 6. Project shadow would cover a maximum of about one-third of the park at these early morning times; at its maximum extent, project shadow would reach the playground in the center of the park for a few minutes per day. During these early morning times, shadow would move quickly across the park, and would leave the park entirely by about 8:30 a.m. Because of the limited duration of the shadow during the year, the limited times of shadow on the days when shadow would reach the park, and the relatively small area of shadow coverage, project shadow would not be expected to adversely affect the use of Woods Yard Park.

Angel Alley and 1201 Tennessee Street Mid-Block Walkway

These two open spaces are discussed together because they are essentially contiguous and therefore situated at the same orientation relative to the proposed project. As shown in Figure 4.H-8, very small portions of both of these open spaces would be shaded by the proposed project. This new shadow would fall at the south end of Angel Alley and at the east and west ends of the 1201 Tennessee mid-block alley. The new shadow would reach these open spaces for a few minutes in the early morning in late spring and early summer. Because of the limited duration and extent of the new shadow, it would not adversely affect the use of either of these open spaces.

San Francisco Bay Trail

As noted above, the project proposes to relocate the Bay Trail to the bayside within the project site. At a minimum, the southern portion of this shoreline Bay Trail improvement on the project site would be implemented in the project's Phase 1 of construction (see Figure 2-25, Proposed Project Phasing Plan, in Chapter 2, Project Description). However, the northern portion of the shoreline Bay Trail, which would connect to a similarly relocated Bay Trail segment on the Pier 70 Mixed-Use District project site to the north, likely would not be constructed until both project sponsors are ready to complete joint development of the connecting segments of the Bay Trail. Therefore, and for purposes of a conservative analysis, shadow effects from the proposed project are considered on the existing alignment of the Bay Trail along the Illinois Street sidewalks.

School Yards

There are no public schools located within the shadow fan the proposed project, so no school yards would be affected.

The proposed project would add new shadow to both sidewalks along Illinois Street, from south of 23rd Street to north of 22nd Street, throughout the morning year-round, beginning one hour after sunrise or earlier, and lasting for between about 3 hours and 5½ hours daily, depending on the season. As shown in Figures 4.H-9, -10, -11, -14, -15, -16, -19, and -20, project shadow would be cast on the Illinois Street sidewalks by buildings on Blocks 5, 6, 10, 13, and 14, although not all at

the same time. Most of the project shadow would be cast by buildings on Blocks 5 and 13, which would be closest to Illinois Street and would have relatively wide façades facing Illinois Street. Project shadow would leave both the east and west Illinois Street sidewalks by no later than about 12 noon throughout the year. This section of the Bay Trail is not located along the bay shoreline and does not feature scenic views, seating, landscaping, or other features or amenities that would cause people to linger, and where access to sunlight is an important factor in the use and enjoyment of the trail. As such, this section of the trail functions primarily as a transit corridor for pedestrians, cyclists, runners, and other trail users. Moreover, the length of the affected section of the trail (less than two blocks) is insignificant relative to the overall 350-mile length of the existing Bay Trail along the San Francisco waterfront (a total of 500 miles is planned). Finally, the shadow effect on the trail would be of limited duration during morning hours only, and would be entirely gone by or before noon throughout the year. Therefore, shadow resulting from the project would not substantially affect the use and enjoyment of the existing Bay Trail route.

As noted, the project would relocate the Bay Trail to the bayside within the project site. Shadow on the proposed Bay Trail location is discussed below.

Shadow on Sidewalks in Vicinity of the Project Site

The proposed project would add new shadow to sidewalks in the project vicinity year-round. In addition to Illinois Street, affected sidewalks would include: Third Street near the intersection of 22nd Street; 22nd Street, from Minnesota Street to its eastern extent; 23rd Street, from just west of Third Street to its eastern extent; and small areas along Tennessee, Minnesota, and Indiana streets.

Not all of these sidewalks would be affected throughout the year because of the change in the apparent position of the sun in the sky throughout the year. As with Illinois Street described above, the new shadow would not be in excess of the amount of shadow customarily experienced in urban areas, and this shadow would not be expected to adversely affect pedestrian use of the sidewalks.

Summary of Project Shadow Impacts

As described above, while the proposed project would cast new shadow on existing open spaces, including Woods Yard Park, San Francisco Bay Trail, and sidewalks near the project site, the extent and duration of the increased shadow coverage would be limited and would not be expected to adversely affect the use of these areas. Therefore, shadow impacts of the project would be *less than significant*.

Mitigation: None required.

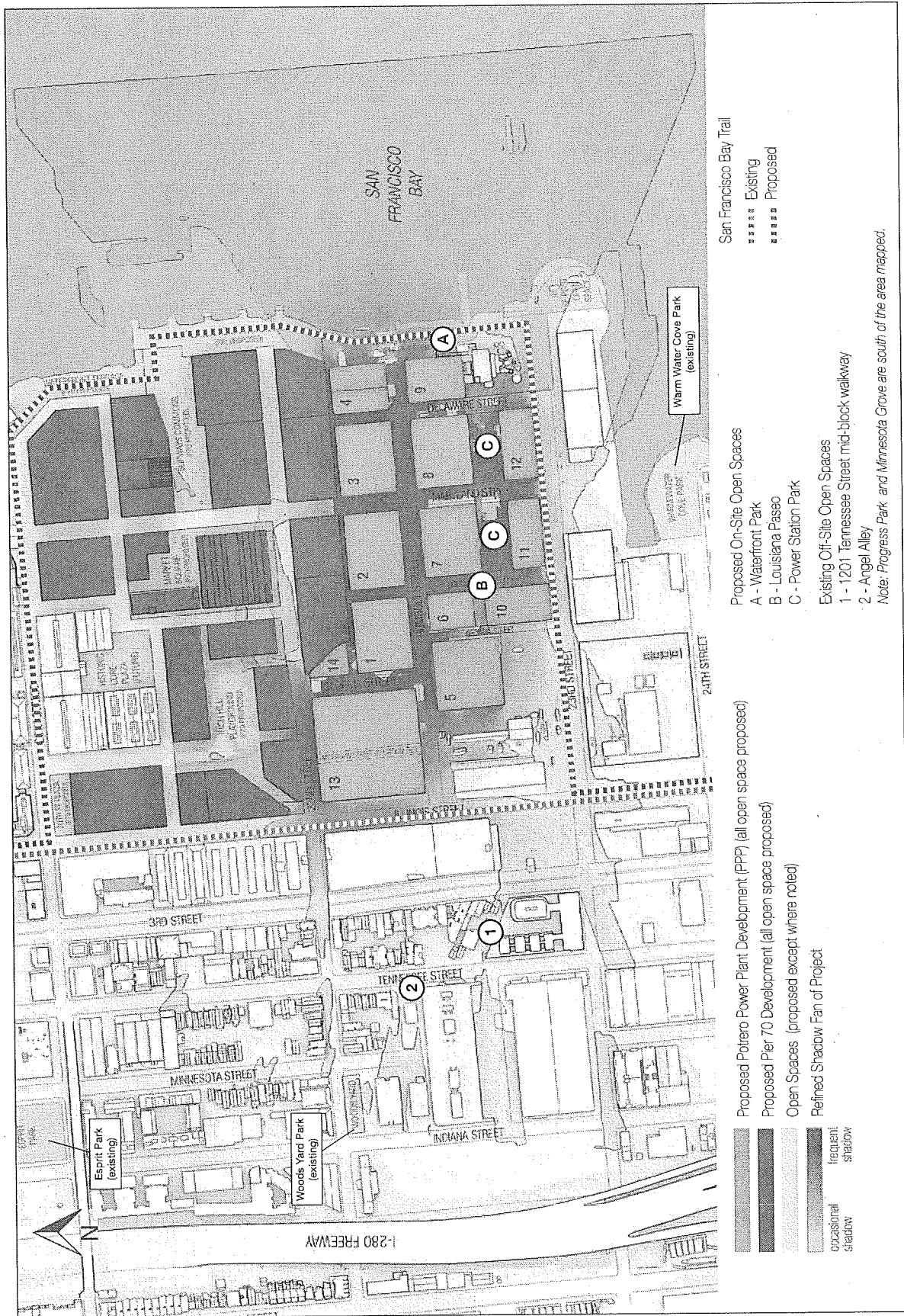
Cumulative Impacts

Impact C-WS-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the project vicinity, would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas. (*Less than Significant*)

As described above under Methodology, for shadow analysis, the cumulative context includes the proposed project and the approved Pier 70 Mixed-Use District project. **Figure 4.H-24, Annual Net New Cumulative Shadow Compared to Existing Conditions**, presents an annual composite image of shadow cast by the proposed project and the Pier 70 Mixed-Use District project. Open spaces proposed at the Pier 70 project site are also shown. **Figure 4.H-25 through Figure 4.H-39, Cumulative Shadow**, depict cumulative shadow conditions for the same representative times of day and year as depicted in Figures 4.H-9 through 4.H-23, above.

The proposed project and the Pier 70 Mixed-Use District project would not combine to add shadow to any existing publicly accessible open spaces, except the existing Bay Trail route, along Illinois Street. During most of the year, shadow from the two projects would not overlap except near the intersection of 22nd and Illinois streets, as shadow from the Pier 70 project would fall on Illinois Street farther north than would shadow from the proposed project. However, around the winter solstice, when the sun is at its most southerly point in the sky at sunrise, shadow from the two projects would overlap between 22nd Street and midway between 22nd and 20th streets in the early morning around 8:30 a.m., for about 90 minutes. As under existing-plus-project conditions, cumulative shadow on Illinois Street cast by the proposed project and the Pier 70 project would last for between about 3 hours and 5½ hours per day in the morning throughout the year. As stated above, these sidewalks do not feature scenic views or other features that would cause people to linger and are therefore used simply as a means of walking from one place to another. Additionally, it is noted that the Bay Trail route would be relocated from Illinois Street to the San Francisco Bay shoreline with buildout of the proposed project and the adjacent Pier 70 project. Therefore, under cumulative conditions, the Illinois Street sidewalks would no longer be part of the trail route. Because there would be no cumulative shadow effect on any other publicly accessible open spaces, because cumulative shadow on the Illinois Street sidewalks would not adversely affect the use of the existing Bay Trail route, and because the proposed project, together with the approved Pier 70 project, would relocate the Bay Trail to the shoreline, the cumulative shadow impact would be *less than significant*.

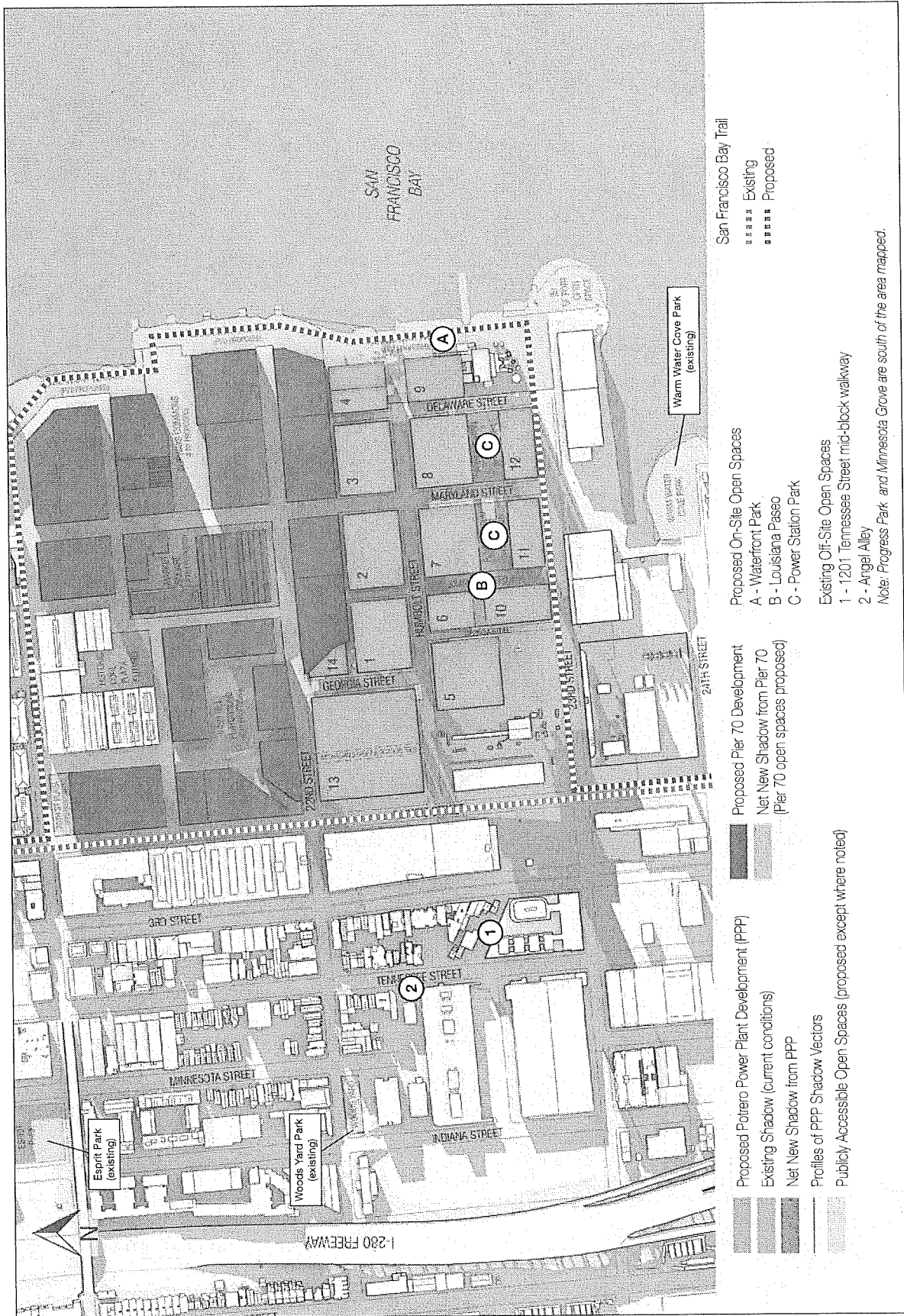
Mitigation: None required.



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

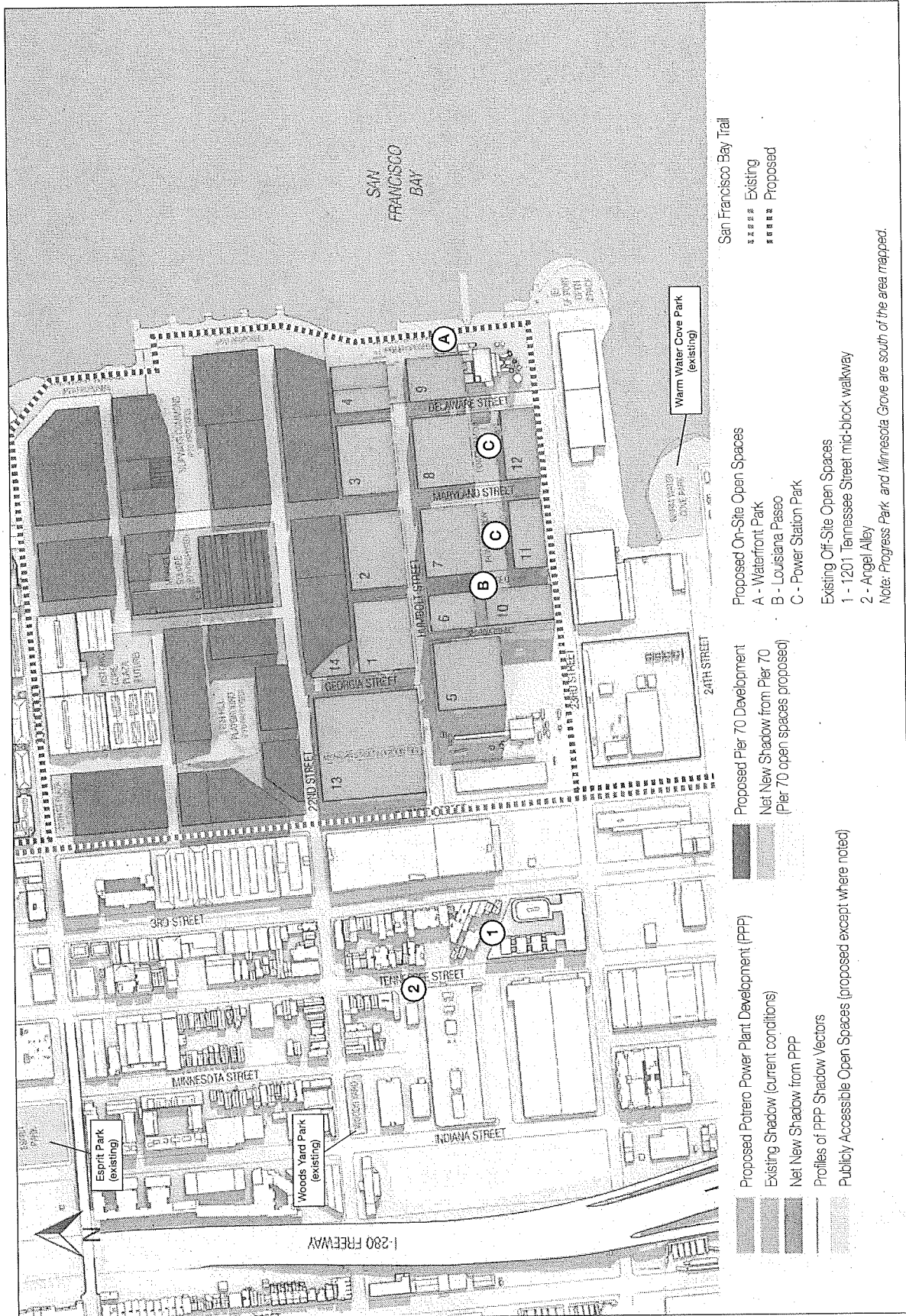
Figure 4.H-24
 Annual Net New Cumulative Shadow Compared to Existing Conditions



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-25
Cumulative Shadow, Summer Solstice (June 21), 6:46 a.m.

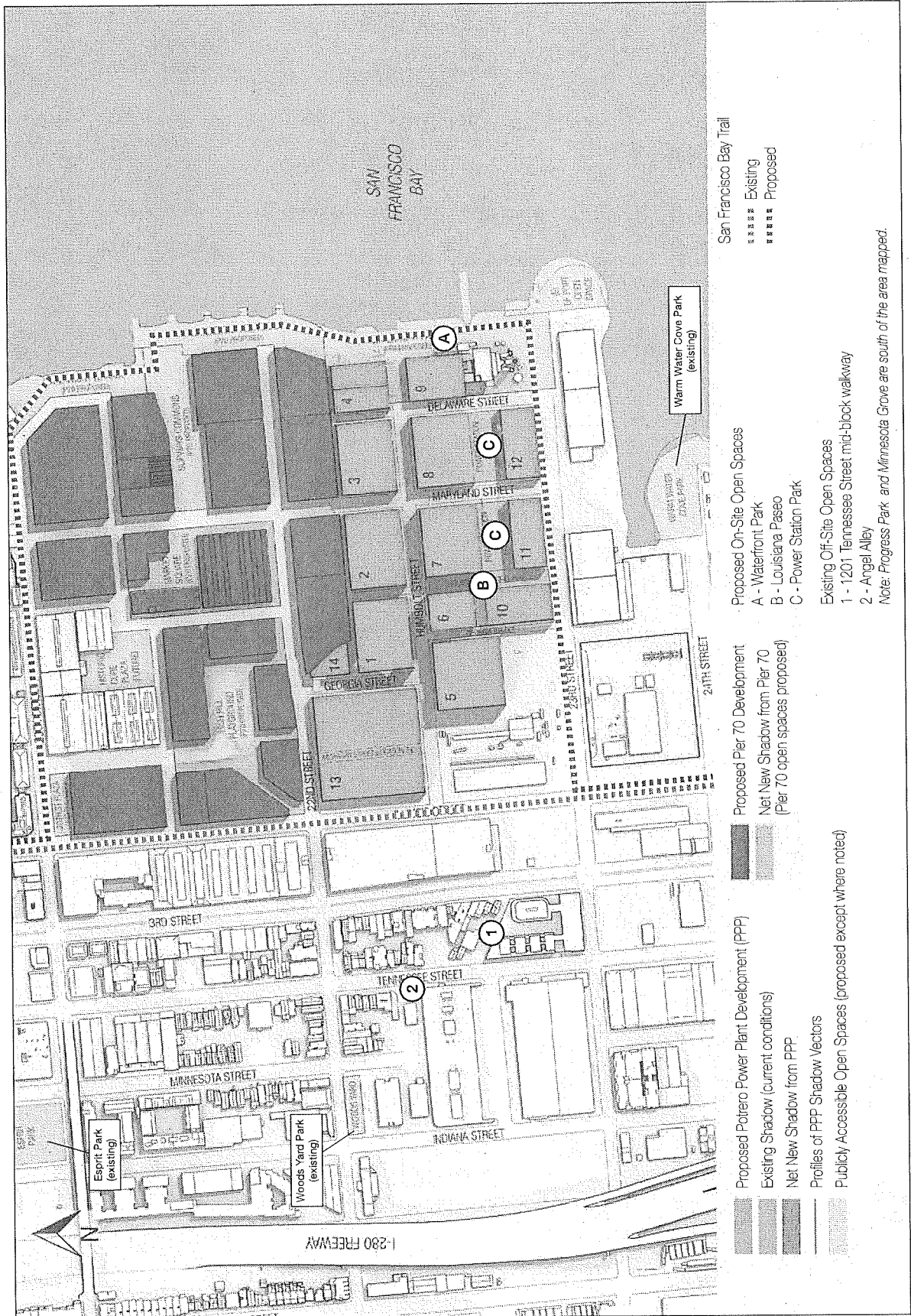


Potrero Power Station Mixed-Use Development Project

Figure 4.H-26

Cumulative Shadow, Summer Solstice (June 21), 10:00 a.m.

SOURCE: Prevision Design

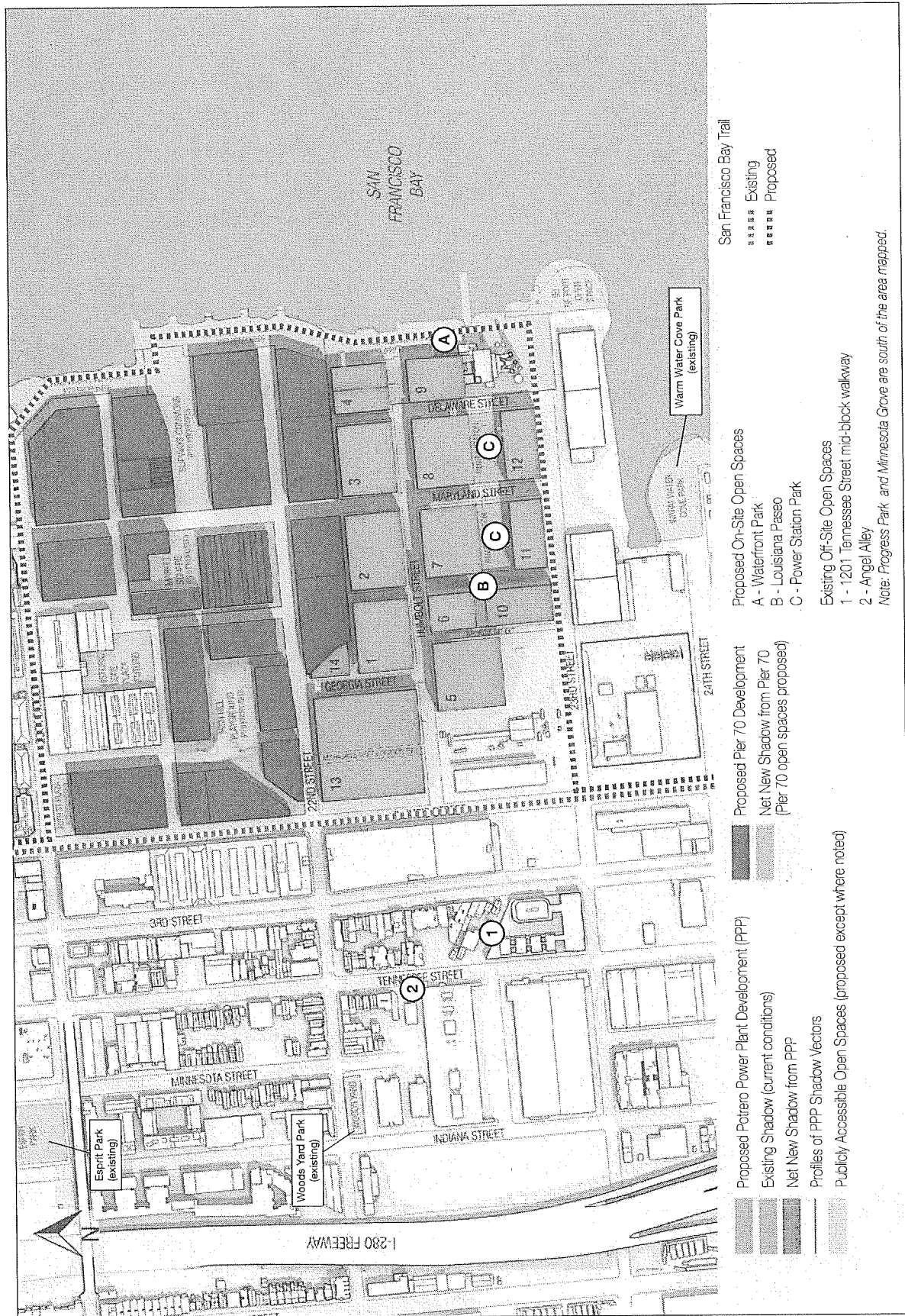


Potrero Power Station Mixed-Use Development Project

SOURCE: Prevision Design

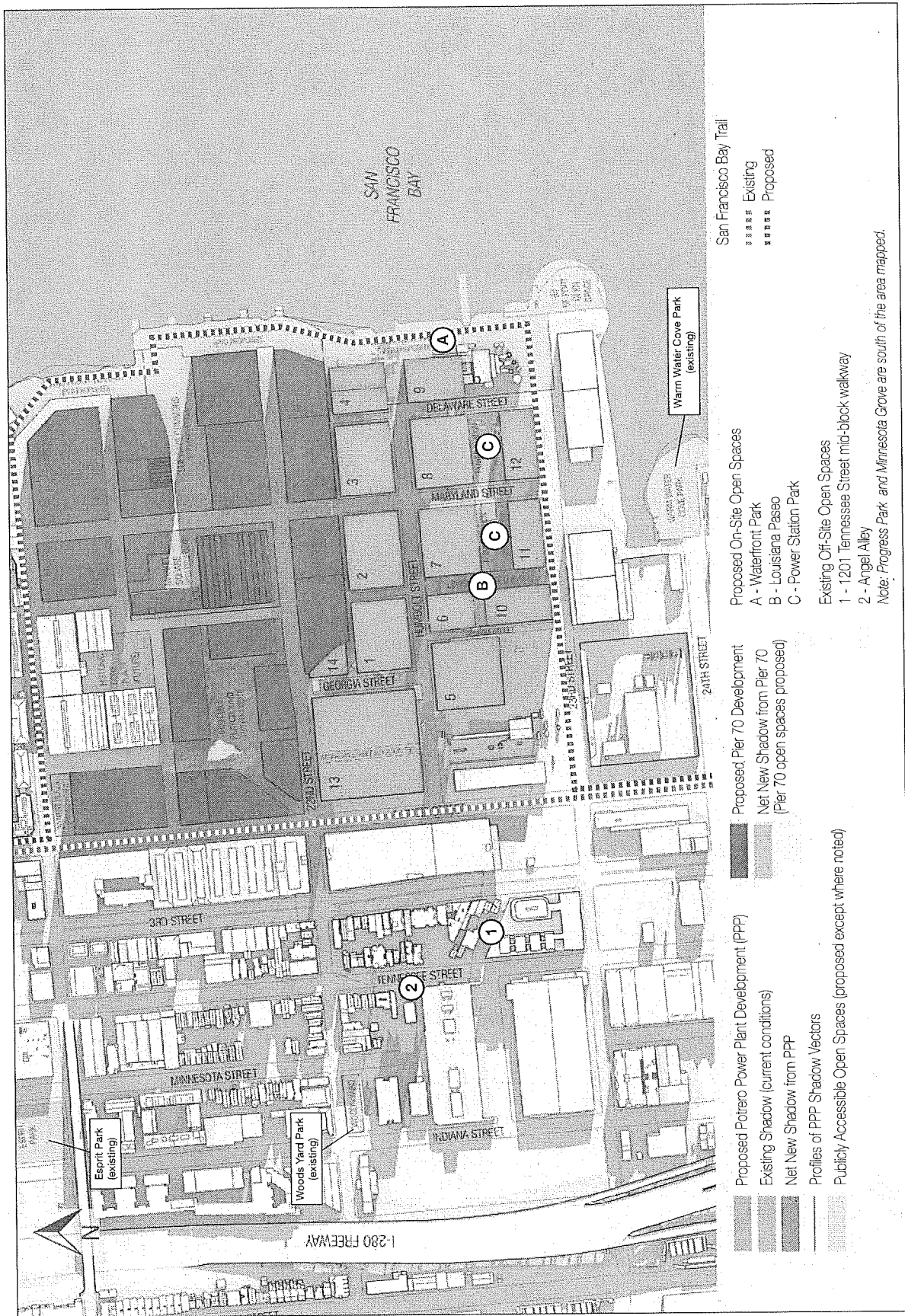
Figure 4.H-27

Cumulative Shadow, Summer Solstice (June 21), 12:00 noon



Potrero Power Station Mixed-Use Development Project
Figure 4.H-28
 Cumulative Shadow, Summer Solstice (June 21), 3:00 p.m.

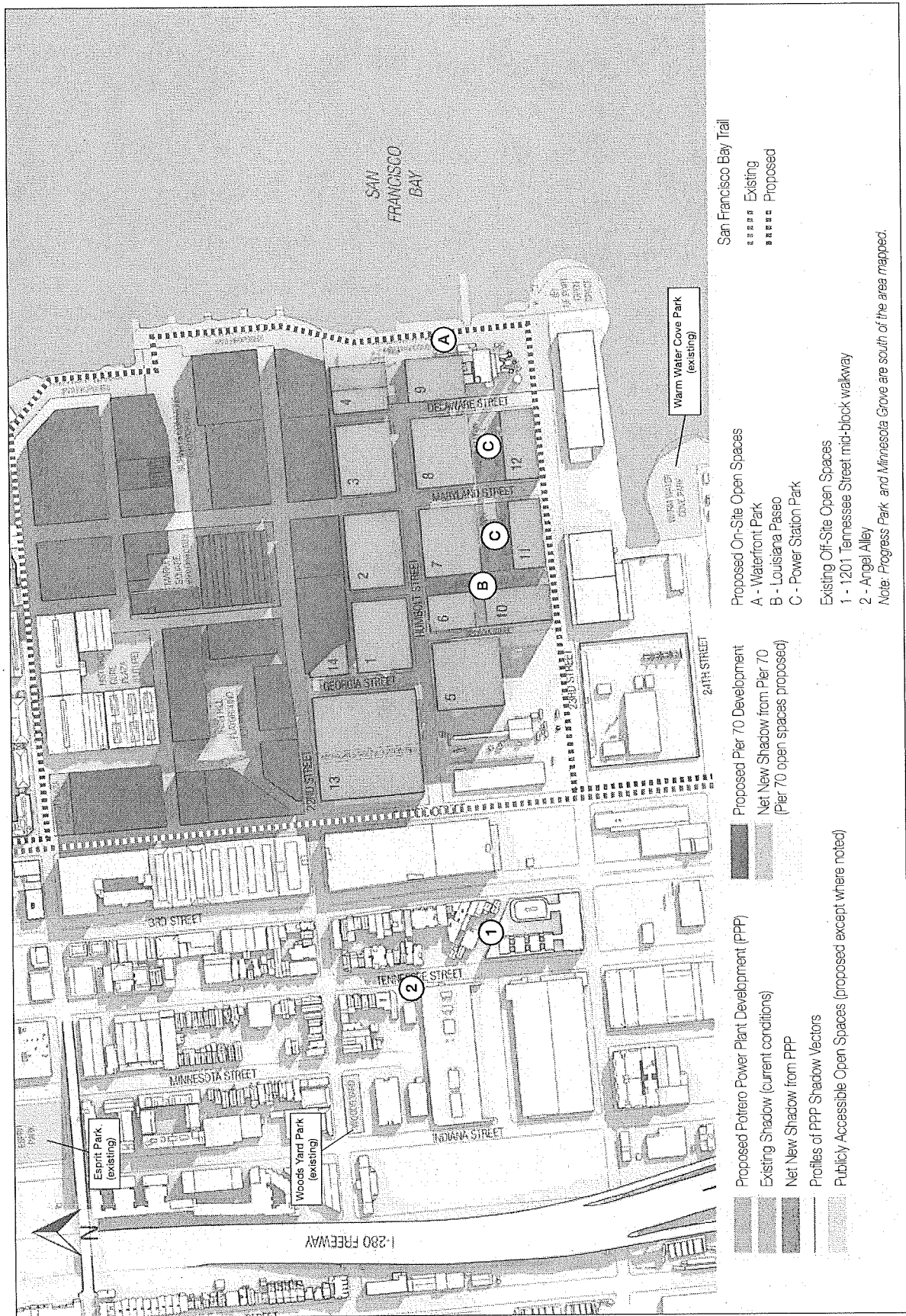
SOURCE: Prevision Design



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

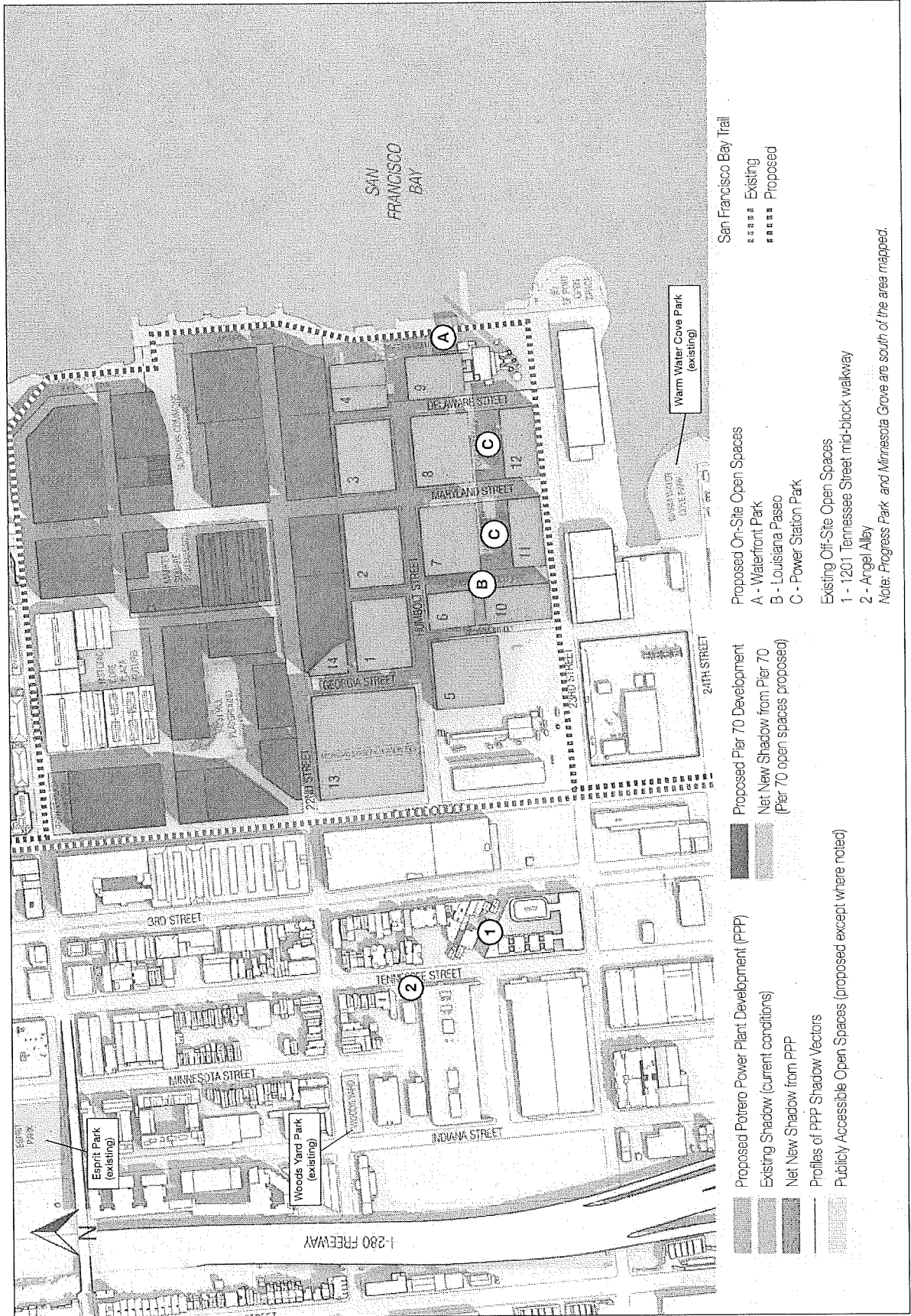
Figure 4.H-30
 Cumulative Shadow, Fall Equinox (September 20), 7:57 a.m. (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

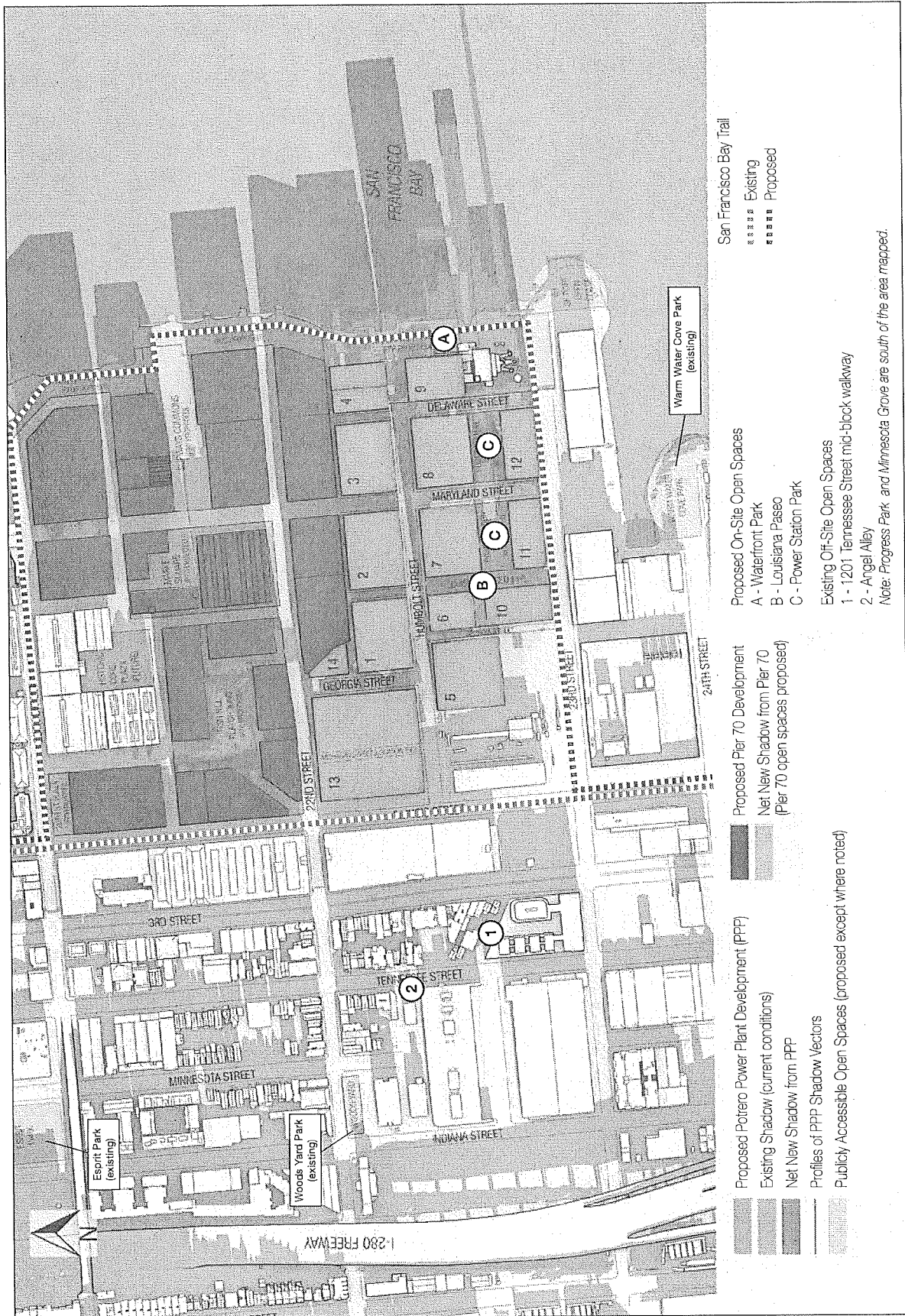
Figure 4.H-31
 Cumulative Shadow, Fall Equinox (September 20), 10:00 a.m. (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

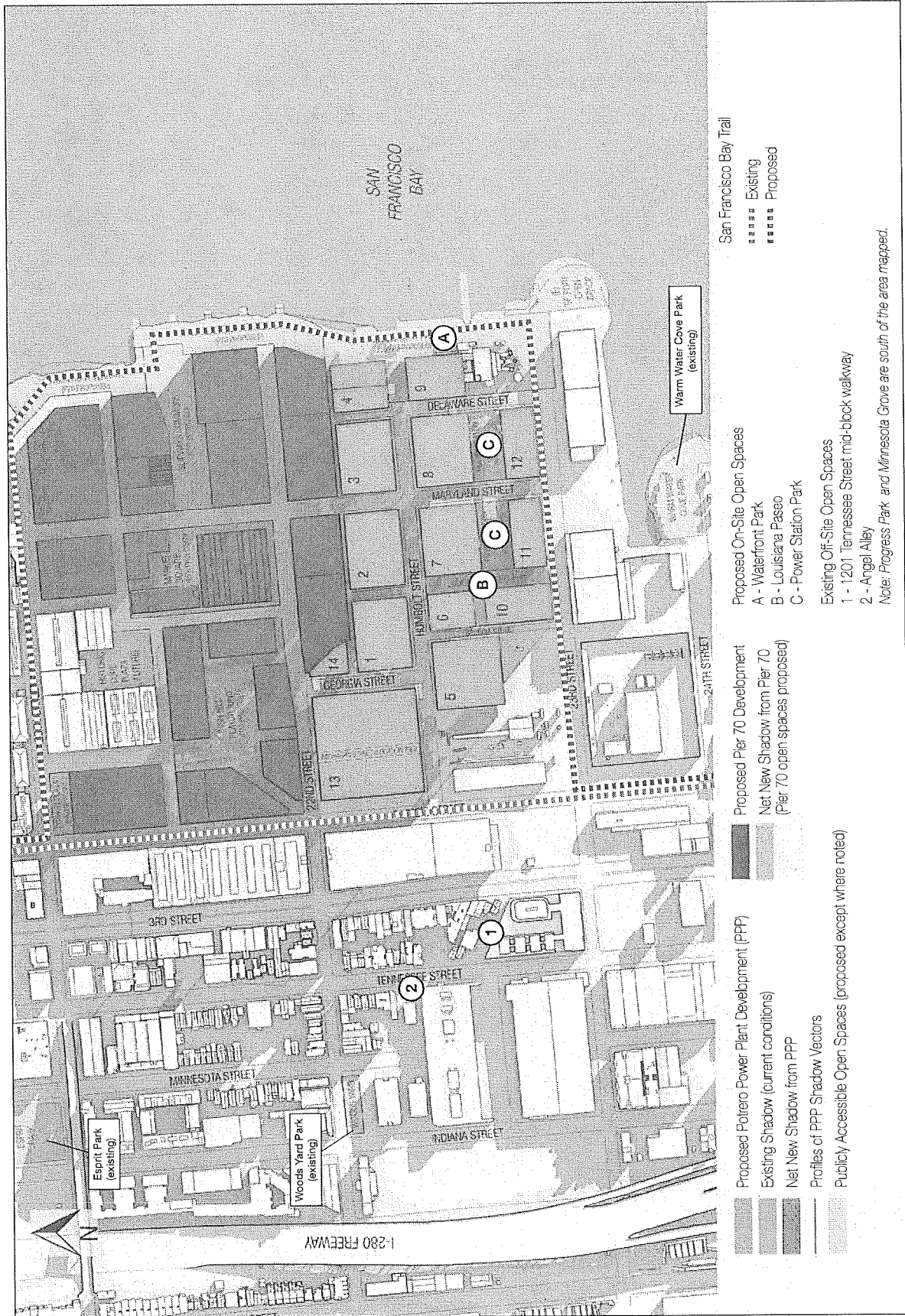
Figure 4.H-33
Cumulative Shadow, Fall Equinox (September 20), 3:00 p.m. (Spring Similar)



SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-34
Cumulative Shadow, Fall Equinox (September 20), 6:09 p.m. (Spring Similar)

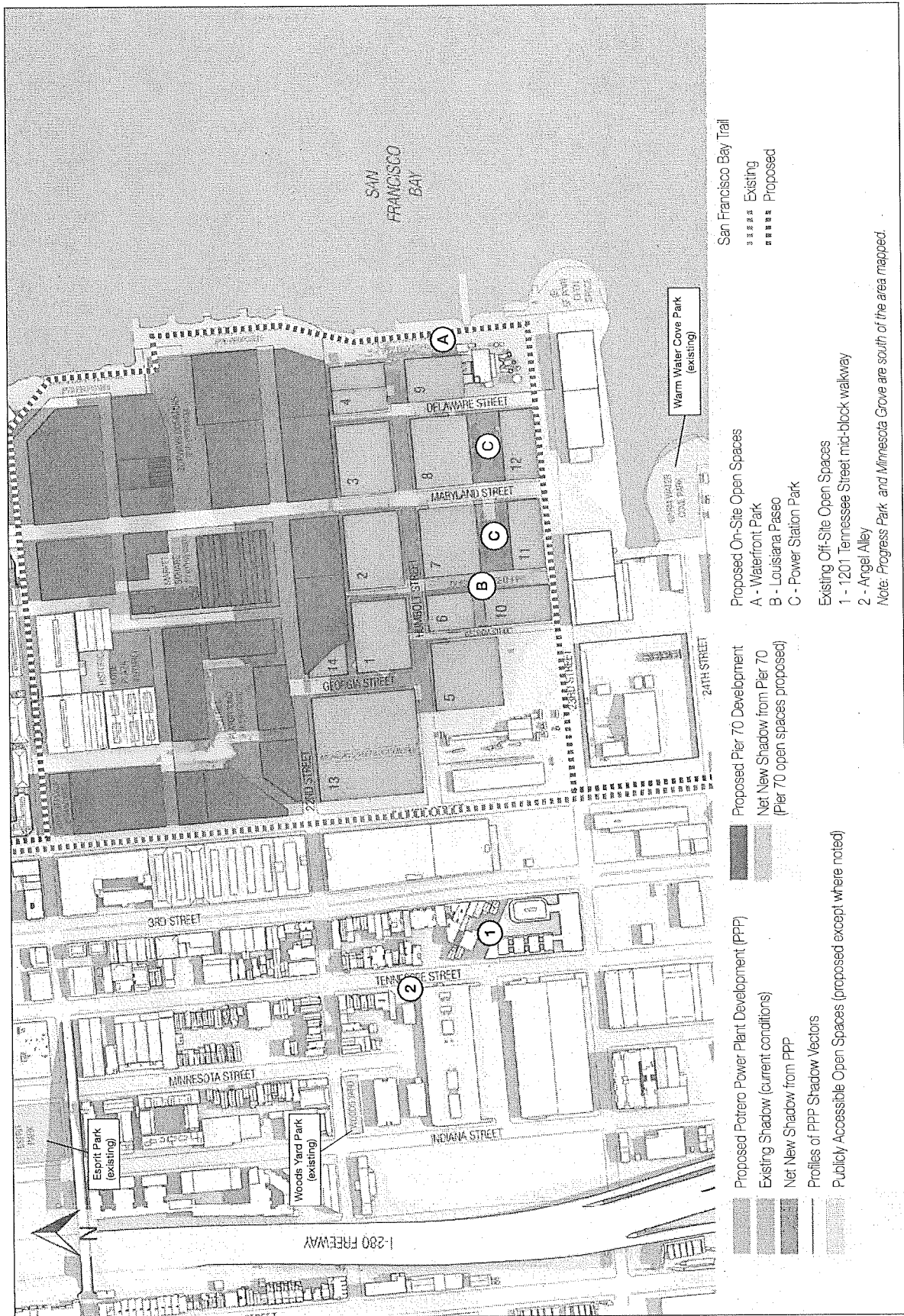


SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-35

Cumulative Shadow, Winter Solstice (December 20), 8:19 a.m.

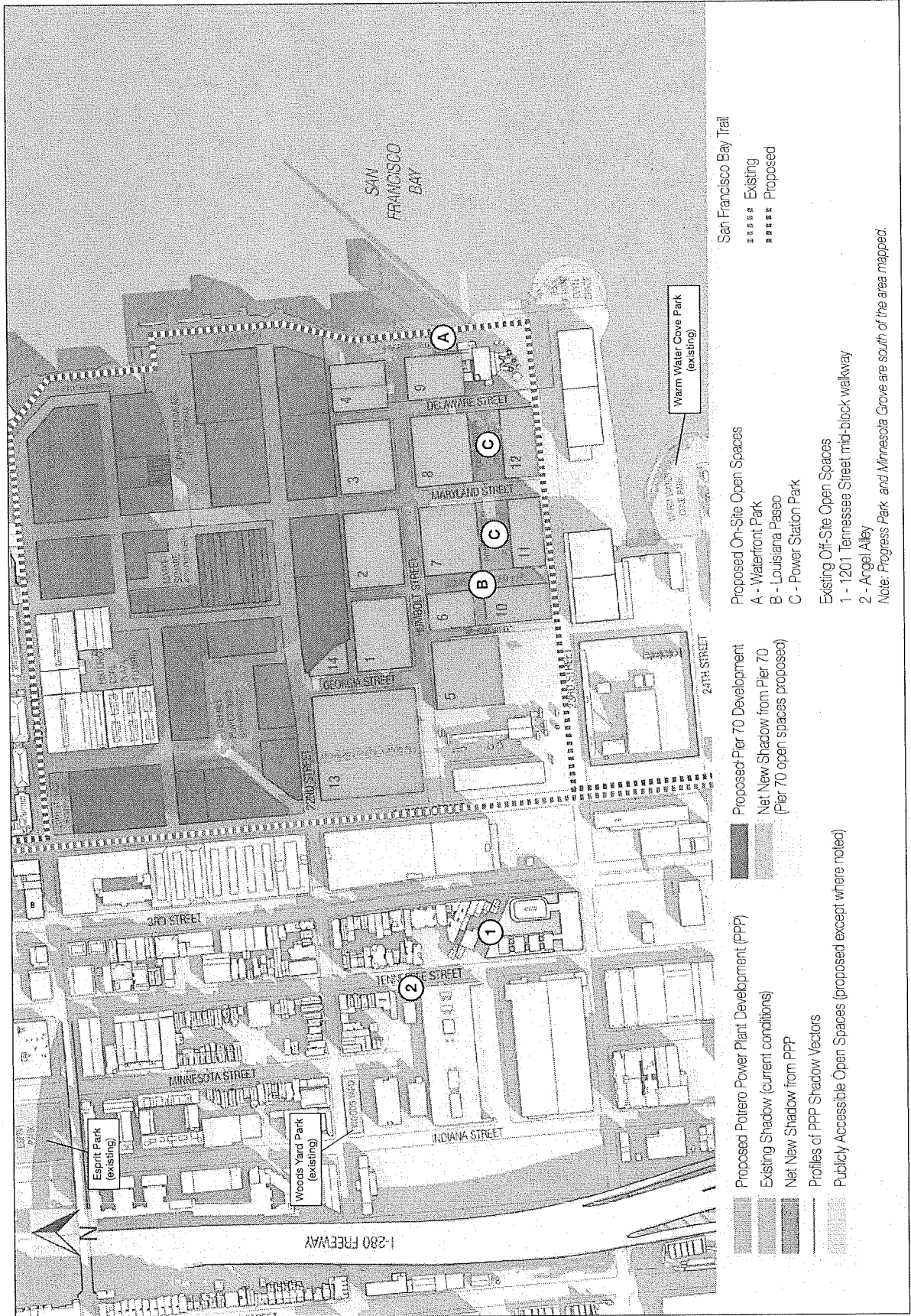


SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-37

Cumulative Shadow, Winter Solstice (December 20), 12:00 noon

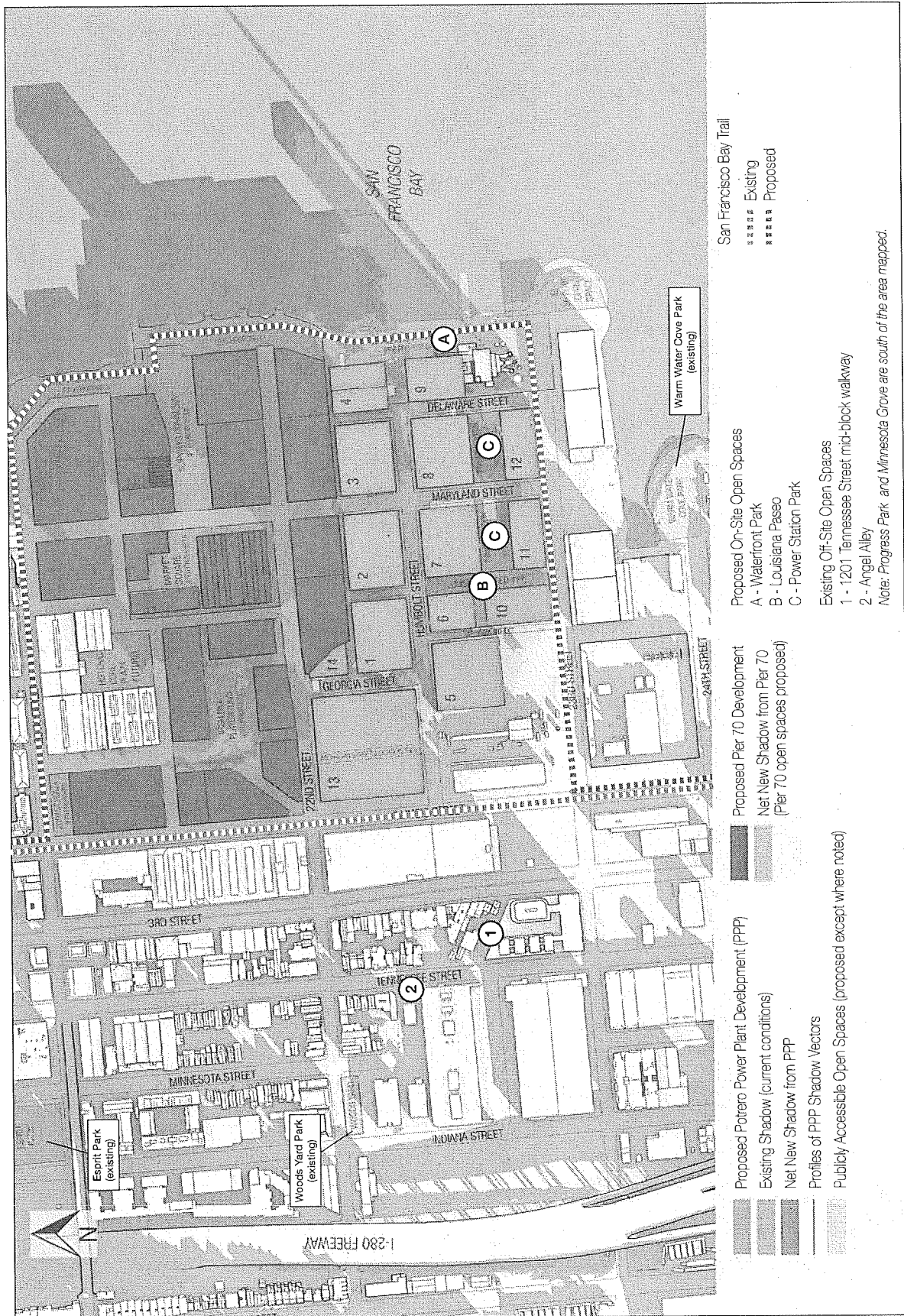


SOURCE: Prevision Design

Potrero Power Station Mixed-Use Development Project

Figure 4.H-38

Cumulative Shadow, Winter Solstice (December 20), 3:00 p.m.



Potrero Power Station Mixed-Use Development Project

Figure 4.H-39

Cumulative Shadow, Winter Solstice (December 20), 3:54 p.m.

SOURCE: Prevision Design

Supplemental Information

Shadow on Proposed Onsite Open Spaces

The following characterizes the shadow that would be cast by existing and proposed buildings on each of the four proposed onsite open spaces, and is presented for informational purposes. The onsite open spaces would be publicly accessible, but would not be under the jurisdiction of the Recreation and Park Commission and would not be subject to Planning Code section 295. Because none of the onsite open spaces would exist but for the proposed project, the CEQA analysis covers impacts of a project on existing conditions, and not on elements of the project itself. Therefore, there is no shadow impact, under CEQA, to these open spaces, which do not currently exist.

Waterfront Park. The proposed Waterfront Park, which would include the future Bay Trail route, would be in sunlight in the morning year-round. Project buildings would cast shadow on Waterfront Park in the afternoon year-round. In late fall and early winter, shadow would begin to fall on the park after about noon. In late winter through early spring, and in late summer through early fall, shadow would fall on the park after about 12:30 p.m. From late spring through early summer, shadow would begin to reach the park after about 1 p.m. Shadow would be cast primarily by adjacent buildings to the west, which would be 65 and 85 feet in height, with buildings 85 to 125 feet tall west of Delaware Street also casting some additional late afternoon shadow. In addition, the existing Unit 3 Power Block, which is up to about 143 feet in height at the elevator shaft, would cast substantial shadow on the central and southern parts of the proposed park.²⁴

Louisiana Paseo. Because the Louisiana Plaza would be oriented generally north-south, the only times it would be without shadow would be when the sun is essentially due south in the sky; that is, around noon or around 1 p.m. during daylight savings time. It would be shaded by project buildings to the east (125 feet and 85-180 feet in height) in the morning, and to the west (125 feet and up to 300 feet in height) in the afternoon throughout the year.

Power Station Park. The proposed project would cast shadow on Power Station Park during much of the day throughout the year, with shadow being cast by buildings to the south (125 feet and 95 feet in height) and to the west (125 feet tall).

Rooftop Soccer Field.²⁵ Shadow would be cast on the rooftop soccer field by the adjacent 180-foot-tall tower on Block 5 and by the 300-foot-tall tower on Block 6, to the northeast, in the early morning hours from late spring through early summer. A small amount of additional shadow would be cast on the soccer field by the 125-foot-tall building on Block 10, to the east, in the morning, year-round. Shadow would leave the soccer field by late morning every day of the year.

²⁴ Although, as noted in the wind analysis earlier in this section, the tallest part of the Unit 3 power block is a steel frame structure, with attached concrete elevator tower, that is partially permeable, this permeability results in less diminution, compared to a solid structure, in shadow impact than in wind impact. This is because the interior structures within the steel frame cast shadow in many instances when the frame itself would not.

²⁵ Shadow does not appear on the rooftop soccer field in Figures 4.H-9 through 4.H-23 because the shadow modeling does not depict shadow cast on building roofs. This discussion describes estimated shadow based on the figures.

As can be seen in Figures 4.H-25 through 4.H-39, because Pier 70 is north of the project site, cumulative (Pier 70 Mixed-Use District project) development would add very little shadow to the proposed project's onsite open spaces.

The Pier 70 buildings would add shadow to the northern part of Waterfront Park (including the future Bay Trail route), but only in the late afternoon (after about 4 p.m.) from late spring through early summer. At other times of the day/year, shadows from Pier 70 buildings would not reach the proposed open spaces on the project site.

As can be seen on Figures 4.H-25 through 4.H-39, the proposed project could cast shadow on the approved Pier 70 Mixed-Use District project's Irish Hill Playground and Slipways Commons. However, shadow from the project buildings would fall in areas already in shadow from the Pier 70 buildings and no net new shading would occur. The proposed project would add new shadow to the southern end of the Pier 70 project's Waterfront Promenade (including the future Bay Trail route) in late afternoon, during most of the year, except between early spring and late summer. However, for the most part project shadow on the Pier 70 project's Waterfront Promenade would overlap with shadow from Pier 70 project's buildings.

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4.I Biological Resources

4.I.1 Introduction

Section 4.I, Biological Resources, begins with a description of the existing conditions for terrestrial and marine biological resources that occur or have the potential to occur on the project site or in the immediate vicinity. Regulations and guidelines relevant to biological resources are discussed next, followed by an impact analysis that evaluates the potential effects on biological resources that would result from construction and operation of the proposed project. Mitigation measures that would avoid or reduce impacts to less-than-significant levels are identified. Cumulative effects of the proposed project in combination with past, present, and reasonably foreseeable future projects are discussed. Appendix G provides additional supporting information on biological resources.

4.I.2 Environmental Setting

Study Area and Data Sources

This section identifies project study areas for both terrestrial and marine biological resources. Aside from database searches, a fixed buffer area is not defined for the study areas; however, the proposed project's potential area of influence relevant to each biological resource was considered in order to assess potential impacts to biological resources. Information on natural communities, plant and animal species, and sensitive biological resources was obtained from regional databases, plans, and reports relevant to the proposed project, including the California Department of Fish and Wildlife Natural Diversity Database,¹ the California Native Plant Society Electronic Inventory,² the U.S. Fish and Wildlife Service,³ the National Oceanic and Atmospheric Administration Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay,⁴ long-term regional studies such as the Regional Monitoring Program for Water Quality in San Francisco Bay,⁵ the Interagency Ecological Program for San Francisco Bay,⁶ standard biological literature, eBird.org,⁷

¹ California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB) Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, accessed August 13, 2018.

² California Native Plant Society (CNPS), Inventory of Rare and Endangered Plants for San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, <http://www.rareplants.cnps.org/result.html?adv=t&quad=3712264:3712274>, accessed August 13, 2018.

³ U.S. Fish and Wildlife Service (USFWS), My Project, IPaC Trust Resource Report and Official Species List of Federally Endangered and Threatened Species that may occur in the Potrero Power Station Mixed-Use Development Project location, and/or may be affected by the proposed project, August 13, 2018.

⁴ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

⁵ San Francisco Estuary Institute and the Aquatic Science Center, Clean Water Program, <http://www.sfei.org/cleanwater>, accessed August 17, 2015.

⁶ Interagency Ecological Program, Cooperative Ecological Investigations in the San Francisco Estuary since 1970, <http://www.water.ca.gov/iepl/>, accessed August 18, 2015.

⁷ eBird: Warm Water Cove Park Hotspot, <https://ebird.org/hotspot/L1027305>, accessed January 19, 2018.

biological reports and studies on other waterfront locations in the project vicinity,^{8,9,10,11} and reconnaissance-level surveys of the project site. Reconnaissance-level botanical and terrestrial wildlife surveys of the project site were conducted on December 19, 2017, to characterize existing conditions, assess habitat quality, and assess the potential presence of special-status species and sensitive natural communities. A reconnaissance survey of marine habitat and wildlife was also conducted on December 19, 2017.

For the purposes of this California Environmental Quality Act (CEQA) assessment, the project study area for terrestrial biological resources includes the project site and adjacent landside areas with similar habitat composition including developed or paved areas with long-standing industrial uses from Mission Creek to the north, Islais Creek to the south, the San Francisco Bay to the east, and the I-280 freeway corridor to the west. The marine/aquatic biological resources study area includes the San Francisco Bay shoreline along the project site and San Francisco Bay Central Bay basin waters immediately adjacent to the project site, although marine resources documented in all waters of the Central Bay basin from the north side of Treasure Island to the San Bruno Shoals, which demark the southern border of Central San Francisco Bay, were considered in this analysis. The shoreline and adjacent San Francisco Bay waters comprising the marine resources study area have been extensively modified from their prior natural condition; however, they remain ecologically productive habitats. **Figure 4.I-1, Terrestrial Biological Resources Study Area**, and **Figure 4.I-2, Marine Biological Resources Study Area**, depict, respectively, the generalized study areas for the terrestrial and marine biological resources considered in this analysis.

Regional Setting

The project site is located in the San Francisco Bay Area-Delta region, which hosts a diverse variety of natural communities ranging from the open waters of San Francisco Bay and the Delta to salt and brackish marshes to chaparral and oak woodlands. The climate is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers. The high diversity of vegetation and wildlife found in the region is a result of soils, topography, and microclimate diversity that promotes relatively high levels of endemism.¹²

San Francisco Bay is the second largest estuary in the United States and supports numerous marine habitats and biological communities. It encompasses 479 square miles, including shallow mudflats. San Francisco Bay is divided into four main basins: San Pablo or North Bay, Suisun Bay, Central Bay, and South Bay.¹³ This assessment focuses on the southernmost portion of the Central Bay basin.

⁸ Golden Gate Audubon Society and San Francisco Bay Bird Observatory, Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties, prepared by Noreen Weeden and Michael Lynes, September 23, 2009.

⁹ The Port of San Francisco, Pier 94 Wetland Enhancement Monitoring Report, San Francisco, California, June 1, 2010.

¹⁰ Bartley, E., N. Weeden, A. Opkins, M. Ziatunich, and M. Chambers, A Field Guide to 100 Birds of Heron's Head, Islais Creek to Candlestick Point, San Francisco, California, 2010.

¹¹ Coastal Conservancy, Clapper Rail Surveys for the San Francisco Estuary Invasive Spartina Project, prepared by Jen McBroom, Olofson Environmental, Inc., November 2013.

¹² Endemism refers to the degree to which organisms or taxa are restricted to a geographical region or locality and are thus individually characterized as endemic to that area.

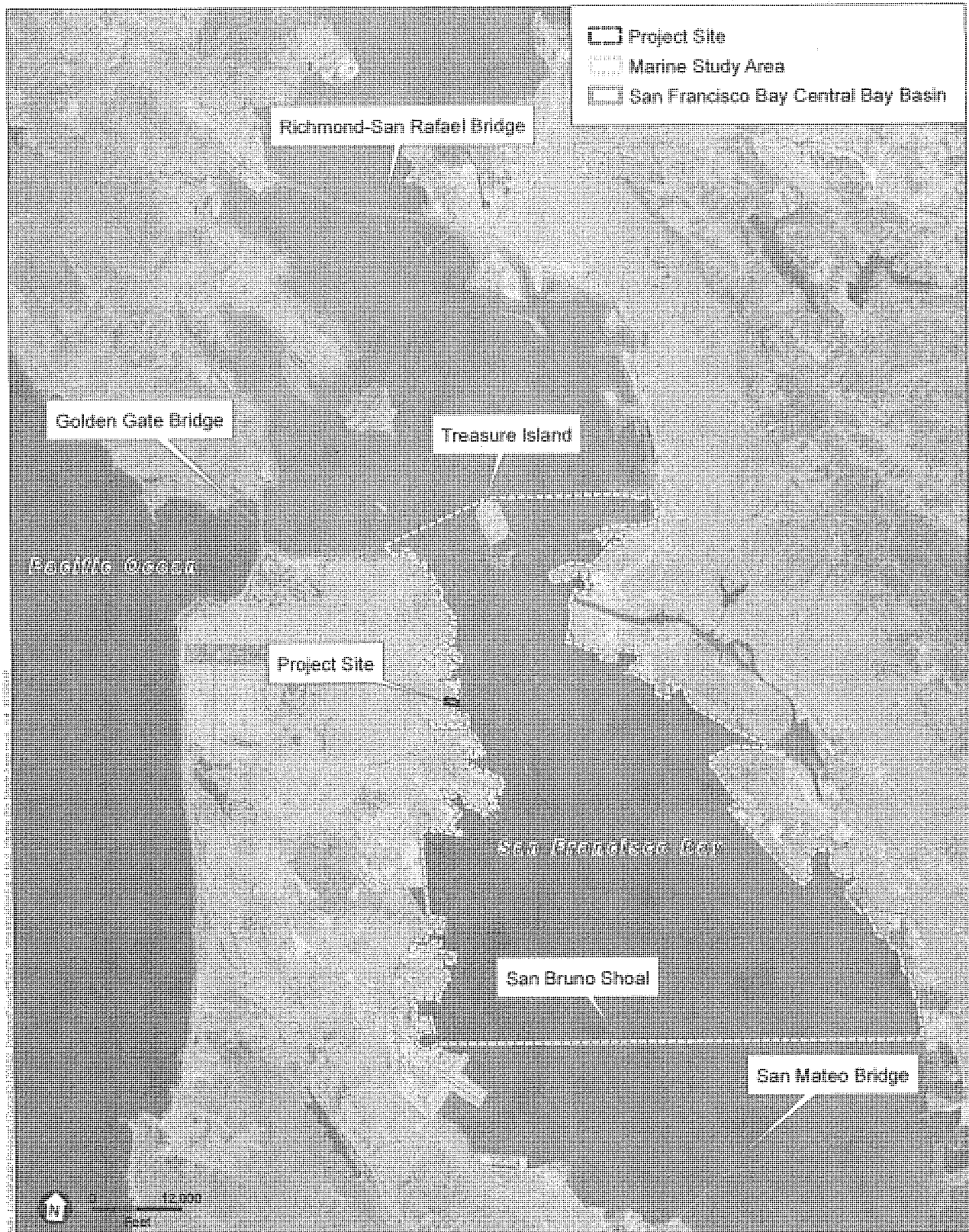
¹³ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.



SOURCE: ESA, 2018

Potrero Power Station Mixed-Use Development Project Draft EIR

Figure 4.I-1
Terrestrial Biological Resources Study Area



SOURCE: ESA, 2018

Potrero Power Station Mixed-Use Development Project Draft EIR

Figure 4.I-2
Marine Biological Resources Study Area

Depending on the use, the Central Bay basin of San Francisco Bay has different geographic boundaries. For the purposes of this CEQA analysis, the geographic boundaries for the Central Bay basin are between the Richmond-San Rafael Bridge and the San Bruno Shoal, located 11.5 miles south of the San Francisco-Oakland Bay Bridge. The Central Bay basin connects to the Pacific Ocean through the Golden Gate. The regional setting for purposes of evaluating marine biological resources includes both the shoreline intertidal habitats and the shallow water habitats, also known as the *baylands*¹⁴ and the deeper waters of San Francisco Bay itself that are located in the southernmost area of the Central Bay basin. The marine biological biota found in the Central Bay basin includes the invertebrate *infauna*¹⁵ and mobile *epifauna*¹⁶ that inhabit San Francisco Bay sediments; *sessile*¹⁷ and encrusting invertebrates and marine vegetation on natural and human-made hard substrates; and planktonic organisms, fish, marine mammals, and marine birds that inhabit or use the open waters of San Francisco Bay. These habitats and their associated biological communities are described below in more detail.

Project Site Setting

As discussed in the Project Description under Section 2.D, Existing Land Uses and Site History, the project site is located within the Central Waterfront neighborhood of San Francisco and has a long history of various heavy industrial and power producing land uses, including the former Potrero Power Station.^{18,19} Owing to its industrial past, the project site is entirely developed with no natural or undeveloped habitat on landward portions of the site, with the exception of a portion of the Port sub-area located at the terminus of 23rd Street, which is overgrown with plants. Land uses to the north, west, and south of the project site are also developed and support industrial, warehouse, and residential uses. San Francisco Bay and its associated marine habitat lies directly east of the project site.

The former power plant ceased operations in 2011 and twenty-four structures remain on the project site associated with this previous use. Hazardous materials in the soils and groundwater associated with historical land uses within the boundaries of the former power plant are currently undergoing remediation with the oversight of the San Francisco Bay Regional Water Quality Control Board (see Section 4.K, Hazards and Hazardous Materials, for further information). Current uses on the project site include warehouses, parking, vehicle storage, and office space.

¹⁴ Goals Project, Baylands Ecosystem Habitat Goals, A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project, U.S. Environmental Protection Agency, San Francisco, California/S.F. Bay Regional Water Quality Control Board, Oakland, California, 1999.

¹⁵ Infauna are organisms living in the sediments of the San Francisco Bay floor.

¹⁶ Epifauna are organisms living on the surface of the San Francisco Bay floor, or attached to submerged objects or aquatic animals or plants.

¹⁷ Sessile means permanently attached or established; not free to move about.

¹⁸ The Central Waterfront neighborhood includes the entire Dogpatch neighborhood and the eastern portion of the Potrero Hill neighborhood.

¹⁹ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

Terrestrial Vegetation Communities and Wildlife Habitats

Natural communities are assemblages of plant and wildlife species that occur together in the same area, which are defined by species composition and relative abundance. The terrestrial biological resources study area identified in this environmental impact report (EIR) contains a developed/landscaped/ruderal community, which was identified during the terrestrial resources reconnaissance survey on December 19, 2017.

Developed/Landscaped/Ruderal Community

The majority of the project site is paved and currently developed with buildings or electrical substation equipment associated with prior or current uses on the project site. The terrestrial biological resources study area surrounding and including the project site is also mostly developed, in keeping with the conditions and previous uses of the project site. The only trees within the project site consist of 20 non-native street trees located along Illinois Street and 22nd Street. Thirteen street trees are located along Illinois Street which include cork oak (*Quercus suber*), cajuput (*Melaleuca quinquenervia*) and ginkgo (*Ginkgo biloba*). The proposed project would remove these trees. Approximately seven Japanese blueberry (*Elaeocarpus decipiens*) trees were recently planted on the north side of 22nd Street and are associated with the adjacent PG&E building retrofit. These street trees would be retained under the project. Other vegetation within the project site is considered ruderal, defined as often temporary assemblages of opportunistic non-native plants that thrive in disturbed areas. These areas are limited to few occurrences of non-native and invasive slender oat (*Avena barbata*) and sweet fennel (*Foeniculum vulgare*) with native fat hen (*Atriplex fatua*) along the upper margins of the eastern shoreline riprap and within a narrow band of disturbed ground in the southeast corner of the project site which would become Potrero Point Park under the proposed project. Native coyote bush (*Baccharis pilularis*) and non-native sweet fennel and pampas grass (*Cortaderia jubata*) are dominant in this area. Native salt grass (*Distichlis spicata*) with few other non-native and/or invasive ruderal species comprise the sparse herbaceous groundcover in this area and include Bermuda buttercup (*Oxalis pes-caprae*), cut leaf plantain (*Plantago coronopus*), and smooth cat's ear (*Hypochaeris glabra*).

Developed and ruderal areas can provide cover, foraging, and nesting habitat, albeit somewhat limited compared to natural habitats, for a variety of birds as well as some reptiles and small mammals, especially those that are tolerant of disturbance and human presence. Birds commonly found in such areas are typically seed-eating or accustomed to scavenging human litter. In the terrestrial biological resources study area, these include non-native species, such as house sparrow (*Passer domesticus*), rock pigeon (*Columba livia*), and European starling (*Sturnus vulgaris*). Native bird species found in such an environment include house finch (*Haemorrhous mexicanus*), American goldfinch (*Spinus tristis*), white-crowned sparrow (*Zonotrichia leucophrys*), Brewer's blackbird (*Euphagus cyanocephalus*), and mourning dove (*Zenaida macroura*). These species are common to highly developed urban areas and each could nest within the ruderal shrub vegetation, in street trees, or within or on the roofs of buildings of the project site. Other wildlife that are expected on the urbanized project site include striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*), and non-natives such as Virginia opossum (*Didelphis virginiana*), Norway rat (*Rattus norvegicus*), black rat (*Rattus rattus*), and feral cat. Vacant buildings on the project site (e.g., Station A) can serve as roosting sites for local bats or as nesting sites for common urbanized birds such as barn owl (*Tyto*

alba), cliff swallow (*Petrochelidon pyrrhonota*), and rock pigeon. Common bats, such as the Mexican free-tailed bat (*Tadarida brasiliensis*), can adapt to living in urban areas near water. Bats will forage over brackish waterbodies, such as San Francisco Bay, especially in the shallows near shore, and may roost in structures that provide adequate thermal regulation.

Marine Communities

Intertidal habitat, subtidal habitat, and open water habitat comprise the marine communities within the marine study area identified during the marine resources reconnaissance survey on December 19, 2017.

Intertidal Habitat

Intertidal habitats, or the regions of the bay that lie between low and high tides, in the Central Bay include sandy beaches, natural and artificial rock (quarried rip rap), concrete bulkheads, concrete, composite and wood pier pilings and mud flats. These intertidal habitats provide highly diverse and varied locations for marine flora and fauna. The Central Bay's proximity to the Pacific Ocean has resulted in an intertidal zone inhabited by many coastal as well as estuarine species.

During the December 19, 2017 survey of the intertidal portions of the project site common algae species including sea lettuce (*Ulva* spp.) and rockweed (*Fucus gardeneri*) were observed along the shoreline. Other algae species not observed during the marine survey, but common to the Central Bay, include the red algae species (*Polysiphonia latissima* and *Gigartina* spp.) and the non-native brown algae species (*Sargassum muticum*).²⁰ Typically, sea lettuce dominates the high intertidal zone; sea lettuce, rockweed, and red algae dominates the middle intertidal zone; and brown algae dominates the low intertidal zone.²¹

Invertebrate taxa observed along the intertidal portions of the shoreline include balanoid barnacles (Balanidae) in the high and middle intertidal zones; limpets, *Mytilus* mussels, and scattered individual native Olympia oysters (*Ostrea lurida*) in the lower middle and low intertidal zones.

Spotted sandpiper (*Actitis macularius*) and black oystercatcher (*Haematopus bachmani*) may forage along the rocky shoreline during low tide within the intertidal zone of the marine study area.²²

Subtidal Habitat

Central San Francisco Bay contains both soft sediment and hard substrate subtidal (below the low tide line) habitat. Soft bottom substrate ranges between soft mud with high silt and clay content and areas of coarser sand. These latter tend to occur in locations subjected to high tidal or current flow. Soft mud locations are typically located in areas of reduced energy that enable deposition of sediments that have been suspended in the water column, such as in protected slips, under wharfs, and behind breakwaters and groins.

²⁰ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

²¹ Ibid.

²² eBird: Warm Water Cove Park Hotspot, <https://ebird.org/hotspot/L1027305>, accessed January 19, 2018.

Hard substrate areas provide habitat for an assemblage of marine algae, invertebrates and fishes, similar to the hard substrate in the intertidal zone of the Central Bay. Submerged hard bottom substrate is typically covered with a mixture of turf organisms that is dominated by hydroids, bryozoans, tunicates, encrusting sponges, encrusting diatoms, and anemones. In the intertidal and near subtidal zones, the barnacles (*Balanus glandula*, *Amphibalanus amphitrite* and *A. improvisus*) are commonly present along with the Bay mussel, *Mytilus trossulus/galloprovincialis*, the invasive Asian mussel (*Musculista senhousia*), and Olympia oyster. Barnacles can also be found subtidally on pier pilings, exposed rock outcropping and debris.²³ At least six species of sponges, seven species of bryozoans, and the hydrozoans (*Ectopleura crocea*) and (*Garveia franciscana*) are found inhabiting both natural and man-made hard substrate.²⁴ Marine isopods and amphipods include the surface deposit feeders, algae grazers, and carnivores.²⁵

In addition, three species of caprellids (i.e., detritivores, carnivores, and deposit feeders) are commonly observed only in the Central Bay.²⁶ Pacific rock crab (*Cancer antennarius*) and the red rock crab (*C. productus*) inhabit rocky, intertidal and subtidal areas in the Pacific Ocean, and likely use San Francisco Bay as an extension of their coastal habitats.²⁷ Adult (age 1+) Pacific rock crabs are most commonly found in Central Bay in both the fall and spring months. Juveniles are most common in the Central Bay from January to May and in South Bay from July to December.²⁸ Pacific rock crabs move seasonally from channels (January to April) to shoals (June to December).²⁹ The Pacific and red rock crabs are frequently the targets of sport anglers from piers and jetties.

The predominant seafloor habitat on the San Francisco waterfront, which includes the project site, is unconsolidated soft sediment composed of combinations of mud/silt/clay, however, in lesser quantities; portions of the substrate also include sand, and pebble/cobble, with varying amounts of intermixed shell fragments.³⁰ Exposure to wave and current action, temperature, salinity, and light penetration determine the composition and distribution of organisms within these soft sediments.³¹ Based on many geologic and marine biological studies conducted within the Bay-Delta, unconsolidated sediments are present throughout the Bay-Delta and are the predominant substrate type.

The muddy-sand benthic community of the Central Bay consists of a diverse polychaete community represented by several subsurface deposit feeding capitellid species, a tube dwelling filter feeding species (*Euchone limnicola*), a carnivorous species (*Exogone lourei*), and the maldanid

²³ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Hieb, K., Cancer Crabs. In: James J. Orsi, Report on the 1980-1995 Fish, Shrimp, and Crab Sampling in the San Francisco Estuary, California, 1999, http://www.estuaryarchive.org/archive/orsi_1999.

²⁸ Ibid.

²⁹ Ibid.

³⁰ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

³¹ Ibid.

polychaete *Sabaco elongatus*. There are also several surface deposit feeding *Ameana* spp. persisting throughout the year.³²

The harbor and main channel areas of the Central Bay are characterized as a mix of the benthic communities from surrounding areas (deep and shallow-water and slough marine communities) and include the obligate amphipod filter-feeder *Ampelisca abdita* and the tube dwelling polychaete *Euchone limicola*. As a result of increased water flow and sedimentation in the harbor areas of the Central Bay, the majority of the species reported inhabiting seafloor sediments in this region of the bay are deposit and filter feeders, including the amphipods *Grandidierella japonica*, *Monocorophium acherusicum*, and *Monocorophium alienense*, and the polychaetes *Streblospio benedicti* and *Pseudopolydora diopatra*. There is also a relatively high number of subsurface deposit feeding polychaetes and oligochaetes in these areas including *Tubificidae* spp., *Mediomastus* spp., *Heteromastus filiformis*, and *Sabaco elongatus*. There is also sufficient community complexity and abundance to support relatively high abundances of three carnivorous polychaete species: *Exogone lourei*, *Harmothoe imbricata*, and *Glycinde armigera*.

The most common large mobile benthic invertebrate organisms in the Central Bay include blackspotted shrimp (*Crangon nigromaculata*), the bay shrimp (*Crangon franciscorum*), Dungeness crab (*Metacarcinus magister*), and the slender rock crab (*Cancer gracilis*). Although other species of shrimp are present in the Central Bay, their numbers are substantially lower when compared to the number of bay and blackspotted shrimp present.³³ All of these mobile invertebrates are present throughout the Central Bay and provide an important food source for carnivorous fishes, marine mammals, and birds in San Francisco Bay's food web. Dungeness crabs use most of the bay as an area for juvenile growth and development prior to returning to the ocean as sexually mature adults.³⁴

Because of the strong ocean influence in the Central Bay, additional species of red and brown algae are found attached to submerged intertidal hard substrate, including pier pilings. These include *Cladophora sericea*, *Codium fragile*, *Fucus gardneri*, *Laminaria sinclairii*, *Egregia*, *Halymenia schizymenioides menziesii*, *Sargassum muticum*, *Polyneura latissima*, *Cryptopleura violacea*, and *Gelidium coulteri*.³⁵ In addition, the species *Codium fragile* subspecies *tomentosoides*, *Bryopsis hypnoides*, *Chondracanthus exaspartatus*, and *Ahnfeltiopsis leptophyllus* can be found inhabiting either hard or soft substrate.³⁶ Based on regional surveys performed in the San Francisco Bay from 2003 to 2014, no eelgrass (*Zostera marina*) beds are documented or known to occur within the project's marine

³² National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

³³ Ibid.

³⁴ Tasto, R. N., "San Francisco Bay: Critical to the Dungeness Crab?" In: T. J. Conomos, editor, San Francisco Bay: The Urbanized Estuary, 1979, Pacific Div Am Ass Adv Sci, San Francisco, California: 479-490.

³⁵ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

³⁶ Ibid.

study area.³⁷ All submerged aquatic vegetation in the Central Bay is considered critical essential fish spawning habitat for Pacific herring.³⁸

Open Water (Pelagic) Habitat

Because of its close proximity to the Pacific Ocean, the open water (pelagic zone) environment of the Central Bay is very similar to the open water coastal environment. Pelagic habitat is the predominant marine habitat in Central San Francisco Bay and includes the area between the water surface and the seafloor. The water column can be further subdivided into shallow-water/shoal and deepwater/channel areas.³⁹ The pelagic water column habitat is predominantly inhabited by planktonic organisms that either float or swim in the water, fish, marine birds, and marine mammals.

Marine Birds

Typical marine birds regularly inhabiting or using the open waters of the study area include double-crested and Brandt's cormorants (*Phalacrocorax auritus* and *P. penicillatus*), pigeon guillemot (*Cephus columba*), herring gull (*Larus argentatus*), mew gull (*L. canus*), Western gull (*L. occidentalis*), California gull (*L. californicus*), ring-billed gull (*L. delawarensis*), eared grebe (*Podiceps nigricollis*), western and Clark's grebe (*Aechmophorus occidentalis* and *A. clarkii*), common loon (*Gavia immer*), Caspian tern (*Hydroprogne caspia*), least tern (*Sternula antillarum*), and California brown pelican (*Pelecanus occidentalis californicus*). Among the diving benthivores guild, canvasback (*Aythya valisineria*), greater scaup (*A. marila*), lesser scaup (*A. affinis*), and surf scoter (*Melanitta perspicillata*) are common.

Marine Mammals

Few species of marine mammals are found within the San Francisco Bay; only Pacific harbor seals (*Phoca vitulina richardsi*), California sea lions (*Zalophus californianus*), and harbor porpoises (*Phocoena phocoena*) are sighted year-round and have potential to occur in the project study area. Most cetacean sightings tend to occur in the Central Bay (the area bound by the Golden Gate Bridge, the San Francisco – Oakland Bay Bridge, and Richmond Bridge), outside of the project study area.

In general, the presence of marine mammals in the San Francisco Bay is related to distribution and presence of prey species and foraging habitat. Additionally, harbor seals and sea lions use various intertidal substrates that are exposed at low to medium tide levels for resting and breeding.⁴⁰ California sea lions are noted for using anthropogenic structures such as floating docks, piers, and buoys to haul out of the water to rest. Marine mammal haul out locations do not occur in the project study area. As such, the presence of marine mammals within the project study area is likely to be confined to a few individuals possibly rafting or foraging off-shore, and not the large numbers or breeding colonies seen elsewhere within the San Francisco Bay.

³⁷ Merkel & Associates, San Francisco Bay Eelgrass Inventory; October-November 2014, prepared for the California Department of Transportation and NOAA National Marine Fisheries Service, November 2014.

³⁸ The Magnuson-Stevens Act defines "essential fish habitat" as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

³⁹ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, June 2007.

⁴⁰ Ibid.

Sensitive Natural Communities

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, state, or federal agencies. The California Department of Fish and Wildlife Natural Diversity Database reports no sensitive natural community occurrences within the San Francisco North and South U.S. Geological Survey 7.5-minute topographic quadrangles including and surrounding the terrestrial study area.⁴¹ In addition, no sensitive natural communities were identified on the project site during the biological field reconnaissance survey.

Wetlands and Other Jurisdictional Waters

San Francisco Bay

No wetlands occur in either the marine or terrestrial project study areas; however, the project site is adjacent to the San Francisco Bay, which the U.S. Army Corps of Engineers classifies as navigable "waters of the U.S." Navigable waters of the U.S. refer to non-wetland aquatic features (other waters) which are regulated by the Federal Clean Water Act. *Waters of the State* of California are defined as "any surface water or groundwater, including saline waters, within the boundaries of the State" (California Water Code section 13050[e]) and include all federally jurisdictional waters.

As navigable waters of the U.S., the San Francisco Bay is regulated by the U.S. Army Corps of Engineers under section 10 of the Rivers and Harbors Act up to mean high water mark, and under section 404 of the Clean Water Act up to the high tide line. These waters are also regulated by the Regional Water Quality Control Board as Waters of the State. In addition, the San Francisco Bay Conservation and Development Commission regulates the fill, extraction of materials, and substantial changes in use of land, water, and structures within the bay and within 100 feet of the bay shoreline (100 feet inland of the mean high water mark), which includes some of the terrestrial or landside portions of the project site. See "Regulatory Framework," beginning on p. 4.I-24, for additional discussion of federal and state waters, and jurisdiction over San Francisco Bay and near-shore areas.

Wildlife Movement Corridors

The project site is not part of an established terrestrial wildlife movement corridor because it does not provide a connection between different habitat areas; rather, project site conditions are consistent with surrounding industrial use areas within the terrestrial study area that provide the same or similar habitat opportunity for local wildlife. Migrating birds that forage in intertidal and marine environments may use the San Francisco Bay during migration; however, because the terrestrial study area and reinforced shoreline are developed or highly disturbed, they do not offer high-quality habitat for migrating birds.

⁴¹ CDFW, California Natural Diversity Database (CNDDB) Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, accessed August 13, 2018.

Special-Status and Otherwise Protected Species

A number of species known to occur in either the marine or terrestrial study areas are protected pursuant to federal and/or state endangered species laws, have been designated as species of special concern by federal and/or state agencies, or are afforded certain protection through regulatory means such as by California Fish and Game Code. Species recognized under these terms are collectively referred to as *special-status species*. For the purpose of this EIR, special-status species include the following:

1. Species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 Code of Federal Regulations 17.12 [listed plants], 17.11 [listed animals], and various notices in the Federal Register [proposed species]).
2. Species that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (61 Code of Federal Regulations 40, February 28, 1996).
3. Species of *special concern*, as designated by U.S. Fish and Wildlife Service or National Marine Fisheries Service.
4. Species listed or proposed for listing by the state as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations 670.5).
5. Species described by the California Department of Fish and Wildlife as species of special concern.⁴²
6. Species designated as fully protected by the state (there are about 37, most of which are also listed as either endangered or threatened).
7. Raptors (birds of prey), which are specifically protected by California Fish and Game Code section 3503.5, thus prohibiting the take, possession, or killing of raptors and owls, their nests, and their eggs.⁴³
8. Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, section 1900 et seq.).
9. Species that meet the definitions of rare and endangered under CEQA. CEQA section 15380 provides that a plant or animal species may be treated as “rare or endangered” even if not on one of the official lists (CEQA Guidelines, section 15380).
10. Plants considered to be “rare, threatened or endangered in California” under the California Rare Plant Ranking system, which includes Rank 1A, 1B, 2A, and 2B plant species.⁴⁴

⁴² A California species of special concern is one that has been extirpated from the state; meets the state definition of threatened or endangered but has not been formally listed; is undergoing or has experienced serious population declines or range restrictions that put it at risk of becoming threatened or endangered; and/or has naturally small populations susceptible to high risk from any factor that could lead to declines that would qualify it for threatened or endangered status.

⁴³ The inclusion of birds protected by Fish and Game Code section 3503.5 is in recognition of the fact that these birds are substantially less common in California than most other birds, having lost much of their habitat to development, and that the populations of these species are therefore substantially more vulnerable to further loss of habitat and to interference with nesting and breeding than most other birds. It is noted that a number of raptors and owls are already specifically listed as threatened or endangered by state and federal wildlife authorities.

⁴⁴ California Rare Plant Ranking system rankings are defined in detail in Regulatory Framework.

Lists of special-status plant and animal species assessed for their potential to occur within the study area for terrestrial biological resources were compiled based on data contained in the California Department of Fish and Wildlife Natural Diversity Database⁴⁵ and the California Native Plant Society Inventory of Rare and Endangered Plants⁴⁶ for the San Francisco North and South USGS 7.5-minute topographical quadrangles, U.S. Fish and Wildlife Service Official Species List and CalPaC Trust Report,⁴⁷ and the list of locally significant plants for San Francisco County.⁴⁸ Marine special-status species were compiled from the fish and wildlife service, marine fisheries service, and the department of fish and wildlife listings, Federal Register notifications, and assorted published and non-published literature relevant to the marine study area of the Central Bay basin. Several additional species were identified based on the findings of technical reports and environmental literature. Lists for terrestrial and marine species that may occur in the project study areas are addressed separately. Three tables in Appendix G (Table BIO-1: Special-Status or Otherwise Protected Plant Species that May Occur in the Study Area, Table BIO-2: Special-Status or Otherwise Protected Terrestrial Animal Species that May Occur in the Study Area, and Table BIO-3: Special-Status Fish and Marine Mammals that May Occur within the Bay Waters of the Study Area) present the special-status species considered in the analysis, including each species' legal or protective status, habitat requirements, and blooming period (for plants), and the potential for occurrence within either the terrestrial or marine project study areas. Figure BIO-1 in Appendix G identifies the locations of regional special-status species occurrences as reported in the natural diversity database within 5 miles of the project site.

The tables in Appendix G indicate the likelihood of occurrence of each identified species based on a review of the biological literature of the region, information presented in previous environmental documentation, and an evaluation of the habitat conditions within the study area. A species was designated to have "no potential" to occur if (1) its specific habitat requirements (e.g., serpentine grasslands, as opposed to grasslands occurring on other soils) are not present; or (2) it is presumed to be extirpated from the area or region based on the best scientific information available. A species was designated as having a "low" potential for occurrence if (1) its known current distribution or range is outside of the study area; or (2) only limited or marginally suitable habitat is present within the study area. A species was designated as having a "moderate" potential for occurrence if (1) there is low to moderate quality habitat present within the study area or immediately adjacent areas; and (2) the study area is within the known range of the species, even though the species was not observed during biological surveys. A species was designated as having a "high" potential for occurrence if (1) moderate to high quality habitat is present within the study area; and (2) the study

⁴⁵ CDFW, CNDDDB Rarefind version 5 query of the San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, Commercial Version, accessed August 13, 2018.

⁴⁶ California Native Plant Society (CNPS), Inventory of Rare and Endangered Plants for San Francisco North and San Francisco South USGS 7.5-minute topographic quadrangles, <http://www.rareplants.cnps.org/result.html?adv=&quad=3712264:3712274>, accessed August 13, 2018.

⁴⁷ U.S. Fish and Wildlife Service (USFWS), My Project, IPaC Trust Resource Report and Official Species List of Federally Endangered and Threatened Species that may occur in the Potrero Power Station Mixed-Use Development Project location, and/or may be affected by the proposed project, August 13, 2018.

⁴⁸ Wood Biological, Locally Significant Plant Species of San Francisco County, prepared by Mike Wood, July 4, 2015, http://cnps-yerbabuena.org/wp-content/uploads/SF-locally-significant-plants_2015-07-04_sorted-alphabetically.pdf, accessed February 20, 2018.

area is within the known range of the species. A species was designated as “present” if it was observed within the project site during reconnaissance or focused surveys.

Special-Status and Otherwise Protected Plants

The special-status or otherwise protected plant species identified in Appendix G, Table BIO-1 are considered to have either no potential to occur in the terrestrial study area or a low potential to occur in the terrestrial study area due to the heavily disturbed or developed nature of the project site and corresponding absence of suitable habitat for rare species. Due to existing development, no potential habitat that could support special-status plant species was observed during the December 19, 2017, terrestrial biological resources reconnaissance survey of the project site. No special-status plants are expected within the terrestrial study area and they are, therefore, not considered further in this analysis.

Special-Status and Otherwise Protected Terrestrial Animals

Many of the special-status terrestrial animals identified in Appendix G, Table BIO-2 have no potential to occur in the terrestrial study area or a low potential to occur in the terrestrial study area due to the absence of suitable habitat that is required by the animal species or necessary for their survival. Double-crested cormorant, a California species of special concern, was observed in the San Francisco Bay during the biological resources reconnaissance survey conducted December 19, 2017, and other special-status bird and bat species have the potential to occur in the terrestrial study area. While several special-status bird species may occur in the terrestrial and marine project study areas, particularly in a foraging capacity, nesting habitat for these species is mostly absent from the developed project site due to a lack of necessary ecological components. For example, Clark’s grebe will overwinter in the San Francisco Bay but leave to breed and nest at inland freshwater lakes and marshes with dense border vegetation. Vegetation of the project site that could support nesting birds includes trees along Illinois and 22nd streets, ruderal grasses along the shoreline riprap, and coyote bush, sweet fennel, and pampas grass located in the southeast corner of the project site, which would become Potrero Point Park. This vegetation provides some nesting substrate for birds but is generally meager and relatively isolated among the otherwise developed terrestrial study area. This built environment, however, can be attractive to some nesting birds that form scrape nests on rooftops, build mud nests in building eaves, or stick nests on building supports. Only those special-status species known to occur within the study area or considered to have at least a moderate potential to occur in the study area were considered in the impact analysis; these species are described below.

Specific individuals in the following groups of terrestrial special-status animals have at least a moderate potential to occur in the terrestrial study area:

- Special-Status Birds
- Other Resident and Migratory Birds
- Special-Status Bats

Special-Status Birds

Special-status birds that have at least a moderate potential to occur onsite are discussed below.

American Peregrine Falcon

The American peregrine falcon (*Falco peregrines anatum*) is a California fully protected species that is regularly observed in the study area, though more frequently observed south of Pier 80.⁴⁹ The American peregrine falcon nests on cliff ledges in natural environments, but it has adapted to nesting on shelves of tall buildings or structures in urban environments.⁵⁰ The Santa Cruz Predatory Research Group has been closely following a successful breeding pair of peregrines that have nested at the Pacific Gas and Electric Company (PG&E) building on Beale Street from 2005 to 2014. This raptor commonly hunts other birds in flight from perches or from high in the air. Although peregrines typically prefer to nest in taller buildings than those on the project site, it is possible that they could nest in one of the existing multi-story buildings on the project site such as Station A or the Unit 3 Power Block in the present condition. American peregrine falcon nesting has not been documented on the project site or within the study area, though they may use the study area to forage, as rock pigeons appear to roost within buildings of Station A year-round and provide a food source for this species.

California Gull

The California gull is on the California Department of Fish and Wildlife Watch List and nesting colonies in California are still considered to be of conservation concern even though the species has established large breeding colonies in the San Francisco Bay Area.⁵¹ The California gull is a medium-sized gull with a yellow bill with a black ring, and yellow legs. The species breeds primarily at lakes and marshes in interior western North America from Canada south to eastern California and Colorado.⁵² Birds that breed inland are migratory, most moving to the Pacific coast in the winter. More recently, the species has been breeding in large numbers at the salt ponds of southern San Francisco Bay. They nest in colonies, sometimes with other bird species. The nest is a shallow depression on the ground lined with vegetation and feathers. The female usually lays two or three eggs, and both parents feed the young birds. California gulls forage in flight or pick up objects while swimming, walking, or wading and primarily eat insects, fish, and eggs. They also scavenge at garbage dumps and docks. While California gulls forage in the San Francisco Bay, they are unlikely to nest in the study area or on the project site in its present condition due to the absence of suitable nesting habitat on the project site, and the lack of historical nesting in the study area.

⁴⁹ eBird, Peregrine falcon Range Map, San Francisco hotspots, <https://ebird.org/map/perfal?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2018>, accessed February 20, 2018.

⁵⁰ Sibley, David A., *The Sibley Guide to Bird Life and Behavior*, National Audubon Society, Alfred A. Knopf, New York, 2001, p. 106.

⁵¹ Ackerman, J.T., J.Y. Takekawa, C. Strong, N. Athearn, and A. Rex, *California Gull Distribution, Abundance, and Predation on Waterbird Eggs and Chicks in South San Francisco Bay*, Final Report, U.S. Geological Survey, Western Ecological Research Center, Davis and Vallejo, California, 2006, p. 61.

⁵² Sibley, David A., *The Sibley Guide to Birds*. National Audubon Society, Alfred A. Knopf, New York, 2003, p. 215.

Osprey

The osprey (*Pandion haliaetus*) is a former California species of special concern, and nesting osprey are on the California Department of Fish and Wildlife Watch List. Osprey are also protected under section 3503.5 of the California Fish and Game Code. These large fish-eating raptors can be found around nearly any water body, including salt marshes, rivers, ponds, reservoirs, estuaries, and oceans. Historically, ospreys nested throughout much of California, but by the 1960s much of the osprey population declined in the central and southern California areas. This decline was attributed to harassment, habitat alteration, and DDT⁵³ use. The osprey prefers to nest within sight of permanent water and readily builds its nest on human-made structures, such as telephone poles, channel markers, duck blinds, and elevated nest platforms designed especially for it. A nesting pair bred successfully on top of a crane located at Pier 80 in 2012, south of the project site.⁵⁴ Marginal nesting structures for osprey occur within the project site (e.g., the Unit 3 Power Block) and surrounding study area, and foraging habitat is present within the San Francisco Bay; however, nesting has not been documented onsite.

California Brown Pelican

A State Fully Protected Species, brown pelicans occur in estuarine, marine subtidal, and marine pelagic waters throughout coastal California.⁵⁵ Important habitat for pelicans during the nonbreeding season includes roosting and resting areas, such as offshore rocks, islands, sandbars, breakwaters, and pilings. Suitable areas need to be free of disturbances, including regular human activity. This species rests temporarily on the water or isolated rocks, but roosting requires a dry location near food and a buffer from predators and humans. The California brown pelican is a common post-breeding resident (May through November) of the open waters of central San Francisco Bay. Nesting habitat does not occur on the project site; San Francisco Bay is located outside of the species' breeding range, which is limited to the Channel Islands south to central Mexico. Brown pelican presence within or near the project site would be limited to loafing on dilapidated piers or bulkheads and foraging in the bay and adjacent environs.

Double-Crested Cormorant

The double-crested cormorant is a Species of Special Concern in California. A year-round resident along the entire coast of California, the species is common along the coast and in estuaries and salt ponds. They forage mainly on fish, crustaceans, and amphibians. These birds sometimes feed cooperatively in flocks of up to 600, often with pelicans, and nest in colonies of a few to hundreds of pairs.⁵⁶ There are breeding colonies on Alcatraz, the Richmond-San Rafael Bridge, electrical

⁵³ DDT, or dichloro-diphenyl-trichloroethane was developed as the first of the modern synthetic insecticides in the 1940s. It was initially used with great effect to combat malaria, typhus, and the other insect-borne human diseases among both military and civilian populations. It also was effective for insect control in crop and livestock production, institutions, homes, and gardens.

⁵⁴ Golden Gate Audubon Society, Osprey Chick Hatches on Top of Maritime Crane in San Francisco's First Documented Osprey Birth, press release, July 1, 2012.

⁵⁵ Zeiner D.C., W.F. Laudenslayer, Jr., K.E. Mayer, M. White, California's Wildlife Volume II, Birds, California Department of Fish and Game, California brown pelican, 1990.

⁵⁶ Ibid.

towers of the South Bay, and the eastern span of the Bay Bridge.^{57,58} This species forages in the San Francisco Bay and is regularly observed offshore of the project site. Although unlikely, the species has the potential to nest on the dilapidated piers within the project study area.

Caspian Tern

Caspian tern is considered a Bird of Conservation Concern by the U.S. Fish and Wildlife Service, and its nesting areas are protected. This species is common along the California coast and at scattered locations inland. It nests in colonies from April through early August on sandy estuarine shores, on levees in salt ponds, and on islands in alkali and freshwater lakes. Breeding adults often fly substantial distances to forage in *lacustrine*,⁵⁹ riverine, and fresh and saline emergent wetland habitats. They have successfully nested at Piers 60 and 64, north of the project site; however, nesting has not been documented or observed on the project site.⁶⁰

Black Oystercatcher

Black oystercatcher is considered a Bird of Conservation Concern by the U.S. Fish and Wildlife Service. This species inhabits rocky shores and islands along the Pacific coast from the Aleutian Islands to Baja California. Black oystercatchers feed on marine invertebrates, especially mussels, worms, echinoderms, crustaceans, barnacles, and limpets, and sometimes fish.⁶¹ Pairs develop long-term bonds and feeding territories are defended year-round. Nests are typically located above the high tide line and consist of a slight depression lined with rock or shell bits.⁶² This species has been documented in the project study area south of the project site in Warm Water Cove.⁶³ Individuals may forage among the riprap along the eastern shoreline of the project site though are unlikely to nest in the project study area. Nesting has not previously been documented on eastern shoreline of San Francisco.

Clark's grebe

Clark's grebe is considered a Bird of Conservation Concern by the U.S. Fish and Wildlife Service. This species winters in coastal saltwater and brackish water estuaries and is commonly observed communing in large rafts within San Francisco Bay. Clark's grebes forage marine insects, invertebrates, fish and amphibians.⁶⁴ They engage in extensive courtship displays prior to breeding which occurs in freshwater lakes and ponds with ample perimeter marsh vegetation. Nests are

⁵⁷ Cabanatuan, M., Bay Bridge bird colony settles in on new span, San Francisco Chronicle, May 20, 2017, <https://www.sfchronicle.com/bayarea/article/Bay-Bridge-bird-colony-settles-in-on-new-span-11160676.php>, accessed May 17, 2018.

⁵⁸ Davis, C., The Double-crested Cormorant: Bad Rap for this Local Come-back Kid, San Francisco Bay National Wildlife Refuge Complex, Tideline Vol. 30, No.4, Winter 2009, https://www.fws.gov/uploadedFiles/Region_8//2/San_Francisco_Bay_Complex/tideline%20winter%202009.pdf, accessed May 17, 2009.

⁵⁹ Habitat surrounding inland depressions or dammed riverine channels containing standing water (i.e. a lake).

⁶⁰ Golden Gate Audubon Society and San Francisco Bay Bird Observatory, Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties, prepared by Noreen Weeden and Michael Lynes, September 23, 2009.

⁶¹ Ehrlich, P.R., D.S. Dobkin, and O. Wheye, The Birder's Handbook: A Field Guide to the Natural History of North American Birds, Simon and Schuster, New York, NY, 1988, p. 106.

⁶² Ibid.

⁶³ eBird: Warm Water Cove Park Hotspot, <https://ebird.org/hotspot/L1027305>, accessed January 19, 2018.

⁶⁴ Ehrlich, P.R., D.S. Dobkin, and O. Wheye, The Birder's Handbook: A Field Guide to the Natural History of North American Birds, Simon and Schuster, New York, NY, 1988, p. 8.

built on anchored, vegetative rafts in shallow water. Overwintering Clark's grebe are known to forage offshore from the project site.

Other Resident and Migratory Birds

Although many native birds are not considered to be special-status species, their nests are protected by the Migratory Bird Treaty Act and the California Fish and Game Code. Many resident and migratory birds could nest in existing street trees and ruderal vegetation in the portion of the Port Sub-area at the end of 23rd Street (the area of the future Potrero Point Park) or in existing buildings within the study area. Cliff swallow, barn swallow (*Hirundo rustica*), and black phoebe (*Sayornis nigricans*) could build mud nests on the outside of existing buildings and barn owls may nest inside of existing buildings at the project site. Western gull (*Larus occidentalis*) could nest on building roofs or dilapidated piers within the study area and nesting has been previously documented at Pier 60 and 64, north of the project site.⁶⁵ Other passerine species, such as house finch, Allen's hummingbird (*Selasphorus sasin*), and Anna's hummingbird, could build nests in fennel shrubs or other woody vegetation within the park, while killdeer (*Charadrius vociferous*) and mourning dove build nests on the ground. Great blue heron (*Ardea Herodias*), black oyster catcher, and spotted sandpiper could also forage within the exposed intertidal shoreline along the eastern boundary of the site; however, nesting habitat for these species does not occur in the project study area.

Special-Status Bats

Two special-status bat species have a moderate potential to roost within the project study area: Pallid bat (*Antrozous pallidus*), considered a California Species of Special Concern by the California Department of Fish and Wildlife, and Yuma myotis (*Myotis yumanensis*), considered a California special animal by the department. Suitable roosting habitat for these bats within the project site primarily includes open spaces, cracks, and crevices within existing buildings, though these species are also known to roost in tree foliage, beneath the exfoliating bark of trees, and in tree cavities. Of the existing buildings and structures on the project site, Station A (buildings 15, 16, and 17; see Chapter 2, Project Description, Figure 2-3) is especially suitable for bat roosts due to the lack of a roof, numerous other entry points into the large and vacant building, and multiple stories and interior rooms with abandoned electrical control equipment and storage areas which provide surfaces and sheltered substrate to establish roosts. The Unit 3 Power Block (buildings 22, 23, 24, and 25 on Figure 2-3) also provides roost habitat, particularly within the Boiler Stack (the Stack).

Bat surveys conducted in 2009 of San Francisco's parks and natural areas found that the three most commonly encountered species in the area are Mexican free-tailed bat (*Tadarida brasiliensis*), Yuma myotis, and western red bat (*Lasiurus blossevillei*).⁶⁶ Mexican free-tailed bats, which have no special status, were widespread and abundant throughout the sampled natural areas and the only species documented near the project site were at Buena Vista Park (approximately 2 miles southwest) and

⁶⁵ Golden Gate Audubon Society and San Francisco Bay Bird Observatory, Summary Report of Avian Surveys Conducted in 2008 at Dilapidated Piers and Other Structures along the Port of San Francisco's Southern Waterfront Properties, prepared by Noreen Weeden and Michael Lynes, September 23, 2009.

⁶⁶ Krauel, J.K., Foraging Ecology of Bats in San Francisco, M.S. Thesis, San Francisco State University, San Francisco, California, August 2009.

at Bayview Park (approximately 3 miles south).⁶⁷ Yuma myotis and western red bat were much less abundant and generally were restricted to parks with lakes. Suitable roosting habitat for Pallid bat and Yuma myotis, and the common Mexican free-tailed bat is present in unoccupied buildings within the project study area.

Special-Status Fish and Marine Mammals

Specific individuals in the following groups of marine special-status animals have at least a moderate potential to occur in the marine study area:

- Special-Status Fish
- Special-Status Marine Mammals
- Managed U.S. Fisheries Species
- Other Special-Status Marine Species

Special-Status Fish

Chinook salmon

The Chinook salmon (*Oncorhynchus tshawytscha*) that inhabit the San Francisco Bay are comprised of three distinct races: winter-run, spring-run, and fall/late fall-run.⁶⁸ These races are distinguished by the seasonal differences in adult upstream migration, spawning, and juvenile downstream migration. Chinook salmon are anadromous fish, spending three to five years at sea before returning to fresh water to spawn. These fish pass through San Francisco Bay waters to reach their upstream spawning grounds. In addition, juvenile salmon migrate through the bay en route to the Pacific Ocean.

Sacramento River winter-run Chinook salmon, listed as endangered under the federal and state endangered species acts, migrate through the San Francisco Bay from December through July with a peak in March.⁶⁹ Central Valley spring-run Chinook, listed as threatened under the federal and state endangered species acts, migrate to the Sacramento River from March to September with a peak spawning period between late August and October.⁷⁰ The Central Valley fall/late fall-run Chinook salmon is a California species of special concern.

While all three chinook salmon races are found in the San Francisco Bay, the Central Valley fall/late fall-run are the only race that spawns in San Francisco Bay tributary streams. However, most stream habitat in the San Francisco Bay lacks the necessary flow regime, habitat availability, and/or water quality to support spawning salmonids. Additionally, individuals are rarely documented within the project study area or the immediate vicinity; and any occurrence would only be temporary as the surrounding bay habitat is primarily used as a migration corridor between the Pacific Ocean and spawning habitat in the Central Valley.⁷¹

⁶⁷ Krauel, J.K., Foraging Ecology of Bats in San Francisco, M.S. Thesis, San Francisco State University, San Francisco, California, August 2009.

⁶⁸ These races are referred to as Evolutionarily Significant Units.

⁶⁹ Moyle, P.B., Inland Fishes of California, University of California Press, Berkeley and Los Angeles, CA, 2002.

⁷⁰ Ibid.

⁷¹ Interagency Ecological Program for the San Francisco Bay Estuary (IEP); San Francisco Bay Study, 2010-2014, Unpublished Raw Mid-water and Otter Trawl Data, 2014.

Steelhead

Similar to Chinook salmon, steelhead (*O. mykiss*) within California are subdivided into Distinct Population Segments based on their life history. Within the Central San Francisco Bay, both the federally threatened Central California Coast and federally threatened California Central Valley steelhead may use the channel habitat adjacent to the project study area as a migratory corridor from the Pacific Ocean to spawning habitat.

While Central California Coast steelhead are known to occur within multiple Central San Francisco Bay streams, none are in proximity to the project study area. The nearest watershed that supports Central California Coast steelhead is the San Mateo Creek watershed which empties into San Francisco Bay approximately 10 miles south of the project study area.⁷² As such, any occurrence of Central California Coast steelhead within the project study area would be temporary, and only occur as steelhead move through the open water habitat adjacent to the project site during migration between the Pacific Ocean and freshwater spawning grounds.

Green sturgeon

The federally threatened, southern Distinct Population Segments of North American green sturgeon (*Acipenser medirostris*) are the most widely distributed member of the sturgeon family and the most marine-oriented of the sturgeon species, entering rivers only to spawn. Within bays and estuaries, sufficient water flow is required to allow adults to successfully orient to the incoming flow and migrate upstream to spawning grounds. Green sturgeon migrating between the Pacific Ocean and spawning habitat in the Sacramento River watershed rarely travel south of the San Francisco Bay Bridge. Typically, adults take a more direct route from San Pablo Bay, passing through Raccoon Strait adjacent to Angel Island, and out the Golden Gate Bridge.⁷³ So while sturgeon do have the potential to temporarily occur year-round within the project area, their preferred migration routes suggest a low-likelihood for presence. However, green sturgeon have the potential to be present throughout all marine portions of the project area at any time of the year.

Longfin smelt

The longfin smelt (*Spirinchus thaleichthys*) is a small, slender-bodied pelagic fish listed as threatened under the California Endangered Species Act and are a candidate for listing under the Federal Endangered Species Act. Longfin smelt are most likely to occur within the Central San Francisco Bay during the late summer months before migrating upstream in fall and winter. During winter months, when fish are moving upstream to spawn, high outflows may push many fish back into the San Francisco Bay.⁷⁴

⁷² Leidy, R.A., G.S. Becker, B.N. Harvey, Historical distribution and current status of steelhead/rainbow trout (*Oncorhynchus mykiss*) in streams of the San Francisco Estuary, California, Center for Ecosystem Management and Restoration, Oakland, CA, 2005.

⁷³ Kelly, J.T., A.P. Klimley, and C.E. Crocker, Movements of green sturgeon, *Acipenser medirostris*, in the San Francisco Bay Estuary, *Environmental Biology of Fishes*, 2007, 79:281-295.

⁷⁴ Moyle, P.B., *Inland Fishes of California*, University of California Press, Berkeley and Los Angeles, CA, 2002.

Pacific herring

Pacific herring (*Clupea pallasii*) are a California Department of Fish and Wildlife managed species and are protected within the San Francisco Bay under the Marine Life Management Act which provides guidance, in the form of Fisheries Management Plans, for the sustainable management of California's historic fisheries. The department, in partnership with the fishing industry and conservation groups, is currently updating the Pacific Herring Fisheries Management Plan, which will formalize a strategy for the future management of the fishery.

The Pacific herring is a small schooling marine fish that enters estuaries and bays to spawn. This species is known to spawn along the Oakland and San Francisco waterfronts and attach its egg masses to eelgrass, seaweed, and hard substrates such as pilings, breakwater rubble, and other hard surfaces. An individual can spawn only once during the season, and the spent female returns to the ocean immediately after spawning. Spawning usually takes place between October and March with a peak between December and February. After hatching, juvenile herring typically congregate in the San Francisco Bay during the summer and move into deeper waters in the fall. The waterfront adjacent to the project study area has been identified as a herring spawning location. However, no suitable spawning habitat is present within the footprint of the proposed in-water construction. The department has historically reported herring spawning within the vicinity of the project study area. During the 2015-2016 season, spawning was observed at multiple locations between the San Francisco Bay Bridge and Islais Creek.⁷⁵ However, no spawning in these locations was observed during the 2016-2017 spawning season.⁷⁶ In-water construction activities (i.e., dredging and pile installation) would be restricted to the National Oceanic and Atmospheric Administration approved seasonal work window (June 1 to November 30), which encompasses the California Department of Fish and Wildlife seasonal work window for Pacific herring.

Special-Status Marine Mammals

Pacific harbor seal

Pacific harbor seal (*Phoca vitulina richardsi*) is a permanent resident in the San Francisco Bay and is routinely seen in waters near the project site. Harbor seals are protected under the Marine Mammal Protection Act. They have been observed as far upstream in the Delta and Sacramento River as the City of Sacramento, though their use of the habitat north of Suisun Bay is irregular.⁷⁷

The closest location to the project site where harbor seals are known to haul out year-round is on the southeast side of Yerba Buena Island, on U.S. Coast Guard property. Individual seals may occasionally haul out farther to the west and southwest of the main haul out site, depending on space availability and conditions at the main haul out area. Harbor seals feed in the deepest waters

⁷⁵ CDFW, Summary of the 2015-2016 Pacific Herring Spawning Population and Commercial Fisheries in San Francisco Bay, November 2016.

⁷⁶ Ibid.

⁷⁷ Goals Project, Baylands Ecosystem Species and Community Profiles: Life Histories and Environmental Requirements of Key Plants, Fish and Wildlife. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. P.R. Olofson, ed. San Francisco Bay Regional Water Quality Control Board, Oakland, California, 2000.

of the bay, with the region from the Golden Gate Bridge to Treasure Island and south to the San Mateo Bridge, being the principal feeding sites.⁷⁸ Harbor seals feed on a variety of fish, such as perch, gobies, herring, and sculpin.

California sea lion

Like the harbor seal, the California sea lion (*Zalophus californianus*) lives in the San Francisco Bay-Delta and is protected by the Marine Mammal Protection Act. A common, abundant marine mammal, they are found throughout the West Coast, generally within 10 miles of shore. They breed in Southern California and the Channel Islands, after which they migrate up the Pacific coast to the bay. They haul out on offshore rocks, sandy beaches, and onto floating docks, wharfs, vessels, and other man-made structures in the bay and coastal waters. California sea lions feed on a wide variety of seafood, mainly squid and fish and sometimes even clams. Commonly eaten fish and squid species include salmon, hake, Pacific whiting, anchovies, herring, schooling fish, rockfish, lamprey, dog fish, and market squid.⁷⁹ California sea lions may forage in the waters adjacent to the project site.

Harbor porpoise

Harbor porpoise (*Phocoena phocoena*) inhabit northern temperate and subarctic coastal and offshore waters. In the North Pacific, they are found from Japan north to the Chukchi Sea and from Monterey Bay, California to the Beaufort Sea. They are most often observed in bays, estuaries, harbors, and fjords less than 650 feet deep, like the Central San Francisco Bay and the waters adjacent to the project site. The primary food for harbor porpoises is fish and squid.

Managed U.S. Fisheries Species

Under the Magnuson-Stevens Act (see Regulatory Framework, p. 4.I-24, for a description), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), National Marine Fisheries Service, Fishery Management Councils, and federal agencies are required to cooperatively protect essential fish habitat for commercially important fish species such as Pacific coast groundfish, salmon, and coastal pelagic fish and squid. As defined by the U.S. Congress, essential fish habitat includes "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Fish species present in the Central Bay basin that are included in Fishery Management Plans prepared by regional Fishery Management Councils under the Magnuson-Stevens Act are listed in Appendix G, Table BIO-3.

⁷⁸ Kopec, D. and Harvey, J., Toxic pollutants, health indices, and population dynamics of harbor seals in San Francisco Bay, 1989-91: a final report, technical publication, Moss Landing, CA: Moss Landing Marine Labs, 1995.

⁷⁹ Southwest Fisheries Science Center, "Sea Lion Diet", <https://swfsc.noaa.gov/textblock.aspx?Division=PRD&=&id=1252>, accessed March 18, 2011.

Other Special-Status Marine Species

Native Olympia Oysters

The Olympia oyster (*Ostrea lurida*), also known as the “native oyster,” is native to most of western North America, and it was a key component of the San Francisco Bay marine ecosystem prior to overharvesting and increased siltation from hydraulic mining in the mid-nineteenth century.⁸⁰ Thought to have gone extinct in San Francisco Bay, Olympia oysters have been observed slowly reestablishing their presence in the San Francisco Bay since 2000. Because of its special importance as a keystone species in the Bay, the restoration and reestablishment of Olympia oysters in the San Francisco Bay has become an important component of the overall resource management and restoration of the San Francisco Bay by the National Marine Fisheries Service and California Department of Fish and Wildlife.⁸¹

In their natural state, Olympia oysters form sparse to dense beds in coastal bays and estuaries and in drought conditions will move up into channels and sloughs, dying off when wetter conditions return. Olympia oysters are not reef builders like their East and Gulf Coast cousin, *Crassostrea virginica*. Olympia oysters are known to provide high biodiversity habitat because they provide physical habitat structure sought by juvenile fish and crustaceans, worms, and foraging fish and birds.⁸² They also stabilize sediment, reduce suspended sediment, and improve light penetrations, thereby improving the physical conditions that encourage the establishment of submerged aquatic vegetation, such as eelgrass beds. Additionally, a robust population of filter feeders can help modulate plankton blooms.⁸³

Naturally occurring populations of native oysters can be found throughout the San Francisco Bay on natural and artificial hard substrate from Carquinez Strait to the South Bay. Intertidally they occur between Point Pinole to south of the Dumbarton Bridge, with the highest reported abundances of 80 per 10.8 square feet in the Central Bay basin.⁸⁴ Oysters have appeared to do well subtidally in many human-made habitats such as on marina floats and in tidally restricted ponds, lagoons, and saline lakes.⁸⁵ Olympia oysters are expected in rocky intertidal, subtidal habitats in the marine study area and were observed at low densities during the December 2017 site assessment.

⁸⁰ NOAA, Habitat Connections, Restoring the Olympia Oyster (*Ostrea conchaphila* = *lurida*), Volume 6, Number 2, 2008, <http://www.oyster-restoration.org/wp-content/uploads/2012/06/OlympiaOysterHabitatConnections.pdf>, accessed August 26, 2015.

⁸¹ National Oceanic and Atmospheric Administration (NOAA), Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay, August 2007.

⁸² NOAA, Habitat Connections, Restoring the Olympia Oyster (*Ostrea conchaphila* = *lurida*), Volume 6, Number 2, 2008, <http://www.oyster-restoration.org/wp-content/uploads/2012/06/OlympiaOysterHabitatConnections.pdf>, accessed August 26, 2015.

⁸³ Ibid.

⁸⁴ 10.8 square feet is roughly equivalent to 1 square meter, a standard scientific unit of measurement. San Francisco Bay Subtidal Habitat Goals Report, Appendix 7-1: Shellfish Conservation and Restoration in San Francisco Bay: Opportunities and Constraints, September 17, 2010, <http://www.sfbaysubtidal.org/report.html>.

⁸⁵ San Francisco Bay Subtidal Habitat Goals Report, Appendix 7-1: Shellfish Conservation and Restoration in San Francisco Bay: Opportunities and Constraints, September 17, 2010, <http://www.sfbaysubtidal.org/report.html>.

Critical Habitat

The project site is not located within designated critical habitat for any listed species.⁸⁶ Critical habitat for green sturgeon and Central California coast steelhead is designated in the San Francisco Bay and includes the waters adjacent to the project site.

4.I.3 Regulatory Framework

This section briefly describes federal, state, and local regulations, permits, and policies pertaining to both terrestrial and marine biological resources found on or within the project study areas.

Federal Regulations

Federal Endangered Species Act

The Federal Endangered Species Act (16 U.S. Code section 1531 et seq.) designates threatened and endangered animal and plant species and provides measures for their protection and recovery. The “take” of listed plant or wildlife species, defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct,” is prohibited without first obtaining a federal permit. Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage (i.e., harm) the habitat of listed wildlife species require approval from the U.S. Fish and Wildlife Service or National Marine Fisheries Service. The act also generally requires determination of critical habitat for listed species.

For projects that require a federal permit (e.g., from the U.S. Army Corps of Engineers for effects to other jurisdictional waters, as would be the case for the proposed project), the lead federal agency is required by the act (under section 7) to ensure that any action they authorize, implement, or fund will not jeopardize the continued existence of any federally threatened or endangered species or destroy or adversely modify designated critical habitat. Under the Federal Endangered Species Act section 7 consultation, the lead federal agency (e.g., the U.S. Army Corps of Engineers) submits a biological assessment that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, the U.S. Fish and Wildlife Service or National Marine Fisheries Service then responds to the biological assessment by issuing its biological opinion determining whether the project is likely to adversely affect the species to the extent that it would jeopardize the species or result in adverse modification of critical habitat.

If a *non-jeopardy* or *no adverse modification* opinion is provided by the U.S. Fish and Wildlife Service or National Marine Fisheries Service, the federal agency may proceed with the action as proposed. If a jeopardy or adverse modification opinion is provided, the U.S. Fish and Wildlife Service or National Marine Fisheries Service may prepare a biological opinion that specifies reasonable and prudent measures to minimize take and associated mandatory terms and conditions that describe

⁸⁶ USFWS Critical Habitat Portal, <http://ecos.fws.gov/crithab/>, accessed February 20, 2018.

the methods for accomplishing these prudent measures and/or also develop mandatory reasonable and prudent alternatives to the proposed action.

Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (16 United States Code, section 703, Supp. I, 1989) generally prohibits the killing, possessing, or trading of migratory birds, bird parts, eggs, and nests, except as provided by the statute. This act authorizes the Secretary of the Interior to regulate the taking of migratory birds. It further provides that it is unlawful, except as permitted by regulations, “to pursue, hunt, take, capture, kill or attempt to take, capture, or kill any migratory bird, or any part, nest or egg of any such bird...” Solicitor opinions for various U.S. administrations have varied in their interpretation of “take,” and current guidance excludes incidental take as a violation of the Migratory Bird Treaty Act. However, there are examples of Circuit court cases in which non-intentional harm has been determined to be a violation. As interpreted by U.S. Department of the Interior Solicitor’s Opinion M-37050 in December 22, 2017 and subsequently by U.S. Fish and Wildlife Service guidance issued on April 11, 2018, the accidental or incidental take of birds resulting from an activity is not prohibited by the Act when the underlying purpose of the activity is not to take birds. Thus, under current guidance the federal Migratory Bird Treaty Act definition of “take” does not prohibit or penalize the incidental take of migratory birds that results from actions that are performed without motivation to harm birds. This interpretation differs from the prior federal interpretation of “take,” which prohibited all incidental take of migratory birds, whether intentional or incidental. However, the Act was not amended and guidance on incidental take may change with future administrations.

With respect to nesting birds, although the Migratory Bird Treaty Act itself does not provide specific take avoidance measures, the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife, over time, have developed a set of measures sufficient to demonstrate take avoidance. These requirements include avoiding vegetation removal or ground disturbance during the nesting season (January 15 – August 15), conducting preconstruction nesting bird surveys of a project area during the nesting season, and establishing appropriately-sized protective buffers from construction activities if active nests are found.

Marine Mammal Protection Act

The Marine Mammal Protection Act of 1972, and as amended, establishes a federal responsibility for the protection and conservation of marine mammal species by prohibiting the harassment, hunting, capture, or killing of any marine mammal. The primary authority for implementing the act belongs to the U.S. Fish and Wildlife Service and National Marine Fisheries Service.

Federal Regulation of Wetlands and Other Waters

Wetlands are ecologically complex habitats that support a variety of both plant and animal life. The federal government defines and regulates other waters, including wetlands, in section 404 of the Clean Water Act. Wetlands are “areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations 328.3[b] and 40 Code of Federal Regulations 230.3). Under normal

circumstances, the federal definition of wetlands requires the presence of three identification parameters: wetland hydrology, hydric soils, and hydrophytic vegetation.

The regulations and policies of various federal agencies (e.g., U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and U.S. Fish and Wildlife Service) mandate that the filling of wetlands be avoided unless it can be demonstrated that there is no practicable alternative to filling. The army corps has primary federal responsibility for administering regulations that concern waters and wetlands in the project study area under the statutory authority of the Rivers and Harbors Act (Sections 9 and 10) and the Clean Water Act (section 404).

Pursuant to section 10 of the Rivers and Harbors Appropriation Act of 1899 (33 United States Code section 403), the U.S. Army Corps of Engineers regulates the construction of structures in, over, or under, excavation of material from, or deposition of material into *navigable waters*. In tidal areas, the limit of navigable water under section 10 is the elevation of mean high water mark; in nontidal waters it is the ordinary high water mark. Larger streams, rivers, lakes, bays, and oceans are examples of navigable waters regulated under section 10 of the Rivers and Harbors Appropriation Act. The act prohibits the unauthorized obstruction or alteration of any navigable water (33 United States Code section 403). Navigable waters under the act are those “subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce” (33 Code of Federal Regulations section 3294). Typical activities requiring section 10 permits are construction of piers, wharves, bulkheads, marinas, ramps, floats, intake structures, cable or pipeline crossings, and dredging and excavation.

Section 404 of the Federal Clean Water Act (33 United States Code 1251–1376) prohibits the discharge of dredged or fill material into waters of the U.S., including wetlands, without a permit from the U.S. Army Corps of Engineers. The jurisdiction of the army corps in tidal waters under section 404 extends to the high tide line or high tide mark, simply indicating a point on the shore where water reaches a peak height at some point each year. The Clean Water Act prohibits the discharge of any pollutant without a permit. Implicit in the act definition of *pollutant* is the inclusion of dredged or fill material regulated by section 404 (22 United States Code 1362). The discharge of dredged or fill material typically means adding into waters of the U.S. materials such as concrete, dirt, rock, pilings, or side-cast material for the purpose of replacing an aquatic area with dry land or raising the elevation of an aquatic area. Activities typically regulated under section 404 include the use of construction equipment such as bulldozers, and the leveling or grading of sites where jurisdictional waters occur.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Act (16 United States Code 1801–1884) of 1976, as amended in 1996 and reauthorized in 2007, applies to fisheries resources and fishing activities in federal waters. Federal waters extend to 200 miles offshore. Conservation and management of U.S. fisheries, development of domestic fisheries, and phasing out of foreign fishing activities are the main objectives of the legislation.

The Magnuson-Stevens Act defines *essential fish habitat* as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The act, as amended through 2007, sets forth a number of new mandates for the National Marine Fisheries Service, regional Fishery

Management Councils, and federal action agencies to identify essential fish habitat and to protect important marine and anadromous fish habitat. The Magnuson-Stevens Act provided the National Marine Fisheries Service with legislative authority to regulate fisheries in the United States in the area between 3 miles and 200 miles offshore and established eight regional Fishery Management Councils that manage the harvest of the fish and shellfish resources in these waters. The councils, with assistance from the marine fisheries service, are required to develop and implement Fishery Management Plans, which include the delineation of essential fish habitat for all managed species. A Fisheries Management Plan is a plan to achieve specified management goals for a fishery and is comprised of data, analyses, and management measures. Essential fish habitat that is identified in a management plan applies to all fish species managed by that plan, regardless of whether the species is a protected species or not. Federal agency actions that fund, permit, or carry out activities that may adversely affect essential fish habitat are required under Section 305(b), in conjunction with required section 7 consultation under the Federal Endangered Species Act, to consult with the National Marine Fisheries Service regarding potential adverse effects of their actions on essential fish habitat and to respond in writing to the marine fisheries service's recommendations.

The waters of the Central Bay basin of the San Francisco Bay are designated as essential fish habitat for fish managed under three Fisheries Management Plans. In total, 13 species of commercially important fish and sharks managed in the Pacific Coast Groundfish and Coastal Pelagic Species management plans use this region of San Francisco Bay as either essential fish habitat or a habitat area of particular concern. In addition, the Pacific Coast Salmon management plan, which includes Chinook salmon, identifies all of the San Francisco Bay as essential fish habitat.⁸⁷

Long Term Management Plan for Dredging in San Francisco Bay

The Long Term Management Strategy Management Plan for maintenance dredging of navigation channels in San Francisco Bay, as established in 2001, provides for a cooperative approach to sediment management in the San Francisco Bay-Delta. It represents a cooperative program among the U.S. EPA, U.S. Army Corps of Engineers, Regional Water Quality Control Board, Bay Conservation and Development Commission, and regional stakeholders, including the National Oceanic and Atmospheric Administration (National Marine Fisheries Service), California Department of Fish and Wildlife, area environmental organizations, and water-related industries. The Long Term Management Strategy facilitates the economical and environmentally responsible maintenance of critical and needed navigation channels in the Bay-Delta and the environmentally responsible disposal of dredged material. It maximizes the use of dredged material as a beneficial resource, and establishes a cooperative permitting framework for dredging, dredged material disposal, and development of beneficial reuse sites for dredge material.

⁸⁷ U.S. Army Corps of Engineers, Programmatic Essential Fish Habitat Assessment for the Long-Term Management Strategy for the Placement of Dredged Material in the San Francisco Bay Region, July 2009.

A key component of the Long Term Management Strategy is the establishment of construction work windows that include periods when construction activities that have the potential to affect aquatic and terrestrial wildlife habitat and migration activity are allowed, restricted, or prohibited. Different restrictions and requirements are enforced depending on the affected species and time of year. If a project proponent wishes to construct during restricted periods, they must formally submit for consultation with the appropriate resource agencies. Through formal consultation, specific measures must be implemented to avoid or reduce potential impacts.

State Regulations

California Endangered Species Act

Under the California Endangered Species Act, the California Department of Fish and Wildlife has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code section 2070). The department also maintains a list of candidate species, which are species formally under review for addition to either the list of endangered species or the list of threatened species.

The California Endangered Species Act prohibits the take of plant and animal species that the California Fish and Game Commission has designated as either threatened or endangered in California. *Take* in the context of this regulation means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill a listed species (California Fish and Game Code section 86). The take prohibitions also apply to candidates for listing under the California Endangered Species Act. However, section 2081 of the act allows the department to issue permits for the minor and incidental take of species by an individual or permitted activity listed under the act.

In accordance with the requirements of the California Endangered Species Act, an agency reviewing a project within its jurisdiction must determine if any state-listed endangered or threatened species could be present in the project area. The agency also must determine if the project could have a potentially significant impact on such species. In addition, the department encourages informal consultation on any project that could affect a candidate species.

California Fish and Game Code

Fully Protected Species

Certain species are considered fully protected, meaning that the California Fish and Game Code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Fully protected amphibians and reptiles, fish, birds, and mammals are listed in sections 5050, 5515, 3511, and 4700, respectively.

It is possible for a species to be protected under the California Fish and Game Code, but not be fully protected. For instance, mountain lion (*Puma concolor*) is protected under section 4800 et seq., but is not a fully protected species.

Protection of Birds and Their Nests

Under section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under section 3800, whereas other specified birds are protected under section 3505. California Fish and Game Code section 3513 adopts the federal definition of migratory bird take, which is defined by the Secretary of the Department of the Interior under provisions of the Migratory Bird Treaty Act. Section 3513 does not prohibit the incidental take of birds if the underlying purpose of the activity is not to take birds.

Marine Life Management Act

Within California, most of the legislative authority over fisheries management is enacted within the Marine Life Management Act. This law directs the California Department of Fish and Wildlife and the Fish and Game Commission to issue sport and commercial harvesting licenses, as well as license aquaculture operations. The department, through the commission, is the state's lead biological resource agency and is responsible for enforcement of the state's endangered species regulations and the protection and management of all state biological resources.

State Regulation of Wetlands and Other Waters

California's authority in regulating activities in wetlands and waters in the project area resides primarily with the State Water Resources Control Board. The state water board, acting through the San Francisco Bay Regional Water Quality Control Board, must certify that a U.S. Army Corps of Engineers permit action meets state water quality objectives (Clean Water Act section 401). Any condition of water quality certification is then incorporated into the army corps section 404 permit authorized for the project.

The state water board and regional water board also have jurisdiction over waters of the state under the Porter-Cologne Water Quality Control Act (Porter-Cologne). The state water board and regional water board evaluate proposed actions for consistency with the regional water board's Basin Plan, and authorize impacts on waters of the state by issuing Waste Discharge Requirements or, in some cases, a waiver of Waste Discharge Requirements.

The San Francisco Bay Conservation and Development Commission has jurisdiction over coastal activities occurring within and around the San Francisco Bay and Suisun Marsh. The commission was created by the McAteer-Petris Act (California Government Code sections 66600–66682). The commission regulates fill, extraction of materials, and substantial change in use of land, water, and structures in the San Francisco Bay and development within 100 feet of the bay. The commission has jurisdiction over all areas of the San Francisco Bay that are subject to tidal action, including subtidal areas, intertidal areas, and tidal marsh areas that are between mean high tide and five feet above mean sea level.

Local Regulations

San Francisco General Plan

The Environmental Protection Element of the San Francisco General Plan contains the following objectives and policies related to biological resources protection that are relevant to the proposed project:

General

- **Objective 1:** Achieve a proper balance among the conservation, utilization, and development of San Francisco's natural resources.

Policy 1.1: Conserve and protect the natural resources of San Francisco.

Policy 1.2: Improve the quality of natural resources.

Policy 1.3: Restore and replenish the supply of natural resources.

Policy 1.4: Assure that all new development meets strict environmental quality standards and recognizes human needs.

Bay, Ocean, and Shorelines

- **Objective 3:** Maintain and improve the quality of the bay, ocean, and shoreline areas.

Policy 3.1: Cooperate with and otherwise support regulatory programs of existing regional, state, and federal agencies dealing with the Bay.

Policy 3.2: Promote the use and development of shoreline areas consistent with the General Plan and the best interest of San Francisco.

Land

- **Objective 7:** Assure that the land resources in San Francisco are used in ways that both respect and preserve the natural values of the land and serve the best interests of all the City's citizens.

Flora and Fauna

- **Objective 8:** Ensure the protection of plant and animal life in the City.

Policy 8.1: Cooperate with and otherwise support the California Department of Fish and Game and its animal protection programs.

Policy 8.2: Protect the habitats of known plant and animal species that require a relatively natural environment.

Policy 8.3: Protect rare and endangered species.

San Francisco Public Works Code

The San Francisco's Urban Forestry Ordinance (article 16 of the San Francisco Public Works Code) protects street trees, significant trees, and landmark trees under San Francisco Public Works jurisdiction, regardless of species. Permits are required for planting or removing street trees and significant trees, and protection measures are required for these trees if construction work would

occur within the trees' *drip lines*.⁸⁸ No significant trees or landmark trees occur on or adjacent to the project site. As discussed under Environmental Setting, there are 20 street trees located on Illinois Street and 22nd Street adjacent to the project site. Of these street trees, the 13 trees along Illinois Street would be removed under the project and the 7 trees along 22nd Street would be retained.

San Francisco Planning Code 139 (Standards for Bird-Safe Buildings)

The San Francisco Planning Department adopted *Standards for Bird-Safe Buildings* in 2011, adding San Francisco Planning Code section 139.⁸⁹ These standards guide the use and types of glass and façade treatments, wind generators and grates, and lighting treatments. The standards impose requirements for bird-safe glazing and lighting in structures or at sites that represent a hazard to birds and provide information on educational and voluntary programs related to bird hazards. The standards define two types of bird hazards: location-related hazards and feature-related hazards.

Location-related hazards are buildings located inside of, or within a clear flight path of less than 300 feet from, an *Urban Bird Refuge*,⁹⁰ such as the waterfront park included in the proposed project. In such locations, bird-safe treatments are required for new buildings; for additions to existing buildings; or for existing buildings in which 50 percent or more of the glazing within the *bird collision zone* is to be replaced.⁹¹ The standards require implementation of the following treatments for façades facing, or located within, an Urban Bird Refuge:

- No more than 10 percent untreated glazing is allowed on building façades within the bird collision zone.
- Lighting must be shielded, and no uplighting is permitted. No event searchlights are permitted.
- Sites are not permitted to use horizontal access windmills or vertical access wind generators that do not appear solid.

Feature-related hazards include building- or structure-related features that are considered potential "bird traps" regardless of location (e.g., glass courtyards, transparent building corners, or clear glass walls on rooftops or balconies). These features must be fully treated (100 percent) with bird-safe glazing.

⁸⁸ The area defined by the outermost circumference of a tree canopy where water drips from and onto the ground.

⁸⁹ San Francisco Planning Department, *Standards for Bird-Safe Buildings*, 2011, http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards%20for%20Bird%20Safe%20Buildings%20-%2011-30-11.pdf.

⁹⁰ An Urban Bird Refuge is defined in the *Standards for Bird-Safe Buildings* as any area of open space 2 acres or larger that is dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, water features, or wetlands; open water; and some green rooftops.

⁹¹ The bird collision zone is that portion of the building that begins at grade and extends upward for 60 feet.

4.1.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact on biological resources. Implementation of the proposed project would have a significant effect on biological resources if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Approach to Analysis

Project Features

Generally speaking, environmental impacts on biological resources could result from implementation of any of the proposed project elements described in this EIR, including demolishing existing buildings and other structures, making shoreline improvements and adding access, making infrastructure improvements, and constructing new infrastructure, buildings, and proposed open spaces.

Those features of the proposed project that could have an effect on biological resources, either terrestrial or marine, as described below, are the same or substantially similar under the proposed flexible land-use program, in which certain blocks on the project site may be designated for either residential or commercial uses, depending on market conditions and soil conditions, which would ultimately determine the type and amount of land uses on those blocks. To the extent that these features may differ somewhat from one to another, they are generally included and accounted for

in an analysis of maximum disturbance within the project site or adjacent waters. The same biological regulatory requirements applicable to the proposed project are equally applicable under the proposed project's options. As the proposed project includes multiple options for wastewater and stormwater collection, different effects associated with the various options are discussed.

The following is a general summary of the proposed project elements pertinent to the biological resources impact analysis.

- Building and infrastructure demolition or rehabilitation and pile driving;
- Tree and vegetation removal;
- Site grading during removal of asphalt, roadways, and other project site infrastructure;
- Ground excavation for remediation activities, construction of underground parking garages and below grade building spaces;
- New building construction that would present collision hazards to birds; and
- Construction along the shoreline comprised of the installation of a fixed, overwater wharf structure, gangway, and floating dock. Construction would include in-water and shoreline work, with a small amount of in-water vibratory hammer or impact hammer pile driving.
- Abandonment of the existing Unit 3 Power Block outfall and cooling water intake structure. A separate stormwater system may be constructed. If so, installation of a stormwater outlet would occur within the vicinity of the existing Unit 3 Power Block intake.
- General physical enhancements to the existing shoreline including the installation of rock slope revetments, bulkheads, and other improvements to address sea level rise.
- Future maintenance dredging may be required to ensure continued vessel access during project operation.

As noted in Chapter 2, Section 2.F.3, the proposed project would incorporate the following standard construction best management practices; these practices shall be included in the construction contract specifications for in-water construction:

- In-water construction activities (i.e., dredging and pile installation) shall be restricted to the National Oceanic and Atmospheric Administration approved seasonal work window (June 1 to November 30), which encompasses the California Department of Fish and Wildlife seasonal work window for Pacific herring.
- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction-related materials or wastes, oil, or petroleum products shall be allowed to enter into or placed where it would be subject to erosion by rain, wind, or waves and enter into jurisdictional waters.
- Protective measures shall be utilized to prevent accidental discharges to waters during fueling, cleaning, and maintenance.
- Floating booms shall be used to contain debris discharged into waters and any debris shall be removed as soon as possible, and no later than the end of each workday.

- Machinery or construction materials not essential for project improvements shall not be allowed at any time in the intertidal zone. The construction contractors would be responsible for checking daily tide and current reports.
- The sponsor shall have a spill contingency plan for hazardous waste spills into the San Francisco Bay.

To reduce potential effects to biological resources, the following measures shall be implemented by the project for in-water construction, subject to agency review and approval:

- To reduce potential impacts from noise due to pile-driving, the contractor shall implement one or more of the following as needed:
 - Use vibratory methods for installation of steel piles to the extent practicable
 - Use cushion blocks between hammer and piles
 - Implement a “soft start” technique

Each of these techniques is explained in detail in the impacts analysis, below.

Methodology for Analysis of Biological Resources Impacts

Impacts on biological resources are identified and evaluated based on the following: relevant CEQA and local standards, policies, and guidelines; the likelihood that special-status species, sensitive habitats, wetlands and waters, and wildlife corridors are present within the project study area (as described above in the “Environmental Setting”); and the potential effects that project construction, operation, and maintenance might have on these resources. Special-status resources that were determined to have a low or no potential to occur in the study area (individual plant and animal species as presented in Appendix G, Tables BIO-1 through BIO-3) are not considered in the impact analysis.

This section analyzes potential project impacts to biological resources during the construction, operations, and maintenance phases of the proposed project. The impact analysis does not differentiate between the phasing of project construction activities because adverse effects associated with construction activities are assumed to occur on a block-by-block or parcel-by-parcel basis and would be similar as each parcel/block is developed, regardless of the construction phase. Any associated mitigation measures, if recommended to avoid or reduce such effects, would be implemented as parcels are developed, regardless of the development’s phasing. The exception to this assumption includes shoreline improvements which would occur in Phase 1 and have different environmental effects than development of inland blocks/parcels. Any proposed mitigation associated with shoreline improvements would specifically apply to those activities.

This impact analysis is divided into two broad categories: terrestrial (includes aerial species) and marine.

Considerations for Analysis of Construction Impacts

The analysis discusses special-status terrestrial and marine animals that could occur in these two respective study areas and identifies the potential temporary impacts, such as those that could affect species or their habitat only during the construction period, and permanent impacts, including substantial alteration or loss of habitat, on those species as a result of construction. The analysis is based on the results of a site reconnaissance survey, database search results, and technical reports, and describes applicable regulations and project construction activities.

Considerations for Analysis of Operational Impacts

Upon completion of project construction, operations would consist of residential, commercial [office, R&D/life science, retail, hotel, entertainment/assembly, PDR], parking, community facilities, and open space land uses and would generally be restricted to the project footprint, adjacent shoreline, and adjacent San Francisco Bay waters. Onsite biological resources would include landscaped park and open space areas adjacent to and including the San Francisco Bay shoreline. Potential long-term, operational impacts on terrestrial and marine biological resources would be limited to bird collisions with project buildings, indirect effects of stormwater runoff to the San Francisco Bay should the separated sewer and stormwater system option be selected, and if necessary, operational dredging of the vessel access channel adjacent to the floating dock.

Methodology for Analysis of Cumulative Impacts

The analysis of cumulative impacts on biological resources uses a list-based approach to analyze the effects of project construction and operation in combination with past, present and reasonably foreseeable future projects within approximately 0.5-miles of the project site. Section 4.A.6, Approach to Cumulative Impact Analysis, describes the overall approach to the cumulative impact analysis and summarizes reasonably foreseeable future projects generally located within 0.5-miles of the project site that could contribute to a cumulative construction or operational impact. Refer to Table 4.A-2 and Figure 4.A-1, pp. 4.A-13 and 4.A-15, for descriptions and locations of potential cumulative projects in the vicinity of the proposed project.

Construction and operations of other nearby projects are considered in the cumulative analysis for both terrestrial and marine biological resources, and it is assumed those projects would have to comply with the same regulatory requirements as the proposed project. The analysis then considers whether there would be a significant adverse cumulative impact associated with project implementation in combination with past, present, and probable future projects, and if so, whether the project's contribution to the cumulative impact would be considerable. Both conditions must apply in order for a project's contribution to cumulative effects to be deemed cumulatively considerable (significant). If so, mitigation measures are identified to reduce the project's contribution to the extent feasible.

Impact Evaluation

Special-Status and Migratory Birds

Impact BI-1: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (*Less than Significant with Mitigation*)

Construction Impacts

Construction activities within the 29-acre project site, especially those that involve heavy machinery, may adversely affect nesting birds within 100 feet of the project site boundaries during the nesting season (January 15–August 15). While vegetation suitable for nesting birds occurs within the project site and immediate vicinity it is limited to street trees on Illinois Street and 22nd Street, and shrubs in the southeast portion of the site. The project site's current lack of activity, and its proximity to San Francisco Bay result in an attractive environment for birds to nest, more so than other San Francisco locations that have higher levels of site activity and human presence.

Dilapidated piers within the project study area east and northeast of the project site could provide potential nesting sites for Caspian tern and western gull, which have previously been documented as nesting farther north at Piers 60 and 64. Osprey have previously nested approximately 0.25-mile south of the project site at Pier 80 and could forage or nest within the terrestrial study area. Although not previously documented as nesting in the study area, American peregrine falcon could nest in or on existing buildings on the project site. Project in-water construction activities would not substantially disrupt foraging activities of California least tern, California brown pelican, or Clark's grebe, which may use open water habitat and shorelines of the project study area as these species are able to forage in similar eastern shoreline waters during periods of in-water work. These species do not nest locally and therefore the project would not adversely affect breeding or nesting behavior. Common species, such as white-crowned sparrow, house finch, Anna's hummingbird, Allen's hummingbird, mourning dove, black phoebe, barn swallow, cliff swallow, also have the potential to nest in street trees or ruderal shrub vegetation, on the ground, or within or on top of existing buildings of the project site. Each of these species and their nests are afforded protection by the California Fish and Game Code, as described above under "Regulatory Framework." The proposed project would be required to comply with these regulations to avoid take of individual birds, eggs, and their nests.

Project construction activities and an increased human presence at the project site are expected to generate noise and visual disturbances that could adversely affect bird breeding and nesting behaviors at the project site and nearby. Proposed project construction activities may cause visual disturbance, alter the ambient noise environment, or introduce short-term loud noise events, resulting in avoidance response (flushing).

Both long- and short-term loud noises can affect bird foraging and roosting by temporarily disturbing these behaviors and may deter bird use of an area (including for nesting) if such noises persist over the long term. Noise disturbance generally falls into two main categories: impulse and continuous. Impulse disturbances often used in demolition activities include single actions like blasts, or multiple actions like jackhammers and pile drivers. Continuous noise includes typical construction work area activities and roadway noise. Bird disruption from visual or noise disturbance varies, but typically birds will avoid disturbance areas and move to more preferable environments. However, some species inhabit noisy areas and may indirectly benefit from reduced competition and predation.⁹²

Birds currently residing in both the terrestrial and marine study areas are accustomed to varying levels of ambient noise emanating from existing human activities in the study area. For example, pedestrians and vehicular traffic are consistent throughout the day and various remediation activities are ongoing in the project study area on a regular basis. Nearby the project site, the primary sources of noise are various industrial activities at the American Industrial Center, PG&E Potrero Substation, and PG&E Hoedown Yard, onsite remediation activities, new development-related construction activities along Illinois Street and the Pier 70 site, traffic on local streets (Illinois Street, Third Street, 22nd Street, and 23rd Street), and the distant I-280 freeway. Noise measurements indicate that noise levels range from 56 to 60 dBA (L_{dn}) over most of the site, with higher noise levels (71 dBA [L_{dn}]) immediately adjacent to Illinois Street (see Table 4.F-3 in Section 4.F, Noise). Typical noise levels for some construction activities anticipated during project implementation would exceed ambient levels near the project site. Construction activities that would substantially alter the noise environment could disrupt birds attempting to nest, disrupt parental foraging activity, or displace mated pairs with territories in the project study area. Given the long buildout period for the proposed project, the potential impacts of noise and visual disturbance on breeding birds are likely to occur over several nesting seasons, with the highest potential impacts associated with initial disturbance to idle areas of the site. As the project progresses and the level of disturbance on the site increases with development, nesting birds are less likely to be attracted to the site, and the potential for construction-related impacts on birds and their nests would decrease. Overall avian activity within the study area is not expected to substantially change due to project construction activities because terrestrial habitat values are limited, and aquatic habitat for birds foraging and nesting would not substantially change.

The loss of an active nest attributable to project construction activities would be considered a significant impact under CEQA. Nesting habitat for birds within the developed project site is of limited value and not expected to attract an abundance of breeding birds; however, certain construction activities such as vegetation removal, building demolition, and shoreline improvements, could adversely affect birds attempting to nest within the project site or nearby. This would be a significant impact. **Mitigation Measure M-BI-1, Nesting Bird Protection Measures**, and compliance with the requirements of the California Fish and Game Code, would avoid or reduce potential impacts on nesting migratory and special-status birds to a less-than-significant level. Therefore, this impact would be *less than significant with mitigation*.

⁹² Francis, Clinton D., Catherine P. Ortega, and Alexander Cruz, Noise Pollution Changes Avian Communities and Species Interactions. *Current Biology* 19:1415-1419, August 25, 2009.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures

The project sponsor shall require that all construction contractors implement the following measures for each construction phase to ensure protection of nesting birds and their nests during construction:

1. To the extent feasible, conduct initial project activities outside of the nesting season (January 15–August 15). These activities include, but are not limited to: vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may impact nesting birds or the success of their nests (e.g., controlled rock fragmentation, blasting, or pile driving).
2. For construction activities that occur during the bird nesting season, a qualified wildlife biologist⁹³ shall conduct pre-construction nesting surveys within 14 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 14 days or more. Surveys shall be performed for suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 100 feet of the project site to locate any active raptor (birds of prey) nests, waterbird nesting pairs, or colonies.
3. If active nests protected by federal or state law⁹⁴ are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests and if so, the following measures would apply:
 - a. If construction is not likely to affect the active nest, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. The qualified biologist would determine spot-check monitoring frequency on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise his/her determination at any time during the nesting season in coordination with the Environmental Review Officer (ERO).
 - b. If it is determined that construction may affect the active nest, the qualified biologist shall establish a 100-foot no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. Given the developed condition of the site and its surroundings, the qualified biologist may adjust the buffer based on the nature of proposed activities or site specific conditions.

⁹³ Typical experience requirements for a “qualified biologist” include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

⁹⁴ These would include species protected by the federal Endangered Species Act, Migratory Bird Treaty Act, California Endangered Species Act, and California Fish and Game Code and does not apply to rock pigeon, house sparrow, or European starling. U.S. Fish and Wildlife Service and California Department of Fish and Wildlife are the federal and state agencies, respectively, with regulatory authority over protected birds and are the agencies that would be engaged with, if nesting occurs onsite and protective buffer distances and/or construction activities within such a buffer would need to be modified while a nest is still active.

- c. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the ERO, who would notify the California Department of Fish and Wildlife.
- d. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If the qualified biologist observes adverse effects in response to project work within the buffer that could compromise the active nest, work within the no-disturbance buffer(s) shall halt until the nest occupants have fledged.
- e. With some exceptions, birds that begin nesting within the project area amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels. Exclusion zones around such nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the ERO, who would notify the California Department of Fish and Wildlife. Work may proceed around these active nests as long as the nests and their occupants are not directly impacted.

Significance after Mitigation: Less than Significant

Impact BI-2: Operation of the proposed project would not have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (*Less than Significant*)

The project site is located within the Pacific Flyway along the western shoreline of the San Francisco Bay. The waters of the San Francisco Bay provide valuable stopover habitat for migratory birds that forage and replenish energy stores during spring and fall migrations. Open space, even in highly urbanized areas, attracts avifauna, and any habitat in proximity to the proposed new buildings, such as park lands, landscape vegetation, or the bay, that could be used for foraging, roosting, or rest by birds on the wing (in flight) may increase the risk of bird collisions, particularly if large amounts of reflective or artificially lighted surfaces are included in the project's design.

Due to the surrounding urban setting, the proposed project is not expected to appreciably increase the overall amount of lighting along the San Francisco waterfront as a whole, considering existing nighttime lighting conditions within the project site and surrounding development along the eastern shoreline from San Francisco Bay Bridge to Hunters Point. However, avian collisions with glass or reflective surfaces used in the proposed buildings could result in mortality, which would be a significant impact under CEQA.

The proposed project would comply with the City of San Francisco's adopted *Standards for Bird-Safe Buildings*⁹⁵ (planning code section 139) and would incorporate specific design elements into

⁹⁵ San Francisco Planning Department, *Standards for Bird-Safe Buildings*, 2011, http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards%20for%20Bird%20Safe%20Buildings%20-%202011-30-11.pdf.

the development to avoid or minimize avian collisions with buildings or other project features. The City's *Standards for Bird-Safe Buildings* reflect the most current and accepted measures to prevent bird strikes.

The Standards for Bird-Safe Buildings address location-related hazards and/or feature-related hazards for birds on the wing and describe glass and façade treatments, wind generators and grates, and lighting treatments for buildings that can reduce avian collisions. The standards state that all buildings within an Urban Bird Refuge present location-related hazards for birds. The proposed 3.7-acre waterfront park would qualify as an Urban Bird Refuge, providing a sufficient area of open space to attract avifauna. Thus, new building façades or additions to existing structures located inside of, or within a clear flight path less than 300 feet of the shoreline would require certain treatments within the bird collision zone. Some examples include creating a visual signal or a visual noise barrier that alerts birds to the presence of glass objects, such as ceramic dots, or *frits*⁹⁶ applied between layers of insulated glass to reduce transmission of light.

Feature-related hazards include building- or structure-related features that are considered potential *bird traps*, (e.g., glass courtyards, transparent building corners, or clear glass walls on rooftops or balconies) regardless of location. If these elements are used in the proposed buildings or structures, they must be fully treated (100 percent) with bird-safe glazing.

Project compliance with the *Standards for Bird-Safe Buildings*, as administered by the San Francisco Planning Department, would avoid or minimize the adverse effects of avian collisions during project operation; therefore, this impact would be *less than significant*, and no mitigation is necessary.

Mitigation: None required.

Special-Status and Otherwise Protected Bats

Impact BI-3: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modification on bats identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U. S. Fish and Wildlife Service. (Less than Significant with Mitigation)

Common bats (Mexican free-tailed bat) and special-status bats (Pallid bat and Yuma myotis) have the potential to roost in existing vacant or underutilized buildings, and other human-made structures within or near the project site. Station A (buildings 15, 16, 17 [see Chapter 2, Project Description Figure 2-3, p. 2-8]) in particular provides potential roosting habitat for bats due to the long vacancy of the buildings, multiple stories and rooms with supportive surfaces to establish roosts, numerous entry points through openings in the walls and roofs, and proximity to foraging sites along the eastern shoreline of the San Francisco Peninsula. The Unit 3 Power Block and the Boiler Stack (buildings 22, 23, 24, and 25 on Figure 2-3, p. 2-8) provide a similar roost opportunity for bats. Other

⁹⁶ Frits are lines, dots, or other patterns incorporated into the glass or applied on its surface to make it more visible.

buildings on the project site that would be demolished or rehabilitated under the proposed project offer varying roost habitat value to bats depending on the condition of the building and regularity of human activity. While some bat species that prefer to roost beneath the exfoliation bark or trees or among leaves might occur in the project study area (e.g., western red bat), the street trees along Illinois Street that would be removed under the project do not provide suitable roost habitat given the consistent human disturbance along this street and low tree density. Removal of these trees is not anticipated to adversely affect special-status or common bats.

Bats and other non-game mammals are protected in California under the California Fish and Game Code (described above in "Regulatory Framework"). Maternity roosts are roosts occupied by pregnant females or females with non-flying young. Non-breeding roosts are day roosts without pregnant females or non-flying young. Destruction of an occupied, non-breeding bat roost, resulting in the death of bats; disturbance that causes the loss of a maternity colony of bats (resulting in the death of young); or destruction of *hibernacula*⁹⁷ are prohibited under the California Fish and Game Code and would be considered a significant impact (although hibernacula generally are not formed by bat species in the Bay Area due to sufficiently high temperatures year round). Construction-associated noise or vibration, or increased human activity in the area during general construction could result in behavioral alterations including the temporary avoidance of work areas by foraging bats during construction. Such temporary alteration of behavior during construction would be a less-than-significant impact.

The proposed project would involve building demolition and/or rehabilitation of buildings or structures that could host roosting bats. Demolition and/or rehabilitation of buildings or structures, particularly unoccupied buildings such as Station A and the Unit 3 Power Block buildings could result in direct mortality of or indirect disturbance to roosting special-status bats (e.g., bats avoid routine foraging or fail to return to a maternity roost due to an increase in human presence on the project site), if present. However, mortality of special-status bats resulting from direct actions (e.g., destruction of an occupied roost) or indirect actions (e.g., elevated noise or vibration which causes roost or young abandonment) attributable to project construction would be a significant impact. Additionally, common bats may establish maternity roosts in these same locations and disturbance that results in loss of a maternity colony would be a significant impact. The implementation of **Mitigation Measure M-BI-3, Avoidance and Minimization Measures for Bats**, would reduce potential impacts on special-status bats and common bat maternity roosts to a less-than-significant level by requiring preconstruction surveys and implementing avoidance measures if potential roosting habitat or active roosts are located.

Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats

A qualified biologist⁹⁸ who is experienced with bat surveying techniques (including auditory sampling methods), behavior, roosting habitat, and identification of local bat species shall be consulted prior to demolition or building rehabilitation activities to conduct a pre-construction habitat assessment of the project site (focusing on buildings to

⁹⁷ Hibernaculum refers to the winter quarters of a hibernating animal. Hibernacula is the plural form of the word.

⁹⁸ Typical experience requirements for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

be demolished or rehabilitated under the project) to characterize potential bat habitat and identify potentially active roost sites. No further action is required should the pre-construction habitat assessment not identify bat habitat or signs of potentially active bat roosts within the project site (e.g., guano, urine staining, dead bats, etc.).

The following measures shall be implemented should potential roosting habitat or potentially active bat roosts be identified during the habitat assessment in buildings to be demolished or rehabilitated under the proposed project:

1. In areas identified as potential roosting habitat during the habitat assessment, initial building demolition or rehabilitation shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, to the extent feasible. These dates avoid the bat maternity roosting season and period of winter *torpor*.⁹⁹
2. Depending on temporal guidance as defined below, the qualified biologist shall conduct pre-construction surveys of potential bat roost sites identified during the initial habitat assessment no more than 14 days prior to building demolition or rehabilitation.
3. If active bat roosts or evidence of roosting is identified during pre-construction surveys, the qualified biologist shall determine, if possible, the type of roost and species. A no-disturbance buffer shall be established around roost sites until the qualified biologist determines they are no longer active. The size of the no-disturbance buffer would be determined by the qualified biologist and would depend on the species present, roost type, existing screening around the roost site (such as dense vegetation or a building), as well as the type of construction activity that would occur around the roost site.
4. If special-status bat species or maternity or hibernation roosts are detected during these surveys, appropriate species- and roost-specific avoidance and protection measures shall be developed by the qualified biologist in coordination with the California Department of Fish and Wildlife. Such measures may include postponing the removal of buildings or structures, establishing exclusionary work buffers while the roost is active (e.g., 100-foot no-disturbance buffer), or other avoidance measures.
5. The qualified biologist shall be present during building demolition or rehabilitation if potential bat roosting habitat or active bat roosts are present. Buildings with active roosts shall be disturbed only under clear weather conditions when precipitation is not forecast for three days and when daytime temperatures are at least 50 degrees Fahrenheit.
6. The demolition or rehabilitation of buildings containing or suspected to contain bat roosting habitat or active bat roosts shall be done under the supervision of the qualified biologist. When appropriate, buildings shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost, likely in the evening and after bats have emerged from the roost to forage. Under no circumstances shall active maternity roosts be disturbed until the roost disbands at the

⁹⁹ Torpor refers to a state of decreased physiological activity with reduced body temperature and metabolic rate.

completion of the maternity roosting season or otherwise becomes inactive, as determined by the qualified biologist.

Significance after Mitigation: Less than Significant

Special-Status Marine Species

Impact BI-4: Construction of the proposed project could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration. (*Less than Significant with Mitigation*)

The waters of the Central San Francisco Bay are home to a number of state and federally protected marine species and habitats; and for a few of these species, the bay is considered their critical habitat. These species include multiple runs of steelhead and chinook salmon, green sturgeon, longfin smelt, and Pacific herring. Additionally, portions of the project study area fall within waters designated as Essential Fish Habitat for approximately 20 species of fish, managed under three federal fisheries management plans. While no endangered or threatened marine mammals occur within the San Francisco Bay, multiple species protected under the Marine Mammal Protection Act are either permanent inhabitants or frequent visitors to bay waters. Those most likely to occur within the project study area are harbor seals and California sea lions.

There is the potential for significant impacts to a range of protected marine resources to occur during project construction in and adjacent to the San Francisco Bay.

Commensurate with any construction activity adjacent to, or within, an aquatic environment is the potential for the accidental discharge of hydrocarbon containing materials (e.g., fuel, lubricating oils, construction materials), construction debris, or other harmful materials. Such construction activities could pose a short-term and temporary risk of exposing resident marine taxa to toxic contaminants and non-edible forage. However, the proposed project includes in-water construction avoidance and minimization measures (see Chapter 2, Project Description, Section 2.F.4). These measures include: the use of floating booms to contain debris discharge into waters, the sequestering of non-essential machinery or construction materials outside the intertidal zone, and the development of a spill contingency plan for any hazardous spill that does occur. Other best management practices (BMPs) include installing secondary containment under all temporary fuel storage; using drip pans; using secondary containment or drip sheeting under parked construction equipment; using drain covers to seal off onsite storm drains; and adhering to specific requirements issued by the regional board for stormwater discharges within the City and County of San Francisco and in accordance with the statewide stormwater permit, which contains additional actions to prevent and/or reduce project site sediment and other contaminants from reaching San Francisco Bay waters resulting in an impact to resident offshore biological resources. For a more detailed description of state and local regulations governing stormwater management during project construction see Section 4.J, Hydrology and Water Quality, Subsection 4.J.3, Regulatory Framework.

Demolition and remediation activities at the project site could also result in extensive ground disturbance and increased surface run-off through existing stormwater drains to the San Francisco Bay, resulting in increased sedimentation and organic and inorganic contaminant loading to San Francisco Bay waters and low-level exposure to protected species. Potential impacts on special-status fish and marine mammal species due to increased contaminant loading to San Francisco Bay waters from low-level contaminated sediments could be significant if uncontrolled. Implementation of standard construction and demolition BMPs would be required as part of City and County of San Francisco and state (Bay Conservation and Development Commission and Regional Water Quality Control Board) permits to prevent toxic contaminants and disturbed sediments from reaching storm drains; these measures, such as installing drip pans beneath stationary equipment, using sediment curtains and storm drain covers and regularly sweeping streets, would be expected to reduce these potential impacts to a less-than-significant level. Specific requirements issued by the regional water board for stormwater discharges within the City and County of San Francisco in accordance with the statewide stormwater permit (see Section 4.J, Hydrology and Water Quality, specifically Subsection 4.J.3, Regulatory Framework), contain additional actions to prevent and/or reduce project site contaminants and sediment from reaching bay waters and causing any significant effect on resident offshore biological resources. (See also the water quality discussion under Impact BI-6; also see Section 4.J, Hydrology and Water Quality.)

Potential impacts to water quality during construction may result from the in-water installation of support piles for the proposed overwater wharf and pier structure, and, to a lesser degree, from the adjacent shoreline enhancement work and outfall construction. Pile installation that requires an impact or vibratory hammer may cause short-term impacts to water quality through the resuspension of benthic sediments. Increased suspended solids in the water column have the potential to affect special-status fish species by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions. Additionally, the suspension of sediment has the potential to release constituents of concern within the water column. However, due to the limited scope of the proposed in-water work, increased turbidity levels would be relatively short-lived and generally confined to within a few hundred yards of the activity.

Recent studies suggest that the short-term impacts of dredging on sensitive fish species are typically minor. Considering that the volume of sediment being disturbed by pile installation would be a substantially smaller fraction (by orders of magnitude) of that disturbed by even a small dredging operation, and the limited duration of in-water construction activities, water quality impacts of pile installation would be less than significant.

Construction of Proposed Stormwater Outfall

As presented in detail in Chapter 2, Project Description, Section 4.J, Hydrology and Water Quality, and in Appendix B, Initial Study Section 10, Utilities and Service Systems, the proposed project is considering two options for wastewater and stormwater collection within the project site: 1) a dual combined sewer (i.e., sanitary sewage combined with stormwater flows)/separated stormwater system configured to maintain existing drainage patterns, and 2) a project-wide combined sewer system. The dual combined sewer/separated sewer option is the preferred option included in the proposed project. Only the dual combined sewer/separated sewer option has the potential to

substantially affect the adjacent aquatic environment, as storm flows would be discharged into San Francisco Bay from a new outfall constructed as part of the proposed project; the project-wide combined sewer system option would convey both sanitary sewage and stormwater flows to the existing combined sewer system infrastructure (see Section 4.J, Hydrology and Water Quality, for further discussion).

Under the dual system (preferred option), collected storm flows would be conveyed through the new system to a new outfall on the east side of the project site near the former Unit 3 Power Block intake. Only the dual system option would require construction of a new outfall into San Francisco Bay. The construction of this outfall would be expected to result in short-term disturbance to existing soft subtidal¹⁰⁰ habitat, adjacent rocky intertidal habitat (consisting of riprap shoreline armoring), and associated biological communities. Although the potential disturbance and/or loss of these habitats and associated marine communities could affect special-status fish and marine mammal foraging, the overall effect would be minor because of the very small area being disturbed and the temporary nature of the construction disturbance. Additionally, the footprint along the shoreline within which the new outfall would be constructed is small relative to the size of the proposed area of shoreline enhancement. Currently, the proposed outfall location exists within heavily disturbed intertidal habitat. As such, the outfall construction is unlikely to result in any impacts to existing aquatic resources.

While a few scattered oysters were observed within the intertidal portion of the project site it is unlikely that the outfall construction would have a significant impact on the overall local oyster population. Given the small footprint of the outfall structure and discharge site, relative to the large amounts of intertidal shoreline made available by enhancement with implementation of the project, the overall effect of outfall construction and stormwater discharge would be minor and less than significant.

Temporary Underwater Noise

Of primary concern with the in-water installation of piles is the potential for the generation of underwater noise at a level that is harmful to marine species. Pile driving can produce high-intensity noise resulting in damage to the soft tissues of fish, such as gas bladders or eyes (barotraumas) and/or result in harassment of fish and marine mammals such that they alter swimming, sleeping, or foraging behavior or temporarily abandon forage habitat.

The striking of a pile by a pile-driving hammer creates a pulse of sound that propagates through the pile, radiating out through the water column, seafloor, and air. Sound pressure pulses, as a function of time are referred to as a waveform. Peak waveform pressure underwater is typically expressed in decibels (dB) referenced to 1 microPascal (μPa).¹⁰¹ Sound levels are generally reported as peak levels, root-mean-square pressure, and sound exposure levels. The peak pressure is the highest absolute value of the measured waveform. For pile driving pulses, the root-mean-square pressure level is determined by analyzing the waveform and computing the average of the squared pressures over time that comprise the portion of the waveform containing the vast majority of sound energy. Sound exposure level is a metric that provides an indication of the amount of

¹⁰⁰ Subtidal means occurring below the surface of the water.

¹⁰¹ Therefore, 0 dB on the decibel scale would be a measure of sound pressure of 1 μPa .

acoustical energy contained in a sound event. For pile driving, sound exposure level can be used to describe a single pile driving pulse or many cumulative pulses when required to drive multiple piles. In addition to the pressure pulse of the waveform, the frequency of the sound, expressed in hertz is also important to evaluating the potential for sound impacts. Low frequency sounds are typically capable of traveling over greater distances with less reduction in the pressure waveform than high frequency sounds.

Vibratory pile drivers work on a different principle than pile-driving hammers and therein produce a different sound profile. A vibratory driver works by inducing particle motion to the substrate immediately below and around the pile causing liquefaction of the immediately adjacent soft substrate, allowing the pile to sink downward. Sound levels are typically 10-20 dB lower in intensity relative to the higher, pulse-type noise produced by an impact hammer.¹⁰²

A preliminary evaluation of the construction methods required for the installation of the overwater wharf and associated floating dock structures indicate that approximately nine 24-inch octagonal concrete piles would be required to support the wharf structure, three of which would be driven in water (below mean higher high water). The floating dock attached to the wharf would be supported by approximately four 36-inch steel pipe piles, all driven in water. Due to the lack of detailed soil data at this location, the exact installation methodology is currently unknown; however, based upon the installation methods required under similar projects, a diesel impact hammer is likely to be required. The exact pile configuration and installation methods (i.e., impact hammer vs. vibratory pile driver) are still under review and subject to change.

Impacts to Fish

Scientific investigations on the potential effects of noise on fish indicate that sound levels below the 183 dB sound exposure level do not appear to result in any acute physical damage or mortality to fish (*barotraumas*) of any size.¹⁰³ Table 4.I-1 provides a summary of known acute and sub-lethal effects of noise on fish. Noise levels that result in startle responses in steelhead trout and salmon have been documented to occur at sound levels as low as 150 dB root-mean-square pressure level.¹⁰⁴ Any disturbance to federal or state-listed fish species that results in altered swimming, foraging, movement along a migration corridor, or any other altered normal behavior is considered harassment, a potentially significant impact.¹⁰⁵

¹⁰² Caltrans, Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Final Report, prepared for California Department of Transportation by ICF Jones & Stokes and Illingworth & Rodkin, Inc., 2015.

¹⁰³ Dalen, J. and G.M. Knutsen, Scaring effects of fish and harmful effects on eggs, larvae and fry from offshore seismic explorations, ICA Associated Symposium on Underwater Acoustics, 16-18 July 1986, Halifax, Canada.

¹⁰⁴ Halvorsen MB, Casper BM, Woodley CM, Carlson TJ, Popper AN., Threshold for onset of injury in Chinook salmon from exposure to impulsive pile driving sounds, PLOS ONE 7(6): e38968. OI: 10.1371/journal.pone.0038968, 2012.

¹⁰⁵ It should be noted that the acoustic thresholds shown in Table 4.M-1 regard sound levels generated for impact pile driving, no criteria for vibratory pile driving exist at this time.

**TABLE 4.I-1
POTENTIAL EFFECTS TO FISH AT VARYING NOISE LEVELS**

Taxa	Sound Level (dB)	Effect	Reference
Fish			
All fish > 2 grams in size	206 peak 187 (SEL)	Acute Barotraumas	Fisheries Hydroacoustic Working Group, 2008
All fish < 2grams	186 (SEL)	Acute Barotraumas	Fisheries Hydroacoustic Working Group, 2008
Salmon, steelhead	150 (RMS)	Avoidance behavior	Halvorsen et al. 2012

NOTES: SEL = sound exposure level; RMS = root-mean-square pressure level

Impacts to Marine Mammals

Pursuant to the Marine Mammal Protection Act, the National Marine Fisheries Service has established two levels of harassment related to marine mammals:

- **Level A:** Any act of pursuit, torment or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild.
- **Level B:** Any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing the disruption of behavioral patterns, including but not limited to migration, breathing, nursing, breeding, feeding or sheltering.

The National Marine Fisheries Service has applied sound thresholds to each of these harassment categories depending on the species of marine mammal. To be considered Level A harassment, cetaceans and pinnipeds must be exposed to sound levels of 180 and 190 dB root-mean-square pressure level or greater, respectively. Level B, behavioral harassment is considered to occur when any marine mammal is exposed to 160 dB root-mean-square pressure level for impact pile driving and 120 dB root-mean-square pressure level for vibratory pile driving (Table 4.I-2). It should be noted that ambient underwater noise for the San Francisco Bay and the Oakland Inner Harbor was measured at between 120 and 150 dB as part of sound monitoring conducted for the San Francisco/Oakland Bay Bridge Project.¹⁰⁶

**TABLE 4.I-2
ADOPTED UNDERWATER ACOUSTIC CRITERIA FOR MARINE MAMMALS**

Family	Underwater Noise Thresholds (dB)				
	Vibratory Pile Driving Disturbance Threshold	Impact Pile Driving Disturbance Threshold	Species	SEL Threshold (dB)	
				Impact	Vibratory
Cetacean	120 dB RMS	160 dB RMS	Harbor porpoise	155 dB	173 dB
Pinniped	120 dB RMS	160 dB RMS	Harbor seal	185 dB	201 dB
			California sea lion	203 dB	219 dB

NOTES: dB = decibel; RMS = root-mean-square pressure level

SOURCE: U.S. Department of Commerce, NOAA, NOAA Technical Memorandum NMFS-OPR-55, *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing: Underwater Acoustic Thresholds for Onset of Permanent and Temporary Threshold Shifts*, 2016.

¹⁰⁶ Caltrans, Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Final Report, prepared for California Department of Transportation by ICF Jones & Stokes and Illingworth & Rodkin, Inc., 2015.

As stated above under “Project Features,” and in Chapter 2, the proposed project would incorporate standard in-water work best management practices. These practices would include the observance of the National Marine Fisheries Service approved in-water work windows, which were developed for San Francisco Bay as part of section 7 consultations with resource agencies (National Marine Fisheries Service and U.S. Fish and Wildlife Service) for the Long Term Management Strategy Management Program for managing sediment within San Francisco Bay.¹⁰⁷ These regionally-specific windows are designed based on the life history of special-status fish species to reduce the likelihood that these fish species might occur within the area in which in-water work is proposed.

Additional best management practices related specifically to the in-water installation of piles include, when feasible, the use of vibratory hammers in place of impact hammers, the use of cushion blocks, and the implementation of a “soft start” technique. Vibratory hammers have been demonstrated to produce sound levels of a lower intensity relative to higher, pulse-type noise produce by impact hammers, thus reducing the potential impact on fish and marine mammals.¹⁰⁸ A cushion block is often placed between the impact hammer and pile and can potentially substantially reduce the amount of energy delivered to the pile – thereby reducing the sound pressure levels generated.¹⁰⁹ During a “soft start” a pile is initially driven with low hammer energy. This movement of the pile through the water column and initial contact with the bay floor gives any fish or marine mammals present a chance to leave the immediate area.

Nevertheless, given the uncertainties regarding the exact pile configuration and installation methods to be used for proposed in-water construction, there remains a potential that construction of the project could have an adverse effect on protected fish or marine mammals, a significant impact. However, implementation of the proposed in-water construction best management practices together with **Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving**, would ensure that potential impacts from pile installation are less-than-significant. Therefore, construction impacts on special-status marine species would be *less than significant with mitigation*.

Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving

Prior to the start of any in-water construction that would require pile driving, the project sponsor shall prepare a National Marine Fisheries Service-approved sound attenuation monitoring plan to protect fish and marine mammals, and the approved plan shall be implemented during construction. This plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities (if required based on projected in-water noise levels), and describe best management practices to reduce impact pile-driving in the aquatic environment to an intensity level less than 183 dB (sound exposure level, SEL) impulse noise level for fish at a distance of 33 feet, and 160 dB (root mean square pressure level, RMS) impulse noise

¹⁰⁷ U.S. Army Corps of Engineers (USACE), Framework for Assessment of Potential Effects of Dredging on Sensitive Fish Species in San Francisco Bay. Final Report, prepared for USACE by Levine Fricke, 2004.

¹⁰⁸ Caltrans, Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Final Report, prepared for California Department of Transportation by ICF Jones & Stokes and Illingworth & Rodkin, Inc., 2015.

¹⁰⁹ Ibid.

level or 120 dB (RMS) continuous noise level for marine mammals at a distance of 1,640 feet. The plan shall incorporate, but not be limited to, the following best management practices:

- All in-water construction shall be conducted within the established environmental work window between June 1 and November 30, designed to avoid potential impacts to fish species.
- To the extent feasible vibratory pile drivers shall be used for the installation of all support piles. Vibratory pile driving shall be conducted following the U.S. Army Corps of Engineers "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California." U. S. Fish and Wildlife Service and National Marine Fisheries Service completed section 7 consultation on this document, which establishes general procedures for minimizing impacts to natural resources associated with projects in or adjacent to jurisdictional waters.
- A soft start technique to impact hammer pile driving shall be implemented, at the start of each work day or after a break in impact hammer driving of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area.
- If during the use of an impact hammer, established National Marine Fisheries Service pile driving thresholds are exceeded, a bubble curtain or other sound attenuation method as described in the National Marine Fisheries Service-approved sound attenuation monitoring plan shall be utilized to reduce sound levels below the criteria described above. If National Marine Fisheries Service sound level criteria are still exceeded with the use of attenuation methods, a National Marine Fisheries Service-approved biological monitor shall be available to conduct surveys before and during pile driving to inspect the work zone and adjacent waters for marine mammals. The monitor shall be present as specified by the National Marine Fisheries Service during impact pile driving and ensure that:
 - The safety zones established in the sound monitoring plan for the protection of marine mammals are maintained.
 - Work activities are halted when a marine mammal enters a safety zone and resumed only after the animal has been gone from the area for a minimum of 15 minutes.

This noise level limit shall be coordinated with vibration limits required under Mitigation Measures M-NO-4a, Construction Vibration Monitoring, M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving, and M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment, to ensure that the lowest of the specified vibration limits is ultimately implemented.

Significance after Mitigation: Less than Significant

Impact BI-5: Operation of the proposed project would not have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service. (*Less than Significant*)

Increased Overwater Shading

With the installation of the proposed recreational dock, there is expected to be a net increase in the area of over-water structures. The shading of the water column and benthic habitat as a result of overwater structure installation has the potential to reduce the quality of fish habitat within the area shaded by the structure. Overwater shading has been demonstrated to reduce the growth rates and establishment of aquatic vegetation, decrease primary productivity, alter predator-prey dynamics, compromise the invertebrate community by changing the species composition, and reduce the overall density of benthic invertebrates.^{110,111,112,113}

Within the footprint of the proposed dock, the severity of impacts listed above would be minor. The existing onsite benthic habitat is generally of poor quality given its extended history of adjacency to heavy industrial activity. Additionally, significant portions of the aquatic environment have been severely contaminated by pollutants harmful to aquatic organisms (see Sections 4.J, Hydrology and Water Quality and 4.K, Hazards and Hazardous Materials). Special-status benthic communities, like eelgrass beds, are not present within the study area and therefore would not be impacted by this small amount of increased shading.

However, as it relates to the quality of fish foraging habitat, there is likely to be an impact to the benthic community as rates of primary production and overall invertebrate richness would likely decline within the small area of shading due to the long-term shading effects described above. While this could represent a potential adverse impact, the relatively small size of the proposed overwaters structure, coupled with the already reduced quality of benthic habitat within the project footprint after years of industrial activity, would result in a negligible change from the existing conditions and have a very limited impact on listed marine species.

Section 4.H Wind and Shadow, of this EIR contains a detailed analysis of how implementation of the proposed project, in particular the construction of new buildings, may increase the amount and duration of shading within and adjacent to the project site. For a detailed description of the methodology and results of this analysis see Section 4.H, Wind and Shadow. With respect to the aquatic resources, the impact from increased shadow over portions of the aquatic environment is likely to be minimal. Analysis of increased shadow along the proposed Waterfront Park (adjacent to the bay shoreline) indicate that the park would be in sunlight in the morning year-round and in shadow in the afternoon year-round. However, this is not a significant departure from the existing

¹¹⁰ Helfman, G.S. 1981. The advantage of fishes of hovering in shade. *Copeia* 2: 392-400.

¹¹¹ Glasby, T.M. 1999. Effects of shading on subtidal epibiotic assemblages. *Journal of Experimental Marine Biology and Ecology*, 234: 275-290.

¹¹² Struck, S.D., C.B. Craft, S.W. Broome, M.D. Sanclements, and J.N. Sacco. 2004. Effects of bridge shading on estuarine marsh benthic community structure and function. *Environmental Management*, 34: 99-111.

¹¹³ Stutes, A.L., J. Cebrian, and A.A. Corcoran. 2006. Effects of nutrient enrichment and shading on sediment primary production and metabolism in eutrophic estuaries. *Marine Ecology Progress Series*, 312: 29-43.

condition as the Unit 3 Power Block currently casts substantial shadow on the central and southern parts of the proposed park. While not directly analyzed in the shadow analysis, the aquatic portion of the project site is further east of proposed building construction than the Waterfront Park. As such, impacts to the aquatic environment from shadow are likely to be less than those predicted at the Waterfront Park. Figure 4.H-8, p. 4.H-30, shows the annual net new shadow compared to existing conditions, and indicates only an occasional increase in shadow at certain times of day over a very small portion of the aquatic environment. As such, any impacts to the aquatic environment from increased shadow would be *less than significant*.

Increased Vessel Traffic

Implementation of the proposed project would result in increased vessel traffic to and from the proposed dock. However, vessels traveling to and from the dock are not expected to disturb bottom sediments to an extent that it would increase turbidity, as there is little evidence that bottom disturbance and resuspension occurs at significant levels from the type of crafts expected to use the docking facility (e.g., shallow draft vessels).¹¹⁴ Additionally, all vessels would operate at low speeds within the vicinity of the landings, which should further limit the potential for resuspension of sediment or benthic disturbance.

There is the potential that the vessel traffic would result in increased noise that may startle fish or marine mammals and result in their temporary exclusion from the project area. However, observations by the San Francisco Bay Area Water Emergency Transportation Authority of ferry operations within San Francisco Bay indicate that impacts from vessel traffic on fish are typically minor, localized, and limited to short periods of time during ferry arrival and departure.¹¹⁵ Under the proposed project, only watercraft of a significantly smaller size than used in ferry operations would utilize the proposed dock. As such any potential impacts from vessel traffic would be reduced those associated from ferry operations and would be *less than significant*.

Operation of Proposed Stormwater Outfall

As described above in Impact BI-4, under the dual system (preferred) option, collected storm flows would be conveyed through the new system to a new outfall on the east side of the project site near the former Unit 3 Power Block intake. During project operations, any discharge from the new outfall into the San Francisco Bay would be limited to storm events, which generally occur during the rainy season from November to April, and any effects of these discharges on nearshore habitats and associated marine organisms would not be substantially different from existing conditions where stormwater from the eastern portion of the project site currently flows directly to the bay via three stormwater outfalls. Additionally, given the infrequent nature of large storm events, it is unlikely that special-status subtidal resources would be substantially affected by stormwater discharge compared to the level to which they are currently exposed. As discussed above, no eelgrass beds exist within the project site, or within the extended vicinity of the outfall structure, so no impacts to established eelgrass beds or to the few scattered oysters that were observed within

¹¹⁴ Clarke, D., K.J. Reine, C. Dickerson, C. Alcoba, J. Gallo, B. Wisemiller, and S. Zappala. 2015. Sediment Resuspension by Ship Traffic in Newark Bay, New Jersey. Dredging Operations Technical Support Program – U.S. Army Corps of Engineers. April 2015.

¹¹⁵ National Marine Fisheries Service (NMFS), Biological Opinion – Downtown San Francisco Ferry Terminal Expansion Project, San Francisco, Ca. Issued June 30, 2014.

the intertidal portion of the project site are expected as a result of stormwater discharges. Therefore, impacts on marine resources associated with operation of the proposed stormwater outfall would be *less than significant*.

Mitigation: None required.

Impact BI-6: Construction and operation of the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service. (*Less than Significant*)

Terrestrial Biological Resources

The project site has been fully developed and no riparian habitat or other sensitive terrestrial natural communities are present on or near the project site. As such, *no impacts* from construction or operation on sensitive terrestrial natural communities would result from implementation of the proposed project.

Marine Biological Resources

Within the San Francisco-Bay Delta region, the National Marine Fisheries Service has identified eelgrass beds (*Zostera marina*) as a habitat area of particular concern. These habitat areas of particular concern are considered high priority areas for conservation, management, or research because they are rare, sensitive, stressed by development, or important to ecosystem function. No eelgrass beds exist within the project study area, so there would be no impact on this sensitive natural community and the fish that reside within such habitat from project construction and operation.¹¹⁶

Within the project area, a few scattered oysters are present on the intertidal rock and debris that comprise the existing shoreline. As native oysters occur throughout San Francisco Bay, their presence along the Central Bay basin waterfront is not unexpected. While a few scattered individuals do occur, they are not present in the densities that would constitute a substantial "oyster bed" as observed along portions of the intertidal and subtidal shorelines of Treasure Island, Port of San Francisco, or Richardson Bay. Recent oyster pre-construction surveys conducted along the shoreline at Pier 64 and Pier 70, both of which are very similar in form and habitat quality to the shoreline within the proposed project area, concluded that protection of existing oysters was not warranted.¹¹⁷ At Pier 64, this survey was performed to evaluate conditions prior to shoreline stabilization, by grading and rip-rap placement, of a similar type to that planned under the proposed project. In addition to the conclusion that existing oysters did not require protection, it was determined for Pier 64 that the post-construction stabilized shoreline would provide greater structural complexity and likely more suitable substrate for successful recolonization by oysters. Given the similarities between the physical structure of the two sites, and the similarities between

¹¹⁶ Merkel & Associates, San Francisco Bay Eelgrass Inventory; October-November 2014, prepared for the California Department of Transportation and NOAA National Marine Fisheries Service, November 2014.

¹¹⁷ Tetra Tech, Inc. 2011. Native bivalves survey report, Mission Bay shoreline project. San Francisco, Ca. May 2011.

their respective shoreline enhancements, a similar beneficial outcome can be expected to occur within the project area. Thus, any impact from construction or operation of the proposed project on native oysters would be *less than significant*.

Mitigation: None required.

Jurisdictional Waters

Impact BI-7: Construction of the proposed project could have a substantial adverse effect on San Francisco Bay through direct removal, filling, hydrological interruption, or other means. (*Less than Significant with Mitigation*)

The San Francisco Bay is considered a navigable water of the United States and is therefore considered jurisdictional waters of the U.S. regulated by the U.S. Army Corps of Engineers under section 404 of the Clean Water Act up to the high tide line, and under section 10 of the Rivers and Harbors Act up to the mean high water mark. These waters also are regulated by the Regional Water Quality Control Board under section 401 of the Clean Water Act as waters of the state. Under the McAteer-Petris Act, the San Francisco Bay Conservation and Development Commission has jurisdiction over all areas of San Francisco Bay that are subject to tidal action (mean high tide line or up to 5 feet above mean sea level), as well as the shoreline band extending inland for 100 feet from the San Francisco Bay shoreline, saltponds, and managed wetlands. As discussed in the Environmental Setting, wetlands do not occur on the terrestrial or marine portions of the project site, and as Impact BI-6 describes, no habitat areas of particular concern, such as eelgrass beds occur on or adjacent to the project site and would not be impacted by the project. However, portions of the proposed project may occur within Clean Water Act sections 401 and 404, Rivers and Harbors Act section 10, and McAteer-Petris Act jurisdiction.

Fill of San Francisco Bay

The proposed project includes several components that could result in placement of fill within jurisdictional waters of the San Francisco Bay. To address the potential hazard of future sea-level rise in combination with storm and high tide conditions, the proposed project includes physical shoreline improvements consisting of rock slope revetments, berms and bulkheads, and grading elevation inland, some of which would require work below the high tide line and mean high water line. Should a dual sewer and stormwater system be selected instead of the combined scenario (see Chapter 2, Project Description, and Section 4.J, Hydrology, Water Quality, and Sea Level Rise,) then a new stormwater outfall for discharging runoff from the project site would be installed in the vicinity of the existing Unit 3 Power Block outlet structure and below the high tide line and mean high water line. Additionally, the proposed project would include installation of a new 80-foot long and 3-foot wide floating dock. The wharf portion of the dock would require nine 24-inch support piles, six of which would be installed landside (though potentially below the high tide line and within the U.S. Army Corps of Engineers section 404 jurisdiction), and three of which would occur below the mean higher high water line (and within the army corps section 10 jurisdiction). No other project work is planned to occur below the high tide line or mean higher high water line that would affect the bay.

Project activities resulting in the placement of bay fill¹¹⁸ or other disturbance to jurisdictional waters (i.e., below the high tide line) would require permit approval from the U.S. Army Corps of Engineers, and a water quality certification and/or waste discharge requirements from the Regional Water Quality Control Board. Those projects within the San Francisco Bay or within the shoreline band require a permit from the Bay Conservation and Development Commission. Collectively, these regulatory agencies and the permits and authorizations they issue for the proposed project would require that placement of new fill in jurisdictional waters be avoided or minimized to the maximum extent practicable while still accomplishing the proposed project's purpose, and they would specify an array of measures and performance standards as conditions of project approval to ensure natural resource protection. These permits would require water quality protection measures to avoid and/or minimize temporary impacts from in-water and above-water construction activities that would be implemented in conjunction with water quality protection mitigation measures identified in Section 4.J, Hydrology and Water Quality.

In addition, permanent placement of new fill associated with project implementation (i.e., shoreline improvements, installation of the [optional] new outfall, and floating dock) resulting in the loss of jurisdictional waters in excess of that necessary for normal maintenance may trigger a requirement for compensatory mitigation that will be aimed at restoring or enhancing similar ecological functions and services as those displaced. The types, amounts, and methods of compensatory measures required will differ among the permitting agencies, depending on the specific resources they regulate and the policies and guidelines they implement.

Placement of permanent fill in the San Francisco Bay attributable to the project and resulting in a loss of waters would be a significant impact. Implementation of **Mitigation Measure M-BI-7, Compensation for Fill of San Francisco Bay**, would reduce potential project-related impacts on jurisdictional waters to a less-than-significant level through restoration or enhancement of the San Francisco Bay shoreline or intertidal/subtidal habitat along the waterfront as compensation for the permanent fill¹¹⁹ of San Francisco Bay by the project. Therefore, the construction impacts of the project on jurisdictional waters would be *less than significant with mitigation*.

Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters

The project sponsor shall provide compensatory mitigation for placement of fill associated with maintenance or installation of new structures in the San Francisco Bay as further determined by the regulatory agencies with authority over the bay during the permitting process.

¹¹⁸ Under CWA section 404, a permit is required for the 'discharge of dredged or fill material' into waters of the United States. Fill material is any substance placed (also described as discharged) in waters of the United States where the material has the effect of either replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water. Examples of fill material include rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure (such as outfall pipes and/or bulkheads under the proposed project) in waters of the United States. [USACE SPN-2003-01 and 33 Code of Federal Regulations 323.2(5) (e)(1)]

¹¹⁹ The quantity of permanent fill in the San Francisco Bay attributable to the project and resulting in the loss of waters (e.g., from placement of new fill or fill in exceedance of the minimum threshold for repair and replacement of existing infrastructure), if any, will be determined during the permitting process and through project review by regulatory agencies with authority over the San Francisco Bay.

Compensation may include onsite or offsite shoreline improvements or intertidal/subtidal habitat enhancements along San Francisco's waterfront through removal of chemically treated wood material (e.g., pilings, decking, etc.) by pulling, cutting, or breaking off piles at least 1 foot below mudline or removal of other unengineered debris (e.g., concrete-filled drums or large pieces of concrete).

Significance after Mitigation: Less than Significant

Impact BI-8: Operation of the proposed project would not have a substantial adverse effect on state and federal waters through direct removal, filling, hydrological interruption, or other means. (*Less than Significant*)

Maintenance Dredging for Vessel Access

In order to ensure continued vessel access to the floating dock east of the Unit 3 Power Block outfall, periodic maintenance dredging may be required to offset sedimentation rates along the shoreline. Dredging would result in the removal of sediment and/or soft substrate foraging habitat. During dredging, benthic invertebrates would also be removed with the substrate. This could temporarily reduce the diversity and productivity of the benthic habitat in the dredged area. Recovery of benthic infaunal and epifaunal communities following dredging is controlled by many physical and ecological factors, including: the areal extent of dredging; the operational method of dredging; the timing of the dredging relative to natural recruitment; the species composition of adjacent undisturbed sediments; the sediment composition after dredging; and other factors.

Benthic communities living in fine mobile deposits, such as occur in most estuaries, are characterized by populations that are well adapted to rapid recolonization of deposits that are subject to frequent disturbance.¹²⁰ Recolonization of dredged areas is usually by opportunistic species characterized by the early stages of secondary succession, and is followed by an increased diversity of species that are longer-lived and slower growing as the succession progresses. Removal of sediment and resulting disturbed habitat effects are considered temporary as the benthic community is expected to recover or re-colonize over a short period of time. In soft substrate areas of the San Francisco Bay, dredging-induced substrate disturbance is considered small in scale compared to naturally occurring physical events, such as storm-generated waves and the deposition of sediment from riverine sources.¹²¹

Periodic maintenance dredging would disturb bottom sediments, which would increase turbidity, disturb benthic habitat and associated communities of organisms living in or on the mud bottom, and affect essential fish habitat. This disturbance could result in the temporary loss or reduction of habitat suitable for fish foraging for sensitive species, such as steelhead, Chinook salmon, green sturgeon, longfin smelt as well as fish managed under the Magnuson-Stevens Act. Pacific herring,

¹²⁰ Pittman B.T., A survey of inbenthic macrofauna at a South San Francisco Bay salt marsh. San Jose, CA: San Jose State University, http://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=2394&context=etd_theses, 1996.

¹²¹ MEC Analytical Systems, Inc. & U.S. Army Corps of Engineer Research and Development Center, Spatial characterization of suspended sediment plumes during dredging operations through acoustic monitoring, Technical report to the USACE, San Francisco District, San Francisco, CA, 2004.

a commercially important species, could also be affected if spawning had occurred in the area just before or during maintenance dredging activities.

Resuspension of Sediments During Dredging

The extent to which dredging operations would affect aquatic species depends on numerous factors such as type of equipment, tide, currents, and wind conditions during the dredging operation. Clamshell dredging operations results in sediment resuspension when the bucket contacts the sediment bottom and from the spillage of sediment during barge loading.¹²² Suspended sediments in the water column, over a long period of time, have the potential to affect fish by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions.

Increased suspended solids can also affect aquatic organisms by reducing dissolved oxygen levels and light transmission, and when the sediment in the suspended solids resettles, it could have the potential to smother aquatic habitats and organisms. Changes in light transmission have the potential to limit photosynthesis and reduce foraging abilities for organisms that rely on visual signals for feeding (e.g., salmonids and several species of birds).¹²³ Substantially depressed oxygen levels (i.e., below 5.0 mg/l) may cause respiratory stress to aquatic life, and levels below 3.0 mg/l may cause mortality.

However, recent studies by the San Francisco Estuary Institute determined that the short term effects of dredging activities on sensitive fish species are typically minor.¹²⁴ Two local projects monitored dredging events within the bay and confirmed the general characteristics of plumes and the resulting suspended sediments.¹²⁵ The MEC 2004 study conducted for the Port of Oakland reported a composite acoustic signature of a plume that was patchily distributed both vertically and horizontally over an area approximately 738 wide and 1,722 feet long, with the plume concentrated around the dredging location. The data were collected during different surveys at different times and then combined to form the composite image. Total suspended solids concentrations above ambient were detected up to 1,200 feet both up- and down-current from the source. In general, significantly elevated total suspended solids concentrations greater than 225 mg/l were detected up to 750 feet from the source.¹²⁶ Typically, plumes are stirred and mixed by tidal currents, and conditions become indistinguishable from background within a flood-ebb tide cycle (slightly less than 13 hours).

¹²² Nightengale, B., C.A. Simenstad, Jr., *Dredging Activities: Marine Issues*. Seattle, WA 98105: Washington State Transportation Center, University of Seattle, 2001.

¹²³ Anchor Environmental, *Literature Review of Effects of Resuspended Sediments Due to Dredging Operations*. Prepared for Los Angeles Contaminated Sediments Task Force, Los Angeles, California, 2003.

¹²⁴ San Francisco Estuary Institute (SFEI), *Effects of Short-term Water Quality Impacts Due to Dredging and Disposal on Sensitive Fish Species in San Francisco Bay*, SFEI Contribution 560, San Francisco Estuary Institute, Oakland, California, 2008.

¹²⁵ MEC Analytical Systems, Inc. & U.S. Army Corps of Engineer Research and Development Center, *Spatial characterization of suspended sediment plumes during dredging operations through acoustic monitoring*, Technical report to the USACE, San Francisco District, San Francisco, CA, 2004.

¹²⁶ *Ibid.*

Resuspended sediment levels caused by natural phenomena such as floods, storms, large tides, and winds are often higher and of longer duration than those caused by dredging, especially in lakes and bays. Previous studies have demonstrated that marine organisms are accustomed to sediment resuspension levels greater than those generated by dredging.^{127,128}

Dredging activities from the proposed project would be expected to occur at a much smaller scale to those described for the Oakland Harbor. The Central San Francisco Bay is the deepest sub-embayment in the San Francisco Bay estuary, and has the strongest tidal currents within the estuary.¹²⁹ Due to the project site's close proximity to the deep waters of the Central San Francisco Bay, currents are expected to be strong and function to dissipate turbidity plumes within hours, if not faster. Similarly, oxygen level depression resulting from project site construction activities are not expected to remain depressed for long periods due to rapid tidal flushing, and releases of anoxic (oxygen-poor) sediment would occur for relatively short time periods. Therefore, elevated levels of turbidity fed by sediment resuspension associated with dredging activities would be short-term and localized, and the long-term effects to fish and other aquatic life would be less than significant.

Mobilization of Chemicals of Concern

The suspension of sediment during dredging activity has the potential to release constituents of concern within the water column. Once released, these constituents have the potential to degrade water quality and present a potential exposure pathway to aquatic organisms. An impact related to increased levels of suspended sediment can be the increased bioavailability of contaminants. Organic contaminants, such as polycyclic aromatic hydrocarbons, are often bound to the finer silt and clay fractions of sediments. The silt and clay fractions are typically found in the surface layer of San Francisco Bay sediments and can mobilize easily into the water column and stay in solution longer than the larger and heavier sand fraction of the sediments. Metals, such as lead, are often more closely associated with the heavier and larger sediment fraction, but depending on the metal, can be associated with the fines as well. While the particulates are in suspension, the contaminants become more available to biota and can become dissolved into the water itself.

Investigations by PG&E have detected elevated polycyclic aromatic hydrocarbon concentrations in the sediments offshore of the project site within a 16-acre area known as the Offshore Sediment area (see Figure 4.K-1). PG&E has committed to providing remediation to this area by dredging and removing a portion of the contaminated sediments and placing an engineered erosion protection cap to isolate the remaining sediments. For a more detailed discussion of this proposed sediment remediation action, see Section 4.K Hazards and Hazardous Materials. Any future maintenance dredging under the proposed project would be conducted in a manner consistent

¹²⁷ Douglas M.C. and Sternberg, R.W., Field measurements of the fluid and sediment-dynamic environment of a benthic deposit feeder. *Journal of Marine Research*. Vol. 46, November 1988.

¹²⁸ Wilbur, D.H., D.G. Clarke, Biological Effects of Suspended Sediments: A Review of Suspended Sediment Impacts on Fish and Shellfish with relation to Dredging activities in Estuaries. N.A. *Journal of Fisheries Management*. Vol. 21, Iss. 4, 2001.

¹²⁹ Chin J.L., D.L. Woodrow, M. McGann, F.L. Wong, T. Fregoso, and B.E. Jaffe, Estuarine sedimentation, sediment character, and foraminiferal distribution in central San Francisco Bay, CA, 2010. USGS open-file report 2010-1130, 58 pages plus data tables and GIS data.

with this remediation effort and the risk management plan that has been approved by the Regional Water Quality Control Board.

As described above under “Regulatory Framework,” p. 4.I-24, any future maintenance dredging would be required to be conducted in a manner consistent with the guidance set forth under the Long Term Management Strategy Management Plan. This plan was developed by a collective of federal, state, and regional stakeholders; it establishes a cooperative permitting framework for dredging, dredged material disposal, and the development of beneficial reuse sites for dredge material. Compliance with the long-term management strategy would ensure the environmentally responsible future maintenance of navigation channels, to and from the proposed docking facilities, through consultation with the National Oceanic and Atmospheric Association-National Marine Fisheries Service, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and other resource agencies. With the goal of protecting aquatic resources during dredging operations the long term management strategy establishes environmental work windows, which significantly reduce the likelihood of impacts from dredging on special-status aquatic species. Importantly, the long-term management strategy institutes a programmatic methodology for initiating consultation with the requisite regulatory permitting agencies that govern dredging operation within San Francisco Bay.

Therefore, the proposed adherence with the long-term management strategy and any applicable regional board-approved risk management plan would ensure that any future maintenance dredging would comply with the established environmental agency regulatory requirements for dredging. And as such, future maintenance dredging conducted as part of project operations would not have a substantial adverse effect on the San Francisco Bay, and this impact would be *less than significant*.

Mitigation: None required.

Wildlife Movement

Impact BI-9: The proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (*Less than Significant with Mitigation*)

Terrestrial Biological Resources

As discussed above under Impact BI-1, construction of the proposed project could affect birds attempting to nest within the project site directly through nest destruction or mortality, and indirectly through an increase in the ambient noise environment that might disrupt breeding behavior, discourage nesting, or cause nest abandonment. This would be a significant impact. Implementation of **Mitigation Measure M-BI-1 Nesting Bird Protection Measures**, and project compliance with the California Fish and Game Code, are expected to reduce potential construction-related effects on birds nesting within the project site and surrounding vicinity such that this impact would be *less-than-significant with mitigation*.

Through compliance with City-required bird-safe building design standards (San Francisco Planning Code section 139 [Standards for Bird-Safe Buildings]), operation of the proposed project would not adversely affect resident or migratory birds through an increased risk of collision with new buildings or structures presenting location-related or feature-related hazards; potential collision hazards for resident and migrating birds as a result of the proposed project would be *less-than-significant*.

No terrestrial wildlife movement corridors or established native wildlife nursery sites occur on the project site.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures (see Impact BI-1, above)

Significance after Mitigation: Less than Significant

Marine Biological Resources

Central San Francisco Bay serves as a migration corridor for special-status anadromous fish between the Pacific Ocean and spawning habitat, primarily within the Sacramento and San Joaquin River watersheds, but also in a handful of tributaries to San Francisco Bay. Those that use the San Francisco Bay as a migration corridor to the Central Valley watersheds rarely stray south of the San Francisco-Bay Bridge. And while Central California Coast steelhead spawn in a few southern San Francisco Bay tributaries, no spawning streams occur within close proximity to the project site. If special-status anadromous fish species were to occur within the vicinity of the project site their presence would only be temporary, as they move between spawning habitat and the Pacific Ocean, and would likely occur outside the window in which pile driving or other in-water work would occur.

Pacific herring are known to breed on in-water structures and utilize this habitat along the San Francisco waterfront. A lack of suitable spawning habitat within the project study area makes their occurrence less likely relative to other areas along the waterfront where spawning habitat is abundant. Of all the special-status fish species, longfin smelt have the greatest potential to occur within the water adjacent to the project site. However, because longfin smelt distribution within the San Francisco Bay-Delta is driven by fluctuations in salinity, they are unlikely to occur in large numbers near the project site outside of late summer.

In general, the presence of marine mammals in San Francisco Bay is related to distribution and presence of prey species and foraging habitat. Harbor seals and sea lions use various intertidal substrates that are exposed at low to medium tide levels for resting and breeding. California sea lions are noted for using anthropogenic structures such as floating docks, piers, and buoys to haul out of the water to rest. Marine mammal haul out locations do not occur in the project study area, as such the presence of marine mammals is likely to be confined to a few rafting or foraging individuals and not the large numbers seen elsewhere within San Francisco Bay.

In addition to the low likelihood of occurrence of special-status marine species, the limited scope of proposed in-water work makes a substantial impact to marine movement corridors unlikely.

Nevertheless, the implementation of **Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving**, would ensure that any construction-related impacts to marine movement corridors and established native wildlife nursery sites would be *less than significant with mitigation*.

Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving
(see Impact BI-4, above)

Significance after Mitigation: Less than Significant

Plans and Policies

Impact BI-10: The proposed project would not conflict with any local policies or ordinances protecting biological resources; and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. (*Less than Significant*)

No adopted habitat conservation plan or natural community conservation plan covers the project terrestrial or marine areas, and there are no protected significant or landmark trees on the project site. Twenty street trees occur along Illinois Street between 22nd Street and Humboldt Street and along 23rd Street between Illinois Street and (the proposed) Georgia Street. The seven Japanese blueberry trees along 23rd Street would be retained under the project. The thirteen street trees located on Illinois Street consisting of cork oak, cajuput, and ginko would be removed under the project. Compliance with the City's tree protection policy for street trees would ensure that street trees to be retained under the project would be adequately protected during construction and those identified for removal would be approved by the San Francisco Department of Public Works; thus, the proposed project would have a less than significant impact on protected street trees. No other conflict with adopted local, regional, or state provisions is expected with project implementation. Thus, impacts related to conflict with policies or plans protecting biological resources would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

Impact C-BI-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, could result in a cumulatively considerable contribution to significant impacts on biological resources. (*Less than Significant with Mitigation*)

The geographic scope of potential cumulative impacts on biological resources encompasses the species occurrences, habitats, and sensitive natural communities within the project study area, as well as biologically linked areas sharing the adjacent waterfront of San Francisco Bay.

The following current and reasonably foreseeable projects may result in impacts to biological resources generally located within 0.5-mile of the project site on or near San Francisco's eastern waterfront and are considered in this analysis of the proposed project's cumulative impacts. Future San Francisco waterfront projects, when viewed individually, may not have a significant impact on biological resources, however, their cumulative impact may reach a different level of significance. Thus, the cumulative impact of all proximate projects, including the proposed project, are analyzed below. Table 4.A-2 in Section 4.A.6, Approach to Cumulative Impact Analysis, provides a description of projects considered in the cumulative analysis, and Figure 4.A-1: Cumulative Projects in the Project Vicinity, p. 4.A-15, depicts their locations.

- **Waterfront Projects**

- PG&E remediation activities in Offshore Sediment Area
- Golden State Warriors Event Center and Mixed Use Development
- Crane Cove Park Redevelopment
- Seawall Lot 337 / Pier 48 Mission Rock Development
- Mariposa Pump Station Interim Repairs
- San Francisco Port BAE Lease Renewal
- Mission Bay Ferry Landing and Taxi Landing Project
- SF Port Re-Tenancing of Pier 70 Shipyard
- Pier 70 Mixed-Use District

- **Landside development near the project site**

- 20th Street Historic Core at Pier 70
- 2177 Third Street
- 2051 Third Street / 650 Illinois Street

All of the cumulative projects listed above are currently undergoing, or have undergone, environmental review, and consistent with CEQA requirements, environmental impacts have been avoided or minimized to the extent feasible. Some of these projects are expected to have mostly temporary impacts on biological resources during the construction phase including the: Seawall Lot 337/Pier 48 Mission Rock Development, Mission Bay Ferry Landing, Golden State Warriors Event Center and Mixed-Use Development, Bayfront Park, and Pier 70 Mixed-Use District. Other projects, such as the future Crane Cove Park, which would provide an open space area, would include elements likely to result in long term beneficial effects on biological resources. Such elements would include improved foraging opportunities and nesting or roosting habitat for terrestrial wildlife, and improved shoreline diversity and subtidal and intertidal habitat associated with removal of non-engineered debris and pier replacement or refurbishing.

Terrestrial Biological Resources

The proposed project would have a limited effect on terrestrial biological resources that inhabit the project site and surrounding vicinity primarily because the existing built environment within the study area offers marginal habitat value to resident species. Short-term construction impacts identified above in Impact BI-1 and Impact BI-3, include potential disturbance to nesting birds and roosting bats. Development of the other reasonably foreseeable projects on San Francisco's eastern

waterfront are likely to have limited effects on nesting birds and roosting bats, similar to the proposed project. This is due to the similarity of developed upland habitat conditions in these areas, and the related limited opportunity for nesting birds and roosting bats within this geographic area. Further, the majority of these proximate project sites are located inland of the eastern waterfront among increasingly dense, existing development, and thus, offer less habitat for such terrestrial resources than the project site. In addition, all the projects listed above would be required to comply with applicable regulatory requirements protecting these biological resources and project-specific mitigation measures (where applicable) similar to those of the proposed project.

As with the proposed project, many of the projects listed above would generate noise and visual disturbance above pre-project conditions during construction and some of the projects would require tree and/or vegetation removal that could cause nest failure or abandonment if active bird nests are present. These combined effects, of the proposed project and the proximate projects listed above that offer similar nesting opportunity for birds, would result in a cumulatively significant impact. The proposed project's incremental contribution, without mitigation, would result from increased noise and visual disturbance during construction, vegetation removal, and building demolition if active bird nests are present and adversely affected by such activities, which is cumulatively considerable. Implementation of the project-specific **Mitigation Measure M-BI-1 (Nesting Bird Protection Measures)** would reduce the project's contribution to cumulative impacts on nesting birds by conducting initial project disturbance (e.g., vegetation removal, building demolition, or asphalt removal) and other activities that might impact nesting birds (e.g., pile driving or controlled rock fragmentation) outside of nesting season, performing pre-construction nesting bird surveys prior to the start of construction or demolition activities during nesting season (where feasible), and establishing protective no-disturbance buffers around active nests identified within the project site or monitoring active nests during construction. These protective requirements would avoid and minimize the project's contribution to significant cumulative impacts to nesting birds such that the cumulative impacts would be *less than significant with mitigation*.

Long-term operational impacts discussed under Impact BI-2 include a less than significant increased risk of bird collisions with project buildings or features, because the project would be designed to minimize avian risks resulting from collision with structures. The other cumulative projects would also be required to comply with the protection measures specified in the City's *Standards for Bird-Safe Buildings* as part of project building design which would ensure that any long-term cumulative impact to birds resulting from collisions would be less than significant.

The proposed project and many of the cumulative projects identified above would include demolition and/or construction activities that generate noise and increase human activity above pre-project conditions during construction. These activities could have a substantial adverse effect on special-status bats and/or maternal roosts, if present, which in combination would be a significant cumulative impact. The proposed project's incremental contribution, without mitigation, would result from disturbance associated with increased noise, human activity, and building demolition and construction if special-status bats or maternal roosts are present and adversely affected by such activities, which is cumulatively considerable. Implementation of **Mitigation Measure M-BI-3 (Avoidance and Minimization Measures for Bats)** would reduce the project's contribution to cumulative impacts on special-status and roosting bats by preferentially

removing structures when bats are active, establishing no-disturbance buffers around roost sites, removing structures containing active bat roosts under the oversight of a qualified biologist and in a manner that encourages the bats to safely leave the roost. Other cumulative projects that may potentially impact roosting bats would likely be required to implement similar measures such that bats would be avoided during sensitive periods to minimize direct impacts and bats would be safely removed, when necessary, during appropriate non-sensitive periods. Thus, the project's contribution to cumulative impacts to roosting bats would be *less than significant with mitigation*.

In summary, while adverse effects to nesting birds and special-status bats or maternal roosts could occur under the project or the cumulative projects, after mitigation and through compliance with state and federal regulations protecting nesting birds, special-status bats and maternal roosts, the cumulative impact on these terrestrial biological resources would be less than significant with mitigation. Through compliance with the City's *Standards for Bird-Safe Buildings* the cumulative impacts to birds related to collisions would be less than significant.

Mitigation Measure M-BI-1: Nesting Bird Protection Measures (see Impact BI-1, above)

Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats (see Impact BI-3, above)

Marine Biological Resources

For marine resources, the geographic scope for cumulative impacts includes the project marine study area, the Mission Bay neighborhood, Mission Bay, Piers 70 and 71, Warm Water Cove, and the surrounding waters of Central San Francisco Bay.

Regional projects that involve in-water construction, and that, in combination with the proposed project, have the potential to result in a significant cumulative impact on aquatic resources include the PG&E remediation offshore of the project site, the Crane Cove Park Redevelopment, the Mission Bay Ferry Landing and Water Taxi Landing project, and the Pier 70 Mixed-Use District project. The in-water construction activities that would occur under the proposed project and the cumulative projects listed above would include the remediation of harmful chemicals within bay sediment, construction of docking facilities for vessel traffic, and the enhancement and restoration of dilapidated shoreline habitat for public use.

As such, the potential impacts described above for the proposed project are similar to those that can be expected to occur under implementation of other nearby projects. Potential cumulative impacts would be the same as the construction impacts identified under Impact BI-4, Impact BI-6, and Impact BI-7, including temporary increases in underwater noise, alterations to existing subtidal and intertidal habitat, and impacts to water quality or placement of fill in the San Francisco Bay have the potential to result in significant impacts to marine resources. These combined effects, of the proposed project and the nearby projects listed above, would result in a significant cumulative impact. Both the proposed project, and other waterfront projects located in the immediate vicinity, involve in-water pile installation, the placement of fill in bay waters, and maintenance dredging to facilitate vessel access. In combination, these construction activities would result in a cumulatively significant impact on marine biological resources. The proposed

project's incremental contribution, without mitigation, would result from increased underwater noise generated during pile installation the placement of fill and increased overwater shading resulting from the proposed dock construction, and impacts to water quality if maintenance dredging is required.

Project-specific mitigation measures (such as **Mitigation Measures M-BI-4, Fish and Marine Mammal Protection during Pile Driving**, and **M-BI-7, Compensation for Fill of Jurisdictional Waters**), and other best management practices designed to protect special-status fish, marine mammals, and jurisdictional waters would reduce the project's contribution to cumulative impacts to a less-than-significant level. Therefore, cumulative impacts resulting from in-water work, and the cumulative impact on marine resources associated with construction would be *less than significant with mitigation*.

Operational impacts identified under Impacts BI-5 and BI-8, including temporary increases in underwater noise and water quality impairment as a result of increased vessel traffic would have very limited impacts on marine resources due to the localized and limited scale at which they would occur, resulting in a less than significant impact. The cumulative projects would have similar localized impacts; however, these projects are geographically far enough from one another that their local noise and water quality effects would not cumulatively degrade in-water conditions for biological resources. Similarly, any vessel traffic would presumably be staggered in a manner that the impacts would not compound upon each other. Therefore, the combined operational effects of the proposed project and the nearby projects listed above is not considered cumulatively significant. That is, cumulative operational impacts on marine resources would be *less than significant*.

Mitigation Measures M-BI-4: Fish and Marine Mammal Protection during Pile Driving
(see Impact BI-4, above)

Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters (see Impact BI-7, above)

Significance after Mitigation: Less than Significant

4.J Hydrology and Water Quality

4.J.1 Introduction

Section 4.J, Hydrology and Water Quality, addresses the hydrology and water quality impacts that could result from construction and operation of the proposed Potrero Power Station Mixed-Use Development project. The environmental setting below describes the existing hydrology and water quality in the project area with a focus on San Francisco Bay and the San Francisco bayside waterfront area. Stormwater management in San Francisco and potential areas of flooding and tsunami inundation are also identified. The setting section is followed by a discussion of the federal, state, and local regulatory framework applicable to hydrology and water quality aspects of construction and implementation of the proposed project. Potential impacts that could result from construction and operation of the proposed project are then discussed, along with regulatory requirements and features included in the proposed project that would ensure water quality impacts would be less than significant.

Existing conditions and potential impacts associated with water supply, stormwater, and wastewater treatment are addressed in the Appendix B, Initial Study, under Utilities and Service Systems with respect to the potential to exceed the capacity of existing systems. Existing conditions and potential impacts associated with water quality impacts on fish and other marine species are addressed in EIR Section 4.I, Biological Resources.

4.J.2 Environmental Setting

Climate

The Bay Area has a Mediterranean climate, with cool, dry summers and mild, wet winters. The mean annual precipitation in San Francisco is approximately 24 inches per year with most of the rainfall occurring between November and March.¹ The average annual temperature in San Francisco is 57.3 degrees Fahrenheit, with the minimum average monthly temperature occurring in December and January (46 degrees Fahrenheit) and maximum average monthly temperature occurring during September (70 degrees Fahrenheit).

San Francisco Bay

The project site is adjacent to San Francisco Bay, which connects the Pacific Ocean to the west with San Pablo Bay, Suisun Bay, and the Sacramento-San Joaquin Delta to the north and east. The San Francisco Bay is an estuarine environment that receives saltwater inputs from the Pacific Ocean through the Golden Gate, and freshwater inputs from the Sacramento-San Joaquin Delta to the northeast, as well as various other tributary rivers and creeks located around San Francisco Bay.

¹ U.S. Climate Data, San Francisco, <http://www.usclimatedata.com/climate/san-francisco/california/united-states/usca0987>, accessed February 24, 2018.

Stormwater Management

Stormwater on the eastern portion of the project site currently drains to a separate stormwater system that flows directly to Lower San Francisco Bay via three valve-controlled stormwater outfalls. Stormwater from the remainder of the project site is diverted to the City's combined sewer system operated by the San Francisco Public Utilities Commission (SFPUC). This combined sewer system collects and transports both wastewater and stormwater runoff in the same set of pipes, and the combined flows are all treated at the same treatment facilities. The City's combined sewer system and wastewater flows relevant to the water quality analysis are described below.

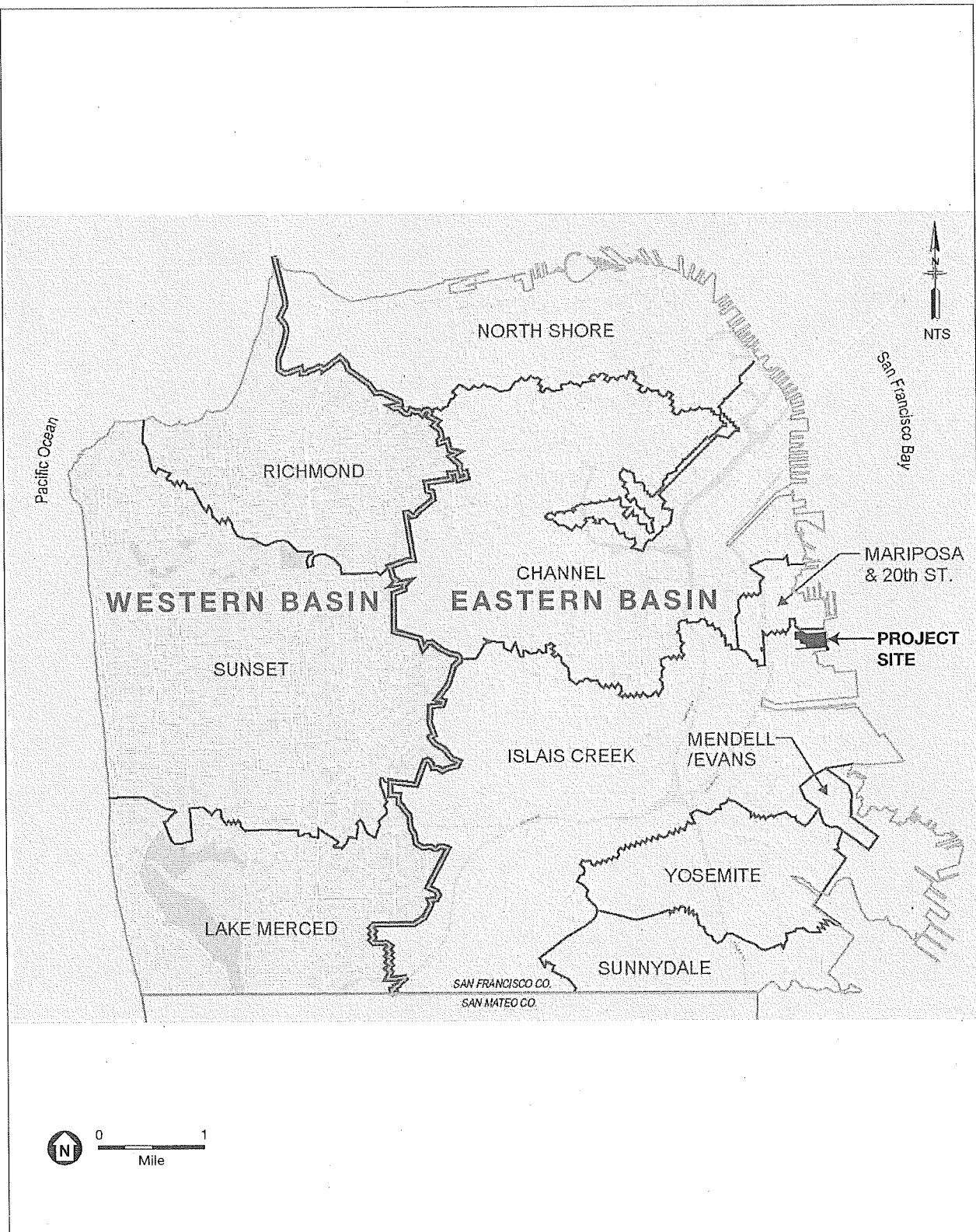
SFPUC Combined Sewer System

The City's combined sewer system is roughly divided into two major drainages: the Bayside and the Westside drainage basins. The Bayside drainage basin, which includes the project site, covers the eastern side of San Francisco and consists of three distinct sewer discharge basins and their associated urban watersheds: North Shore (North Shore watershed), Central (Channel watershed in its entirety and a portion of the Islais Creek watershed), and South (remainder of the Islais Creek watershed and the entirety of Yosemite and Sunnydale watersheds). The watersheds are shown on **Figure 4.J-1, San Francisco Drainage Basins**, and the project site is located in the Islais Creek watershed. Combined stormwater and wastewater flows from the Bayside drainage basin are conveyed for treatment to the Southeast Water Pollution Control Plant (Southeast Plant), located on Phelps Street between Jerrold and Evans avenues.

The Southeast Plant includes facilities to provide both primary and secondary treatment of the combined wastewater and stormwater flows. Primary treatment is the first stage in treatment and includes physical methods to remove floating and settleable solids from raw flows. Secondary treatment at the Southeast Plant involves aeration with oxygen to enhance the biological breakdown of the combined flows, followed by secondary clarification for further solids removal. All discharges from the Southeast Plant, whether treated to a primary or secondary level, are disinfected using sodium hypochlorite and then dechlorinated using sodium bisulfite to remove any chlorine residual prior to discharge.

During dry weather (typically May through September), the wastewater flows consist mainly of industrial wastewater and sanitary sewage (wastewater from toilet flushing and other sanitary conveniences), collectively referred to as wastewater. The annual average wastewater flow during dry weather is 51.4 million gallons per day (mgd).² The average dry-weather design flow capacity of the Southeast Plant is 84.5 mgd; therefore, the existing dry-weather flows are about 61 percent of the treatment capacity, and all dry-weather wastewater flow is treated to a secondary level at the Southeast Plant. During dry weather, the treated wastewater is discharged to San Francisco Bay through the deep water outfall at Pier 80, located immediately to the north of the Islais Creek Channel.

² San Francisco Water Power Sewer, *Southeast Water Pollution Control Plant and Bayside Wet Weather Facilities 2017 Annual Self-Monitoring Report*, February 1, 2018.



SOURCE: City of San Francisco, 2011

Potrero Power Station Mixed-Use Development Project

Figure 4.J-1
San Francisco Drainage Basins

During wet weather (generally October through April), the combined sewer system collects large volumes of stormwater runoff in addition to wastewater, and together, they are referred to as wet-weather flows. Depending on the amount of rainfall, wet-weather flows are treated to varying levels before being discharged to San Francisco Bay. Up to 150 mgd of wet-weather flows receive secondary treatment at the Southeast Plant. The Southeast Plant can also treat up to an additional 100 mgd to a primary treatment standard plus disinfection, for a total wet-weather treatment capacity of 250 mgd. Treated wet-weather discharges of up to 250 mgd from the Southeast Plant occur through the Pier 80 outfall directly to San Francisco Bay or through the Quint Street outfall to Islais Creek Channel on the south bank of Islais Creek. Only wastewater treated to a secondary level is discharged at the Quint Street outfall.

Up to an additional 150 mgd of wet-weather flows receive primary treatment plus disinfection at the North Point Wet Weather Facility, located on the northern side of the city at 111 Bay Street. This facility operates only during wet weather. The treatment process at this facility consists of using bar screens to remove large objects such as garbage; sedimentation to allow solids to settle out; skimming to remove floatables; disinfection with sodium hypochlorite; and dechlorination using sodium bisulfite to remove any chlorine residual before discharge. Primary treated effluent from this facility is discharged through four deep water outfalls, approximately 800 feet from the San Francisco Bay shore and 18 feet below mean lower low water.³ Two of the deep water outfalls terminate at the end of Pier 33, and two terminate at the end of Pier 35 on the northeastern San Francisco Bay shore.

The City's combined sewer system includes underground concrete storage and transport boxes that, during wet weather, temporarily retain the combined stormwater and wastewater flows that exceed the total 400-mgd capacity of the Southeast Plant and the North Point Wet Weather Facility for later treatment. When rainfall intensity results in combined flows that exceed the total 400-mgd capacity of the Southeast Plant and North Point Wet Weather Facility, and the 125-million-gallon capacity of the storage and transport structures, the excess flows are discharged through 29 combined sewer discharge structures located along the City's bayside waterfront from the Marina Green to Candlestick Point. Discharges from these structures receive flow-through treatment, which is equivalent to primary treatment, to remove settleable solids and floatable materials. Wet-weather flows are intermittent throughout the rainy season, and combined sewer discharge events vary in nature and duration, depending largely on the intensity of individual rainstorms.

All discharges from the City's combined sewer system to San Francisco Bay, through either the outfalls or the combined sewer discharge structures, are operated in compliance with the federal Clean Water Act and the state Porter-Cologne Water Quality Control Act through the National Pollutant Discharge Elimination System (NPDES) permit for discharges from the Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities, and Wastewater Collection System (referred to as the Bayside NPDES Permit).

The SFPUC Wastewater Enterprise manages the City's combined sewer collection, treatment, and discharge system, and is currently implementing the Sewer System Improvement Program, a city-wide program to repair and seismically upgrade aging sewer infrastructure. Prepared with

³ Mean Lower Low Water is the average height of the lowest tide recorded each day of a period of 19 years.

extensive input from the public, the Sewer System Improvement Program focuses on providing reliable, efficient, sustainable, and environmentally acceptable operation and management of the combined sewer system and addresses both critical near-term needs and long-term issues. The plan incorporates adaptations for climate change.

Islais Creek Watershed

The proposed project is located almost entirely within the Islais Creek watershed. Islais Creek is the largest watershed on San Francisco's bayside, covering 5,523 acres that extend from near the southern city limits to the north and then east to the Islais Creek Channel. West of Highway 101, the land uses in the watershed are primarily residential, while to the east, it is heavily industrial, including the container terminals to the north and south of Islais Creek Channel. Along the north side of the project site, there is a small area (approximately 0.2 acre) that drains to the 20th Street sub-basin.

Stormwater runoff from the western half of the project site currently drains to the combined sewer system and exits the site in three locations:

- at 22nd Street via sheet flow to a 12-inch diameter combined sewer line that connects with the 18-inch diameter combined sewer line that flows southward beneath Illinois Street (this pipe increases to 24 inches in diameter at Humboldt Street);
- at Humboldt Street via a lateral into the 27-inch diameter combined sewer line that flows southward beneath Illinois Street; and
- at 23rd Street via a combined sewer line that connects with the 27-inch diameter combined sewer line that flows southward beneath Illinois Street (this 27-inch diameter pipe becomes a 48-inch diameter pipe just south of 23rd Street).

All of the sanitary sewage from the project site is also pumped to the 27-inch diameter combined sewer line beneath Illinois Street via the combined sewer line beneath 23rd Street.

The 24-inch diameter Illinois Street sewer line turns west at 23rd Street to Third Street where it continues south towards Cesar Chavez Street. The 27-inch diameter Illinois Street sewer line continues south along Illinois Street eventually also arriving at Third and Cesar Chavez streets. At Third and Cesar Chavez streets, there is a flow split such that dry weather flows from both lines continue directly to the Southeast Plant and wet weather flows can be diverted to the Islais Creek transport/storage box during periods of high flow.

Completed in 1997, the Islais Creek transport/storage box volume is 45 million gallons, including associated sewer storage capacity. In dry weather, flows from the Islais Creek drainage area are intercepted by the Southeast Plant lift station and pumped directly to the Southeast Plant. In wet weather, excess flows are diverted to the Islais Creek transport/storage box, which then convey the flows to the Flynn Pump Station (previously the Rankin Street Pump Station). The Flynn Pump Station has a maximum capacity of 110 million gallons per day and pumps flows to the Southeast Plant for treatment.

When the capacity of the Flynn Pump Station is exceeded during wet weather, a portion of the excess wet-weather flows are discharged to Islais Creek via five combined sewer discharge

structures or to Mission Creek via six combined sewer discharge structures.⁴ A portion of the flows are also directed to the Mariposa Street combined sewer discharge structure which discharges to the Central Basin of Lower San Francisco Bay. Consistent with other discharges from combined sewer discharge structures, these discharges receive the equivalent of primary treatment to remove settleable solids and floatable materials prior to discharge.

The Islais Creek collection and conveyance facilities are designed to meet a long-term average of no more than 10 combined sewer discharges per year.⁵ Although the system was designed and constructed based on meeting this long-term average, it is understood that some years are wetter than others. Therefore, the Bayside NPDES Permit allows for the 10- combined sewer discharge annual average to be exceeded in any particular year as long as the long-term average is maintained at the appropriate level. The provisions of the Bayside NPDES Permit are discussed below under “State Regulations,” p. 4.J-21.

20th Street Sub-Basin

The project site is located to the south of the 20th Street sub-basin of the Islais Creek watershed. This basin is approximately bounded by Illinois Street on the west, 19th Street on the north, 22nd Street and the Potrero Power Plant on the south, and San Francisco Bay on the east. When the capacity of the 20th Street Pump Station is exceeded during wet weather, a portion of the excess wet-weather flows is stored in a 54-inch sewer line and a 42-inch-diameter sewer line. Flows in excess of the pump station and sewer line storage capacity are discharged to the Central Basin of San Francisco Bay via the 20th and 22nd streets combined sewer discharge structures located along the bay shoreline. Consistent with other discharges from combined sewer discharge structures, these discharges receive the equivalent of primary treatment to remove settleable solids and floatable materials prior to discharge. The 20th Street sub-basin collection and conveyance facilities are designed to meet a long-term average of no more than 10 combined sewer discharges per year. Consistent with other discharges from combined sewer discharge structures, these discharges receive the equivalent of primary treatment to remove settleable solids and floatable materials prior to discharge.

Previous Wastewater and Stormwater Discharges

The power plant previously discharged wastewater and some stormwater to Lower San Francisco Bay in accordance with NPDES permits from the Regional Water Quality Control Board and State Water Resources Control Board.⁶ Wastewater discharges occurred via the Unit 3 outfall discussed in Chapter 2, Project Description. The power plant also discharged some stormwater via the Unit 3 outfall as well as two shoreline outfalls permitted under the state water board’s general industrial

⁴ San Francisco Bay Regional Water Quality Control Board, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0037664, Order No.R2-2013-0029, for City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities and Wastewater Collection System, adopted August 19, 2013.

⁵ SFPUC, *Task 500, Technical Memorandum No. 509, Combined Sewer Discharges, Final Draft*. December 2010.

⁶ California Regional Water Quality Control Board, San Francisco Bay Region, Order Number: R2-2006-0032, NPDES Permit No. CA0005657, Reissuing Waste Discharge Requirements for: Mirant Power, LLC, Potrero Power Plant, San Francisco, San Francisco County, May 10, 2006.

stormwater permit applicable in 2006. The existing stormwater drainage system does have manually operated valve controls to preclude unwanted discharges to the bay, however the existing stormwater system does not include any stormwater controls to reduce the rate or volume of stormwater runoff or treat the runoff.⁷

Existing Flood Zones

Some low-lying areas along San Francisco's bay shoreline are subject to flooding during extreme high tides, storm surge, and waves, although these occurrences are relatively rare in San Francisco compared to areas prone to hurricanes or other major coastal storms or to developed areas near or below sea level. In 2008, the City and County of San Francisco adopted interim flood maps depicting the 100-year flood hazard zone along the City's bay shoreline. The shoreline portions of the project site are located within a 100-year flood zone identified on the City's 2008 Interim Flood Hazard Maps.⁸ The flood elevation is measured in North American Vertical Datum of 1988 (NAVD88), and ranges from 11 to 12 feet at the project site.⁹ Flooding in these areas would have the potential to damage buildings and infrastructure, and structures built in these areas could potentially impede or redirect flood flows.

Flooding as a Result of Sea Level Rise

Flooding conditions at the project site and along San Francisco's bay shoreline would be exacerbated with projected sea level rise over the remainder of the century due to climate change. This section discusses the factors contributing to coastal flooding and the potential for increased flooding in the future as a result of sea level rise, assuming that no flood protection measures are implemented.

Factors Contributing to Coastal Flooding

Coastal areas are vulnerable to periodic flooding due to extreme tides, storm surge, storm waves, and El Niño storm events. These conditions can result in many effects, including flooding of low-lying areas, including roads, boardwalks, and waterfront promenades; storm drain backup; wave damage to coastal structures; and erosion of natural shorelines. Rising sea level due to climate change has the potential to increase the frequency, severity, and extent of flooding as a result of these conditions, each of which is described below.

Extreme Tides

Diurnal (meaning, twice daily) high tides along San Francisco's bay shoreline typically range from approximately 5 to 7 feet NAVD88, and annual maximum tides may exceed 7 feet NAVD88.¹⁰ The twice yearly extreme high and low tides are called king tides. These occur each year during the winter and summer when the earth, moon, and sun are aligned, and the winter event may be

⁷ Carlson, Barbee & Gibson, Inc., *Draft Infrastructure Plan, Potrero Power Station, San Francisco, California*, February 28, 2018.

⁸ City and County of San Francisco, *San Francisco Interim Floodplain Map, East, Final Draft*, July 8, 2008.

⁹ Federal Emergency Management Agency (FEMA), *San Francisco Bay Area Coastal Study, Increased Flooding Scenarios*, San Francisco County, FIRM Database, Preliminary, November 12, 2015.

¹⁰ SFPUC, *Climate Stressors and Impact: Bayside Sea Level Rise Mapping, Final Technical Memorandum*, June 2014

amplified by weather. A portion of the Embarcadero Promenade near Pier 14 and the Marina area in San Francisco experiences inundation under king tide conditions.

Storm Surge

Storm surge occurs when persistent high winds and changes in air pressure elevate bay water levels above normal tide levels, which can raise the water level near the shoreline by several feet and may persist for several days. Along San Francisco's bay shoreline, storm surge typically raises the surface water elevation by 0.5 foot to as much as 3.0 feet during major winter storms.¹¹ The degree of storm surge depends on the severity of the storm as well as tidal levels at the time of the storm. Storm surge is characterized using a return period that represents the expected frequency of a storm event occurring based on historical information. One-year storm surge is expected to occur each year, while 100-year storm surge (which represents more extreme conditions) has a 1 percent chance of occurring in any year.

Storm Waves

Waves and wave run-up primarily affect a narrow band of land along the shoreline where wave energy can damage structures and overtop both natural embankments and shoreline protection structures such as seawalls and levees. The influence of waves diminishes inland as wave energy dissipates. In addition, the Pacific Ocean waves, which are generally larger than those originating in San Francisco Bay, are substantially dampened along San Francisco Bay shoreline due to transformation processes within San Francisco Bay. Along the San Francisco Bay shoreline, storm waves typically raise the surface water elevation by 1 to 4 feet during major winter storms several times a year.¹²

El Niño Winter Storms

During El Niño events,¹³ atmospheric and oceanographic conditions in the Pacific Ocean bring warm, higher waters to the Bay Area and may produce severe winter conditions that bring intense rainfall and storm conditions to the Bay Area. Tides are often elevated 0.5 to 1.0 foot above normal along the coast and in San Francisco Bay for months at a time, and additional storm surge and wind effects during storm events can elevate water levels even further. El Niño conditions prevailed in 1977-1978, 1982-1983, 1997-1998, 2009-2010,¹⁴ and 2015-2016.¹⁵

Sea Level Rise

Sea levels are rising globally due to climate change, and they are expected to continue to rise at an accelerating rate for the foreseeable future. The sea level at the San Francisco tidal gage has risen

¹¹ SFPUC, *Climate Stressors and Impact: Bayside Sea Level Rise Mapping, Final Technical Memorandum*, June 2014.

¹² Ibid.

¹³ El Niño–Southern Oscillation is a natural oceanic-atmospheric cycle. El Niño conditions are defined by prolonged warming in the Pacific Ocean sea surface temperatures. Typically, this happens at irregular intervals of 2 to 7 years, and can last anywhere from 9 months to 2 years.

¹⁴ SFPUC, *Climate Stressors and Impact: Bayside Sea Level Rise Mapping, Final Technical Memorandum*, June 2014.

¹⁵ National Oceanic and Atmospheric Administration (NOAA), Climate.gov, April 2016 El Niño/La Niña update: What goes up..., <https://www.climate.gov/news-features/blogs/ensol/april-2016-el-ni%C3%B1o-la-ni%C3%B1a-update-what-goes-up...>, accessed February 24, 2018.

approximately 0.08 inch per year since 1897, resulting in about 0.8 foot of sea level rise between that time and 2017.¹⁶ The National Research Council's 2012 report, *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (the National Research Council Report) provides a scientific review of sea level rise for the West Coast and provides the most recent regional sea level rise predictions for 2030, 2050, and 2100, relative to the year 2000 sea level.¹⁷ In this report, the NRC projects that sea levels in the Bay Area will rise 11 inches by 2050 and 36 inches by 2100, as presented in **Table 4.J-1, National Research Council Sea Level Rise Estimates for San Francisco Bay Relative to the Year 2000**. As presented in the National Research Council Report, these sea level rise projections represent likely sea level rise values based on the current understanding of global climate change and assuming a moderate level of greenhouse gas emissions¹⁸ and extrapolation of continued accelerating land ice melt patterns.

**TABLE 4.J-1
NATIONAL RESEARCH COUNCIL SEA LEVEL RISE ESTIMATES FOR SAN FRANCISCO BAY
RELATIVE TO THE YEAR 2000**

Year	Projection (inches)	Upper Range (inches)
2030	6	12
2050	11	24
2100	36	66

SOURCE: National Research Council, 2012

The National Research Council Report also includes ranges of sea level rise that could occur based on different estimates of greenhouse gas emissions and ice melt patterns. The extreme upper limit of the ranges represents unlikely but possible levels of sea level rise that are based on very high greenhouse gas emissions scenarios and significant ice melt that is not currently anticipated but could occur. Assuming the maximum level of greenhouse gas emissions and ice melt, the National Research Council anticipates that sea levels in the Bay Area could rise up to 24 inches by 2050 and 66 inches by 2100 as presented in Table 4.J-1.

These estimates represent the long-term increase in Mean Sea Level and the associated average daily high tide conditions (represented by Mean Higher High Water¹⁹, or MHHW) that could result

¹⁶ NOAA, Mean Sea Level Trend 9414290 San Francisco, California, https://tidesandcurrents.noaa.gov/sltrends_station.shtml?stnid=9414290, accessed February 24, 2018.

¹⁷ National Research Council, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*. Washington, DC: The National Academies Press, 2012, http://www.nap.edu/catalog.php?record_id=13389, accessed February 24, 2018.

¹⁸ Future emissions of greenhouse gases depend on a collection of human decisions at local, regional, national, and international levels as well as potential unknown technological developments. For this reason, future changes in greenhouse gas emissions cannot be accurately estimated, and a range of emissions levels is considered in the NRC Report. Estimates of sea level rise relative to thermal expansion of the oceans were formulated using the mid-level, or moderate level, of predicted changes in greenhouse gas emissions (from a combination of fossil and non-fossil fuels), as well as an assumption of high economic growth; this represents scenario "A1B" as described by the Intergovernmental Panel on Climate Change (IPCC).

¹⁹ Mean Higher High Water (MHHW) is the average height of the highest tide recorded each day of a period of 19 years.

from sea level rise; they do not take into account extreme tides, storm surge, storm waves, or El Niño storm events, all of which can result in water levels that are temporarily higher than MHHW as discussed above.

In 2015 the California Coastal Commission adopted the National Research Council Report as the best science currently available in its Sea Level Rise Policy Guidance. The California Coastal Commission guidance emphasizes the importance of regularly updating sea level rise projections as the science continues to advance.²⁰ The San Francisco Planning Department currently considers the National Research Council Report to be the best science currently available on sea level rise affecting San Francisco for both CEQA and planning purposes.

In March 2013, the California Ocean Protection Council updated its 2010 statewide sea level rise guidance to adopt the National Research Council Report as the current, best available science on sea level rise for California.²¹ Later, in April 2017, a Working Group of the Ocean Protection Council's Science Advisory Team released a report synthesizing the state of sea level rise science entitled *Rising Seas in California: An Update on Sea-Level Science (Rising Seas Report)*. The Rising Seas Report was prepared and peer reviewed by some of California's and the nation's foremost experts in coastal processes, climate and sea-level rise science, observational and modeling science, the science of extremes, and decision making under uncertainty. Sea level rise projections provided in the Rising Seas Report are based on probabilistic modeling using low and high greenhouse gas emission estimates through the year 2150.

The Ocean Protection Council considers the Rising Seas Report, along with other authoritative peer-reviewed science to be the currently best available science to base future planning and investing decisions for California, as long as the other peer reviewed reports are not less precautionary than the foundation set forth by the Rising Seas Report. In March 2018, the council published an update to its sea level rise guidance titled *State of California Sea-Level Rise Guidance: 2018 Update*.²² The Rising Seas Report provides the scientific foundation for the updated guidance. The updated guidance states that decisions about which sea-level rise projections to select should be based on many factors, including project location, lifespan of the project, the degree of sea-level rise exposure and associated impacts, the adaptive capacity of the project, and the degree of risk tolerance. A step-wise process for project planning is provided.

The updated guidance provides sea level rise values for *low risk aversion*, *medium-high risk aversion*, and *extreme risk aversion*. The extreme risk aversion values are recommended for high consequence projects with little to no adaptive capacity. Medium-high risk aversion values are a precautionary projection to be used for less adaptive, more vulnerable projects. Low risk aversion values are

²⁰ California Coastal Commission, *Sea Level Rise Policy Guidance, Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits*, Unanimously Adopted August 12, 2015, http://documents.coastal.ca.gov/assets/slr/guidance/August2015/0_Full_Adopted_Sea_Level_Rise_Policy_Guidance.pdf, accessed February 24, 2018.

²¹ California Climate Action Team, *State of California Sea-Level Rise Guidance Document*. Developed by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), with science support provided by the Ocean Protection Council's Science Advisory Team and the California Ocean Science Trust, March 2013 Update, http://www.opc.ca.gov/webmaster/ftp/pdfs/docs/2013_SLR_Guidance_Update_FINAL1.pdf, accessed June 17, 2018.

²² California Natural Resources Agency, 2018. *State of California Sea-Level Rise Guidance: 2018 Update*. http://www.opc.ca.gov/webmaster/ftp/pdfs/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf, accessed June 17, 2018.

considered the likely range of sea level rise that could occur and these projections are appropriate for adaptive and/or low consequence projects. The proposed project is considered an adaptive project because the proposed seawall and rock slope revetment along the shoreline can be raised in the future if necessary in the case that sea level rise exceeds projections. Therefore, the low risk aversion values are appropriate for project design.

The Ocean Protection Council provides two estimates of sea level rise beyond 2050 based on low and high global emission scenarios. These estimates for low risk aversion projects are shown in **Table 4.J-2, Ocean Protection Council Sea Level Rise Estimates for San Francisco Bay Relative to the Year 2000**. For the years 2050 and 2100, the high emissions projections are 23 and 41 inches, less than the upper range of sea level rise estimated by the National Resources Council of 24 and 66 inches.

TABLE 4.J-2
OCEAN PROTECTION COUNCIL SEA LEVEL RISE ESTIMATES FOR SAN FRANCISCO BAY
RELATIVE TO THE YEAR 2000

Year	Low Emissions Projection, inches	High Emissions Projection, inches
2030	-	6
2050	-	13
2070	18	23
2100	29	41

SOURCE: Ocean Protection Council, 2018

Sea Level Rise Inundation Mapping

The SFPUC, as part of the planning for its Sewer System Improvement Program, developed a series of maps published in 2014 that represent areas of inundation along both the San Francisco Bay and Pacific Ocean shorelines of San Francisco. The Port of San Francisco updated the maps in 2016 to include its piers and wharves.²³ These maps use a 1-meter horizontal grid resolution based on the 2010/2011 California Coastal Mapping Program LiDAR. The inundation maps use data from the Federal Emergency Management Agency's California Coastal Mapping and Analysis Project, which includes detailed coastal engineering analyses and mapping of the San Francisco Bay shoreline.

The inundation maps evaluate scenarios that represent the National Research Council projections of sea level rise in combination with the effects of storm surge. They represent permanent inundation that could occur as a result of total water level rises (over and above year 2000 MHHW) based on daily tidal fluctuations. Each scenario also addresses temporary inundation that could occur from extreme tides and from 1-year, 2-year, 5-year, 25-year, 50-year, and 100-year storm surge. Flooding as a result of storm surge would occur on a temporary basis, during and immediately after a storm event or extreme tide.

²³ AECOM, *Port of San Francisco Sea Level Rise Inundation Mapping Technical Memorandum*, March 2016.

The scenarios listed below represent San Francisco Bay water elevations that could occur by the year 2050 and the year 2100, based on the National Research Council's *projected* levels of sea level rise and considering a 100-year storm surge.

- 12 inches above year 2000 MHHW (representative of National Research Council's projected sea level rise by 2050);
- 36 inches above year 2000 MHHW (representative of National Research Council's projected sea level rise by 2100);
- 52 inches above year 2000 MHHW (representative of National Research Council's projected sea level rise by the year 2050 in combination with a 100-year storm surge); and
- 77 inches above year 2000 MHHW (representative of National Research Council's projected sea level rise by the year 2100 in combination with a 100-year storm surge).

The following scenarios represent the maximum San Francisco Bay water elevations that could occur by the year 2100, based on the National Research Council's *upper range* of sea level rise and considering 100-year storm surge.

- 66 inches above year 2000 MHHW (representative of National Research Council's upper range of sea level rise by 2100); and
- 107 inches above year 2000 MHHW (representative of National Research Council's upper range of sea level rise by the year 2100 in combination with a 100-year storm surge).

The Port of San Francisco cautions that its maps represent a "do-nothing scenario," in which no site-specific measures are taken to prevent future flooding and no area-wide measures such as waterfront protection structures are constructed. In the event that the City undertakes area-wide measures to protect against inundation in the future, the mapping would need to be revised to reflect the modified inundation areas with implementation of these measures. In addition, because the Port sea level rise maps are based on 2010/2011 topographic mapping, they do not account for the construction of shoreline improvements that would occur under the proposed project to prevent future flooding due to sea level rise.

MHHW near the project site is at an elevation of 6.4 feet NAVD88.²⁴ **Table 4.J-3, Water Elevations Associated with Sea Level Rise Projections**, presents water elevations near the project site associated with each of the sea level rise scenarios discussed above, based on the year 2000 MHHW elevation. The Port inundation maps indicate that under existing conditions, only the immediate waterfront portion of the project site would be inundated with 12 inches of sea level rise, which is expected by 2050, even when the effects of 100-year storm surge are considered. Similarly, the site would not be subject to daily tidal inundation with 36 inches of sea level rise, except for the immediate waterfront. When the effects of 100-year storm surge are considered in addition to 36 inches of sea level rise, the flood level would be approximately 12.8 feet NAVD88 and larger portions of the project site waterfront would be inundated. When the effects of 100-year storm surge are considered in addition to 66 inches of sea level, the flood level would be approximately

²⁴ SFPUC, *Climate Stressors and Impact: Bayside Sea Level Rise Mapping, Final Technical Memorandum*. June 2014.

15.4 feet NAVD88. Flooding would extend approximately 250 feet inland from the bay shoreline at the project site.

TABLE 4.J-3
WATER ELEVATIONS ASSOCIATED WITH SEA LEVEL RISE PROJECTIONS

Sea Level Rise Scenario	Elevation (feet, NAVD88)
2000 MHHW with no sea level rise	6.4
2000 MHHW plus 100-year storm surge	9.8
2000 MHHW plus 12 inches of sea level rise	7.4
2000 MHHW plus 12 inches of sea level rise and 100-year storm surge	10.7
2000 MHHW plus 36 inches of sea level rise	9.4
2000 MHHW plus 36 inches of sea level rise and 100-year storm surge	12.8
2000 MHHW plus 66 inches of sea level rise (upper range)	11.9
2000 MHHW plus 66 inches of sea level rise and 100-year storm surge (upper range)	15.4

NOTES:

MHHW = Mean Higher High Water. This is the higher of each day's two high tides averaged over time.

SOURCE: Port of San Francisco, 2016; Orion Environmental Associates, 2018

Planning for Sea Level Rise in San Francisco

The City has convened an inter-agency Climate Adaptation Working Group to identify ways to ensure that it is prepared to adapt to effects of sea level rise.²⁵ Participating agencies include the Department of the Environment, the SFPUC, the Planning Department, the City Administrator's Office, the Port, San Francisco International Airport, San Francisco Public Works, the San Francisco Municipal Transportation Agency, the San Francisco Department of Public Health, and the San Francisco Recreation and Park Department. The working group is focusing its effort on the City's most imminent adaptation concerns, including sea level rise along Ocean Beach and shores, flooding from storm surge and extreme rain events, an increased likelihood of extreme heat, and decreased fog that supports local ecosystems such as redwoods. It is working on ways to improve the existing coastal flood protection infrastructure in time to prevent significant flooding impacts from sea level rise. The working group will establish requirements to address proper flood insurance for structures in low-lying areas, flood-resilient construction of new development within inundation areas, and a low carbon footprint for new development. It is also assessing the use of natural solutions, such as wetlands, to protect the shoreline.

Former San Francisco Mayor Edwin M. Lee also established two interdepartmental committees to manage the City's efforts on addressing sea level rise: the Sea Level Rise Coordinating and Sea Level Rise Technical committees. The Sea Level Rise Coordinating Committee, established in February 2015, is a director-level committee co-chaired by the Director of Citywide Planning at the Planning Department and the City Engineer and Deputy Director at Public Works. Sea Level Rise

²⁵ Adaptation Clearinghouse, SF Adapt (San Francisco Climate Adaptation Working Group, <http://www.adaptationclearinghouse.org/organizations/sf-adapt-san-francisco-climate-adaptation-working-group.html>, accessed February 24, 2018).

Coordinating Committee members also include the Chief Resiliency Officer and senior staff from the Mayor's Office, the City Administrator's Office, the airport, the Port, the SFPUC, the transportation agency, the Department of Building Inspection, the Office of Community Investment and Infrastructure, the Office of Economic and Workforce Development, and the Capital Planning Committee.

Guidance for Incorporating Sea Level Rise into Capital Planning

On September 22, 2014, the City's Capital Planning Committee adopted the Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco: Assessing Vulnerability and Risk to Support Adaptation, which was prepared by the Sea Level Rise Coordinating Committee. The guidance document has been revised to simplify the analysis of specific sea level rise scenarios and clarify how to select the appropriate scenario for design and planning purposes. The revised document also provides a methodology for determining the design tide for use in project design and planning, and was adopted by the Capital Planning Committee on December 14, 2015.²⁶

San Francisco Sea Level Rise Action Plan

In March 2016, the mayor's Sea Level Rise Coordinating Committee released the San Francisco Sea Level Rise Action Plan,²⁷ with lead City staffing by the Planning Department and Public Works, along with other City departments and a consultant team. The Action Plan is intended to guide City departments in their understanding of and adaptation to the impacts of sea level rise, and it also identifies what long-term sea level rise means for San Francisco's residents, visitors, economy, and waterfront.

The Action Plan establishes an overarching vision, goals, and a set of guiding principles for sea level rise planning; summarizes current climate science, relevant policies and regulations, and vulnerability and risk assessments conducted to date; identifies data gaps and establishes a framework for further assessment, adaptation planning, and implementation; and provides the foundation and guidance to develop a citywide Sea Level Rise Adaptation Plan.

The Action Plan is the first step in the development of the Citywide Sea Level Rise Adaptation Plan, expected to be completed by the end of 2020, which will incorporate the adaptation strategies identified in the Action Plan and help prioritize investments to best improve climate resilience while protecting socioeconomic and environmental value. The Adaptation Plan will also identify potential funding sources, governance structures, and implementation timelines.

²⁶ City and County of San Francisco Sea Level Rise Committee, *Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco: Assessing Vulnerability and Risk to Support Adaptation*, December 14, 2015, <http://onesanfrancisco.org/sites/default/files/inline-files/Guidance-for-Incorporating-Sea-Level-Rise-into-Capital-Planning1.pdf>, accessed February 28, 2018.

²⁷ City and County of San Francisco, *Sea Level Rise Action Plan*, March 2016. Available online at http://default.sfplanning.org/plans-and-programs/planning-for-the-city/sea-level-rise/160309_SLRAP_Final_ED.pdf, accessed February 24, 2018.

Planning for Climate Change under the SFPUC Sewer Improvement Program

The SFPUC is also addressing sea level rise as part of its Sewer System Improvement Program, and is conducting a detailed analysis of the potential for new and existing combined sewer infrastructure to be affected by sea level rise.²⁸ Accordingly, all new facilities will be built using a climate change criterion so the combined sewer system will be better able to respond to rising sea levels. Rising sea levels and storm surge could potentially inundate the combined sewer system and exacerbate existing flooding that can result from backups of the sewer system in some areas of San Francisco. Rising sea levels and storm surge can also cause new flooding. To address these issues, the SFPUC is also evaluating alternatives such as the installation of backflow preventers on the combined sewer discharge structures to restrict the intrusion of bay water into the combined sewer system.

Tsunami and Seiche

Tsunamis (seismic sea waves) are long-period waves that are typically caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides that typically travel at speeds of up to 500 miles per hour. Tsunami wave heights are typically up to 3 feet in the open water and can be barely perceptible to watercraft. The wave height may increase in height to 30 feet or more when they reach land, potentially causing large amounts of damage.²⁹ A *seiche* (a temporary disturbance in the water level) is caused by oscillation of the surface of an enclosed body of water such as the San Francisco Bay due to an earthquake or large wind event. Seiches can result in long-period waves that cause run-up or overtopping of adjacent landmasses, similar to tsunami run-up.

San Francisco may experience distant-, regional-, and local-source tsunamis. The Tsunami Annex to San Francisco's Emergency Response Plan defines a distant-source tsunami as one generated by an earthquake or other source event located over 1,000 kilometers (621 miles) from San Francisco.³⁰ Travel times for distant-source tsunamis vary from 4 to 15 hours. A regional-source tsunami results from a source less than 621 miles from San Francisco and has a travel time of 1 to 2 hours. A near-source tsunami results from a source less than 62 miles from San Francisco and could reach San Francisco within 10 to 15 minutes. The primary tsunami threat to the San Francisco Bay Area is from a distant-source earthquake originating from a subduction fault such as the Aleutian-Alaska-Cascadia Subduction Zone.³¹ Approximately 94 percent of the 54 historic tsunamis to reach San Francisco were caused by distant source events and resulted in maximum wave heights of 4 feet in San Francisco. A near-source tsunami caused by a Bay Area earthquake is not seen as a major threat to the City because the majority of Northern California's faults are strike-slip and are less likely to cause damaging tsunamis.³²

²⁸ SFPUC, *Bayside Drainage Basin Urban Watershed Opportunities, Final Draft Technical Memorandum*, July 2014.

²⁹ City and County of San Francisco, *Emergency Response Plan, an Element of the CCSF Emergency Management Program, Tsunami Annex*, August 2016.

³⁰ Ibid.

³¹ Subduction zones are plate tectonic boundaries where two plates converge, and one plate is thrust beneath the other. This process results in geohazards, such as earthquakes and volcanoes.

³² Strike-slip faults are vertical (or nearly vertical) fractures where the blocks of earth move mostly horizontally past one another.

In 2009, the California Geological Survey, California Emergency Management Agency, and the Tsunami Research Center at the University of California completed the state's official tsunami inundation maps. This mapping indicates that the majority of the project site is located in an area identified for potential inundation in the event of a tsunami or seiche based on existing site grades.³³ However, the map presents a worst case scenario based on over 50 local and distant tsunami sources. Future tsunami events may not produce inundation throughout the full hazard area shown on the 2009 map. Conversely, it is possible that actual tsunami inundation could exceed that shown on the map in a major tsunami event.

A 2008 study conducted in support of the Tsunami Annex to San Francisco's Emergency Response Plan used probabilistic hazard modeling, and estimated that San Francisco may experience a 3-foot distant-source tsunami once every 50 to 60 years, and a 9-foot tsunami every 426 years. In the project vicinity, the maximum elevation of a potential wave from a local source tsunami is 6.3 feet NAVD88 and the maximum elevation of a potential wave from a distant-source tsunami is 10.3 feet NAVD88 based on this modeling.³⁴

Water Quality

As described below under "Clean Water Act Section 303(d) and Total Maximum Daily Loads," p. 4.J-18 all states must present the United States Environmental Protection Agency (U.S. EPA) with a list of impaired water bodies, defined as those water bodies that do not meet water quality standards. Lower San Francisco Bay, the Central Basin of Lower San Francisco Bay, and Islais Creek are all listed as impaired water bodies as described below.

Lower San Francisco Bay

The proposed project is located adjacent to Lower San Francisco Bay, which extends from approximately the Bay Bridge on the north to the Dumbarton Bridge on the south. The Regional Water Quality Control Board has listed Lower San Francisco Bay as an impaired water body for the following pollutants: chlordane, dichloro-diphenyl-trichloroethane (DDT), dieldrin, dioxins, furan compounds, mercury, polychlorinated biphenyls (PCBs), invasive species, and trash.³⁵

Central Basin of Lower San Francisco Bay

As discussed above, discharges from the 20th Street sub-basin and from the Mariposa Street combined sewer discharge structure are discharged to the Central Basin of Lower San Francisco

³³ California Emergency Management Agency, California Geological Survey, University of Southern California, *Tsunami Inundation Map for Emergency Planning, San Francisco North Quadrangle/San Francisco South Quadrangle (San Francisco Bay)*, June 15, 2009, http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanFrancisco/Documents/Tsunami_Inundation_SouthSFNorthSF_SFBay_SanFrancisco.pdf, accessed February 24, 2018.

³⁴ City and County of San Francisco, *Emergency Response Plan, an Element of the CCSF Emergency Management Program, Tsunami Annex*, August 2016. Note that mean sea level is at an elevation of 3.31 feet NAVD88 near the project site. The elevations reported in the tsunami annex are reported in feet above mean sea level. These elevations were converted from mean sea level to NAVD88 by adding 3.31 feet.

³⁵ State Water Resources Control Board, 2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) — Statewide, http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed February 24, 2018.

Bay. The regional board has listed the Central Basin as an impaired water body for the following pollutants: chlordane, DDT, dieldrin, dioxins, furan compounds, mercury, and invasive species.³⁶

Islais Creek

As discussed above, the project site is located in the Islais Creek watershed of the City's combined sewer system. During wet weather, a portion of the excess wet-weather flows is discharged to Islais Creek via five combined sewer discharge structures. The regional board has listed Islais Creek as an impaired water body for ammonia and hydrogen sulfide.³⁷ The sediments of Islais Creek are listed for the pesticides chlordane and dieldrin as well as polynuclear aromatic hydrocarbons and toxicity.

Groundwater Resources

The project site is underlain by the San Francisco Downtown Groundwater Basin, one of five groundwater basins in the eastern part of San Francisco. The groundwater basin is composed of shallow, unconsolidated sediments underlain by less permeable bedrock and is separated from the surrounding groundwater basins by bedrock ridges.³⁸ Bedrock outcrops form much of the northeastern and southern basin boundaries. In general, groundwater flow is towards the northeast, following the topography. Groundwater within the San Francisco Downtown Basin is known to contain elevated concentrations of nitrates, chloride, boron, and total dissolved solids. Historically, groundwater quality in the San Francisco Downtown Groundwater Basin has been affected by a number of fuel leak cases, and groundwater in this basin is considered non-potable. This groundwater basin is not used as a drinking water supply, and there are no plans for development of this basin for groundwater production; the only groundwater extracted from this basin is for dewatering purposes.

Trash in Waterways

Trash is of concern for San Francisco Bay because Lower San Francisco Bay is listed as an impaired water body under section 303(d) of the Clean Water Act for trash. Aquatic debris threatens sensitive ecosystems and has been documented to kill or harm wildlife species.³⁹ The debris also interferes with navigation; degrades natural habitats; costs millions of dollars in property damage and lost revenue from tourism and commercial fishing activities; and is a threat to human health and safety. Most aquatic debris comes from land-based sources including littering, legal and illegal dumping, a lack of or poor waste management practices and recycling capacity, stormwater discharges, animal interference with garbage, and extreme natural events. The growing quantity of single-use plastic packaging contributes substantially to the amount of trash transported to waterways. Plastic in the marine environment also breaks into smaller and smaller pieces and it is eaten—often with

³⁶ State Water Resources Control Board, 2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) — Statewide, http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed February 24, 2018.

³⁷ State Water Resources Control Board, 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) — Statewide, http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml, accessed February 24, 2018.

³⁸ California Department of Water Resources. California's Groundwater, Bulletin 118, February 27, 2004.

³⁹ National Resources Defense Council, NRDC News Brief, *Waste in our Water: The Annual Cost to California Communities of Reducing Litter That Pollutes our Waterways*, August 2013.

fatal consequences—by fish, turtles, birds, and marine mammals. As discussed under “Inland Surface Waters, Enclosed Bays, and Estuaries Plan,” p. 4.J-26, below, the State Water Resources Control Board has adopted an amendment to the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Referred to as the Trash Amendment, this amendment prohibits the presence of trash in inland surface waters, enclosed bays, estuaries, and along shorelines in amounts that adversely affect beneficial uses or cause nuisance.

4.J.3 Regulatory Framework

Federal Regulations

Clean Water Act

In 1972, the Clean Water Act established the basic structure for regulating discharges of pollutants into the waters of the United States and gave the U.S. EPA the authority to implement pollution control programs. The Clean Water Act sets water quality standards for contaminants in surface waters. The statute incorporates a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, to finance municipal wastewater treatment facilities, and to manage polluted runoff. The U.S. EPA has delegated responsibility for implementation of portions of the Clean Water Act, including water quality control planning and programs in California, to the State Water Resources Control Board and the nine regional boards. Water quality standards applicable to the proposed project are listed in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), discussed further below under “State Regulations” p. 4.J-21.

Clean Water Act Section 303(d) and Total Maximum Daily Loads

In accordance with section 303(d) of the Clean Water Act, states must present the U.S. EPA with a list of impaired water bodies, defined as those water bodies that do not meet water quality standards. The Clean Water Act requires the development of total maximum daily loads⁴⁰ to improve the water quality of impaired water bodies. Implementation of this program in the project area is conducted by the Regional Water Quality Control Board and is discussed below under “State Regulations” p. 4.J-21.

Clean Water Act Section 401—Water Quality Certification

Section 401 of the Clean Water Act requires compliance with state water quality standards for actions within state waters. Compliance with the water quality standards required under Section 401 is a condition for issuance of a section 404 permit (see below). Under section 401 of the Clean Water Act, every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain a State Water Quality Certification that the proposed activity will comply with state water quality standards.

⁴⁰ A Total Maximum Daily Load is a regulatory term in the U.S. Clean Water Act that describes a plan for restoring impaired waters. The Total Maximum Daily Load identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.

Clean Water Act Section 402—NPDES Permits

Section 402 of the Clean Water Act authorizes the U.S. EPA to establish a nationwide surface water discharge permit program for municipal and industrial point sources known as the NPDES program. Under section 402, the regional board has set standard conditions for each permittee in the Bay Area, including effluent limitation and monitoring programs. Discharges of stormwater and wastewater from the proposed project would be subject to NPDES permits issued to the City that are described below under “State Regulations” p. 4.J-21.

Clean Water Act Section 404 – Dredging or Filling of Navigable Waters of the U.S.

Under section 404 of the Clean Water Act, a Department of the Army permit must be obtained from the U.S. Army Corps of Engineers (Corps) for the discharge of dredged or fill material into Waters of the United States, including wetlands. The discharge of dredged or fill material typically means adding into waters of the U.S. materials such as concrete, dirt, rock, pilings, or side cast material for the purpose of replacing an aquatic area with dry land. Activities typically regulated under section 404 include the use of construction equipment such as bulldozers, and the leveling or grading of sites where jurisdictional waters occur. Construction activities conducted in the bay below the high tide line⁴¹ at an elevation of 7.5 feet NAVD88 would be subject to Clean Water Act section 404.⁴²

The Corps reviews applications for permits in accordance with section 404 guidelines, which have been established by the Corps and U.S. EPA. To issue a permit under section 404, the Corps must ensure that any discharge will not violate the state’s water quality standards. Therefore, in California, the proponent of any activity that may result in a discharge to surface Waters of the United States must obtain water quality certification or a waiver of certification from the regional board (pursuant to section 401 of the Clean Water Act). The project sponsor would be required to obtain a permit from the Corps under Clean Water Act section 404 to conduct any work below the high tide line.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 prohibits work affecting the course, location, conditions, or capacity of navigable waters of the United States without a permit from the Corps. Navigable waters under the act are those subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce (Title 33 Code of Federal Regulations section 3294). Examples of activities requiring a permit from the Corps are the construction of any structure in or over any navigable water; excavation or deposition of materials in such waters; and various types of work performed in such waters, including placement of fill and stream channelization. Construction activities conducted in the bay below the mean high water line at an elevation of 6.0 feet NAVD88 would be subject to Section 10 of the Rivers and Harbors Act.⁴³ The project sponsor would be required to obtain a

⁴¹ The high tide line is the maximum height reached by a rising tide. In the absence of actual data, the high tide line may be determined by physical markings such as a line of oil or scum along the shoreline or a more or less continuous deposit of fine shell or debris on a shoreline or berm.

⁴² WRA, *Permitting Approach for the Potrero Power Plant Redevelopment Project*, December 15, 2017.

⁴³ Ibid.

permit under section 10 of the Rivers and Harbors Act from the Corps to conduct any work within its jurisdiction.

Federal Combined Sewer Overflow Control Policy

In 1994, the U.S. EPA adopted the Combined Sewer Overflow Control Policy,⁴⁴ which became part of the Clean Water Act in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers to the nation's waters. Using the NPDES permit program, the permittee is required to implement the following nine minimum controls that constitute the technology-based requirements of the Clean Water Act and can reduce the frequency of combined sewer discharges and their effects on receiving water quality.

1. Conduct proper operation and regular maintenance programs for the combined sewer system and combined sewer discharge structures
2. Maximize the use of the collection system for storage
3. Review and modify pretreatment programs to minimize the effect of non-domestic discharges to the collection system
4. Maximize flow to the Southeast Plant and North Point Wet Weather Facility for treatment
5. Prohibit combined sewer discharges during dry weather
6. Control solids and floatable materials in combined sewer discharges
7. Develop and implement a pollution prevention program focused on reducing the effect of combined sewer discharges on receiving waters
8. Notify the public of combined sewer discharges
9. Monitor to effectively characterize combined sewer discharge effects and the efficacy of combined sewer discharge controls

The City is currently implementing these controls as required by the Combined Sewer Overflow Control Policy and has also developed a long-term control plan to optimize operations of the City's combined sewer collection and treatment system and maximize pollutant removal during wet weather.

Consistent with the Combined Sewer Overflow Control Policy and the long-term control plan, the City captures and treats 100 percent of the combined wastewater and stormwater flow collected in the combined sewer system during precipitation events. Captured flows on the eastside of the City are directed first to the Southeast Plant and North Point Wet Weather Facility for primary or secondary treatment and disinfection. Flows in excess of the capacity of these facilities are diverted to storage and transport boxes constructed around much of the City, and receive the equivalent to primary treatment prior to discharge to San Francisco Bay. The long-term control plan specifies operational parameters that must be met in each drainage basin before a combined sewer discharge

⁴⁴ United States Environmental Protection Agency, Federal Register, Part VII, Combined Sewer Overflow (CSO) Control Policy; Notice, April 19, 1994.

can occur, and includes the following long-term average annual design goals for combined sewer discharges.

- Four combined sewer discharge events along the North Shore;
- Ten combined sewer discharge events from the Central Basin (which includes the project site); and
- One combined sewer discharge event along the Southeast Sector.

The Combined Sewer Overflow Control Policy allows for this annual average to be exceeded in any particular year as long as the long-term average is maintained at the appropriate level. The City is currently meeting these long-term average design goals for the overall Bayside drainage basin.

Executive Order 11988

Under Executive Order 11988, the Federal Emergency Management Agency is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a 1 percent or greater chance of flooding in any given year (the 10-year floodplain). The Federal Emergency Management Agency is a federal agency whose overall mission is to support citizens and first responders to ensure that the United States builds, sustains, and improves capabilities to prepare for, protect against, respond to, recover from, and mitigate all hazards. With regard to flooding, the Federal Emergency Management Agency provides information, guidance, and regulation associated with flood prevention, mitigation, and response. Under Executive Order 11988, the Federal Emergency Management Agency requires that local governments covered by the federal flood insurance program pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. Through its Flood Insurance and Mitigation Administration, the Federal Emergency Management Agency manages the National Flood Insurance Program, which includes flood insurance, floodplain management, and flood hazard mapping functions. The Federal Emergency Management Agency maps 100-year floodplains within its jurisdiction and provides flood insurance rate information via flood insurance rate maps.

State Regulations

California Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides for protection of the quality of waters of the State of California for use and enjoyment by the people of California. The act also establishes provisions for a statewide program for the control of water quality, recognizing that waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations, and that factors such as precipitation, topography, population, recreation, agriculture, industry, and economic development vary within the state. The statewide program for water quality control is therefore administered most effectively on a local level with statewide oversight. Within this framework, the act authorizes the State Water Resources Control Board and regional boards to oversee the coordination and control of water quality within California.

San Francisco Bay Water Quality Control Plan (Basin Plan)

San Francisco Bay waters are under the jurisdiction of the regional board, which established regulatory standards and objectives for water quality in San Francisco Bay in its Water Quality Control Plan for the San Francisco Bay Basin, commonly referred to as the Basin Plan.⁴⁵ The Basin Plan identifies existing and potential beneficial uses for surface waters and provides numerical and narrative water quality objectives designed to protect those uses. The preparation and adoption of water quality control plans are required by the California Water Code (section 13240) and supported by the federal Clean Water Act. Changes in surface water standards must be approved by the U.S. EPA.

The project site is located adjacent to Lower San Francisco Bay. The combined sewer discharge structures for the Islais Creek watershed discharge to Islais Creek and the Central Basin of Lower San Francisco Bay. The combined sewer discharge structures for the 20th Street sub-basin also discharge to the Central Basin of Lower San Francisco Bay. Identified beneficial uses for Lower San Francisco Bay are industrial service supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact recreation, noncontact water recreation, and navigation. Identified beneficial uses for the Central Basin of Lower San Francisco Bay and the tidal portions of Islais Creek are commercial and sport fishing, estuarine habitat, wildlife habitat, water contact recreation, noncontact water recreation, and navigation.

Impaired Water Bodies and Total Maximum Daily Loads

As described above, under “Clean Water Act Section 303(d) and Total Maximum Daily Loads,” p. 4.J-18, individual states must present the U.S. EPA with a list of impaired water bodies, defined as those water bodies that do not meet water quality standards. As required by the Clean Water Act, the U.S. EPA requires the development of Total Maximum Daily Loads to improve water quality of impaired water bodies. The first step of the Total Maximum Daily Load process is development of a report describing the water quality problem, detailing the pollutant sources, and outlining the solutions. The report includes an implementation plan that describes how and when pollution prevention, control, or restoration activities will be accomplished and who will be responsible for these actions. The final step is adopting and amending the Basin Plan to legally establish the Total Maximum Daily Load and to specify regulatory requirements for compliance. As part of a Basin Plan amendment, waste load allocations are specified for entities that have permitted discharges.

The U.S. EPA has approved Total Maximum Daily Loads for PCBs and mercury in San Francisco Bay, and they have been officially incorporated into the Basin Plan. The regional board adopted

⁴⁵ San Francisco Bay RWQCB, *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*, May 4, 2017, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/docs/BP_all_chapters.pdf, accessed February 25, 2018.

the San Francisco Bay Watershed Permit (Order No. R2-2012-0096), which addresses mercury and PCBs in municipal and industrial wastewater discharges.⁴⁶

National Pollutant Discharge Elimination System Waste Discharge Regulations

As discussed above under “Federal Regulations,” section 402 of the federal Clean Water Act established the NPDES program to protect the water quality of receiving waters. The NPDES program requires all facilities that discharge pollutants into waters of the United States to obtain a permit. The permit provides two levels of control – technology-based limits and water-quality-based limits – to control discharge of pollutants to protect water quality. Technology-based limits are based on the ability of dischargers in the same category to treat wastewater, while water-quality-based limits are required if technology-based limits are not sufficient to protect the water body. Water-quality-based effluent limitations required to meet water quality criteria in the receiving water are based on criteria specified in the National Toxics Rule, the California Toxics Rule, and the Basin Plan. NPDES permits must also incorporate Total Maximum Daily Load wasteload allocations when they are developed. In California, the State Water Resources Control Board and the regional boards implement and enforce the NPDES program.

Construction General Stormwater Permit (State Water Board Order No. 2009-09-DWQ)

Stormwater discharges associated with construction activities that disturb more than 1 acre of land and could discharge to San Francisco Bay directly or via a separate stormwater system are subject to the state water board General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (this is also referred to as the Construction General Stormwater Permit). Construction activities subject to this permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation. Under the Construction General Stormwater Permit, construction projects are characterized by the level of risk to water quality, which is determined using a combination of the sediment risk of the project and the receiving water quality risk. Projects can be characterized as Level 1, Level 2, or Level 3, and the minimum best management practices and monitoring that must be implemented during construction are based on the risk level. The best management practices are designed to prevent pollutants from contacting stormwater and to keep all products of erosion and stormwater pollutants from moving offsite into receiving waters. They are specified in a Stormwater Pollution Prevention Plan (SWPPP) that must be prepared by a Qualified SWPPP Developer and submitted to the regional board before construction begins.

Sediment risk is determined based on the expected intensity of rainfall during the construction period, soil erodibility, and slope of the construction site. Therefore, the sediment risk for the proposed project would depend on when it is implemented, and the proposed project would have a higher sediment risk if construction were to occur during the rainy season rather than the dry season. Receiving water risk is based on whether the project drains to a sediment-sensitive water body. A sediment-sensitive water body is one that appears on the most recent 303(d) list for water

⁴⁶ San Francisco Bay RWQCB, *Waste Discharge Requirements for Mercury and PCBs from Municipal and Industrial Wastewater Discharges to San Francisco Bay*, Order No. R2-2012-0096, NPDES No. CA0038849, adopted December 12, 2012, http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2012/R2-2012-0096.pdf, accessed February 25, 2018.

bodies as impaired for sediment; has a U.S. EPA-approved Total Maximum Daily Load implementation plan for sediment; or has the beneficial uses of cold freshwater habitat, fish migration, and fish spawning. Lower San Francisco Bay (the receiving water for construction activities) is not considered a sediment-sensitive water body under the Construction General Stormwater Permit because it is not listed as impaired for sediment and does not have all three beneficial uses of cold freshwater habitat, fish migration, and fish spawning.

Groundwater General Permit (Regional Board Order No. R2-2012-0060)

The Regional Water Quality Control Board has issued Order Number R2-2012-0060 (referred to as the Groundwater General Permit), which is a general permit for the discharge or reuse of extracted brackish groundwater, concentrated brine resulting from the treatment of brackish groundwater,⁴⁷ and extracted groundwater from structural dewatering that requires treatment. The permit specifies effluent limitations for the discharges, receiving water limitations, and discharge prohibitions (including flow rate and restrictions on scouring and erosion). Monitoring requirements for demonstrating permit compliance are also specified. To obtain authorization to discharge under this permit, the discharger must submit a Notice of Intent describing the proposed discharge and treatment system and the regional board must issue an Authorization to Discharge once it is determined that the discharger is eligible to discharge under the permit. Under this order, extracted groundwater may be reused for purposes such as dust control or soil compaction on construction sites, provided that reuse complies with the water reclamation specifications of the order.

This order does not cover the discharge of groundwater that requires treatment due to contamination from fuels or volatile organic compounds. Such discharges must seek coverage under the Volatile Organic Compound and Fuel General Permit, which is described below.

Volatile Organic Compound and Fuel General Permit (Regional Board Order No. R2-2012-0012)

The Regional Water Quality Control Board has issued Order Number R2-2012-0012 which is a general permit for the discharge of extracted and treated groundwater resulting from the cleanup of groundwater polluted by volatile organic compounds and fuels (referred to as the Volatile Organic Compound and Fuel General Permit). The permit specifies effluent limitations for the discharges, receiving water limitations, and discharge prohibitions (including flow rate and restrictions on scouring and erosion). Monitoring requirements for demonstrating permit compliance are also specified. To obtain authorization to discharge under this permit, the discharger must submit a Notice of Intent describing the proposed discharge and treatment system and the regional board must issue an Authorization to Discharge once it is determined that the discharger is eligible to discharge under the permit.

Small MS4 General Stormwater Permit (State Water Board Order No. 2013-001-DWQ)

On February 5, 2013, the state water board adopted the Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s), Order No. 2013-001-DWQ (Small MS4 General Stormwater Permit). Areas that drain to separate stormwater

⁴⁷ Brackish groundwater is groundwater with a high salinity or total dissolved solids content.

collection systems in San Francisco are subject to this permit. The Small MS4 General Permit identifies specific best management practices and management measures to be addressed and requires permittees to submit a guidance document to the state water board documenting their strategies for complying with permit requirements. The required program includes specific elements related to program management, education and outreach on stormwater impacts, public involvement/participation, illicit discharge detection and elimination, construction site stormwater runoff and control, pollution prevention/good housekeeping for permittee operations, post-construction stormwater management for new development and re-development, water quality monitoring requirements, program effectiveness assessment, and annual reporting. For renewal permittees such as the City, the guidance document must identify and describe best management practices included in their previous Stormwater Management Plan that may be more protective of water quality than the minimum requirements of the updated permit, and identify whether the permittee proposes to maintain, reduce, or cease implementation of the best management practices.

Southeast Plant, North Point, and Bayside Facilities NPDES Permit (Regional Board Order No. 2013-0029)

The City currently holds an NPDES permit (Regional Water Quality Control Board Order No. R2-2013-0029) adopted by the regional board in August 2013 that covers the Southeast Plant, the North Point Wet Weather Facility, and all of the Bayside wet-weather facilities, including combined sewer discharges to San Francisco Bay.⁴⁸ The permit specifies discharge prohibitions, dry-weather effluent limitations, wet-weather effluent performance criteria, receiving water limitations, sludge management practices, and monitoring and reporting requirements. It prohibits overflows from the combined sewer discharge structures during dry weather, and requires wet-weather overflows to comply with the nine minimum controls specified in the federal Combined Sewer Overflow Control Policy, described above, and the City's Long Term Control Plan. Areas in the Bayside drainage basin, including the project site, that drain to the City's combined sewer system are subject to this permit.

As discussed above under "Federal Combined Sewer Overflow Control Policy," the NPDES permit does not explicitly regulate the number, volume, duration, or frequency of combined sewer discharges from the combined sewer system, but instead requires that the system meets the long-term average annual design goals for combined sewer discharges from each sub-basin. Under the Long-Term Control Plan, the City must optimize operations of the combined sewer system to minimize combined sewer discharge frequency, magnitude, and duration and maximize pollutant removal during wet weather, and must also provide treatment of all discharges from the combined sewer system, including combined sewer discharges. The NPDES permit also requires the City to monitor the water quality of all combined sewer discharges and the efficacy of wet-weather discharge controls. If the combined sewer discharges cause a violation of water quality standards in the receiving water, the City must evaluate its Long-Term Control Plan and combined sewer system operation to ensure compliance with applicable water quality standards.

⁴⁸ San Francisco Bay Regional Water Quality Control Board, NPDES Permit No. CA0037664, Order No. R2-2013-0029, for City and County of San Francisco Southeast Water Pollution Control Plant, North Point Wet Weather Facility, Bayside Wet Weather Facilities and Wastewater Collection System, adopted August 19, 2013.

Inland Surface Waters, Enclosed Bays, and Estuaries Plan

On April 7, 2015, the state water board adopted an amendment to the Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Referred to as the Trash Amendment, this amendment prohibits the presence of trash in inland surface waters, enclosed bays, estuaries, and along shorelines in amounts that “adversely affect beneficial uses or cause nuisance.” Compliance with this prohibition is achieved through compliance with NPDES permit limitations, waste discharge requirements, and waivers that prohibit the discharge of trash. Discharges that are not subject to these regulatory requirements are also required to comply.

MS4 permittees with authority over priority land uses⁴⁹ such as the mix of commercial and high density residential uses that would be developed under the proposed project, are required to comply with the discharge prohibitions. Compliance may be achieved using a full capture system⁵⁰ (Track 1) or a combination of full capture systems and systems that provide equivalent control (Track 2). The Trash Amendment also requires that trash is eliminated from all stormwater and non-stormwater discharges from construction activities regulated under the Construction General Stormwater Permit. If this is not economically feasible, dischargers must meet the requirements of Track 1 or Track 2, which are described above.

The Trash Amendment required modification or reissuance of existing NPDES permits to include the requirements of the Trash Amendment within 18 months of adoption of the amendment (October 7, 2016). Existing and new permittees must submit an implementation plan within three months of adoption of the implementing permit. MS4 permittees must achieve full compliance with the requirements of the Trash Amendment within 10 years of the effective date of the first implementing permit, and must achieve interim milestones during the first 10 years to show progress towards achieving full implementation.

McAteer-Petris Act

The McAteer-Petris Act of 1965 established the Bay Conservation and Development Commission (BCDC) as a temporary state agency in charge of preparing the San Francisco Bay Plan, described below. In 1969, the act was amended to make BCDC a permanent state agency and to incorporate the policies of the San Francisco Bay Plan into state law.

San Francisco Bay Conservation and Development Commission Permits

BCDC has permitting authority for most projects occurring within San Francisco Bay and along the shoreline, which is defined in the McAteer-Petris Act to include bay waters up to the mean high water line at 6.0 feet NAVD88⁵¹ and the area 100 feet landward of and parallel to the mean high water line, known as the “shoreland band.” Under the McAteer-Petris Act, an agency or individual must secure a permit from BCDC if they propose to place fill, dredge sediment, or place dredged

⁴⁹ Under the Trash Amendment, priority land uses are considered high density residential uses, commercial land uses, industrial land uses, mixed urban uses, and public transportation stations.

⁵⁰ A full capture system is one that can treat the entire peak flow of stormwater resulting from a one-year storm, one hour storm or is designed and sized to carry at least the same flow as the corresponding storm drain.

⁵¹ WRA, *Permitting Approach for the Potrero Power Plant Redevelopment Project*, December 15, 2017.

materials into the San Francisco Bay or certain tributaries within BCDC jurisdiction. Most activities within the 100-foot shoreline band are also subject to a permit from BCDC. The type of permit issued depends on the nature and scope of the proposed activities. Construction of elements of the proposed project within BCDC's jurisdiction would require a Major Permit under the McAteer-Petris Act.

San Francisco Bay Plan and San Francisco Waterfront Special Area Plan

BCDC completed and adopted the San Francisco Bay Plan in 1968, and the plan has been periodically amended since its adoption, most recently in 2011 to address climate change and shoreline protection. In 1975, after a collaborative planning process with the San Francisco Planning Department, the BCDC adopted the San Francisco Waterfront Special Area Plan. The Waterfront Special Area Plan was substantially amended in 2000. Together, this plan, the McAteer-Petris Act, the San Francisco Bay Plan, and subsequent amendments to all three documents prescribe a set of rules for shoreline development along the San Francisco waterfront. Several policies of the San Francisco Bay Plan are aimed at protecting San Francisco Bay's water quality, ensuring the safety of fills, and guiding the dredging of the bay's sediment.

Regional Regulations

There are no regional regulations that apply to water quality in the project area.

Local Regulations

San Francisco Public Works Code, Article 4.2 – Stormwater Management Requirements and Design Guidelines

Development projects that discharge stormwater to either the combined sewer system or a separate stormwater system must comply with article 4.2 of the San Francisco Public Works Code (public works code), section 147, which was last updated on April 27, 2016. The SFPUC and the Port have developed San Francisco Stormwater Management Requirements and Design Guidelines in accordance with the requirements of the Small MS4 General Stormwater Permit and article 4.2, section 147.⁵²

The Stormwater Management Requirements and Design Guidelines describe the regulatory context for a post-construction stormwater control program and provide tools to help project developers achieve compliance with stormwater management requirements, including but not limited to:

- A set of stormwater best management practice fact sheets;
- A vegetation palette to assist in bioretention best management practice - appropriate plant selection;
- Sizing calculators to determine the required size of each best management practice; and

⁵² SFPUC and Port of San Francisco, *San Francisco Stormwater Management Requirements and Design Guidelines*, April 2016.

- Illustrative examples of green infrastructure.

In accordance with the Stormwater Management Requirements and Design Guidelines, developers of projects that create and/or replace 5,000 square feet or more of impervious surface and discharge to the combined sewer system must implement best management practices to manage the flow rate and volume of stormwater going into the combined sewer system by achieving Leadership in Energy and Environmental Design (LEED®) Sustainable Sites Credit 6.1 (Stormwater Design: Quantity Control). This credit includes two different standards for post-construction stormwater controls depending on the amount of existing impervious surfaces. For covered projects with 50 percent existing impervious surfaces or less, the stormwater management approach must prevent the stormwater runoff flow rate and volume from exceeding existing conditions for storms that produce a rainfall depth of 2.9 inches in 24-hours and a rainfall intensity of approximately 2.4 inches per hour (referred to as the one- and two-year 24-hour design storm). For covered projects that include more than 50 percent existing impervious surfaces, the stormwater management approach must reduce the existing stormwater runoff flow rate and volume by 25 percent for a two-year 24-hour design storm.

The Stormwater Management Requirements and Design Guidelines require low-impact development measures to reduce the rate of stormwater runoff and to reduce and delay the volumes of discharge entering the combined sewer system, thereby reducing the frequency of combined sewer overflows, minimizing flooding effects, and protecting water quality. Examples of best management practices that may be implemented include rainwater harvesting, rain gardens, green roofs, and permeable paving.

Developers of projects that discharge to a separate stormwater system must also implement best management practices to reduce the flow rate and volume and improve the quality of stormwater going into the separate stormwater system. In areas served by separate stormwater systems, the Stormwater Management Requirements and Design Guidelines specify different performance requirements according to the following project size thresholds:

- Small project: 2,500 to 5,000 square feet of impervious surface created and/or replaced.
- Large project: 5,000 square feet or more of impervious surface created and/or replaced.

Small projects that discharge to a separate stormwater system must implement one or more site design measure(s) (e.g., tree planting and preservation, permeable pavement, green roofs, vegetated swales, rainwater harvesting, etc.). Large projects must implement source controls and best management practices to meet performance requirements and must manage runoff from storms that produce a rainfall depth of 0.75 inch in 24 hours and a rainfall intensity of approximately 0.24 inch per hour (referred to as the 90th percentile, 24-hour storm).

The Stormwater Management Requirements and Design Guidelines also require developers to use certain preferred best management practices to the maximum extent feasible before considering use of remaining best management practices. The preferred best management practice hierarchy prioritizes infiltration-based best management practices, rainwater harvesting, and vegetated roofs followed by lined bioretention (e.g., lined bioretention materials with an underdrain, commonly

known as a flow-through planter). If none of these best management practices are feasible on site, projects may be able to incorporate high-rate filtration best management practices (e.g., tree-box filters and media filters) into their site design pending approval by the SFPUC. The SFPUC may inspect stormwater best management practices once they are constructed, and the project applicant must correct any issues noted by the inspector.

Modified Compliance Program

The City has developed the Modified Compliance Program to allow development projects with proven site challenges and limitations to modify the standard stormwater performance requirements set by the Stormwater Management Requirements and Design Guidelines. The Modified Compliance Program applies only to projects in areas of the city that are served by the combined sewer system.

To qualify for modified compliance, a site owner must submit a modified compliance application to the SFPUC that documents existing and proposed site features that limit infiltration such as high groundwater, shallow depth to bedrock (which occurs at some locations in the project site), poorly infiltrating soils, steep slopes, contamination, or limited space for infiltration. The application also requires the applicant to estimate the non-potable water demand for the project if the project is subject to the City's Recycled Water Ordinance. Based on this information, the SFPUC can modify the requirements related to the volume and peak flow of stormwater runoff based on approved site-specific constraints.

San Francisco Public Works Code, Article 4.2 – Construction-Related Stormwater Discharges

In addition to the state stormwater regulations described above, discharges of construction-related stormwater runoff are subject to the construction site runoff requirements of article 4.2 of the public works code, section 146. In accordance with these requirements, developers must obtain a Construction Site Runoff Control Permit from the SFPUC for any construction activity that disturbs 5,000 square feet or more of ground surface, such as the proposed project. For all land-disturbing activities, regardless of size, they must also implement and maintain best management practices to minimize surface runoff, erosion, and sedimentation. Regulated land-disturbing activities include building demolition, clearing, grading, grubbing, filling, stockpiling, excavating, and transporting soil. The permit specifically requires easements for drainage facilities; provision of adequate dust controls in conformance with applicable air quality laws and regulations; and improvement of any existing grading, ground surface, or site drainage to meet the requirements of article 4.2. The application for the permit must also include an Erosion and Sediment Control Plan. A building permit cannot be issued until the SFPUC issues a Construction Site Runoff Control Permit.

Under the Construction Site Runoff Control Permit, the project sponsor would be required to conduct daily inspections and maintenance of all erosion and sediment controls and must provide inspection and maintenance information to the SFPUC. The SFPUC would also conduct periodic inspections of the construction site to ensure compliance with the plan. The project sponsor would be required to notify the SFPUC at least two days prior to the start of construction, completed installation of erosion and sediment control measures, completion of final grading, and completion

of project construction. At the SFPUC's discretion, sampling, metering, and monitoring also may be required.

San Francisco Public Works Code, Article 4.1—Wastewater Discharges to Combined Sewer System

Discharges of non-sewage wastewater to the combined sewer system (such as groundwater dewatering effluent and wastewater from commercial and industrial land uses, but not including stormwater) are subject to the permit requirements specified in article 4.1 of the public works code and supplemented by Public Works order No. 158170. The permit requires the project sponsor to develop and implement a pollution prevention program, and it specifies discharge limitations for specific chemical constituents as well as general conditions for the discharge. In addition, the discharge must meet the pretreatment standards specified in article 4.1. The party responsible for the discharge must monitor the discharge quality for compliance with permit limitations and must also submit periodic reports to the SFPUC. The City conducts periodic inspections to ensure compliance.

San Francisco Recycled Water Use Ordinance

The City's Recycled Water Ordinance, which added article 22 of the public works code, requires property owners located within the designated recycled water use areas to install recycled water systems in certain development projects. The recycled water use area comprises the majority of the city's bayside waterfront area—including the project site—and some inland areas, as well as Treasure Island. The goal of the ordinance is to maximize the use of recycled water. Buildings and facilities that are located within the designated recycled water use areas are required to use recycled water for all uses authorized by the state, once a source of recycled water becomes available. Commonly approved uses of recycled water include irrigation, cooling, and/or toilet and urinal flushing. These systems must meet San Francisco Plumbing and Health codes, which include specifications for pipe type, pipe separation, backflow prevention assemblies, water meters, and signage.

The following types of developments that are located within the designated recycled water use area must comply with this ordinance (all apply to the proposed project):

- New construction or major alterations to a building totaling 40,000 square feet or more;
- All subdivisions; and
- New and existing irrigated areas of 10,000 square feet or more.

In a mixed-use residential building where a recycled water system is installed, any restaurant or other retail food-handling establishment must be supplied by a separate potable water system to ensure public health and safety.

The SFPUC is currently planning the Eastside Recycled Water project that will ultimately provide an estimated 2 mgd of recycled water on the bayside of San Francisco. However, this is not expected to be completed until 2029.⁵³ The proposed project is subject to the Recycled Water Use

⁵³ SFPUC, *Eastside Recycled Water Project*, <http://sfwater.org/index.aspx?page=1159>, accessed February 25, 2018.

Ordinance because it would be a subdivision, would include new construction of more than 40,000 square feet of building space, and would include more than 10,000 square feet of irrigated areas. However, there is currently no available source of recycled water at the project site because the Eastside Recycled Water project has not been constructed.

San Francisco Non-potable Water Program

In September 2012, the City adopted the Onsite Water Reuse for Commercial, Multi-family, and Mixed Use Development Ordinance. Commonly known as the Non-Potable Water Ordinance, it added Article 12C to the San Francisco Health Code, allowing for the collection, treatment, and use of alternate water sources for non-potable applications. The requirements of the Non-Potable Water Ordinance are:

- New development projects of 250,000 square feet or more of gross floor area that have not received a site permit prior to November 1, 2016 are required to install and operate an onsite non-potable water system to treat and reuse available graywater, rainwater, and foundation drainage for toilet and urinal flushing and irrigation, and
- New development projects of 40,000 square feet or more of gross floor area are required to prepare water budget calculations assessing the amount of available rainwater, graywater, and foundation drainage, and the demands for toilet and urinal flushing and irrigation.

Development projects implementing district-scale non-potable water systems may seek an alternative compliance approach to the Non-Potable Water Ordinance.

In accordance with the Permit to Operate, the onsite water system must treat the alternative water supply to water quality criteria specified by the health department, and these criteria are dependent on the alternate water source and the end use for the water.⁵⁴ The project would include the construction of more than 250,000 square feet of gross floor area. Therefore, the requirements of the Non-potable Water Program apply to the proposed project.

Well Permitting Requirements

There is a potential that the proposed project could require installation of groundwater dewatering wells during project construction. In accordance with article 12B of the health code, the health department must permit any groundwater well or soil boring. The well must also be constructed in accordance with the water well standards of the State of California and article 12B of the health code. The well may not be constructed until a well construction permit is issued by the health department.

Trash Management

Article 6 of the health code, Garbage and Refuse, requires that properties have appropriate containers placed in appropriate locations for the collection of refuse. In accordance with this article, the refuse containers must be constructed with tight-fitting lids or sealed enclosures, and the contents of the container may not extend above the top of the rim. The property owner must

⁵⁴ San Francisco Department of Public Health, *Director's Rules and Regulations Regarding Operation of Alternate Water Source Systems*, August, 2017.

also have adequate refuse collection service. Article 6 also prohibits the dumping of refuse onto any streets or lands within San Francisco.

4.J.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact related to hydrology or water quality. Implementation of the proposed project would have a significant effect related to hydrology or water quality if the project would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

Approach to Analysis

Criteria Not Analyzed

The following criteria do not apply to the proposed project and are not analyzed in this section for the reasons described below:

- *Substantially deplete groundwater supplies or interfere with groundwater recharge.* The project site is located in the Downtown San Francisco Groundwater Basin, which is not used as a drinking water supply, and there are no plans for development of this basin for groundwater production. The proposed project would not deplete groundwater resources because other than temporary and limited dewatering during construction, the project would not involve the extraction of groundwater for any reason. The proposed project would not interfere with groundwater recharge because the project would result in a 15 percent reduction in impervious surfaces and would implement stormwater controls that would facilitate infiltration of treated stormwater to the groundwater. This would increase— and not deplete or interfere with — the amount of groundwater recharge at the project site. Therefore, the project would have no impact on groundwater resources, and this criterion is not discussed further.
- *Expose people or structures to a significant risk of loss, injury, or death involving failure of a levee or dam.* There would be no impact related to this topic because there are no levees or dams in the vicinity of the project site, and the project site is not located within the inundation area of any San Francisco reservoirs.⁵⁵

Project Features

Various project features during both construction and operation have the potential to affect water quality and hydrology. Certain operational features proposed along the shoreline are subject to flooding and sea level rise considerations.

During construction, stormwater runoff and associated discharges have the potential to exceed water quality criteria or waste discharge requirements, including NPDES and City permit effluent limitations. Any discharges of groundwater produced during excavation dewatering could also exceed these criteria. The project's construction activities that could result in hydrology or water quality related impacts include grading and excavation for the construction of basements for new buildings; construction of street improvements; construction of the new pump station; and installation of new utilities for potable water, recycled water, fire protection water, wastewater, stormwater, electricity, and natural gas. In-water construction activities could also affect bay water quality. These activities include abandonment of the inlet and outlet structures associated with the Unit 3 Power Block, construction of the recreational dock, construction of a new stormwater outfall if a separate stormwater system is constructed, and removal of fill as mitigation for new bay fill created by the project.

During operation, the specific project elements that could result in hydrology and water quality impacts include increases in wastewater generated by the project that could result in changes in combined sewer discharge frequencies and affect bay water quality. In addition, long term changes in stormwater drainage patterns could affect combined sewer discharge frequencies, exceed the capacity of the stormwater system, provide additional sources of polluted runoff, and/or exceed water quality criteria. Littering by future site occupants and visitors could also degrade water quality. As described in Chapter 2, Project Description, the proposed buildings would be constructed to

⁵⁵ San Francisco Planning Department, *Community Safety, an Element of the General Plan of the City and County of San Francisco*, October 2012, Map 06.

withstand hydrostatic pressure from the surrounding groundwater and would be waterproofed to prevent intrusion of groundwater. Therefore, permanent dewatering would not be required.

Alteration of the shoreline and construction of new project features such as docks or new buildings within a flood zone could also affect flooding (including flooding as a result of 100-year flooding under existing conditions, future flooding as a result of sea level rise, and flooding as a result of a tsunami).

Methodology for Impact Analysis

The impact assessment includes an evaluation of water quality issues related to on-land construction activities as well as in-water activities for construction of the recreational dock, removal of fill as mitigation for new bay fill created by the project, abandonment of the inlet and outlet structures associated with the Unit 3 Power Block, and construction of a new stormwater outfall if a separate stormwater system is constructed. Operational impacts related to changes in flows to the city's combined sewer system and the proposed separate stormwater system that could be constructed under the proposed project also are discussed along with water quality impacts related to changes in bay water circulation as a result of the new recreational dock, maintenance dredging, and littering. This is followed by a discussion of potential impacts related to an alteration of drainage patterns, flooding, and tsunami inundation.

Construction Impacts

Construction impacts of the proposed project are discussed in Impact HY-1. Construction activities that could result in a violation of water quality standards or degradation of water quality include on-land construction and demolition activities, construction dewatering, and in-water construction activities. The analysis considers whether, compliance with regulatory requirements designed to protect water quality would ensure that these water quality-related impacts are less than significant during construction. Applicable regulatory requirements include: section 401 Water Quality Certification, section 404 of the Clean Water Act, section 10 of the Rivers and Harbors Act, BCDC requirements, the state water board Construction General Stormwater Permit, the Groundwater General Permit, the Volatile Organic Compound and Fuel General Permit, and article 4.2 of the San Francisco Public Works Code, section 146.

In-water construction activities could also disrupt the cap to be installed as part of PG&E's remediation of the nearshore sediments in the Offshore Sediment Area. The analysis considers whether disturbance of the cap would occur and would result in significant water quality impacts.

Operational Impacts

The impact analysis of the long-term operation of the proposed project is presented in Impacts HY-2 through HY-6.

Impact HY-2 discusses whether the project would result in a violation of water quality standards or otherwise affect water quality. This impact is broken down into the following aspects of project operations that could affect water quality:

- **Stormwater discharges:** The analysis considers whether stormwater discharges from the proposed project would result in a violation of water quality standards or otherwise degrade water quality. It also considers whether the project would provide an additional source of polluted runoff. If not, impacts related to these topics are considered less than significant.

The analysis also considers whether stormwater discharges from the new storm drain system constructed as part of the dual sewer option would disrupt the sediment cap installed by PG&E in the Nearshore Zone of the Offshore Sediment Area in a manner that would degrade water quality. If not, the impact is considered less than significant.

- **Wastewater discharges:** The analysis considers whether wastewater discharges from the proposed developments would result in a violation of water quality standards or otherwise degrade water quality. If not, the impact is considered less than significant.
- **Exceeding the capacity of the stormwater system:** The analysis considers whether stormwater discharges from the project site would exceed the capacity of the stormwater systems constructed under the proposed project. If not, the impact is considered less than significant.
- **Changes in Combined Sewer Discharges:** The analysis considers whether the discharge of wastewater and stormwater to the City's combined sewer system during project operation could contribute to an increase in the frequency of combined sewer discharges during wet weather. The impact is considered less than significant if the increased flows would not cause an increase the frequency of combined sewer discharges above the long-term average specified in the Bayside NPDES permit.
- **Changes in circulation:** The analysis considers whether installation of new piles for the recreational dock would change long-term circulation patterns in the bay in a way that erosional patterns were changed, or water quality were substantially affected. If not, the impact is considered less than significant.
- **Maintenance dredging:** The analysis considers whether maintenance dredging for the recreational dock would result in water quality degradation as a result of dredging activities, or disruption of PG&E's off shore sediment remediation. If not, the impact is considered less than significant.
- **Littering:** The analysis considers whether compliance with regulatory requirements for trash management would prevent substantial water quality degradation from litter that could be transported to the bay via stormwater runoff or wind. If so, the impact is considered less than significant.

Impact HY-3 assesses whether the project would alter drainage patterns in a way that results in onsite or offsite siltation, erosion, or flooding. If not, the impact is considered less than significant.

Impacts related to existing and future flooding (including existing flooding risks, flooding due to climate change-induced sea level rise, and flooding due to tsunami inundation) are discussed in Impacts HY-4 through HY-6. CEQA does not require lead agencies to consider how existing hazards or conditions might impact a project's users or residents, except where the project would significantly exacerbate an existing environmental hazard. Accordingly, hazards resulting from a project that places development in a tsunami inundation zone or an existing or future flood hazard area are not considered impacts under CEQA unless the project would significantly exacerbate the tsunami inundation or flood hazard. Thus, the impact analysis evaluates whether the proposed project would substantially exacerbate an existing or future flood hazard in the project area,

resulting in a substantial risk of loss, injury, or death. The impact is considered significant if the proposed project would substantially exacerbate flood hazards by increasing the frequency or severity of flooding or causing flooding to occur in an area that would not be subject to flooding without the project.

Methodology for Analysis of Cumulative Impacts

Impacts related to hydrology and water quality could affect Lower San Francisco Bay as well as the eastern drainage basin of San Francisco's combined sewer system. Accordingly, the geographic scope of hydrology and water quality impacts includes Lower San Francisco Bay and the geographical area that drains to the eastern drainage basin. The cumulative analysis uses a list-based approach to analyze the effects of the project in combination with past, present, and probable future projects in the immediate vicinity (see Table 4A-2, Cumulative Projects in the Project Vicinity, in Section 4.A of this chapter).

The analysis of cumulative impacts related to wet weather flows to the combined sewer system, considers whether the proposed project in combination with past, present, and reasonably foreseeable future projects would increase the frequency of combined sewer discharges above the long-term average specified in the Bayside NPDES permit. If so, the analysis considers whether or not the project's contribution to the cumulative impact would be significant (i.e., cumulatively considerable).

The analysis of other cumulative impacts related to a violation of water quality standards and degradation of water quality assumes that construction and operations of other projects in the geographical area would have to comply with the same regulatory requirements as the project. The analysis then considers whether or not there would be a significant, adverse cumulative impact associated with project implementation in combination with past, present, and probable future projects, and if so, whether or not the project's contribution to the cumulative impact would be significant (i.e., cumulatively considerable).

The analysis of cumulative impacts related to existing and future flooding considers whether the proposed project in combination with potentially cumulative projects would substantially exacerbate flooding conditions. If so, the analysis considers whether or not the project's contribution to the cumulative impact would be significant (i.e., cumulatively considerable).

Impact Evaluation

Construction Impacts

Impact HY-1: Construction of the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality. (*Less than Significant*)

Construction of the proposed project would include both on-land construction activities that are conducted above the high tide line (which occurs at an elevation of 7.5 feet NAVD88) and in-water construction activities that would occur below the high tide line. Water quality impacts related to on-land and in-water construction activities are described separately, below. This is followed by a discussion of impacts related to construction dewatering. All of these impact analyses discuss the regulatory requirements in place to ensure that construction activities would not violate water quality standards or waste discharge requirements, or substantially degrade water quality.

Water Quality Effects of On-Land Construction Activities

Grading and earthmoving for the on-land construction of utilities and infrastructure, demolition of existing buildings, and construction of individual development projects within the project site would expose soil during construction. Without proper controls, these activities could result in erosion and excess sediments carried in stormwater runoff, which in turn could affect water quality if transported to the bay. Stormwater runoff from temporary on-site use and storage of vehicles, fuels, wastes, and building materials could also carry pollutants if these materials were improperly handled.

However, the Clean Water Act effectively prohibits discharges of stormwater from construction projects unless the discharge is in compliance with an NPDES permit. As discussed below, stormwater from the project site would drain to the City's combined sewer system, a new separate stormwater system constructed under the proposed project, or directly to San Francisco Bay. Construction-related stormwater discharges to the combined sewer system would be subject to and treated in accordance with the Bayside NPDES Permit, and construction-related stormwater discharges to the separate stormwater system or directly to San Francisco Bay would be subject to and treated in accordance with the Construction General Stormwater Permit. Both of these NPDES permits are described under "State Regulations" p. 4.J-21, above and apply to on-land construction activities that would be conducted inland of the high tide line.

Construction-Related Stormwater Discharges to Combined Sewer System

Construction activities conducted within areas served by the City's existing combined sewer system or the new combined sewer system infrastructure that would be constructed under the proposed project would be subject to the Construction Site Runoff requirements of article 4.2 of the public works code, section 146. Applicable activities include construction of utilities, roadways, other infrastructure, and demolition of existing buildings, as well as excavation for soil remediation and for construction of the proposed buildings.

The Construction Site Runoff Control Permit is required for projects that involve any land-disturbing activities such as building demolition, clearing, grading, grubbing, filling, stockpiling, excavating, and transporting soil. The permit application must include an Erosion and Sediment Control Plan that provides a vicinity map showing the location of the site in relationship to the surrounding area's water courses, water bodies, and other significant geographic features; a site survey; suitable contours for the existing and proposed topography; area drainage; proposed construction and sequencing; proposed drainage channels; proposed erosion and sediment controls; dewatering controls where applicable; soil stabilization measures where applicable; maintenance controls; sampling, monitoring, and reporting schedules; and any other information deemed necessary by the SFPUC. The Erosion and Sediment Control Plan would also include the appropriate best management practices to prevent stormwater contact with hazardous materials stored at the construction site and to limit the potential for a release of these hazardous materials that could affect water quality.

Article 4.2 also specifies that the contractor must provide adequate dust controls in conformance with applicable air pollution laws and regulations (including article 22B of the health code, described in Section 4.K, Hazards and Hazardous Materials, and Section 4.G, Air Quality). Improvements to any existing grading, ground surface, or site drainage must also meet the requirements of article 4.2 for new grading, drainage, and erosion control. A building permit cannot be issued until a Construction Site Runoff Control Permit has been issued.

Under the Construction Site Runoff Control Permit, the project sponsor would be required to conduct daily inspections and maintenance of all erosion and sediment controls and must provide inspection and maintenance information to the SFPUC. The SFPUC would also conduct periodic inspections of the project site to ensure compliance with the plan. The project sponsor would be required to notify the SFPUC at least two days prior to the start of construction, at completion of installation of erosion and sediment control measures, at completion of final grading, and at project completion. At the SFPUC's discretion, sampling, metering, and monitoring may also be required.

Implementation of the Construction Site Runoff requirements of article 4.2 of the public works code, section 146 (which ensures compliance with the aforementioned Bayside NPDES permit), would ensure that water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of construction-related stormwater runoff in areas served by the existing or future combined sewer system would be *less than significant*.

Construction-Related Stormwater Discharges to Separate Stormwater System or to the Bay

Construction activities conducted within areas that drain to San Francisco Bay or to the existing or proposed separate stormwater system that could be constructed under the proposed project would be subject to the Construction General Stormwater Permit. Applicable activities include construction of the shoreline improvements above the high tide line and construction for the installation of new utilities, roadways, and other infrastructure, as well as demolition of existing buildings and excavation for construction of the proposed buildings.

Construction of the shoreline improvements has the greatest potential to cause water quality effects in San Francisco Bay because these activities would involve excavation, disruption of slopes, and

placement of rock immediately adjacent to San Francisco Bay. These improvements would be constructed along the shoreline slope between the high tide line at 7.5 feet NAVD88 and the finished top elevation of the shoreline improvements at 17.5 feet NAVD88. Sediment from these construction activities could potentially become entrained in stormwater runoff, or a release of hazardous materials used during construction could occur, potentially degrading water quality in San Francisco Bay. See Impact HZ-1 in Section 4.K, Hazards and Hazardous Materials for further discussion of the potential for a release of hazardous materials during construction.

Excavation for the installation of new utilities, roadways, and other infrastructure, as well as demolition of existing buildings and excavation for the proposed developments, could also result in runoff to the new separate stormwater system, if constructed. This new separate stormwater system would discharge to San Francisco Bay via a new outfall, and stormwater runoff from construction activities that discharge to this system could carry sediment or a release of hazardous materials used during construction to San Francisco Bay.

Under the Construction General Stormwater Permit, construction of the shoreline improvements and other on-land construction activities that would drain to the new separate stormwater system, if constructed, would be characterized by the level of risk to water quality. This is determined using a combination of the sediment risk of the project and the receiving water quality risk. Projects can be characterized as Risk Level 1, Level 2, or Level 3, and the minimum best management practices (stormwater controls) and monitoring that must be implemented during construction are based on the risk level. The best management practices are designed to prevent pollutants from coming into contact with stormwater and to keep all products of erosion and stormwater pollutants from moving offsite into receiving waters. They are specified in a Stormwater Pollution Prevention Plan (SWPPP) that must be prepared by a Qualified SWPPP Developer and submitted to the regional board before construction begins. Construction activities under the proposed project would not be characterized as Risk Level 3, because Lower San Francisco Bay is not considered a sediment-sensitive water body under the Construction General Stormwater Permit, as described under "Construction General Stormwater Permit (State Board Order No. 2009-09-DWQ)."

For construction activities characterized as Risk Level 1, the Construction General Stormwater Permit specifies minimum best management practices to be implemented that address good housekeeping practices (including those for managing hazardous materials used during construction), non-stormwater management, erosion and sediment control, and run-on and runoff control. For construction activities characterized as Risk Level 2, the minimum requirements identified for Risk Level 1 apply, as well as some more stringent requirements. For instance, erosion controls must be implemented in conjunction with sediment controls in active construction areas, and linear sediment controls such as silt fences, gravel bag berms, or fiber rolls must be used along slopes. For Risk Level 1 or 2 construction activities, a qualified professional must inspect the required physical measures weekly when there is no rain and daily during a qualifying rainstorm. In addition, a Qualified SWPPP Developer must prepare a rain event action plan for Risk Level 2 construction activities. This plan would identify the designated site stormwater manager, the provider of erosion and sediment controls, and the stormwater sampling agent, as well as the types of construction workers active at the site during all construction phases. The plan would include suggested actions for each construction phase.

Compliance with the Construction General Stormwater Permit and implementation of specified control measures would ensure that water quality impacts related to violation of water quality standards or degradation of water quality due to discharge of construction-related stormwater runoff to San Francisco Bay, either directly or via the new separate stormwater system (if constructed), would be *less than significant*.

As discussed in Section 4.K, Hazards and Hazardous Materials, PG&E has installed a shoreline revetment on the shore of the bay adjacent to the Northeast area (see Figure 4.K-1, p. 4.J-3), as an interim remedial measure⁵⁶ to stabilize and limit erosion of the shoreline and embankment; limit direct contact with the manufactured gas plant constituents on the shoreline; and enhance the shoreline appearance. Shoreline improvements constructed under the proposed project would generally avoid this interim remediation measure. However, if construction of project-related improvements were to disturb this area, the construction activities would need to implement the requirements of PG&E's risk management plan to be prepared for the Offshore Sediment Area, as approved by the regional board (see Section 4.K, Hazards and Hazardous Materials for a description of the risk management plan to be prepared by PG&E for this area).

Water Quality Effects of In-Water Construction Activities

Chapter 2 As discussed in "Wetlands and Other Jurisdictional Waters" p. 4.I-11 in Section 4.I, Biological Resources, San Francisco Bay is a navigable water of the United States. Therefore, San Francisco Bay is considered a jurisdictional water of the U.S. regulated by the Corps under section 10 of the Rivers and Harbors Act up to the mean high water mark at an elevation of 6.0 feet NAVD88. San Francisco Bay is also considered jurisdictional waters of the U.S. and regulated by the Corps under Section 404 of the Clean Water Act up to the high tide line at an elevation of 7.5 feet NAVD88. These waters are also regulated by the regional board as Waters of the State, and BCDC regulates the fill and extraction of materials in San Francisco Bay below the high tide line (see Impact BI-4 in Section 4.I, Biological Resources, for further discussion of the requirements specified by these regulations). Therefore, any work along San Francisco Bay shoreline below the high tide line, which is at an elevation of 7.5 feet NAVD88, is considered in-water construction.

The proposed project includes several features that would involve in-water construction including: construction of the recreational dock, removal of fill as mitigation for new bay fill created by the project, abandonment of the inlet and outfall structures associated with the Unit 3 Power Block, and construction of a new stormwater outfall if a separate stormwater system is constructed. These construction activities would result in short-term disturbance of localized San Francisco Bay sediments and would temporarily re-suspend these sediments, potentially resulting in temporary adverse water quality effects including increased turbidity and suspended solids in the immediate vicinity of the construction activities. The sediments may also contain chemicals from historic activities, including those identified in the offshore sediments (see Section 4.K, Hazards and Hazardous Materials, for a description of PG&E's plans for remediation of the offshore sediments).

⁵⁶ An interim remedial measure is one that is implemented to address an immediate risk to human health or the environment while remedial planning is still in progress to develop a more comprehensive site remedy.

Turbidity is a condition in which the concentration of particles suspended in the water is increased, making the water appear cloudy. The suspended solids can lower the levels of dissolved oxygen levels in water, increase the salinity of the water, and decrease light penetration into the water. In addition, nutrient loading can occur as a result of resuspension of sediments. For all in-water construction activities, the overall water quality effect would be minor because of the very small area that would be disturbed and the temporary nature of the disturbance. Please refer to Section 4.I, Biological Resources, for a discussion of effects of in-water construction activities on marine species.

The project sponsor would also implement the in-water construction avoidance and minimization measures that are incorporated into the project as discussed in Chapter 2, Project Description, which would further reduce water quality effects related to in-water construction. Further, the in-water construction activities would be subject to the permits described above under “Federal Regulations.” These include permits under section 10 of the Rivers and Harbors Act and/or section 404 of the Clean Water Act issued by the Corps that would receive water quality certification from the regional board in accordance with section 401 of the Clean Water Act. The project would be required to implement the conditions of these permits. Placement of fill below the high tide line would also be subject to a permit from BCDC, which would ensure that the water quality policies of the San Francisco Bay Plan are implemented. The permits may modify the avoidance and minimization measures specified in Chapter 2, Project Description, including adding best management practices for enhanced protection of water quality. The analysis below discusses the applicability of these legal requirements to each in-water construction activity.

Recreational Dock and Removal of Bay Fill

For construction of the recreational dock and removal of fill as mitigation for bay fill, implementation of water quality control measures as part of compliance with the section 10 or section 404 permit requirements, subject to water quality certification by the regional board, along with compliance with the requirements of the BCDC permit, would ensure that temporary water quality impacts related to construction activities in San Francisco Bay would be *less than significant*.

Construction of the recreational dock would avoid interference with PG&E’s Offshore Sediment Area because, as shown on **Figure 4.J-2, Proposed Dock and Navigation Corridor Plan View and Cross-Sections**, no piles would be installed within the Nearshore Zone or Transition Zone Cell 16 and no dredging or excavation would occur within these areas during construction.

Abandonment of the Unit 3 Inlet and Outfall Structures and Construction of New Stormwater Outfall

Abandonment of the inlet and outfall structures associated with the Unit 3 Power Block and construction of a new stormwater outfall if a separate stormwater system is constructed would be conducted within Segments 2 and 3 of the Nearshore Zone of PG&E Offshore Sediment Area (see Figure 4.K-1 in Section 4.K, Hazards and Hazardous Materials). These in-water construction activities have the potential to penetrate the cap in the nearshore sediment zone and expose contaminated sediments beneath the cap.

PG&E anticipates completion of the offshore sediment remediation by the first quarter of 2020, before much of the construction would occur under the proposed project. PG&E’s plans for

remediation in the Nearshore Zone include dredging to remove the sediments with the highest polynuclear aromatic hydrocarbon concentrations and placing a cap to isolate the remaining sediments. Within Segment 2, the cap will also include a chemically reactive layer to prevent the migration of dissolved polynuclear aromatic hydrocarbons from the sediment to the waters of the San Francisco Bay.

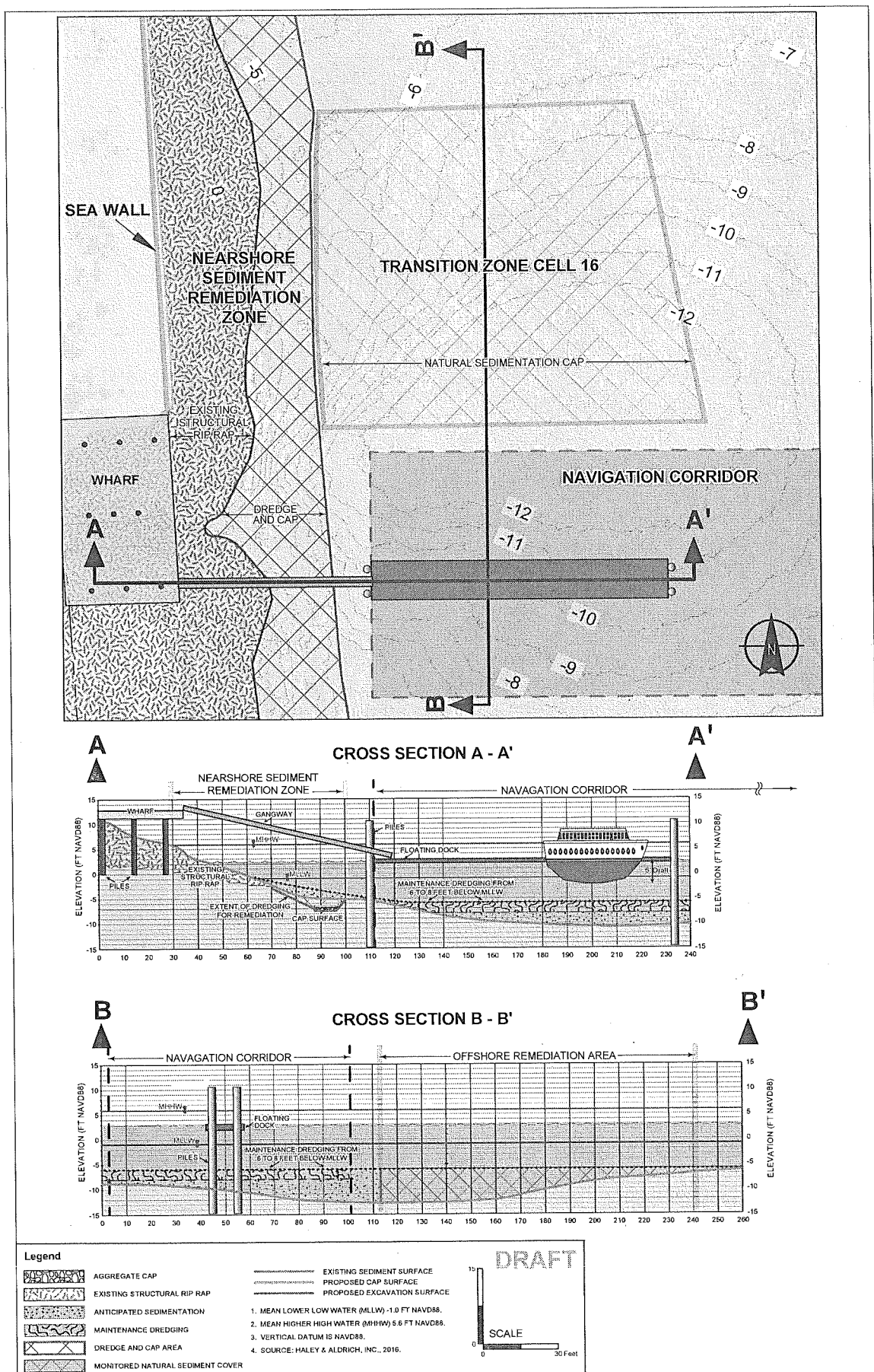
The Offshore Sediment Risk Management and Monitoring Plan to be prepared by PG&E will include requirements for conducting intrusive activities that may encounter affected sediments and will require restoration of the cap at the completion of construction. Such requirements will address notification, oversight, cap restoration, and sediment management procedures. The Offshore Sediment Risk Management and Monitoring Plan will be subject to approval by the regional board, and implementation of the specified requirements would ensure that adverse water quality effects would not occur as a result of disruption of PG&E's Offshore Sediment Area during construction. PG&E expects to complete the Risk Management and Monitoring Plan by 2020, prior to implementation of project-related construction activities within PG&E's Offshore Sediment Area. Therefore, this impact would be *less than significant*.

Water Quality Effects of Dewatering Activities

As noted in Appendix B, Initial Study, under Geology and Soils, the existing groundwater levels southwest of the historic shoreline are 7 to 9 feet below ground surface. Groundwater depths east of the historic shoreline have ranged between approximately 5 to 13 feet below existing ground surface. Given that the estimated depth of excavation on the site would be up to 25 feet for the construction of foundations, basements, and/or parking structures, temporary construction-related dewatering would be required.

The project sponsor has evaluated two options for discharge of groundwater produced during construction dewatering: (1) directly discharging to the City's combined sewer system; and (2) installing an onsite dewatering treatment system and discharging the treated water to San Francisco Bay. If discharged to the combined sewer system, groundwater discharges would be subject to article 4.1 of the public works code, as supplemented by Public Works Order No. 158170, which regulates the quantity and quality of discharges to the combined sewer system. In accordance with article 4.1 and Public Works Order No. 158170, the discharger would be required to obtain a permit for the discharges and the permit would contain appropriate discharge standards. The permit may also require installation of meters to measure the volume of the discharge.

The groundwater could contain contaminants related to past site activities, as discussed in Section 4.K, Hazards and Hazardous Materials, as well as sediment and suspended solids, but the groundwater dewatering effluent would be treated as necessary to meet the discharge limitations of article 4.1 and Public Works Order No. 158170. Treatment could include methods such as using settling tanks to remove sediments; filters to remove suspended solids; and other methods to meet chemical-specific discharge limitations. The chemical-specific treatment method used would depend on the chemicals that exceed the specified discharge limitations, but could include methods such as filtration or activated carbon treatment to reduce chemical concentrations as necessary to meet permit requirements prior to discharge.



SOURCE: Geosyntec Consultants

Potrero Power Station Mixed-Use Development Project

Figure 4.J-2
Proposed Dock and Navigation Corridor Plan View and Cross-Sections

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If discharged directly to San Francisco Bay, the groundwater discharges could be subject to permitting requirements of the regional board under the Groundwater General Permit or the Volatile Organic Compound and Fuel General Permit that are described above under “State Regulations,” p. 4.J-21. These permits specify water quality criteria and monitoring requirements for discharges of extracted groundwater. Accordingly, under this option, the project sponsor would be required to submit a notice of intent to the regional board describing the proposed discharge and treatment system. The regional board must issue an authorization to discharge once it is determined that the discharger is eligible to discharge under the permit. Per regional board requirements, the contractors would install an onsite treatment system(s) as needed to comply with the effluent limitations of the applicable discharge permit. The treated water would likely be discharged through a temporary discharge structure and regular influent and effluent water quality monitoring would be conducted to demonstrate permit compliance. Alternatively, an individual NPDES permit from the regional board would be required, which would likely impose similar requirements.

With discharge to the combined sewer system or San Francisco Bay in accordance with the regulatory requirements described above, water quality impacts related to a violation of water quality standards or degradation of water quality due to discharge of groundwater produced during construction-related dewatering would be *less than significant*.

Water Quality Effects of Groundwater Dewatering Wells

If groundwater wells are required for construction dewatering, the wells could provide a downward conduit for contamination, potentially affecting groundwater quality, if not properly constructed. However, the project sponsor would be required to obtain a well construction permit for any dewatering wells in accordance with the well permitting requirements described above under “Well Permitting Requirements.” The permit would specify requirements for construction of the wells in accordance with the water well standards of the state and article 12B of the health code, including requirements for placement of a seal around the wells, referred to as an annular seal, to prevent the downward migration of contaminants. This would ensure that any wells installed for construction-related dewatering would not provide a downward conduit for contamination that could adversely affect groundwater quality. Therefore, water quality impacts associated with installation and operation of the dewatering wells would be *less than significant*.

Impact Summary

Impact HY-1 discusses the water quality impacts of project-related construction activities as a result of land-based construction activities, in-water construction activities, groundwater dewatering, and use of groundwater dewatering wells. These impacts would be less than significant through compliance with legal requirements as implemented through numerous permits. These legal requirements include article 4.2 of the public works code, section 146; the Construction General Stormwater Permit; section 10 of the Rivers and Harbors Act and/or section 404 of the Clean Water Act; article 4.1 of the public works code; the Groundwater General Permit or the Volatile Organic Compound and Fuel General Permit; and article 12B of the health code.

Abandonment of the inlet and outfall structures associated with the Unit 3 Power Block and construction of a new stormwater outfall if a separate stormwater system is constructed would be

conducted within Segments 2 and 3 of the Nearshore Zone in the PG&E Offshore Sediment Area. Construction activities under the proposed project would be required to implement the above legal requirements and the legal requirements of PG&E's Offshore Sediment Risk Management and Monitoring Plan. Therefore, compliance with applicable regulatory requirements and implementation of specified control measures would ensure that water quality impacts associated with project construction activities would be *less than significant*.

Mitigation: None required.

Operational Impacts

Impact HY-2: Operation of the proposed project would not violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality, and runoff from the proposed project would not exceed the capacity of a storm drain system or provide a substantial source of stormwater pollutants. (*Less than Significant*)

The proposed project includes two options for stormwater management: a dual sewer system and a combined sewer system option. Under the dual sewer system (the preferred option), a new separate stormwater system would be constructed to convey stormwater flows from the eastern part of the site to a new outfall located near the existing Unit 3 inlet structure that would discharge stormwater to Lower San Francisco Bay. Stormwater runoff from the western portion of the project site would be conveyed to the city's combined sewer system. If the combined sewer system option is constructed, stormwater from the entire project site would be conveyed to the combined sewer system. Under both options, wastewater from the entire site would be conveyed to the Southeast Plant for treatment via the City's combined sewer system. The effects of each option on water quality and storm drain system capacity are discussed below.

Water Quality Effects of Stormwater Discharges to Separate Stormwater System and Additional Sources of Polluted Runoff

As discussed in Chapter 2, Project Description, under the preferred project (dual system option), future development on the eastern portion of the project site would discharge stormwater to a new separate stormwater system to be constructed under the proposed project. Runoff from the project site could entrain common urban stormwater pollutants such as animal waste, litter, metals, oil and grease, and other potential pollutants. However, because the proposed separated stormwater system would be designed and operated in compliance with regulations designed to protect water quality, these discharges would not violate water quality standards, otherwise degrade water quality, or result in an additional source of stormwater pollutants. All discharges would be in accordance with City regulatory requirements (discussed under "Local Regulations") that have been developed to ensure compliance with the Small MS4 General Stormwater Permit.

Stormwater runoff from the project site to the separate stormwater system would be managed in accordance with article 4.2 of the San Francisco Public Works Code, section 147, and the Stormwater Management Requirements and Design Guidelines. These requirements apply to individual projects that create or replace 5,000 square feet or more of impervious surfaces. Small

projects (between 2,500 and 5,000 square feet) that discharge to a separate stormwater system must implement one or more Site Design Measure(s) (e.g., tree planting and preservation, permeable pavement, green roofs, vegetated swales, rainwater harvesting, etc.). Large projects, including the proposed project, that create and/or replace 5,000 square feet or more of impervious surfaces must implement source controls and best management practices to meet performance requirements, and must manage runoff from the 90th percentile, 24-hour storm.

As discussed in Chapter 2, Project Description, the proposed project would primarily use two low impact development approaches for treating stormwater discharges: (1) maximizing the amount of pervious area by including rainwater harvesting and reuse systems, bio-filtration features, green roofs where feasible, and permeable surfaces; and (2) reuse of stormwater for non-potable uses such as irrigation and toilet flushing.⁵⁷ Although infiltration of stormwater is also an allowable method of stormwater management, it is unlikely that infiltration is a feasible approach for portions of the project site because of the presence of shallow bedrock and Bay Mud. However, selection of the appropriate best management practices would be guided by existing site conditions, design and development goals, and the pollutants of concern at the site.

Implementation of source control best management practices in accordance with article 4.2 of the San Francisco Public Works Code, section 147, would also reduce potential pollutant loads in the stormwater runoff and would improve the quality of the runoff to the separate stormwater system. Source control measures described in the Stormwater Management Requirements and Design Guidelines include covering and hydraulically isolating pollutant generating activities, implementing maintenance activities such as regular sweeping of exposed areas, and using non-polluting building and maintenance materials. Treatment best management practices to be implemented under the proposed project would further reduce pollutant loads in stormwater via infiltration and biofiltration. One or more treatment best management practices would be required to address each of the potential stormwater pollutants of concern.

The Stormwater Control Plan to be prepared in accordance with the Stormwater Management Requirements and Design Guidelines would describe best management practices that would be implemented to achieve the specified stormwater treatment as well as a plan for post-construction operation and maintenance of the best management practices. The plan must be reviewed and approved by the SFPUC to certify compliance with the Stormwater Design Guidelines, and the SFPUC would inspect the installed stormwater best management practices (stormwater controls) once they are constructed to confirm that they perform as designed.

Article 4.2 of the San Francisco Public Works Code, section 147, and the Stormwater Management Requirements and Design Guidelines implement the stormwater treatment requirements of the Small MS4 General Stormwater Permit. Therefore, project-related stormwater discharges to the separate stormwater system would not cause a violation of water quality standards or waste discharge requirements, would not otherwise substantially degrade water quality, and would not provide an additional source of polluted runoff. This impact would be *less than significant* for discharges to the separate stormwater system.

⁵⁷ CBG, Inc., Conceptual Stormwater Management Plan, February 2, 2018.

Portions of the project site would continue to drain stormwater to the City's combined sewer system. Water quality impacts related to these discharges would be the same as those discussed below under "Water Quality Effects of Stormwater Discharges to the Combined Sewer System and Additional Sources of Polluted Runoff."

Water Quality Effects of Stormwater Outfall Discharges to San Francisco Bay from Separate Stormwater System

Under the preferred project (dual sewer system option), stormwater flows from the eastern portion of the project site would be conveyed to a new outfall on the east side of the project site, and stormwater would be discharged through this outfall to Lower San Francisco Bay (north of the Unit 3 Power Block intake structure, within Segment 2 of PG&E's Offshore Sediment Area Nearshore Zone). Prior to construction and operation of the proposed new outfall, PG&E will have completed remediation of the Nearshore Zone that includes dredging to remove the sediments with the highest polynuclear aromatic hydrocarbon concentrations and placing a cap to isolate the remaining sediments. In Segment 2, the cap will include a chemically reactive layer to prevent the migration of dissolved polynuclear aromatic hydrocarbons through the cap. If stormwater flows from the project site eroded the cap and exposed contaminated sediments, the polynuclear aromatic hydrocarbons could be released into the bay water and potentially result in adverse water quality effects. However, as discussed in Chapter 2, Project Description, the stormwater outfall would be designed to dissipate stormwater flows in a manner to avoid scour and erosion of the sediment cap, and this would prevent a release of polynuclear aromatic hydrocarbons. Therefore, operational impacts related to the discharge of stormwater from the dual sewer system would be *less than significant*.

Water Quality Effects of Stormwater Discharges to the Combined Sewer System and Additional Sources of Polluted Runoff

As discussed in Chapter 2, Project Description, under the preferred project (dual system option), future development on the western portion of the project site would discharge stormwater to the City's combined sewer system. Under the combined sewer system option, stormwater from the entire project site would discharge stormwater to the City's combined sewer system. Runoff from the project site could entrain common urban stormwater pollutants such as animal waste, litter, metals, oil and grease, and other potential pollutants. However, these discharges would not violate water quality standards, otherwise degrade water quality, or result in an additional source of stormwater pollutants because all discharges would be in accordance with City regulatory requirements (discussed under "Local Regulations" p. 4.J-27) that have been developed to ensure compliance with the Bayside NPDES permit.

Stormwater discharges to the combined sewer system would be subject to article 4.2 of the public works code, section 147 and the San Francisco Stormwater Management Requirements and Design Guidelines that apply to future development projects that create and/or replace 5,000 square feet or more of impervious surfaces, including the proposed project. Covered projects that include more than 50 percent existing impervious surfaces must reduce the stormwater runoff flow rate and volume from the site by 25 percent for a two-year 24-hour storm. For covered projects with less than 50 percent existing impervious surfaces, the stormwater management approach must prevent

the stormwater runoff flow rate and volume from exceeding existing conditions for the one- and two-year 24-hour design storm. Alternatively, if site conditions, such as shallow bedrock in portions of the project site, limit infiltration of stormwater, the project sponsor may apply for modified compliance with the Stormwater Management Ordinance and Stormwater Design Guidelines to adjust the amount by which the project must reduce the stormwater runoff volume and flow rate relative to existing conditions.

The Stormwater Management Requirements and Design Guidelines require the use of the low-impact development measures to reduce runoff and to reduce and delay the volumes of discharge entering the combined sewer system, thereby reducing the frequency of combined sewer overflows, minimizing flooding effects, and protecting water quality. As discussed in Chapter 2, Project Description, the proposed project would primarily use two Low Impact Development approaches for treating stormwater discharges: (1) maximizing the amount of pervious area by including rainwater harvesting and reuse systems, bio-filtration features, green roofs where feasible, and permeable surfaces; and (2) reuse of stormwater for non-potable uses such as irrigation and toilet flushing.⁵⁸ Although infiltration of stormwater is also an allowable method of stormwater management, it is unlikely that infiltration is a feasible approach for portions of the project site because of the presence of shallow bedrock and Bay Mud. However, selection of the appropriate stormwater controls would be guided by existing site conditions, design and development goals, and the pollutants of concern at the site.

Article 4.2 of the public works code, section 147, also requires implementation of source control measures that would reduce potential pollutant loads in the stormwater runoff. Source control measures described in the Stormwater Management Requirements and Design Guidelines include covering and hydraulically isolating pollutant generating activities, implementing maintenance activities such as regular sweeping of exposed areas, and using non-polluting building and maintenance materials. Treatment systems as part of the stormwater controls to be implemented under the proposed project would further reduce pollutant loads in stormwater via infiltration and biofiltration. One or more treatment controls would be required to address each of the potential stormwater pollutants of concern.

The stormwater control plan to be prepared in accordance with the Stormwater Management Requirements and Design Guidelines would describe stormwater controls that would be implemented to achieve the specified reduction in stormwater flow rates and volumes as well as a plan for post-construction operation and maintenance of the controls. The plan must be reviewed and approved by the SFPUC to certify compliance with the Stormwater Management Requirements and Design Guidelines, and the SFPUC would inspect stormwater controls once they are constructed to confirm that they perform as designed.

All stormwater discharges to the combined sewer system would be treated at the Southeast Plant and Bayside wet-weather facilities in compliance with the Bayside NPDES permit. Therefore, project-related stormwater discharges to the combined sewer system would not cause a violation of water quality standards or waste discharge requirements, would not otherwise substantially

⁵⁸ CBG, Inc., Conceptual Stormwater Management Plan, February 2, 2018.

degrade water quality, and would not provide an additional source of polluted runoff. This impact would be *less than significant* for discharges to the combined sewer system.

Water Quality Effects of Wastewater Discharges to the Combined Sewer System

Both the dual system and combined sewer system options would involve discharges of wastewater to the City's combined sewer system. These discharges would not violate water quality standards or otherwise degrade water quality because all discharges would be in accordance with City regulatory requirements (discussed under "Local Regulations" p. 4.J-27) that have been developed to ensure compliance with the Bayside NPDES permit. Wastewater discharges from the proposed project would be subject to the permit requirements of article 4.1 of the San Francisco Public Works Code as supplemented by Public Works Order No. 158170. Accordingly, future commercial users of the site would be required to develop and implement a pollution prevention program and comply with the pretreatment standards and discharge limitations specified in article 4.1. These dischargers would also be required to monitor the discharge quality for compliance with permit limitations.

All wastewater discharges to the combined sewer system would be treated at the Southeast Plant and Bayside wet-weather facilities in compliance with the Bayside NPDES permit. Therefore, project-related wastewater discharges to the combined sewer system would not cause a violation of water quality standards or waste discharge requirements or otherwise substantially degrade water quality. This impact would be *less than significant*.

Water Quality Effects Related to Exceeding the Capacity of the Stormwater System

Neither of the stormwater management options would result in stormwater runoff that would exceed the capacity of the stormwater conveyance system because, as described in Appendix B, Initial Study, under Utilities and Service Systems, the new stormwater systems would be constructed in accordance with the City's Subdivision Regulations. Accordingly, the new separate stormwater system and components of the combined sewer system would be sized to accommodate the 5-year storm, and flows for the 100-year storm would be directed to San Francisco Bay via streets and other approved corridors that would be designed to accommodate 100-year flood flows exceeding the 5-year storm flows in accordance with the subdivision regulations. Therefore, water quality effects related to exceeding the capacity of the stormwater system would be *less than significant*, and no mitigation is necessary.

While compliance with the specified design criteria for sizing of the stormwater system would ensure that the stormwater flows to the combined system would be within the capacity of the new system, increases in total wastewater plus stormwater flows to the City's combined sewer system could potentially increase the number of combined sewer discharges from the Islais Creek watershed of the City's combined sewer system. This would not constitute an exceedance of the stormwater system capacity, but could affect conditions subject to the Bayside NPDES permit requirements. The potential for this to occur is addressed below in this impact analysis under the subheading "Water Quality Effects Related to Changes in Combined Sewer Discharges," below.

Water Quality Effects Related to Changes in Combined Sewer Discharges

The proposed project is located in the eastern basin of the City's combined sewer system, within the Islais Creek watershed. Two aspects of the project in combination could result in long-term changes in the volume of discharges to the City's combined sewer system in these sub-basins: (1) new residents, employees, and visitors would increase the amount of wastewater generation, and (2) changes in the areas discharging stormwater to the combined sewer system would change the volume of stormwater discharges.

As discussed in "Environmental Setting," starting on p. 4.J-1 during wet weather, combined sewer system flows in excess of the combined 400 mgd capacity of the Southeast Plant and Northpoint Wet Weather facility are discharged through combined sewer discharge structures. In the Islais Creek watershed, the combined sewer discharge structures discharge directly to the Central Basin of Lower San Francisco Bay at Mariposa Street and to Islais Creek via five combined sewer discharge structures. In addition, a small amount of stormwater flows from the project site would be conveyed to the 20th Street sub-basin to the north. Combined sewer discharge structures in this sub-basin discharge to the Central Basin of Lower San Francisco Bay at 20th and 22nd streets. All of these discharge facilities are designed to result in a long-term average of no more than ten overflow events per year. The excess flows receive "flow-through treatment" in the City's storage and transport boxes to remove settleable solids and floatable materials. However, an increase in the frequency of combined sewer discharges could be a concern because the regional board has designated Islais Creek, the Central Basin of Lower San Francisco Bay and Lower San Francisco Bay as impaired water bodies under section 303(d) of the Clean Water Act, which indicates water quality standards are not expected to be met after implementation of technology-based effluent limitations, and because combined sewer discharges contain pollutants for which these water bodies are impaired.

The dual stormwater system would decrease the project area that discharges to the combined sewer. Under the combined sewer option, the entire 21-acre site would discharge stormwater to the combined sewer system. The SFPUC analyzed the potential effect of changes in wastewater and stormwater flows under the proposed project for the combined sewer option.⁵⁹ This option would have the greatest potential to result in an increase in the frequency of combined sewer discharges because under this option, all of the stormwater from the project site would be discharged to the combined sewer system. The SFPUC analysis found that the combined sewer system option would not result in an increase in the frequency of combined sewer discharges from the Islais Creek watershed or 20th Street sub-basin. The volume of discharges would increase slightly at the Islais North, Marin Street, Selby Street, and Third Street outfalls, all of which discharge to Islais Creek. The effect of the dual system would be less than modeled because the proposed project would decrease the portion of the site that discharges stormwater to the combined sewer system under the dual system option. This SFPUC analysis accounts for the Pier 70 Mixed-Use District project and the Golden State Warriors Event Center and Mixed-Use Development project, which are both under construction. Because stormwater and wastewater discharges from the project would not result in an increase in the frequency of combined sewer discharges under either stormwater management option, the project's impacts related to changes in combined sewer discharges would be *less than significant*.

⁵⁹ San Francisco Public Utilities Commission, Memorandum from Julio Maravilla to Titus Chen, Potrero Power – System Type Determination Modeling, October 11, 2017 (rev 1).

Water Quality Effects Related to Changes in Bay Circulation

The float for the proposed recreational dock would utilize either four 36-inch diameter steel piles or 14 24-inch diameter concrete piles. Installation of new piles has the potential to affect the speed and direction of currents in the bay and could result in associated changes in sediment transport, water quality, and salinity. However, based on numerical modeling for nearby projects, any potential changes in these factors caused by the installation of the recreational dock structures is expected to be confined to the immediate vicinity of the structures and would be unlikely to have a discernable effect on overall circulation and water quality along the bay shoreline.

Numerical modeling of water circulation in San Francisco Bay was performed for the 34th America's Cup EIR⁶⁰ and for a remediation concept design and impact analysis within Central Basin at Crane Cove Park.⁶¹ The 34th America's Cup project included the construction of new structures on a pier supported with the addition of 1,750 new piles, many more than would be installed under the proposed project. The Crane Cove Park project included the removal of Wharf 8 from the Central Basin of San Francisco Bay; installing Crane Cove Park Beach, and deepening Dredge Units 1-3 in Central Basin to a depth of 35 feet mean lower low water.⁶² The modeling evaluated the effects of the proposed improvements on water circulation, and the subsequent effects on sediment transport, water quality, and salinity. While these models did not analyze the specific effects of the new piles to be constructed under the proposed project, they do provide general indicators of the potential for changes in circulation to occur as a result of the installation of new piles.

The models concluded that structures and other improvements have the potential to induce changes to the speed and direction of currents. However, these effects would be restricted to the immediate vicinity of the structures and would only occur during stronger currents. At times of low currents, changes are expected to be negligible because sediment transport, salinity and water quality along the San Francisco waterfront are driven almost entirely by tidal currents. Further, wind and wind-waves, which cause mixing, would be expected to further reduce the potential effects of the proposed facilities on the bay tidal currents, sediment transport, salinity and water quality. Therefore, any potential changes in these factors caused by the installation of the recreational dock structures is expected to be confined to the immediate vicinity of the structures.

For the reasons described above, impacts related to changes in water circulation would be *less than significant* for the proposed project.

Water Quality Effects Related to Maintenance Dredging

Maintenance dredging could be required to maintain a minimum 6-foot water depth within the navigation corridor (shown on Figure 4.J-2) for vessels using the new recreational dock. Based on the current depth of the bay within the navigation corridor and information regarding the current rate of sedimentation, maintenance dredging is not expected to be required until 2050. Any maintenance dredging after that time would be infrequent, and would be limited to a maximum

⁶⁰ Coast & Harbor Engineering, *Draft Coastal Harbor Engineering Impact Analysis, 34th America's Cup, San Francisco Bay*, June 14, 2011.

⁶¹ Coast & Harbor Engineering, *Technical Report Coastal Engineering Analysis, Remediation Concept Design and Impact Analysis, Port of San Francisco Central Basin California*. Prepared for Port of San Francisco, November 4, 2014.

⁶² Ibid.

water depth of 8 feet at the mean lower low water elevation to accommodate recreational boat traffic. The project sponsor would implement the water quality measures described in Chapter 2, Project Description, including confining dredging operations to approved work windows, which would reduce water quality effects related to maintenance dredging. Further, the maintenance dredging would be conducted in accordance with a section 10 permit from the Corps and a 401 Water Quality Certification from the regional board as well as the requirements of other permitting agencies of the Dredged Material Management Office including the U.S. EPA, BCDC, State Lands Commission, National Marine Fisheries Service, and California Department of Fish and Wildlife. With implementation of these regulatory requirements, water quality impacts related to maintenance dredging would be *less than significant*.

Maintenance dredging would be conducted within a zone that is approximately 10 feet south of Transition Zone Cell 16 of PG&E's Offshore Sediment Remediation Area. PG&E's remedial approach for this cell relies on natural sedimentation processes to isolate and bury contaminated sediment beneath clean sediment. This process results in the accumulation of up to a six-foot-thick layer of clean sediment on top of the existing sediment, which isolates the contaminated sediment from the bay waters. Maintenance dredging would not extend beyond the northern limit of the navigation corridor shown on Figure 4.J-2, which would be a minimum of 10 feet south of Cell 16.⁶³ Therefore, maintenance dredging would not disrupt the natural sedimentation processes that support the remediation of Transition Zone Cell 16.

Water Quality Effects Related to Littering

The proposed use of the project site by residents, employees, and visitors could increase the potential for litter entering the bay. This is a potential water quality issue because the adjacent Lower San Francisco Bay is listed as impaired for trash (see "State Regulations" starting on p. 4.J-21). In accordance with article 6 of the San Francisco Health Code, Garbage and Refuse, the project sponsor would be required to place containers in appropriate locations for the collection of refuse. In accordance with this article, the refuse containers must be constructed with tight fitting lids or sealed enclosures, and the contents of the container may not extend above the top of the rim. The project sponsor must also have adequate refuse collection service. Further, article 6 prohibits the dumping of refuse onto any streets or lands within San Francisco.

The proposed project would be required to comply with several City ordinances, discussed in the Appendix B, Initial Study, under Utilities and Service Systems, which would decrease the amount of non-degradable trash generated under the proposed project. The San Francisco Mandatory Recycling and Composting Ordinance requires facilities to separate their refuse into recyclables, compostables, and trash. In addition, the Food Service Waste Reduction Ordinance prohibits any establishment that serves food prepared in San Francisco from using polystyrene foam (Styrofoam) to-go containers. This ordinance also requires that any containers used in the City's programs be either recyclable or compostable.

Further, if a separate stormwater system were to be constructed, the proposed project would be required to comply with the Trash Amendment of the Water Quality Control Plan for Inland

⁶³ Simpson, Gumpertz, and Heger, *Sediment Transport Analysis for the Proposed Berthing Facility*, February 7, 2018.

Surface Waters, Enclosed Bays, and Estuaries of California, described above under “Inland Surface Waters, Enclosed Bays, and Estuaries Plan.” This amendment would require the proposed project to implement specific measures to prevent the transport of trash to San Francisco Bay. Compliance with this requirement may be achieved using a full capture system for all storm drains (Track 1) or a combination of full capture systems, multi-benefit projects, other treatment controls, and institutional controls (Track 2).

Compliance with article 6 of the San Francisco Health Code, the City ordinances described above, and the Trash Amendment for the separate stormwater system, would reduce the amount of non-recyclable and non-compostable wastes produced at the project site, would ensure that adequate containers and refuse service are provided, and would ensure that offshore San Francisco Bay water is kept free of trash as a result of littering at the project site. This would reduce the potential for transport of litter to the combined or separate stormwater systems and directly to San Francisco Bay via wind or stormwater runoff. Therefore, water quality impacts related to littering would be *less than significant*.

Impact Summary

Impact HY-2 discusses the water quality impacts associated with operation of the proposed project, including the water quality effects of stormwater and wastewater discharges, additional sources of polluted runoff, the potential to exceed the capacity of the storm drain system, and littering. These impacts would be less than significant through compliance with legal requirements as implemented through numerous permits. These legal requirements include article 4.2 of the San Francisco Public Works Code, section 147; the Stormwater Management Requirements and Design Guidelines; article 4.1 of the San Francisco Public Works Code as supplemented by Public Works Order No. 158170; the City Subdivision Regulations; article 6 of the San Francisco Health Code; and the Trash Amendment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

Similarly, water quality impacts related to maintenance dredging would be less than significant through compliance with legal requirements as implemented through permitting. These legal requirements include section 10 of the Rivers and Harbors Act; section 401 of the Clean Water Act; and the requirements of the permitting agencies of the Dredged Material Management Office including the U.S. EPA, BCDC, State Lands Commission, National Marine Fisheries Service, and California Department of Fish and Wildlife.

Based on modeling performed in support of the proposed project, the proposed project would not result in an increase in the frequency of combined sewer discharges from the City’s combined sewer system. Water quality effects related to changes in circulation are expected to be restricted to the immediate vicinity of the piles that would be installed to support the new recreational dock. Therefore, water quality impacts related to these topics would be *less than significant*.

Mitigation: None required.

Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on or off site. (*Less than Significant*)

Stormwater runoff from the eastern portion of the project site currently drains to the existing onsite separate storm drain system, and stormwater runoff from the western portion of the project site drains to the city's combined sewer system. The project site does not include any existing streams or water courses that could be altered or diverted. Therefore, the proposed project would have no impact related to alteration of drainage patterns by altering the course of a stream in a manner that would cause erosion, flooding, or siltation on or offsite.

Under the proposed project, stormwater would be routed either to a new separate stormwater system or the City's combined sewer system. In accordance with the Stormwater Management Requirements and Design Guidelines, stormwater controls for future development projects that discharge to the new separate stormwater system would be designed to treat rainfall from the 90th percentile, 24-hour storm and include measures to reduce or eliminate downstream water pollution. In areas served by the combined sewer system, article 4.2 of the San Francisco Public Works Code, section 147, and the Stormwater Management Requirements and Design Guidelines would require that the stormwater controls for individual development projects reduce or maintain existing stormwater runoff flow rates and volumes. Further, as described above in Impact HY-2, the new separate stormwater system and components of the combined sewer system would be sized to accommodate the 5-year storm, and flows for the 100-year storm would be directed to San Francisco Bay via streets and other approved corridors that would be designed to accommodate 100-year flood flows in excess of the 5-year storm in accordance with the subdivision regulations. Compliance with these design requirements, subject to approval by Public Works, would ensure that no on- or off-site flooding, erosion, or siltation would occur.

Therefore, neither alteration of existing drainage patterns at the project site nor changes in stormwater runoff volumes would result in substantial erosion, siltation, or flooding on- or off-site, and this impact would be *less than significant*.

Mitigation: None required.

Impact HY-4: Operation of the proposed project would not place housing within a 100-year flood zone or place structures within an existing 100-year flood zone that would impede or redirect flood flows. (*Less than Significant*)

As discussed above under "Existing Flood Zones," p. 4J-7 the shoreline portions of the project site are located within a 100-year flood zone identified on the City's 2008 Interim Flood Hazard Maps. However, the proposed project includes construction of shoreline protection improvements, including rock slope revetments, wetlands, berms and bulkheads along the entire waterfront of the project site to protect the waterfront from the damaging effects of wave action. The inland grade near the shoreline would also be increased. The entire waterfront portion of the project site would

be raised to an elevation of 17.5 feet NAVD88, which is above the existing 100-year flood elevation of 11 to 12 feet NAVD88. The final slopes along the waterfront would be similar to existing conditions.

Factors that could exacerbate flooding issues along the waterfront portion of the project site include changes in the shape and configuration of the shoreline as well as construction of in-bay structures or enclosures such as jetties, breakwaters, or marinas that could change circulation patterns in San Francisco Bay in the vicinity of the project site. Because the final slope and shape of the shoreline along the waterfront portion of the project site would be substantially the same as existing conditions and the piles for the recreational dock would not substantially change circulation patterns, the patterns of flood flows at the project site or in the vicinity would not be substantially affected.

The proposed project does not include additional stormwater discharges or other discharges that would increase the frequency or severity of flooding and, as discussed above in Impact HY-2, the stormwater drainage systems installed under either of the stormwater options would be sized to adequately convey stormwater flows in accordance with San Francisco's subdivision regulations. The proposed project would not cause flooding to occur in areas that would not be subject to flooding without the proposed project for the reasons stated above.

Although the proposed project includes the construction of housing, any proposed housing and other proposed structures would be constructed at least 100 feet inland from the shoreline and would not be constructed within an identified 100-year flood zone. Therefore, impacts related to placement of housing within a 100-year flood zone and the impedance or redirection of flood flows within an existing 100-year flood zone would be *less than significant*.

Mitigation: None required.

Impact HY-5: Operation of the proposed project would not place structures within a future 100-year flood zone that would impede or redirect flood flows. (*Less than Significant*)

Under existing conditions, site elevations range from about 12 feet NAVD88 at the top of the shoreline to 36.4 feet NAVD88 inland, closest to the western property boundary. With 66 inches of sea level rise (the upper range of sea level rise expected by 2100 as estimated by the National Research Council), mean higher high water would increase to 11.9 feet NAVD88 and only the immediate waterfront portions of the project site would be inundated; no development is proposed within this potentially flooded area. When the effects of 100-year storm surge are considered, bay water levels would temporarily increase to 15.4 feet NAVD88 and more of the project site could be temporarily flooded.

To be resilient to the upper range of sea level rise, the project sponsor would raise elevations at the shoreline by 3 to 7 feet, to a minimum elevation of 17.5 feet NAVD88, which is above the projected worst-case future flood level of 15.4 feet NAVD88 in 2100 estimated by the National Research Council. In addition, low lying portions of the project site (with the exception of the area around

the Unit 3 Power Block and the Boiler Stack) would be filled to a minimum elevation of 17.5 feet NAVD88 and the finished floor elevation of all proposed development (with the exception of the Unit 3 Power Block and the Boiler Stack) would be at a minimum elevation of 17.5 feet NAVD88, 2 feet above the worst-case future flood elevation in 2100 estimated by the National Research Council (15.4 feet NAVD88). In addition, the wharf deck for the recreational dock would be at an elevation of 17.5 feet NAVD88, also above the future flood level. The float would accommodate rising sea levels.

The ground elevation in the vicinity of the Unit 3 Power Block and the Boiler Stack is approximately 14 feet NAVD88. This area would be protected from future flooding by construction of the proposed shoreline improvements. Regardless, this area would be provided with a local pump station and backflow protection would also be integrated into the storm drain collection system to protect against flooding. The pump station would discharge stormwater from the area around the Unit 3 Power Block and the Boiler Stack to the stormwater outfall constructed as part of the separate stormwater system. A backflow prevention device would prevent bay water from entering the storm drainage system in the event of extreme tidal elevations, and this would prevent future bay water level increases from adversely affecting the operation of the storm drainage system.

As for existing flooding conditions, factors that could exacerbate flooding and increase the potential for coastal erosion along the waterfront portion of the project site include changes in the shape and configuration of the shoreline as well as construction of in-bay structures or enclosures such as jetties, breakwaters, or marinas that could change circulation patterns in San Francisco Bay at the project site. Because the final slope and shape of the shoreline along the project waterfront portion of the project site would be substantially the same as existing conditions, and the piles for the recreational dock would not substantially change circulation patterns, the patterns of future flood flows and potential for coastal erosion at the project site and in the vicinity would not be substantially affected.

The proposed project would not result in additional stormwater discharges or other discharges that would increase the frequency or severity of flooding and, as discussed above in Impact HY-2, the stormwater drainage systems installed under either of the stormwater options would be sized to adequately convey stormwater flows in accordance with San Francisco's subdivision regulations. The proposed project would not cause flooding to occur in areas that would not be subject to flooding without the proposed project for the reasons stated above. Therefore, this impact would be *less than significant*.

Mitigation: None required.

Impact HY-6: The proposed project would not expose people or structures to substantial risk of loss, injury, or death due to inundation by seiche, tsunami, or mudflow. (*Less than Significant*)

As discussed above under "Tsunami and Seiche," p. 4J-15, the majority of the project site is located in an area identified for potential inundation in the event of a tsunami or seiche based on existing

site grades.⁶⁴ Based on modeling conducted in support of the Tsunami Annex to San Francisco's Emergency Response Plan, the maximum elevation of a potential wave from a local source tsunami is 6.3 feet NAVD88 and the maximum elevation of a potential wave from a distant-source tsunami is 10.3 feet NAVD88.

As discussed in Chapter 2, Project Description, and in Impact HY-5, above, the project sponsor would raise elevations at the shoreline by 3 to 7 feet, to an elevation of 17.5 feet NAVD88, which is above the maximum tsunami elevation of 10.3 feet NAVD88. In addition, low lying portions of the project site (with the exception of the area around Unit 3 and the Stack) would be filled to elevations of 17.5 feet NAVD88 and the finished floor elevation of all proposed developments (with the exception of the Unit 3 Power Block and the Boiler Stack) would be at a minimum elevation of 17.5 feet NAVD88, well above the maximum tsunami elevation. In addition, the wharf deck for the recreational dock would be at an elevation of 17.5 feet NAVD88, also above the maximum tsunami elevation. While the floating dock would rest on the bay water surface, and could be affected by a tsunami, it would likely experience only slight damage because it floats on the water surface and is designed to accommodate changes in water levels. None of the proposed improvements would exacerbate conditions related to tsunami inundation, or expose additional people to loss, injury, or death as a result of tsunami inundation. Rather, the project would reduce tsunami risks to people and structures by raising the interior grades of the project site well above the projected tsunami level. This impact would be *less than significant*.

Mitigation: None required.

Cumulative Impacts

Impact C-HY-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a considerable contribution to cumulative impacts on hydrology and water quality. (*Less than Significant*)

Water Quality Effects of On-Land and In-Water Construction

As discussed in Impact HY-1, implementation of appropriate regulatory requirements would ensure that the proposed project would result in less than significant impacts related to erosion and discharges of groundwater during construction dewatering. Other projects listed in Table 4.A-2 that could potentially contribute to a cumulative construction-related water quality impact would be subject to the same or similar regulatory requirements, including the Construction General NPDES permit, article 4.1 of the Public Works Code as supplemented by Public Works Order No. 158170, article 4.2 of the Public Works Code, section 146 (including implementation of an erosion control plan), the Groundwater General Permit, and the Volatile Organic Compound and Fuel General Permit. Similarly, all in-bay construction along the waterfront would be required to implement the requirements of section 404 and section 10 permits from the Corps that would

⁶⁴ California Emergency Management Agency, California Geological Survey, University of Southern California, *Tsunami Inundation Map for Emergency Planning, San Francisco North Quadrangle/San Francisco South Quadrangle (San Francisco Bay)*, June 15, 2009, http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/SanFrancisco/Documents/Tsunami_Inundation_SouthSFNorthSF_SFBay_SanFrancisco.pdf, accessed February 24, 2018.

receive water quality certification from the regional board in accordance with section 401 of the Clean Water Act. Implementation of these requirements under each individual project would ensure that all discharges comply with regulatory standards and would not result in a violation of water quality standards, such that no cumulative adverse impact on water quality would occur. Therefore, cumulative impacts related to construction-related water quality and hydrology would be *less than significant*. None of the cumulative projects listed in Table 4.A-2 would disrupt PG&E's Offshore Sediment Area, therefore there would be no cumulative impact related to disruption of this area.

Operational Effects on Water Quality

As discussed in Impact HY-2, stormwater discharges to either the new separate stormwater system or the City's combined sewer system would be subject to article 4.2, section 147, of the public works code, which would ensure compliance with the Small MS4 General Stormwater Permit and the Bayside NPDES permit that are described under "State Regulations." Compliance with and implementation of these regulatory standards by the proposed project as well as by all of the cumulative projects listed in Table 4.A-2 would ensure that stormwater discharges would not result in a violation of water quality standards, degrade water quality, or provide an additional source of polluted runoff. Therefore, cumulative impacts related to these impacts would be *less than significant*.

There would be no cumulative impacts related to exceeding the capacity of the separate stormwater system because the separate system would serve the project site only, and would not accept flows from other areas.

Hydroconsult Engineers, in collaboration with the SFPUC, modeled the cumulative effects of changes in wastewater and stormwater flows on the frequency of combined sewer discharges using the same model as the SFPUC project-level analysis and adding the reasonably foreseeable future projects listed in Table 4.A-1 of this EIR.⁶⁵ The model results indicated that the cumulative changes in stormwater and wastewater flows would result in a decrease in both frequency and volume of combined sewer discharges compared with existing conditions for both the dual and combined sewer system options. This is likely primarily due to the increased storage to be provided by the SFPUC's proposed Central Bayside System Improvement Project, which would include an approximately 24-foot diameter, 2,000-foot long tunnel. Therefore, cumulative impacts related to an increase in the frequency of combined sewer discharges would be *less than significant*.

Other reasonably foreseeable future projects that would involve construction of new structures in the bay, such as the Mission Bay Ferry Landing, would be located too far from the project site and/or would not combine on a scale relative to the surface area and volume of San Francisco Bay to have a potentially significant cumulative impact on circulation and associated sedimentation and flushing. Moreover, as discussed in Impact HY-2, the potential change in water circulation in the bay under the proposed project would be restricted to the immediate vicinity of the new

⁶⁵ Hydroconsult Engineers, Cumulative Analysis of Combined Sewer Discharges, July 9, 2018.

recreational dock. Therefore, cumulative water quality impacts related to changes in circulation and sediment flushing would be *less than significant*.

The proposed project and any cumulative project requiring dredging would be required to implement the requirements of a section 10 permit from the Corps and a section 401 Water Quality Certification from the regional board as well as the requirements of other permitting agencies of the Dredged Material Management Office as described in Impact HY-2. Implementation of these requirements would ensure that dredging activities would not result in a violation of water quality standards, degrade water quality, or provide an additional source of polluted runoff. Therefore, cumulative impacts related dredging would be *less than significant*.

As discussed in Impact HY-2, the proposed project's water quality impacts related to littering would be less than significant through compliance with article 6 of the health code, City ordinances addressing recycling and composting of wastes, and the Trash Amendment of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Other projects in the area are also required to comply with these requirements. Therefore, cumulative water quality impacts related to litter would be *less than significant*.

Alteration of Drainage Patterns

As discussed in Impact HY-3, the proposed separate storm drainage system and/or the combined sewer system would be subject to compliance with established regulations, which would ensure that impacts related to alteration of drainage patterns are less than significant. Other past, present, and reasonably foreseeable future projects within the bayside drainage basin would also be subject to these regulations. Therefore, based on the City's established regulations and guidelines for the separate and combined sewer system, cumulative impacts related to alteration of drainage patterns would also be *less than significant*.

Flooding

As described in Impacts HY-4 and HY-5, the City's bay shoreline is subject to coastal flooding and will be subject to an increased risk of flooding in the future due to anticipated climate change-induced sea level rise. However, the project has incorporated features including shoreline improvements to prevent flooding at the site. These features are subject to approval by the BCDC, as part of its permitting process. Similarly, past, present, and reasonably foreseeable future development along the bay shoreline would also be subject to BCDC permitting requirements, which would ensure that none of these projects would impede or redirect future flood flows, or exacerbate the existing flood hazard. Therefore, cumulative impacts related to existing flooding hazards and future flood hazard risks due to sea level rise would be *less than significant*.

Tsunami

Without proper precautions, past, present, and reasonably foreseeable future project within the potential tsunami inundation zone could exacerbate the existing tsunami hazards by altering the inland topography in a way that would redirect flood flows or harshen the effects of flooding. In combination with the proposed project, the cumulative development in the potential tsunami inundation zone could result in a potentially significant cumulative impact. However, as discussed

in Impact HY-6, a tsunami or seiche would not adversely affect the project site because the proposed project would include construction of shoreline protection improvements that would raise the shoreline along the entire waterfront to an elevation of 17.5 feet NAVD88, which is well above the maximum tsunami wave height of 10.3 feet NAVD88. Therefore, the project would not contribute to any cumulative impacts related to tsunami inundation, and the project's contribution to this cumulative impact would be *less than significant*.

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4.K Hazards and Hazardous Materials

4.K.1 Introduction

This section addresses the potential impacts of the proposed project related to hazardous materials during construction and operation, including impacts from hazardous materials in the soil, soil vapor, and groundwater, from naturally occurring asbestos in the fill materials and bedrock at the site, and from hazardous building materials. The existing and planned risk management plans prepared by Pacific Gas and Electric Company (PG&E) and approved by the San Francisco Bay Regional Water Quality Control Board (regional board) provide a framework and protocols for the management of hazardous materials in soil, soil vapor, and groundwater during development of the project site and for existing industrial land uses at the project site. However, because the project would involve land uses different than the existing industrial uses, this analysis addresses additional risk management activities that would be required by the regional board and implemented by the project sponsor to ensure that the site is safe for future site users. Suspected hazardous building materials in the buildings to be demolished and those to be reused are also identified along with the regulatory requirements that address abatement of these materials. The potential for the proposed development to include the handling of hazardous materials, to interfere with an adopted emergency response plan or emergency evacuation plan or result in fire hazards is also addressed. Impacts related to emergency access are addressed in Section 4.E, Transportation and Circulation.

4.K.2 Environmental Setting

As discussed below, hazardous materials have been identified in the soil, groundwater, and soil vapor at the Power Station and PG&E sub-areas as a result of previous site uses (see Chapter 2, Figure 2-2, Project Site Sub-Areas and Ownership, for locations of project sub-areas). Although sampling has not been conducted within the Port, City, and Southern sub-areas, there is the potential that hazardous materials may also be present in the soil, groundwater, and soil vapor within these areas as a result of previous land uses. In addition, PG&E has identified contamination in the sediments adjacent to the bay shoreline where some in-water construction activities would occur under the proposed project. This area is referred to as the Offshore Sediment area. Remediation of hazardous materials releases has been completed at substantial portions of the project site. Additional remediation is, or may be, required to clean up the remaining portions of the project site and the Offshore Sediment area to ensure that risks to future site users and the public from the hazardous materials present are adequately managed. Naturally occurring asbestos is also present in the fill materials on the project site that include crushed Franciscan Complex bedrock.

This Environmental Setting section is organized into six main sub-sections. The first sub-section provides an overview of the site investigation and remediation process required to address potential hazardous materials releases at the project site by sub-area. The second sub-section presents a description of the site history and the current remedial status of each project sub-area; this is the most detailed sub-section. The third sub-section describes the regulatory database review conducted for

the proposed project. The fourth sub-section provides a description of hazardous materials conditions in areas adjacent to the project site. The fifth sub-section is a description of naturally occurring asbestos present at the project site. The sixth and final sub-section of the setting section is a description of hazardous building materials that may be present in the buildings to be demolished or reused under the proposed project.

Overview of Site Investigation and Remediation Process

Power Station and PG&E Sub-Areas

PG&E is responsible for the investigation and remediation of the Power Station and PG&E sub-areas, as well as the adjacent Offshore Sediment area. PG&E's remediation activities are being conducted under the oversight of the regional board, the lead agency for the remediation. As the lead agency, the regional board must review and approve all remedial planning documents. These remediation activities are not part of the proposed project, and they are proceeding independently whether or not the proposed project is approved. PG&E's cleanup program is designed to meet cleanup standards for commercial and industrial land uses. The regional board's required investigation and remedial process for these sub-areas includes the following steps:

- Characterizing the site history of each sub-area to identify buildings, facilities, processes, and waste disposal activities that may have resulted in a release of hazardous materials. This information is used to identify the types of hazardous materials that may be present in the soil, groundwater, and soil vapors¹ and to also evaluate where these materials may be located (such as the location of previous manufactured gas plant operations and associated facilities).
- Conducting a site investigation(s) that includes sampling to evaluate what hazardous materials are present in the soil, groundwater, and soil vapor quality and the concentration of those hazardous materials present.
- Conducting a human health risk assessment to evaluate risks to current or planned site users based on the concentrations of hazardous materials present and the potential for humans to be exposed to the materials. The purpose of the risk assessment is to develop health-based cleanup standards that will allow commercial and industrial land uses to take place on the property. In general, health-based standards are more restrictive for residential uses than commercial and industrial land uses (meaning that higher concentrations of hazardous materials may be left in place at sites planned for commercial or industrial uses). This is because commercial or industrial users of a site generally occupy a site during work hours while residential users may potentially occupy the site for longer periods of time and consequently be exposed to hazardous materials at the site for longer durations. In addition, residential users may include children who are more sensitive to exposure to hazardous materials.
- Where hazardous materials are present in the soil, groundwater, or soil vapors at concentrations that exceed health-based cleanup levels for commercial and industrial uses PG&E must implement appropriate remedial measures. The remedial measures may include excavating or stabilizing contaminants, although the remedial measures for most of the Power

¹ Volatile organic compounds present in soil or groundwater can vaporize into the air spaces within the soil above the groundwater table. Vapor intrusion occurs when these vapors migrate into an overlying building. If present at high enough concentrations, chemicals in the soil vapors can pose health risks to the building occupants. This is of particular concern for buildings that include basements constructed within the underlying soil.

Station and PG&E sub-areas involve the installation of a durable cover to prevent inadvertent contact with the soil. The durable cover may consist of features such as asphalt, buildings, or sidewalks. Alternatively, the durable cover can consist of clean imported soil to be placed on top of the contaminated soil.

- The remedial measures for the Power Station and PG&E sub-area also include the preparation of risk management plans for areas where hazardous materials remain in the soil, groundwater, or soil vapors at concentrations that exceed health-based cleanup levels for commercial or industrial land uses. The risk management plans specify measures to manage potential risks to humans and the environment during and after development of the site and ensure that unacceptable health risks do not occur. A land use covenant² must also be executed that requires implementation of the risk management measures by current and future land owners and limit future land uses at the site. In some cases, such as in the PG&E sub-area, the risk management plan is referred to as a site mitigation plan. These terms can be used interchangeably.
- Once the risk management plan has been approved and the land use covenant has been executed, the regional board issues a “no further action” letter certifying that the development site has been remediated to a level that is protective of human health and the environment for the proposed land use.

If more sensitive land uses such as residential uses are proposed, the project sponsor must conduct an additional human health risk assessment for the proposed land uses. As with the ongoing PG&E remediation activities, the project sponsor’s risk assessment for more sensitive land uses must be approved by the regional board, and the site design must incorporate measures approved by the regional board for the management of site risks. To achieve clean closure of a site, such that no engineering controls are required to manage site risks, the risk assessment must demonstrate that risks to future site occupants under the proposed land uses would be an excess cancer risk of one in a million or less³ and non-cancer risks would be a hazard index of one or less.⁴

² A land use covenant is a legal instrument that imposes land use restrictions on a property to protect public health and safety and the environment. Land use covenants are commonly required by regulatory agencies as a condition of site closure at sites where the approved remediation leaves hazardous materials in the onsite soil, groundwater, or soil vapors at levels that prevent unrestricted land use. Land use covenants required as a condition of regulatory closure are enforceable by the regulatory agency, in this case, the regional board. Land use covenants can also arise from a transaction between private parties, e.g., between a seller and buyer, with the covenant enforceable by the seller. The private land use covenants applicable to this site are described below. The requirements of a land use covenant, whether enforceable by a regulatory agency or a private party, run with the land, meaning that they apply to current and future owners of the property. They remain in effect until they are formally removed or modified.

³ Risk from cancer causing substances (carcinogens) is expressed as an incremental probability of an individual’s developing cancer over a lifetime due to exposure to site carcinogens. The estimate is incremental because it does not consider any other factors or exposures than those assessed in the risk assessment (such as smoking or genetic predispositions). Cancer risk is expressed as a probability; for example, one person in a million exposed to contaminants at the site has the chance of contracting cancer as a result of a lifetime of exposure.

⁴ Risk from non-cancer causing substances (noncarcinogens) is calculated by comparing the exposure concentration of a chemical to the chemical’s reference concentration (the concentration of a chemical that is recognized as unlikely to result in adverse noncarcinogenic health effects). A hazard index of unity (or 1.0) indicates that the chemical intake estimated in the exposure assessment is equal to the reference concentration and exposure at the given concentration that would not result in adverse noncarcinogenic health effects.

Port, City, and Southern Sub-Areas

PG&E is responsible for the assessment and remediation of the Port, City, and Southern sub-areas where contamination from former PG&E property is suspected of migrating onto the Port, City, and Southern sub-areas. The assessment and remediation of these areas, if necessary, would be subject to the requirements of article 22A of the San Francisco Health Code, commonly referred to as the Maher Ordinance. This ordinance is described below under “Local Regulations.” It requires a site assessment and remediation process similar to the process described above for the PG&E-owned areas. For assessment and remediation of sites addressed under article 22A, the San Francisco Department of Public Health is responsible for the review of site history, site investigation, remedial planning, and site closure documents rather than the Regional Water Quality Control Board.

Site History and Remedial Status of Project Sub-Areas and Offshore Sediment Area

The proposed project would be constructed primarily within the limits of the former 34-acre Potrero Power Plant property, which has been used for various power producing and industrial activities since the mid-1800s, including manufactured gas plant operations in the northeast portion of the site.⁵ PG&E constructed the power plant around 1910 and stopped operating it in March of 2011 when the Trans Bay Cable was installed to provide electricity to San Francisco.

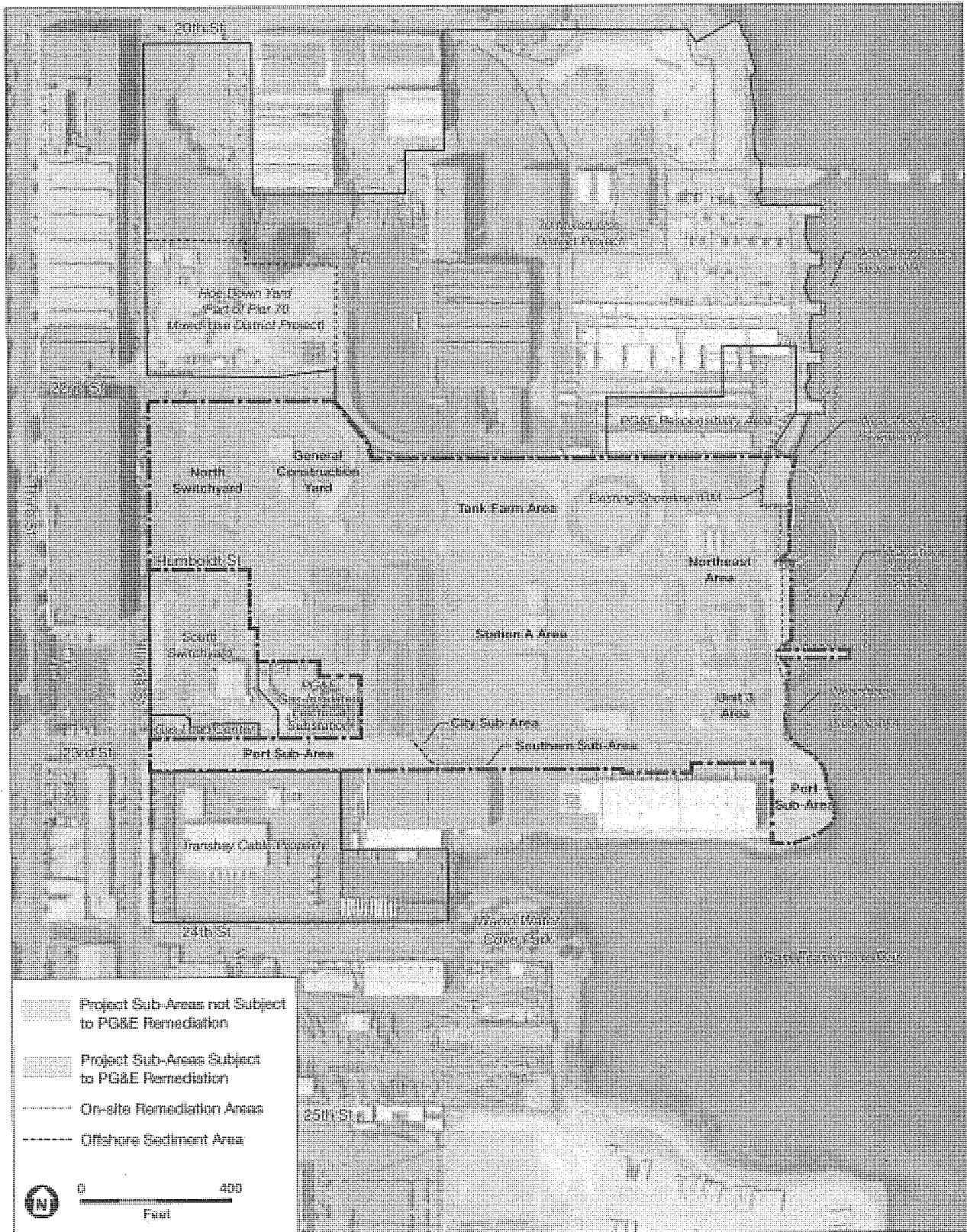
The Power Station and PG&E sub-areas are located within the former power plant boundaries while the Offshore Sediment area is adjacent to the former power plant property. The remaining portions of the original Potrero Power Plant property are not part of the project site. They are owned by PG&E and used for ongoing electricity transmission, gas loading, and dirt handling operations. These areas include the South Switchyard, Gas Load Center, Gas-Insulated Electrical Substation, and Hoe Down Yard, that are shown on **Figure 4.K-1, Project Site Remediation Areas and Adjacent Sites**, and are described below under “Adjacent Areas.” The Port, Southern, and City sub-areas are adjacent to the former power plant property and are discussed in this sub-section.

This sub-section describes the site history and remedial status of each of the project site’s sub-areas. Although they all have similar site histories, they are under different ownerships and in different stages of investigation and remediation to address contaminants in soil, groundwater, and soil vapors as summarized in **Table 4.K-1, Hazardous Materials Remediation Summary**. Accordingly, the Power Station and PG&E Sub-areas and the Offshore Sediment area are discussed separately, and the Port, Southern and City Sub-areas are discussed together.

Power Station Sub-Area

The Power Station sub-area is a 21-acre portion of the project site. For purposes of site remediation planning, the Power Station sub-area is further divided into the four functional areas shown on Figure 4.K-1: Station A area, the Unit 3 area, Northeast area, and Tank Farm area, all of which are described below.

⁵ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.



SOURCE: Perkins+Will 2017; Google Earth, 2017; ESA, 2018

Potrero Power Station Mixed-Use Development Project

Figure 4.K-1
Project Site Remediation Areas and Adjacent Sites

**TABLE 4.K-1
HAZARDOUS MATERIALS REMEDIATION SUMMARY**

Sub-Area ¹	Size	Ownership	Remediation Activities	
			Party Responsible/ Oversight	Status as of May 2018
Power Station Sub-Area				
Station A	12 acres	Project Sponsor	PG&E ² /Regional board	Remediation complete for commercial and industrial land uses, including installation of durable cover. Risk management plan and operations and maintenance plan approved; land use covenant executed.
Unit 3	1.5 acres	Project Sponsor	PG&E ² /Regional board	Subsurface investigation and human health risk assessment complete. Station A risk management plan and land use covenant being modified to include Unit 3.
Northeast	3.5 acres	Project Sponsor	PG&E ² /Regional board	Remedial action plan approved and remediation in progress. Anticipated completion is September 2018.
Tank Farm	4 acres	Project Sponsor	PG&E ² /Regional board	Subsurface investigation underway.
Offshore Sediment Area ³	16 acres	CCSF/Port of SF	PG&E ¹ /Regional board	Remedial action plan approved, and remediation anticipated to start in spring 2019.
PG&E Sub-Area				
North Switchyard	2.8 acres	PG&E	PG&E ² /Regional board	Remediation complete for commercial and industrial land uses, including installation of durable cover. Site management plan and operations and maintenance plan approved; land use covenant executed.
General Construction Yard	2 acres	PG&E	PG&E ² /Regional board	
Port Sub-Area	2.9 acres	CCSF/Port of SF	Project Sponsor/Health department	
Southern Sub-Area	0.2 acre	Harrigan Weidenmuller Company	Project Sponsor/Health department	No environmental assessments have been prepared specifically for the areas of the project site adjacent to the Potrero Power Station property.
City Sub-Area	<0.1 acre	CCSF	Project Sponsor/Health department	

NOTES: PG&E = Pacific Gas and Electric Company; Regional board = San Francisco Bay Regional Water Quality Control Board; CCSF = City and County of San Francisco; Health department = San Francisco Department of Public Health; Port of SF = Port of San Francisco

- 1 See Chapter 2, Figure 2-2, for location and boundaries of project sub-areas, and see Figure 4.K-1, for location of remediation areas within the sub-areas.
- 2 PG&E is only required to remediate soil, soil vapor, and groundwater to a commercial and industrial land use standard. The project sponsor may be required to undertake additional remediation to accommodate other land uses.
- 3 The Offshore Sediment area is not part of the project site, per se, but in-water construction activities under the proposed project could occur in this area.

The Power Station sub-area originally included about 22 acres. In 1999, PG&E sold this portion of the power station property to Southern Energy (the company name was changed to Mirant Potrero, LLC, then GenOn Potrero, LLC, then NRG Potrero, LLC). As a condition of the sale, PG&E retained the responsibility to characterize and remediate contamination of the soil, groundwater, and soil vapor to a level that would support commercial and industrial land uses. In 2016, PG&E purchased back 1.4 acres of Station A from NRG Potrero, LLC for building a Gas Insulated Substation (see Figure 4.K-1). California Barrel Company, LLC purchased the remaining 21 acres that comprise the Power Station sub-area from NRG Potrero, LLC in 2016.

Station A Area

Site History

The Station A area owned by the project sponsor encompasses 12 acres. The California Sugar Refinery operated in the eastern portion of the Station A area from 1883 until approximately 1950.⁶ The sugar refinery contained coal sheds, a boiler room, and supporting shops (e.g., blacksmith, machine, and carpenter shops). None of these features exist today. Prior to the 1900s, the sugar refinery was powered by electricity produced by steam generators fueled by coal, then manufactured gas in the early 1900s, then fuel oil thereafter until its closure in 1950.

PG&E constructed the Station A power generation facility in the western portion of the Station A area in 1910. This facility used steam turbines to generate electric power until the late 1960s. During this time, Units 1 and 2 were located in the unreinforced masonry Turbine Building and produced electricity. From 1910 to the late 1920s, PG&E used fuel oil to fire the boilers housed in the Boiler Building. Subsequently PG&E converted to natural gas for power generation and the Boiler Building was demolished.

PG&E also constructed two gas holders west of Station A in the early 1910s, likely used for storing manufactured gas produced from manufactured gas plant operations. By 1930 these holders were no longer in use. PG&E likely used the gas holders for storage of manufactured and/or natural gas for Station A electricity generation until the 1960s. PG&E decommissioned and removed the gas holders by the late 1970s and decommissioned Station A in 1979; the buildings and electrical equipment were partially demolished in 1981. PG&E removed three diesel-powered peaker power generation units (Units 4, 5, and 6) from the Station A area in 2011.

Structures currently within the Station A area include a former gas metering house, shop, compressor building, Station A turbine building, electrical shop, an abrasive blast building, and maintenance/storage buildings. There is also a former pump station and associated piping on the southern property boundary. The Station A area is covered by structures, asphalt, or concrete pavement, which serves as a durable cover that is a component of the PG&E hazardous materials remediation for the Station A area (discussed below).

⁶ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

Remedial Status

The primary chemicals of potential concern in the soil of the Station A area include polynuclear aromatic hydrocarbons; petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes; metals (primarily arsenic, chromium, cobalt, and lead), cyanide, and naturally occurring asbestos.⁷ The Station A area is entirely covered by structures, asphalt, or concrete pavement, which serve as a durable cover. Chemicals of potential concern in the groundwater include petroleum hydrocarbons as well as benzene, toluene, ethylbenzene, and xylenes. Soil vapors from this area contained benzene and naphthalene. Methane was not detected in the soil vapors.

PG&E conducted a human health risk assessment for the Station A area, which concluded that the chemicals present do not present a risk to current industrial users or occasional visitors such as customers, vendors, and contractors under current site conditions. The assessment found however, that risk management measures would be required to reduce health risks if the durable cover is removed/disturbed or more sensitive land uses such as residential uses are proposed. The human health risk assessment also found that risk management measures would be necessary for construction workers that may come into contact with the groundwater.

The final remedy for the Station A area includes in-place management of the soil and groundwater through maintenance of a durable cover and implementation of a land use covenant, a risk management plan, and an operations and maintenance plan. PG&E repaired the existing hardscape surfaces, and installed new hardscape where absent, on March 17, 2015.⁸ The regional board approved the final remedy on May 29, 2015.

In 2016, when PG&E purchased back 1.4 acres of the Station A area for building a gas insulated substation, the Station A risk management plan was separated into two risk management plans to separately address the PG&E property and the remaining 12 acres of the Station A area that are currently owned by the project sponsor.⁹ The regional board approved the revised risk management plan for the 12-acre site owned by the project sponsor (described below) on September 12, 2016 after soliciting public review and comment.¹⁰ The requirements of this Station A area risk management plan are enforced by the regional board through the land use covenant recorded by NRG Potrero LLC on August 12, 2016 (described below).¹¹ On February 13, 2017, the regional board issued a no further action letter for this portion of the Station A area.¹² As of July 2018, the risk management plan for the portion of Station A owned by the project sponsor remains in effect.

⁷ Haley & Aldrich and Pivox Corporation, *Risk Management Plan, Station A NRG Area, Potrero Power Plant Site, San Francisco, California*, June 16, 2016.

⁸ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

⁹ Haley & Aldrich and Pivox Corporation, *Risk Management Plan, Station A NRG Area, Potrero Power Plant Site, San Francisco, California*, June 16, 2016.

¹⁰ San Francisco Bay Regional Water Quality Control Board, Approval of June 16, 2016 Risk Management Plan, Station A NRG Area, Potrero Power Plant, City and County of San Francisco, September 12, 2016.

¹¹ NRG Potrero LLC, Covenant and Environmental Restriction on Property, Portion of 1201 Illinois Street, San Francisco, California, APN 4175-006 (portion), 4232-001, & 4232-006 (portion), August 12, 2016.

¹² San Francisco Bay Regional Water Quality Control Board, No Further Action, Station A Area, Former Potrero Power Plant, 1201 Illinois Street, City and County of San Francisco. February 13, 2017.

Station A Risk Management Plan

The existing risk management plan for the Station A area specifies measures to be implemented when any ground disturbing construction or maintenance activities that penetrate the durable cover are conducted.¹³ The requirements of the risk management plan apply to the owner of the property, including the project sponsor and any future owners, and the owner must ensure the appropriate risk management measures are conducted by any parties that penetrate the durable cover. The requirements of the Station A area risk management plan are expected to fulfill the substantive requirements of articles 22A and 22B of the health code, described below under “Local Regulations.” However, any party planning ground disturbing activities at the site must obtain written concurrence of this from the San Francisco Department of Public Health prior to implementing ground disturbing activities that would trigger compliance with these articles.

Notification Requirements for Risk Management Plan Compliant Submittals

In accordance with the existing Station A risk management plan, any party proposing to conduct ground disturbing activities that would penetrate the durable cover and would result in the disturbance of 50 or more cubic yards or an area of 1,250 square feet or more must notify the regional board in writing at least 45 days prior to conducting any work, except in the case of an emergency.

For projects that involve ground disturbing activity that penetrate the durable cover but are less than 50 cubic yards in total volume of soil or an area of 1,250 square feet of durable cover disturbed, the owner must submit a Notice of Intent to Conduct Ground Disturbing Activity no less than three days prior to initiating the work.

As the administrating agency, the regional board ensures that notification packages and completion reports are routed to the San Francisco Department of Public Health for informational purposes and consideration. In addition, the owner responsible for conducting the work must provide the health department with a copy of any notifications pertaining to the discovery of unknown conditions.

The requirements of the existing risk management plan for the Station A area generally fulfill the requirements of a site mitigation report under article 22A of the health code. However, the health department may elect to review project-specific information for compliance with article 22A and may include additional requirements based on the project-specific information provided.

Notification Requirements for Risk Management Plan Variance Submittals

The project proponent may also request a variance from the Station A risk management plan requirements. If a one-time project-specific variance from the risk management plan is requested, the notice to the regional board must include all of the information required for a risk management plan compliant submittal. In addition, it must include a precise description of the request and reason for variance from the Station A risk management plan. The analysis and reasoning of how the variance is protective of human health and the environment must be stamped by a California

¹³ Haley & Aldrich and PIVOX Corporation, *Risk Management Plan, Station A NRG Area, Potrero Power Plant Site, San Francisco, California*. June 16, 2016.

licensed professional engineer. Risk management plan variance requests must be submitted at least 60 days prior to performing the activity and the owner may not proceed with the project until the regional board has approved the variance.

Risk Management Measures During Construction

The Station A risk management plan specifies procedures for the management of soil and groundwater, control of dust, control of construction-related, stormwater runoff, and temporary dewatering during soil intrusive activities. Requirements for soil management address soil stockpiling, onsite reuse of soil, and offsite soil disposal. In accordance with the Station A risk management plan, soil excavated from the Station A area may be disposed of offsite or may be reused anywhere within the Power Station sub-area provided that it is placed beneath a durable cover and does not exhibit physical evidence of contamination or visible serpentinite rock. Restricted materials may not be used in utility trenches. Only clean imported soil may be used for landscaping or softscape areas where the soil would remain exposed. Following completion of any ground disturbing activities, the durable cover must be restored.

Under the Station A risk management plan, dust control measures must be implemented during construction under article 22B of the health code and the Bay Area Air Quality Management District Asbestos Airborne Toxics Control Measure, both of which are discussed in Section 4.K.2, Regulatory Framework. The Station A risk management plan requires compliance with the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009 - 0009 - DWQ (Construction General Stormwater Permit) for construction activities greater than 1-acre in size or smaller projects that are part of a larger common development plan. Groundwater produced during construction dewatering must be managed and discharged per regulatory requirements. The Construction General Stormwater Permit and regulatory requirements for discharge of groundwater are discussed in Section 4.J, Hydrology and Water Quality.

The Station A risk management plan acknowledges that unanticipated conditions such as underground storage tanks, concrete vaults, underground piping, or previously unidentified areas of contamination could be encountered during ground disturbing activities. In such an event, the risk management plan requires that work be stopped and that the property owner be notified. Appropriate regulatory agencies such as the regional board or health department must be contacted.

Risk Management Measures During Operations

Any maintenance or repair work that disturbs the durable cover must comply with the notification requirements and risk management measures for construction activities, described above.

Completion Reports

Following completion of the ground disturbing activity, or modifications to the approved remedy, the owner is required to prepare a completion report for submittal to the regional board. One of the purposes of the completion report is to document the activity as well as any corrective actions implemented, in the event that the ground disturbing activity had any unforeseen effect. The

regional board must review all completion reports to confirm that the actions taken are consistent with the Station A risk management plan procedures and protocols.

Annual Inspections and Reporting

The Station A risk management plan requires the owner to conduct annual inspections and submit an annual report and operations and maintenance checklist to the regional board by March 31 of the following year. The report must include the results of the annual inspection and self-certification of compliance with the land use covenant and risk management plan.

Should the owner discover any actions or conditions inconsistent with the Station A risk management plan at any time, including during the annual site inspection, the owner must prepare a written explanation indicating the specific inconsistencies and what efforts or measures the owner has taken or will take to correct those inconsistencies. The owner must provide the written explanation to the regional board within 15 working days of discovery.

Modifications and Variances to the Risk Management Plan

The Station A risk management plan also specifies procedures for requesting variances and for modifying the risk management plan. Reasons for modification may include, but are not limited to, addressing new regulatory requirements, changes in the understanding of environmental conditions, intrusive activity that is not addressed by the risk management plan, or redevelopment of the Station A area for more sensitive land uses, such as residential.

Changes in Land Use

Appendix B of the Station A risk management plan specifies procedures for changing land uses in the Station A area. In accordance with these procedures, a project-specific proposal must be submitted for approval to the regional board describing the proposed change in land use and evaluating the potential risks to human health and the environment, if any, posed by the proposed change in land use. If the results of the project-specific human health risk assessment indicate that a risk level will exceed a non-cancer hazard index of 1 and/or a cancer risk greater than one in a million, the project-specific proposal must include a general description of proposed measures for managing site risks. These measures must be approved by the regional board and may include engineering and institutional controls to be implemented to assure protection of current and future site users, maintenance and construction workers, and the public.

Should the risk assessment conclude that human health risks associated with the land uses under the proposed project are within acceptable standards, the regional board will issue a letter expressing conditional approval of the requested change in land use, pending submittal of acceptable engineering design documents from the project sponsor. The owner must also provide proof of acceptable implementation of the proposed measures in a completion report submitted to the regional board once the measures have been implemented. The risk management plan must be revised to reflect the changes resulting from the new land use, and the regional board must approve the revised risk management plan.

Station A Regional Board Land Use Covenant

The land use covenant on the Station A area requires implementation of the Station A risk management plan requirements. The land use covenant prohibits this area from being used for either temporary or permanent residences, motels/hotels, hospitals/health care facilities, schools for persons under 21 years of age, daycare centers for children or senior citizens, parks, playgrounds, or other recreational uses without prior approval from the regional board.¹⁴ Additionally, groundwater may not be used for domestic purposes (e.g., drinking, cooking, or washing). Any other uses of groundwater (e.g., dust control) would need to be approved in writing by the regional board.

The land use covenant also prohibits growing vegetables, fruit, or any edible items for human consumption in the existing soil throughout the Station A area. Plants for human consumption may be grown in the Station A area if they are planted in raised beds (above the approved cover) containing clean imported soil. Fruit trees (including nut-bearing trees) may also be planted provided that they are grown in containers with a bottom that prevents the roots from penetrating into the existing soil.

Unit 3 Area

Site History

In 1883, the California Sugar Refinery (later renamed the Western Sugar Refinery) began sugar refining operations in the southeastern area of the Potrero Power Station sub-area, including the 1.5 acre Unit 3 area.¹⁵ The sugar refinery included coal sheds, a boiler room with twenty-two boilers, a blacksmith shop, a machine shop, a carpenter and pattern shop, a refinery house, a filter house, a melting house, coke ovens and several storage sheds for raw sugar. As part of the sugar refinery operations, a wharf was constructed on the eastern side of the Unit 3 area.

Prior to the 1900s, the sugar refinery used coal as fuel for the steam generators, which produced electricity for its operations. Waste produced by the sugar refinery in the late 1800s and early 1900s may have included tars and ash from burning coal and coke. Some of the ash may have been used to fill some of the Bay mudflats underlying the raw sugar storage sheds located in the eastern portion of the Unit 3 area, although there is no available documentation of the fill activities.

The sugar refinery ceased operations in approximately 1950 and PG&E acquired the property in 1951. PG&E constructed the Unit 3 power generation facility (Unit 3) in 1965, operating it as a steam electric generation unit. The unit used fuel oil or natural gas to generate steam from the power generating turbines until 1984, when it stopped using fuel oil due to tightening emissions regulations. During that time, PG&E stored fuel oil in the Tank Farm area. PG&E shut down the Unit 3 power generation facility and retired it from service in March 2011. Structures/features previously located within the Unit 3 area include a lube oil reservoir, cooling water discharge, paint storage trailer, lube oil storage tanks, boiler, and a wash water tank. As of January 2018 structures

¹⁴ NRG Potrero, LLC, *Covenant and Environmental Restriction on Property*, Portion of 1201 Illinois Street, San Francisco, California, APN 4175-006 (portion), 4232-001, & 4232-006 (portion), August 12, 2016.

¹⁵ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

within the Unit 3 area include the Unit 3 TurbGen Boiler (also called the Unit 3 Power Block), exhaust stack (also called the Boiler Stack or Stack), and a combined sewer pump station.

Remedial Status

Chemicals of potential concern in the Unit 3 area include polynuclear aromatic hydrocarbons, petroleum hydrocarbons, metals (arsenic and lead), and naturally occurring asbestos.¹⁶ Residual coal tar associated with manufactured gas plant operations in the Northeast area has also been identified within fill in the southern portion of the Unit 3 area. Coal tar is a by-product of coal gas and carbureted water gasification processes and is referred to as a *dense non-aqueous phase liquid* (DNAPL) because it is heavier than water, which causes it to sink in the groundwater and accumulate on layers of low permeability soils such as clays and silts. Both continuous (mobile) and discontinuous (non-mobile) DNAPL have been identified, and the DNAPL is generally found beneath the groundwater table at the interface between the young bay mud and the overlying artificial fill materials. Groundwater from the Unit 3 area contains metals, volatile organic compounds, polynuclear aromatic hydrocarbons, and petroleum hydrocarbons; the soil vapors contain volatile organic compounds. A human health risk assessment for this area concluded that the chemicals present do not present a risk to current workers, occasional visitors, or offsite workers under current site conditions.

On September 15, 2017, the regional board approved the site investigation report and human health risk assessment for the Unit 3 area.¹⁷ Based on similarities between this area and the Station A area, the regional board anticipates that the appropriate remedy for this area will include installation of a durable cover as well as preparation of a risk management plan and the execution of a land use covenant. The regional board recommended amending the Station A risk management plan to include the Unit 3 area, and PG&E is currently working on completing the recommended amendment. The land use covenant for the Station A area will also be extended to include this area. Once the amended risk management plan is approved, the regional board will issue a no further action letter for the Unit 3 area.

Northeast Area

Site History

The Northeast area encompasses 3.5 acres. In 1872, City Gas Company began operating the Potrero manufactured gas plant in the northern portion of the Northeast area and the Tank Farm area. The manufactured gas plant used three distinct processes to manufacture gas: coal gasification, carbureted water gasification, and oil gasification. Structures associated with the former manufactured gas plant operations included gas holders, coal sheds and bunkers, gas producers and purifiers, retorts, lampblack storage/holding pits and other facilities, and oil tanks. None of these features are present on the site today. PG&E acquired the Potrero manufactured gas plant in

¹⁶ Haley & Aldrich, *Former Unit 3 Power Generation Facility Investigation and Human Health Risk Assessment Report, Potrero Power Plant Site, San Francisco, California*, October 7, 2016.

¹⁷ San Francisco Bay Regional Water Quality Control Board, Approval of October 7, 2016, *Former Unit 3 Power Generation Facility Investigation and Human Health Risk Assessment Report, Potrero Power Plant, City and County of San Francisco*, September 15, 2017.

1906 and operated the plant until 1930 when natural gas became available for the generation of electricity. PG&E dismantled the manufactured gas plant facilities in the early 1960s.

Historical releases of coal tar, lampblack, and residuals from the former manufactured gas plant operations have affected soil and groundwater in the Northeast area. Lampblack is a black, chalky solid residue byproduct of oil gasification process. All of these materials are predominantly comprised of polynuclear aromatic hydrocarbons, chemicals which are also by-products of burning of wood, coal, and petroleum fuels.

Buildings/uses that are no longer present include the bioassay laboratory, sodium hypochlorite tank and building, sodium bisulfate area, and a maintenance building. Structures currently within the Northeast area as of January 2018 include a hazardous waste storage compound, hazardous waste collection pad, fuel truck loading pad, Butler Building (used for storage), lube oil storage building, and a former salt water intake pump system. There is also an oil/water separator in this area.

Remedial Status

The Northeast area has been affected by releases from former manufactured gas plant operations at the Potrero Power Plant. Chemicals of potential concern in the soil include polynuclear aromatic hydrocarbons, polychlorinated biphenyls (PCBs), and metals (arsenic, cadmium, and lead).¹⁸ Coal tars still present in this area occur as continuous (mobile) and discontinuous (non-mobile) DNAPL. Where continuous DNAPL occurs, it generally accumulates in depressions on the top of the young bay mud at depths of 10 feet or more and ranges in thickness from 1 to 17 feet. In areas of discontinuous DNAPL, the coal tar occurs as isolated droplets adhering to the soil matrix, it appears as stained soil with no identifiable liquid. Discontinuous DNAPL is present at depths as shallow as 8.5 feet and extends to depths greater than 28 feet. Both continuous and discontinuous DNAPL extend onto the Pier 70 Mixed-Use District project site to the north. Groundwater within the Northeast area contains volatile organic compounds, polynuclear aromatic hydrocarbons, total petroleum hydrocarbons, metals, and cyanide. Soil vapors contain benzene, toluene, ethylbenzene, and xylenes as well as naphthalene. Methane was detected at a maximum concentration of 20.8 percent.

The Northeast area is covered by a durable cover consisting of building foundations, pavement, or hardscape. The human health risk assessment for this area concluded that there is no risk to humans under existing site conditions. However, to address the presence of benzene and naphthalene in the soil vapors in this area, measures may be required to prevent vapor intrusion if new structures for human occupancy are constructed.

¹⁸ Haley & Aldrich, *Draft Remedial Action Plan, Northeast Area of the Potrero Power Plant Site and a Portion of the Southeast Area of Pier 70, Potrero Power Plant Site, San Francisco, California*, January, 2016.

PG&E prepared a draft remedial action plan for the Northeast area in January 2016,¹⁹ and the regional board approved the plan in July 2016.²⁰ The approved remedial approach includes use of in-situ soil solidification to prevent the migration of continuous DNAPL. When PG&E completes this process, it will place durable covers over the entire remediation area to prevent human contact with the soil. PG&E will also conduct long-term groundwater monitoring to monitor the effectiveness of the remedial action. Remediation began in 2017 and is expected to be complete in 2018. When remediation of this area is complete, PG&E will prepare a risk management plan specifying measures to mitigate potential risks to the environment as well as risks to current and future on-site employees, construction and maintenance workers, visitors, and the public. PG&E will also execute a land use covenant stating that residual contamination remains, specifying acceptable land uses, and requiring implementation of the risk management measures identified in the risk management plan.

Tank Farm Area

Site History

As discussed above, City Gas Company began operating the Potrero manufactured gas plant in the northern portion of the Northeast area and in the 4-acre Tank Farm area in 1872. PG&E dismantled the manufactured gas plant in the early 1960s and constructed a tank farm in this area between 1965 and 1977. The tank farm included three large above-ground fuel tanks used to house fuel oil and a blended mixture of distillate fuels consisting of Jet A, kerosene, and diesel.²¹ The tanks had a combined storage capacity of 21.7 million gallons and each had an individual secondary containment structure. PG&E delivered fuel to the tanks via aboveground pipelines that extended from an offshore terminal on the Pier 70 Mixed-Use District project site to the north. The fuel lines have been cleaned, cut, capped, and abandoned in place at the northeast property. The pipeline on the Pier 70 Mixed-Use District project site has been removed. The project sponsor removed the tanks in 2017. PG&E is currently conducting a subsurface investigation beneath the location of the former tanks.

Remedial Status

This area has been investigated by PG&E due to the former presence of the three aboveground storage tanks. In 2017, the project sponsor removed the three aboveground storage tanks from the Tank Farm area, which allowed PG&E the ability to complete its subsurface investigations in this area. PG&E has completed its investigation of the Tank Farm area and is preparing its report for submittal to the regional board in 2018. Based on the preliminary findings of the investigation, PG&E anticipates developing a remedy that consists of a durable cover, risk management plan, and implementation of the existing land use covenant for the Power Station sub-area, described below, that allows use of the property for commercial and industrial uses.

¹⁹ Haley & Aldrich, *Draft Remedial Action Plan – Northeast Area of the Potrero Power Plant Site and a Portion of the Southeast Area of Pier 70, Potrero Power Plant Site, San Francisco, California*, January 25, 2016.

²⁰ California Regional Water Quality Control Board, San Francisco Bay Region, *Resolution No. R2-2016-0027, Approval of the Remedial Action Plan for: Potrero Power Plant Northeast Area and a Portion of the Southeast Area of Pier 70, Potrero Power Plant Site, 1201 Illinois Street, City and County of San Francisco*, July 7, 2016.

²¹ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

Power Station Sub-Area Private Land Use Covenants

When Southern Energy purchased the Power Station sub-area in 1999, PG&E retained the responsibility to characterize and remediate the soil, soil vapor, and groundwater to support commercial and industrial land uses. PG&E and NRG Potrero LLC (successor to Southern Energy) entered into a land use covenant in 1999 as a condition of the sale. This land use covenant prohibits the following uses of the sub-area: single family residential, low density residential, high density residential, temporary lodging, health care, school, day care, enclosed recreational space, and open space uses without the prior written consent of PG&E. NRG Potrero LLC amended the 1999 land use covenant in 2016 to accommodate the redevelopment of the Power Station sub-area to allow some of the previously-prohibited land uses while still being protective of present and future human health and safety as well as the environment.²² The land use covenant provides specific requirements for approving the originally restricted land uses in three areas of the site, shown on **Figure 4.K-2, Site Planning Areas from the 2016 Land Use Covenant**. These three areas are the East Former Manufactured Gas Plant Area (inclusive of the northern portion of the Northeast remediation area, West Former Manufactured Gas Plant Area (inclusive of the entire Tank Farm remediation area), and the Remainder Area (inclusive of the Station A and Unit 3 remediation areas as well as the southern portion of the Northeast remediation area).

The requirements of the January 2016 land use covenant are referred to as the 2016 PG&E Restrictions. In September 2016, California Barrel Company, LLC recorded an additional land use covenant that requires it, as the new property owner, to comply with the restrictions and provisions of the 2016 PG&E Restrictions, and allows those restrictions to be enforced by NRG Potrero LLC in addition to PG&E.²³ This covenant did not add to, or change, any of the 2016 PG&E Restrictions.

Under the 2016 PG&E Restrictions, no single family residential uses are allowed in any portion of the Power Station sub-area,²⁴ and groundwater may not be used for any domestic purposes. Allowable land uses within the sub-area are as follows:

- Allowed uses in the Remainder Area include low-density residential, school, health care, daycare, high density residential, temporary lodging, enclosed recreational spaces, private open space, and shared open space.
- Allowed uses in the West Former Manufactured Gas Plant area include daycare, high density residential, temporary lodging, enclosed recreational space, private open space, and shared open space.
- Allowed uses in the East Former Manufactured Gas Plant Area include high-density residential, temporary lodging, and enclosed recreational space, provided that these uses are located above the ground floor. Shared open space is also allowed.

²² Pacific Gas & Electric Company, *Declaration of Covenants, Conditions, and Environmental Restrictions*, January 14, 2016.

²³ California Barrel Company LLC, *Declaration of Additional Covenants, Conditions, and Environmental and Land Use Restrictions*, September 26, 2017.

²⁴ Single family residences are considered detached single family homes. This land use is restricted because residents in single family housing may typically conduct gardening and other ground disturbing activities that would result in contact with the soil. Multifamily housing is allowed (provided that appropriate cleanup levels are met) because ground disturbing activities are not typically conducted by residents of multi-family housing, particularly where the housing is above ground level.

The 2016 PG&E Restrictions include the required conditions for implementing the above land uses in the Power Station sub-area. Thus, pursuant to these restrictions, a human health risk assessment must be completed for the land uses under the proposed project. The risk assessment must be approved by the regional board, and the site design must incorporate measures approved by the regional board for the management of site risks. Buildings for all of the proposed land uses must also implement measures to control the intrusion of methane vapors. To achieve clean closure of a site, such that no engineering controls are required to manage site risks, the risk assessment must demonstrate that risks to future site occupants under the proposed land uses would be an excess cancer risk of one in a million or less and non-cancer risks would be a hazard index of 1 or less. For soil, these criteria must be met to a depth of 4 feet.

For daycare uses to be approved, the building site must receive clean closure for soil vapors, meaning that no chemicals are present in the soil vapors at concentrations greater than approved cleanup levels. The outside areas of the day care must also be underlain by 4 feet of clean soil. For other site uses, passive or active measures to control soil vapor intrusion may be allowed if chemicals are present in the soil vapors at concentrations greater than approved cleanup levels. Shared open spaces must be covered by clean softscape or hardscape.

Once the regional board issues a no further action letter certifying that a development site within the Power Station sub-area has been remediated to a level that is protective of human health and the environment for the proposed land use, the above land use restrictions will be removed. However, single family residences and use of groundwater for domestic purposes are prohibited in all cases, in the Power Station sub-area.

Under the 2016 PG&E Restrictions, parties may conduct certain activities within the Power Station sub-area such as:

- Undertaking routine operations and installation and repair of utilities, structures, and equipment;
- Conducting environmental assessments or tests; and
- Decommissioning, dismantling, or removing any improvements in the sub-area and developing the Power Station sub-area or any portion thereof.

These activities are subject to the land use restrictions stated above.

Offshore Sediment Area

Investigations by PG&E have detected elevated polynuclear aromatic hydrocarbon concentrations in the sediments offshore from the project site in, a 16-acre area referred to as the Offshore Sediment area, shown on Figure 4.K-1, p. 4.K-5.²⁵ In 2009, PG&E installed a shoreline revetment on the Port-Owned shoreline located between the on-land Northeast area and the Pier 70 Mixed Use District

²⁵ Haley & Aldrich, *Remedial Action Plan, Offshore Sediment Area, Potrero Power Plant Site, San Francisco, California*, December 2017.

project property (see Figure 4.K-1, p. 4.K-17) as an interim remedial measure²⁶ to stabilize and limit erosion of the shoreline and embankment, limit direct contact with the manufactured gas plant constituents on the shoreline, and enhance the shoreline appearance. This measure included removal of debris and manufactured gas plant-related materials from the upper few feet of fill material, placement of a cap to prevent future migration of manufactured gas plant residues to the bay, and placement of stone along the shoreline to minimize erosion. PG&E prepared a remediation plan for the remainder of the Offshore Sediment area in December 2017,²⁷ which the regional board approved in January of 2018 after a 30-day public review period.²⁸

The Offshore Sediment area is divided into three zones: the Nearshore Zone that extends approximately 50 to 70 feet from the shoreline; the Transition Zone that extends another approximately 100 to 150 feet offshore; and the Ambient Area, which is beyond the Transition Zone. The highest polynuclear aromatic hydrocarbon concentrations were identified in the Nearshore Zone. This zone is divided into three segments for remedial planning purposes, and the Power Station sub-area is adjacent to Segments 2 and 3. The overall planned remedial action in this zone includes dredging up to several feet of sediment to remove those sediments with the highest polynuclear aromatic hydrocarbon concentrations and placement of a cap to isolate the remaining sediments. Within Segment 2, the cap will also include a chemically reactive layer to prevent the migration of dissolved polynuclear aromatic hydrocarbons through the cap. PG&E's remedial action will also include replacement of the cap constructed as part of an Interim Remedial Measure in 2010. Segment 1 of the Nearshore Zone is adjacent to the Pier 70 Mixed-Use District project site to the north of the project site.

Additional remediation is planned in the Transition Zone which is divided into nine cells for remedial planning purposes. Cells 13 through 18 of the Transition Zone are located offshore of the Potrero Power Station sub-area. Of these, PG&E has determined on the basis of a risk assessment that the only cell requiring remediation is Cell 16 which is shown on Figure 4.K-1, p. 4.K-5. The planned remedial approach for this cell includes monitored natural recovery/attenuation, which relies on natural sedimentation processes to isolate and mix sediments. This process results in the accumulation of clean sediments on top of the existing sediments, thereby reducing exposure to the deeper contaminated sediments. The remaining cells of the Transition Zone are located offshore of the Pier 70 Mixed-Use District project site to the north of the project site and are not shown on Figure 4.K-1. Beyond the Transition Zone, sediments in the Ambient Zone contain ambient levels of polynuclear aromatic hydrocarbons that do not require remediation.

PG&E anticipates beginning the offshore sediment remediation in the spring of 2019 with completion by early 2020. At the completion of remedial activities, PG&E will prepare a risk management and monitoring plan specifying activities to be conducted by PG&E to monitor the effectiveness of the offshore remediation and condition of the engineered cap. The risk

²⁶ An interim remedial measure is one that is implemented to address an immediate risk to human health or the environment while remedial planning is still in progress to develop

²⁷ Haley & Aldrich, Remedial Action Plan, Offshore Sediment Area, Potrero Power Plant Site, San Francisco, California, December 2017.

²⁸ San Francisco Bay Regional Water Quality Control Board, Resolution No. R2-2018-0002, Approval of the Remedial Action Plan, for: Potrero Power Plant Offshore Sediment Area, Pacific Gas and Electric Company, Potrero Power Plant Site, 1201 Illinois Street, City and County of San Francisco, January 4, 2018.

management and monitoring plan will also specify requirements for conducting intrusive activities that could penetrate the cap, penetrate the shoreline revetment on the Port-owned property, or would otherwise encounter contaminated sediments. The plan would also specify requirements for the handling and disposal of any sediments encountered during future subsurface activities. A land use covenant may also be recorded, which would require implementation of the risk management and monitoring plan requirements, and may impose restrictions on access and activities that could disrupt the Offshore Sediment area where residual contamination remains. The risk management and monitoring plan will be subject to review and approval by the regional board.

PG&E Sub-Area

PG&E currently owns the 4.8-acre PG&E sub-area, which consists of two functional areas: the North Switchyard and the General Construction Yard (Figure 4.K-1, p. 4.K-5). PG&E also owns the South Switchyard, Gas Load Center, and the PG&E Gas-Insulated Electrical Substation to the south. These areas are not included in the project site, and are discussed below under “Adjacent Areas.”

In general, the PG&E sub-area has been used for industrial purposes since the 1880s, including barrel manufacturing, roofing products manufacturing, and gas storage for the former manufactured gas plant operation on the adjacent Potrero Power Plant property.²⁹ All transformers remaining on the property are either dry-type or contain non-PCB fluids. Only *de minimis* staining was observed on the pavement in the General Construction Yard, and there is no other evidence of leaks, spills, or stained gravel/soil.

In the fall of 2003, PG&E removed portions of two abandoned fuel oil lines, along with associated steam lines, electrical conduits, and support structures from the PG&E sub-area. The fuel oil lines were drained of any remaining fluid and steam cleaned. Some sections of the lines were removed and other sections were capped and abandoned in place. In 2004, PG&E constructed a static volt-ampere reactive compensation facility (used to regulate the voltage of transmitted power) on part of the North Switchyard and the General Construction Yard.

North Switchyard Site History

In the late 1800s, California Barrel Company³⁰ used the South Switchyard area and the Pacific Refining and Roofing Company used the North Switchyard area.³¹ In the early 1900s, California Barrel Company transferred its operations to the North Switchyard and shared this area with the Western Sugar Refining Company until the late 1950s. PG&E removed the structures in the North Switchyard by 1963, and used this area for parking and storage. In 2002, PG&E expanded its switchyard operations to the North Switchyard. By 2010, the North Switchyard had been fully developed into its 2017 configuration. The North Switchyard was never used for manufactured gas

²⁹ Geosyntec Consultants, *Phase I Environmental Site Assessment, 1201B Illinois Street, San Francisco, California*, September 8, 2017.

³⁰ The historical California Barrel Company, although the namesake of the project sponsor, is unrelated to the sponsor.

³¹ Haley & Aldrich and Pivox Corporation, *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California*, August 2015.

plant operations, although a solid black carbon-rich material was observed during trenching activities at the site in 2002.

As of 2017, the switchyard (including both the North and South switchyards) serves as the point of delivery of power to the electric grid system and includes a 12 kilovolt (kV) control building, 115 kV subsurface transmission lines, a static volt-ampere reactive compensation facility, overhead transmission lines, and associated equipment such as transformers and shunt capacitors.³² An oil catch basin, located north of Humboldt Street, provides secondary containment for switchyard equipment and a 24-inch diameter underground natural gas pipeline runs parallel to Humboldt Street. A stormwater retention pond located along the southern boundary collects stormwater runoff from the North Switchyard.

General Construction Yard Site History

From 1887 through at least 1914, the General Construction Yard included a 1,700,000-gallon aboveground reservoir tank operated by the Western Sugar Refining Company.³³ Based on annotations in the Fire Insurance Maps, the contents of the tank are presumed to have been water. The tank was later demolished. A new 10,000,000-cubic foot aboveground storage tank was constructed in its place sometime between 1946 and 1956 and remained on the eastern portion of the site until sometime in the early 1980s. This tank was used to store manufactured gas produced in the manufactured gas plant. Following its removal, PG&E constructed the existing evidence locker and gas load center structures. By 1987 the General Construction Yard had been developed into its 2017 configuration.

As of 2017, the General Construction Yard contains temporary maintenance and administration buildings (i.e., trailers), equipment containers, and a warehouse structure that is used as an evidence locker. Equipment storage containers are located along the western and northern sides of the yard on asphalt or concrete paved areas. Additionally, PG&E operates a paved vehicle maintenance area. Immediately to the south of the PG&E property, within the Power Station sub-area, there is a fire pump house with two 275 - gallon diesel aboveground storage tanks surrounded by a concrete containment system.

Remedial Status

For remedial planning purposes, the PG&E sub-area has been divided into two areas: the North Switchyard and General Construction Yard shown on Figure 4.K-1, p. 4.K-5. These areas have been investigated several times to evaluate soil and groundwater quality. Chemicals of potential concern in these areas include total petroleum hydrocarbons; polynuclear aromatic hydrocarbons; benzene, toluene, ethylbenzene, and xylenes; pesticides; and metals.³⁴ PCBs were not detected in soil samples from these areas. In 2002, a black carbon-rich material was identified in the fill within two utility trenches located in the North Switchyard. This material was excavated and disposed off-site

³² Haley & Aldrich and Pivox Corporation, *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California, August 2015.*

³³ Geosyntec Consultants, *Phase I Environmental Site Assessment, 1201B Illinois Street, San Francisco, California, September 8, 2017.*

³⁴ Haley & Aldrich, Inc., *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California, August 2015.*

as a California Hazardous Waste. Elevated levels of chemical constituents have not been identified in the groundwater during previous groundwater quality investigations.

A site-specific human health risk assessment for the PG&E sub-area concluded that, based on existing industrial site land use and site conditions (i.e., presence of a durable cover), potential exposures to chemicals in soil and groundwater do not present an unacceptable human health risk for commercial workers, construction workers, or maintenance workers. However, soil intrusive work or soil excavation could result in contact with affected soil or groundwater and could result in related health effects.

Site Management Plan

PG&E prepared a site management plan³⁵ for the Switchyard and General Construction Yard in 2011 specifying measures to manage site risks associated with soil intrusive work. On February 17, 2012, the regional board issued a no further action letter for the PG&E property. In August 2015, PG&E revised the site management plan to provide operational and maintenance guidelines to prevent worker exposure to affected soil and groundwater during construction/maintenance activities.³⁶ The regional board approved this updated plan on November 23, 2015.³⁷

The updated site management plan specifies procedures for the control of dust and management of soil and groundwater during ground disturbing activities. Dust control measures must be implemented in accordance with article 22B of the health code and the air district's Asbestos Airborne Toxics Control Measure, both of which are discussed in Section 4.K.2, Regulatory Framework. Requirements for soil management address soil stockpiling, onsite reuse of soil, offsite soil disposal, excavation dewatering, and site access. The updated site management plan acknowledges that unanticipated conditions such as underground storage tanks, concrete vaults, underground piping, or previously unidentified areas of contamination could be encountered during ground disturbing activities. In this event, the updated site management plan requires that work be stopped and the appropriate PG&E personnel be contacted. Appropriate regulatory agencies such as the regional board or health department must be contacted by PG&E. Modifications to the updated site management plan may be required in the event of a change in property use, change in environmental conditions, implementation of ground disturbing activities not anticipated in the updated plan, and/or new legal or regulatory requirements.

Regional Board Land Use Covenant for Switchyard and General Construction Yard

The regional board and PG&E recorded a land use covenant for the North Switchyard and General Construction Yard in January 2012.³⁸ The land use covenant requires compliance with the approved site management plan including maintenance of the durable cover and specific

³⁵ A site management plan is the equivalent of a risk management plan. Regarding hazardous materials investigations and remediations, these terms are often used interchangeably.

³⁶ Haley & Aldrich and Pivox Corporation. *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California*, August 2015.

³⁷ San Francisco Bay Regional Water Quality Control Board, Approval of August 2015 Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant, City and County of San Francisco, November 23, 2015.

³⁸ PG&E, *Covenant and Environmental Deed Restriction on Property, Potrero Switchyard and General Construction Yard 1201 Illinois Street, San Francisco, California*, September 15, 2011.

requirements for any excavation work that would breach the durable cover. The land use covenant also limits future land uses on the site to commercial and industrial uses, only. Residential uses, hospitals, day cares, and schools for persons under the age of 21 are specifically prohibited. Installation of soil borings, construction of groundwater wells, and extraction of groundwater for any use is not allowed, unless approved, in writing, by the regional board.

Port, Southern, and City Sub-Areas

Site History

Environmental assessments have not been prepared for the Port, Southern, and City sub-areas. Based on a review of previous land uses on and adjacent to these sub-areas, these portions of the project site were previously occupied by several railroad tracks and underground utility lines that originated from the former Western Sugar Refining company in the early 1900s.³⁹ By 1950, the rail lines had been removed. In addition, the Phase I environmental site assessment for the Potrero Power Station indicates that the Port sub-area along the bay shoreline included the Potrero Manufactured Gas Plant wharf and a sugar refinery wharf between approximately 1880 and 1950.⁴⁰

The shoreline portion of the Port sub-area is currently covered by former concrete foundational elements and rip-rap consisting of a layer of cobble-sized rock. The investigation for the Unit 3 area included assessment of surface soil along the shoreline of the Port property located immediately adjacent to the east of the Unit 3 area.⁴¹ Based on the results for soil samples collected from the shoreline area owned by the Port, historical site activities do not appear to have adversely affected the surficial soil (0 to 2 feet bgs) along the shoreline beneath the riprap. Arsenic and benzo[a]pyrene were the only constituents identified as chemicals of potential concern; however, the soil characteristics differ from the typical fill soils throughout the investigation portions of the site and are not indicative of former manufactured gas plant or electric power plant operation impacts. Based on these findings, PG&E concluded that no further evaluation is warranted for the shoreline soils within the Port area.

The other portion of the Port sub-area within 23rd Street included crude oil tanks in approximately 1900. This area is currently occupied by 23rd Street. There are no existing buildings located in the Port, Southern, or City sub-areas.⁴²

Remedial Status

To date, no environmental investigations or remedial activities are known to have been completed in the Port, Southern, and City sub-areas, with the exception of the Port property located adjacent to the Unit 3 and Northeast sub-areas.

³⁹ Paul Hastings, *Potrero Power Plant: Overview of Site Conditions, Ongoing Remediation, and Planned Development*, October 13, 2017.

⁴⁰ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

⁴¹ Haley & Aldrich, *Former Unit 3 Power Generation Facility Investigation and Human Health Risk Assessment Report, Potrero Power Plant Site, San Francisco, California*, October 7, 2016.

⁴² Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

Regulatory Database Review

Power Station Sub-area

The Phase I Environmental Site Assessment for the Potrero Power Station subarea describes the regulatory database review conducted in 2016 to identify current or previous reports of hazardous materials use, storage, and/or unauthorized releases that may have affected the Power Station sub-area.⁴³ As summarized in that document, the site is included in numerous environmental databases. Inclusion in Environmental Data Resource's Manufactured Gas Plants database indicates former use as a manufactured gas plant. The site is also identified in the Spills, Leaks, Investigation and Cleanup database maintained by the regional board, indicating that groundwater contamination has occurred. Because the site represents a low threat to the environment and PG&E has agreed to regulatory oversight by the California Department of Toxic Substances Control, the site is also identified in the Voluntary Cleanup Program database maintained by the Department of Toxic Substance Control. However, as discussed below under "Designation of Administering Agency," oversight authority has been delegated to the regional board. Inclusion in several other regulatory databases indicates that the site previously had underground storage tanks and aboveground storage tanks.

PG&E Sub-area

The Phase I Environmental Site Assessment for the PG&E sub-area describes the regulatory database review conducted in 2017 to identify current or previous reports of hazardous materials use, storage, and/or unauthorized releases that may have affected the PG&E property.⁴⁴ As summarized in that document, the site was identified in numerous environmental databases. Because the site represents a low threat to the environment and PG&E has agreed to regulatory oversight by the Department of Toxic Substance Control, the site is identified in the Voluntary Cleanup Program database maintained by the Department of Toxic Substance Control. However, as discussed below under "Designation of Administering Agency," oversight authority has been delegated to the regional board as indicated by inclusion in the GeoTracker Cleanup Sites Data list. Inclusion in several other regulatory databases indicates that the site has previously had underground storage tanks.

The regional board case number for the entire former Potrero Power Plant property is 38S0038.

⁴³ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

⁴⁴ Ibid.

Adjacent Areas

PG&E South Switchyard and Gas Load Center

As discussed above, the South Switchyard (see Figure 4.K-1, p. 4.K-5) was used by the California Barrel Company.⁴⁵ It has been used as a PG&E switchyard since the 1960s.⁴⁶ Constructed in the 1950s, the Gas Load Center (see Figure 4.K-1, p. 4.K-5), provides infrastructure to PG&E's gas supply system and includes above and below ground high-pressure gas lines and a control structure. PG&E investigated soil and groundwater quality in both the South Switchyard and the Gas Load Center as part of its investigation of the PG&E sub-area, described above, and these areas are included in the land use covenant⁴⁷ and updated site management plan⁴⁸ for the North Switchyard and General Construction Yard.

PG&E Gas-Insulated Electrical Substation

Located immediately south and west of the Power Station sub-area, PG&E's 1.4 acre gas-insulated substation (see Figure 4.K-1, p. 4.K-5) was part of the Station A remediation area until PG&E purchased back the property in 2016. This area includes the 8,500-square-foot building that houses new 230 kV gas-insulated switchgear.⁴⁹ The switchgear building is surrounded by impermeable surfaces that are a durable cover. These surfaces include concrete or paved outdoor equipment areas as well as a combination of gravel and concrete/asphalt surfaces.

Soil, groundwater, and soil vapor quality have been affected by historical operations within PG&E's Gas-Insulated Substation Area, including power generation and sugar refining. Chemicals of potential concern in the soil in this area include polynuclear aromatic hydrocarbons; benzene, toluene, ethylbenzene, and xylenes; PCBs; metals; cyanide; and naturally occurring asbestos. In the groundwater, chemicals of concern include petroleum hydrocarbons and xylenes. Chemicals of potential concern in the soil vapor include benzene and naphthalene. The human health risk assessment for the Station A remediation area concluded that the site does not pose unacceptable health risks to current or future commercial or industrial workers because the existing durable cover prevents exposure to the soil, groundwater, and soil vapors. However, because risks could occur as a result of soil disturbing activities, PG&E prepared a site management plan identifying risk management measures to be implemented during such activities.⁵⁰ PG&E also recorded a land use covenant on the property requiring compliance with the site management plan and restricting

⁴⁵ The historical California Barrel Company, although the namesake of the project sponsor, is unrelated to the sponsor.

⁴⁶ Haley & Aldrich and Pivox Corporation, *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California*, August, 2015.

⁴⁷ PG&E, *Covenant and Environmental Deed Restriction on Property, Potrero Switchyard and General Construction Yard 1201 Illinois Street, San Francisco, California*, September 15, 2011.

⁴⁸ Haley & Aldrich and Pivox Corporation, *Updated Site Management Plan, Switchyard, Gas Load Center, and General Construction Yard, Potrero Power Plant Site, 1201 Illinois Street, San Francisco, California*, August, 2015.

⁴⁹ Haley & Aldrich and Pivox Corporation, *Risk Management Plan, Station A PG&E Area, Potrero Power Plant Site, San Francisco, California*, June 16, 2016.

⁵⁰ Ibid.

future land uses at the site.⁵¹ The regional board approved the plan on September 9, 2016⁵² and issued a no further action letter for this area on February 13, 2017.⁵³

PG&E Hoe Down Yard

The Hoe Down Yard is located north of the PG&E sub-area across 22nd Street as shown on Figure 4.K-1, p. 4.K-5. This area has been occupied since approximately 1886. It and was initially used for horse stables and support facilities for the former manufactured gas plant at the Potrero Power Plant.⁵⁴ The support facilities included 30,000 to 40,000 barrel aboveground fuel storage tanks, an oil heater house, and associated aboveground pipelines, all of which have been removed. The Hoe Down Yard is now used by PG&E as a material/soil staging area used to temporarily store drilling mud⁵⁵ and surplus clean soil from pipeline construction projects for use as trench backfill.

Soil, groundwater, and soil vapor quality have been affected by historic operations at the Hoe Down Yard. A human health risk evaluation conducted by PG&E found that there is no risk to human or ecological receptors under existing site conditions. Because risks could occur as a result of soil disturbing activities, PG&E prepared a site management plan identifying risk management measures to be implemented during soil disturbance activities. PG&E also recorded a land use covenant on the property.

The Hoe Down Yard will be redeveloped under the planned Pier 70 Mixed-Use District project.⁵⁶ As part of that project, an updated site management plan will be prepared and will include additional risk management measures for future commercial and residential uses at the Hoe Down Yard, as needed.

Pier 70 Mixed-Use District

The Port of San Francisco's 69-acre Pier 70 Mixed-Use District project property (see Figure 4.K-1, p. 4.K-5) is a former ship building facility that will be redeveloped under the Pier 70 Mixed-Use District project.⁵⁷ Soil, groundwater, and soil vapor quality have all been affected by historic ship building and industrial activities at Pier 70. Accordingly, the Port of San Francisco has prepared a risk management plan for management of health risks and has recorded a land use covenant on the property.

⁵¹ Pacific Gas and Electric Company, *Covenant and Environmental Restriction on Property, 1201C Illinois Street, San Francisco, California, APN 4175-006*, August 28, 2016.

⁵² San Francisco Bay Regional Water Quality Control Board, Approval of June 16, 2016 Risk Management Plan, Station A PG&E Area, Potrero Power Plant, City and County of San Francisco, September 9, 2016.

⁵³ San Francisco Bay Regional Water Quality Control Board, *No Further Action, Station A Area, Former Potrero Power Plant, 1201 Illinois Street, City and County of San Francisco*, February 13, 2017.

⁵⁴ Geosyntec Consultants, *Phase I Environmental Site Assessment, 1201B Illinois Street, San Francisco, California*, September 8, 2017.

⁵⁵ Drilling mud is a heavy, viscous fluid mixture used in drilling operations to carry rock cuttings to the surface and also to lubricate and cool the drill bit.

⁵⁶ City and County of San Francisco Planning Department, Case No. 2014-001272, State Clearinghouse No. 2015052024, Draft Environmental Impact Report, Pier 70 Mixed-Use District Project, December 21, 2016.

⁵⁷ Ibid.

Former manufactured gas plant operations at the Potrero Power Plant extended onto the southern portion of the Pier 70 Mixed-Use District project, and both continuous and discontinuous DNAPL have been identified within some portions of the fill material near the existing slipways.⁵⁸ Site investigations conducted by the Port of San Francisco and PG&E identified two localized areas within the Pier 70 Mixed-Use District project area where the accumulated DNAPL is at least 1-foot thick as well as additional areas of discontinuous DNAPL.⁵⁹

As presented in PG&E's draft remedial action plan for the Northeast area of the Potrero Power Plant, PG&E's remediation of the DNAPL area within the Pier 70 Mixed-Use District project area (referred to as the PG&E Responsibility area) will include excavating the continuous DNAPL areas at the southernmost slipway to a depth of about 23 feet and backfilling the excavations with clean fill.⁶⁰ Durable cover(s) will be installed over the excavated and backfilled areas. The durable cover(s) will consist of pavement, hardscape, or clean fill and vegetation over a demarcation layer to indicate the transition to underlying contaminated soil. With future development of the site, concrete slabs, asphalt, or new buildings may also act as a durable cover. Areas of discontinuous DNAPL will remain at the project site. The regional board approved this remedial approach in July 2016.⁶¹

The Port of San Francisco has prepared a risk management plan for the entire Pier 70 Mixed-Use District project area, including the discontinuous DNAPL area, which includes protocols for controlling exposure to chemicals left in place during future use of this area. PG&E began in 2018 and will continue for 18 months, to be completed prior to redevelopment of the Pier 70 Mixed-Use District project.⁶²

South Trans Bay Cable Property

The 8.5-acre Trans Bay Cable Property (which includes the Trans Bay Cable-SF Converter Station) is located immediately to the south of the project site (see Figure 4.K-1, p. 4.K-5). This property includes a converter station constructed in 2010 that converts DC current from the Transbay Cable to AC current and transmits the power to the PG&E switchyard.⁶³ The site was previously used for the storage of fuel oil and crude oil in aboveground tanks and included up to 11 underground storage tanks; seven of the underground storage tanks were removed. In addition, a manufactured gas plant was formerly located on the east side of the property.

⁵⁸ Haley & Aldrich, *Draft Remedial Action Plan, Northeast Area of the Potrero Power Plant Site and a Portion of the Southeast Area of Pier 70, Potrero Power Plant Site, San Francisco, California*, July 7, 2015.

⁵⁹ Discontinuous DNAPL refers to DNAPL that is present as isolated droplets adhering to the soil matrix. These isolated droplets are not interconnected and there is no possibility for the DNAPL to flow.

⁶⁰ Haley & Aldrich, *Draft Remedial Action Plan, Northeast Area of the Former Potrero Power Plant and a Portion of the Southeast Area of Pier 70 Feasibility Study, Potrero Power Plant Site, San Francisco, California*, January 2016.

⁶¹ California Regional Water Quality Control Board, San Francisco Bay Region. Resolution No. R2-2016-0027, Approval of the Remedial Action Plan for: Potrero Power Plant Northeast Area and A Portion of the Southeast Area of Pier 70, July 7, 2016.

⁶² Pacific Gas & Electric web site, Potrero Power Plant, Cleanup Areas and Recent Activities, <http://www.pge.com/en/about/environment/taking-responsibility/mgp/Potrero/cleanup-and-activities/index.page>, accessed August 26, 2018.

⁶³ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

Before developing the existing converter station, Trans Bay Cable removed the upper 4 feet of soil within the operations portion of the site and the upper 3 feet of soil within the landscaped area along Illinois Street. It conducted deeper excavations in the transformer secondary containment area and for utility trenches. Trans Bay Cable also placed a geotextile fabric as a demarcation between the clean fill and native soil. To prevent exposure to chemicals in soil vapors, Trans Bay Cable installed soil vapor barriers and passive venting systems beneath the onsite buildings.

Based on the results of site investigations and the soil remediation described above, the human health risk assessment for the property recommended implementing risk management measures to prevent human contact with the native soil and prohibiting the use of groundwater for any purposes.⁶⁴ The risk management prepared for the site in 2009 specifies the appropriate risk management measures. In January 2010, the facility recorded a land use covenant on the property that restrict future land and groundwater uses and require implementation of the risk management plan.⁶⁵

Naturally Occurring Asbestos

In 1986, the California Air Resources Board (air board) identified naturally occurring asbestos, which is present in many parts of California, as a toxic air contaminant. Naturally occurring asbestos is commonly associated with serpentine and ultramafic rock types such as serpentinite of the Franciscan Complex. Serpentinite rock is apple green, brown, reddish brown, and gray to black and has a waxy or shiny appearance. The usual appearance of serpentine is fine grain and compact, but it can be flaky or fibrous. Chrysotile asbestos (a form of asbestos from the serpentine mineral group) and amphibole asbestos (including tremolite) are naturally occurring asbestos minerals that may present a human health hazard if they become airborne and are inhaled.

As discussed in the initial study under geology and soils, and as shown in Chapter 2, Project Description, on Figure 2-1, Project Location, the historic 1851 shoreline generally bisects the Power Station sub-area. Areas to the east of the historic shoreline were filled as part of land reclamation activities that began in the late 1800s and continued into the mid-1990s.⁶⁶ The majority of the fill consists of crushed Franciscan Complex bedrock intermixed with building debris, industrial waste, and a mixture of various soil types.

Soil samples from the Power Station sub-area contained chrysotile asbestos at concentrations ranging from a trace (e.g., less than 1 percent) to 30 percent of chrysotile fibers.⁶⁷ Naturally occurring asbestos was detected in several samples from the PG&E sub-area at concentrations ranging from a trace level to 3 percent.⁶⁸ Some occurrences of serpentine and ultramafic rock are also known to have potentially elevated concentrations of naturally occurring metals such as arsenic, cobalt, copper, chromium (including hexavalent chromium), and nickel.

⁶⁴ URS, *Long-Term Risk Management Plan/Soil Management Plan, Trans Bay Cable Converter Station Site at 435, 25, and 555 Twenty-Third Street, San Francisco, California*, November, 2009.

⁶⁵ Chicago Title Company, *Covenant and Environmental Restriction on Property*, January 8, 2010.

⁶⁶ Engco, Incorporated, *Preliminary Geotechnical Report, Potrero Power Plant, San Francisco, California*, September 7, 2017; revised September 14, 2017.

⁶⁷ Geosyntec Consultants, *Phase I Environmental Site Assessment, Former Potrero Power Plant, San Francisco, California*, August 19, 2016.

⁶⁸ *Ibid.*

Hazardous Building Materials

As discussed in Chapter 2, Project Description, under the proposed land use program, the project would demolish approximately 20 buildings and structures on the project site. All of these buildings were constructed as part of the historic power generating and industrial activities at the project site. Based on their age, hazardous building materials may have been used in their construction. These potential hazardous building materials include asbestos-containing materials; PCBs in building materials and electrical equipment such as fluorescent light ballasts; fluorescent light ballasts that contain di (2 ethylhexyl) phthalate (DEHP); fluorescent lights containing mercury; and lead-based paints.

4.K.3 Regulatory Framework

Hazardous materials and hazardous wastes are subject to extensive federal, state, and local regulations, with the major objective of protecting public health and the environment. In general, these regulations define hazardous materials; establish reporting requirements; set guidelines for handling, storage, transport, remediation, and disposal of hazardous wastes; and require health and safety provisions for workers and the public. The major federal, state, and regional agencies enforcing these regulations include the U.S. Environmental Protection Agency (U.S. EPA), Occupational Safety and Health Administration, and the U.S. Department of Transportation at the federal level; the Department of Toxic Substance Control, state board, and regional board at the state level; and the air district at the regional level. Various agencies and departments of the City and County of San Francisco implement and enforce these requirements as well as specific requirements of the City and County of San Francisco, as discussed below.

Federal Regulations

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, to the extent that state law is more stringent than federal law, state law prevails over federal law and enforcement of these laws is typically the responsibility of the state or of a local agency to which enforcement powers are delegated.

National Contingency Plan

Title 40 of the Federal Code of Regulations, section 300.430 (the National Contingency Plan), addresses selection of a remedy at sites where actions may be necessary to control site risks. For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess lifetime cancer risk to an individual of between one in ten thousand and one in a million. For non-cancer effects, the National Contingency Plan states that an acceptable exposure level should be defined. According to U.S. EPA guidance, generally if the Hazard Index is greater than 1 there may be a concern for potential non-cancer effects.⁶⁹ Therefore, in calculating remediation

⁶⁹ United States Environmental Protection Agency (U.S. EPA), *Risk Assessment Guidance for Superfund, Volume I – Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals, Interim)*, December, 1981.

goals at a site to protect for non-cancer effects, remediation goals are generally set at a Hazard Index at or below 1.

State Regulations

Designation of Administering Agency

The California Health and Safety Code section 25262 allows parties responsible for site cleanup to request designation of a single state or local agency to oversee the cleanup action. On April 17, 2001, the San Francisco Bay Regional Water Quality Control Board was designated the administering agency for the Potrero Power Plant remediation site pursuant to this regulation.

Hazardous Waste Classification Criteria

Under Title 22 of the California Code of Regulations section 66261.20, et seq., excavated soil is classified as a hazardous waste for offsite disposal purposes if it exhibits the characteristics of ignitability, corrosivity, reactivity, or toxicity. A waste is considered toxic under Title 22 of the California Code of Regulations, division 4.5, article 3, section 66261.24 if it contains certain substances at concentrations that meet any of the following thresholds:

- total concentrations of certain substances at concentrations greater than the state total threshold limit concentration,
- soluble concentrations greater than the state soluble threshold limit,
- soluble concentrations of certain substances greater than federal toxicity regulatory levels using a test method called the Toxicity Characteristic Leaching Procedure or
- specified carcinogenic substances at a single or combined concentration of 0.001 percent or more.

Under section 66261.24, a waste is considered hazardous under state and federal regulations if the soluble concentration exceeds the Toxicity Characteristic Leaching Procedure level as determined by the Toxicity Characteristic Leaching Procedure method. Because the Toxicity Characteristic Leaching Procedure involves a 20-to-1 dilution of the sample, the total concentration of a substance in the soil would need to exceed 20 times the regulatory level for the soluble concentration to exceed the regulatory level in the extract. A waste would also be considered hazardous under state regulations if the soluble concentration of a substance exceeds the soluble threshold limit determined by a waste extraction test, which involves a 10-to-1 dilution of the sample. Because of this, the total concentration of a substance would need to exceed 10 times the soluble threshold limit for the soluble concentration to possibly exceed the soluble threshold limit in the extract. A waste also may be classified as toxic if testing indicates toxicity greater than specified criteria.

Asbestos-Containing Materials

Asbestos wastes transported offsite are considered a hazardous waste in accordance with Title 22 of the California Code of Regulations, division 4.5, article 3 section 66261.24, if the asbestos is friable and the asbestos content is 1 percent or greater.

Lead-Based Paint

Demolition debris that is painted with lead-based paint that is intact may or may not be considered hazardous waste. In order for the entire item to be hazardous, the lead concentration in the paint and the painted item (i.e., door, beam, etc.) must exceed the total threshold limit of 1,000 milligrams per kilogram (mg/kg) of lead, soluble threshold limit of 5 milligrams per liter (mg/L), or Toxicity Characteristic Leaching Procedure level of 5 mg/L in accordance with Title 22 of the California Code of Regulations, division 4.5, article 3, section 66261.24. In most cases, the lead concentration from the intact paint alone would not exceed hazardous lead levels for both the item and the intact paint; therefore, most materials with intact lead-based paint can be disposed of through normal practices at a regularly licensed waste facility. If the paint has been separated from the building material (e.g., chemically or physically removed), then the paint waste should be evaluated independently from the building material to determine if it is hazardous and to identify the proper management practice.

Polychlorinated Biphenyls

In California, PCB wastes are regulated as hazardous waste under Title 22 of the California Code of Regulations, division 4.5, chapter 11, section 66261.24, if the PCB concentration exceeds total threshold limit concentration of 50 mg/kg or the soluble concentration exceeds the soluble threshold limit concentration of 5 mg/L.

Asbestos Abatement in Buildings

Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The Bay Area Air Quality Management District is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and implements the California regulatory requirements through Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). Pursuant to California law, the San Francisco Department of Building Inspection (building department) will not issue a permit for demolition or renovation of a building until the applicant has complied with the following notice and abatement requirements.

In accordance with Regulation 11, Rule 2, the air district must be notified 10 days in advance of proposed demolition or abatement work that would involve removal of asbestos-containing materials. Notification includes the following:

- The names, addresses, and telephone numbers of both the owner(s) of the structure and the operator of the demolition or renovation;
- A description of the structure to be renovated, including location, size, number of floors, age of the oldest portion, and the present and prior use;
- The approximate amount of friable asbestos that would be removed;

- The name, address, and telephone number of the person who completed the asbestos survey, including the California Division of Occupational Safety and Health (CalOSHA) certification number;
- The procedures used, including the laboratory method, to locate asbestos-containing materials;
- The scheduled starting and completion dates of demolition or renovation;
- A description of the planned demolition or renovation and the methods to be used;
- A description of work practices and engineering control to be used, including emission control procedures for asbestos removal and waste handling;
- The name, address, and location of the waste disposal site to be used;
- Certification that at least one trained person will supervise the asbestos removal described in the plan;
- Procedures to be followed in the event that unexpected friable asbestos is encountered; and
- The name, address, and telephone number of the waste transporter.

Regulation 11, Rule 2 requires a survey of any building planned for demolition to identify asbestos-containing materials that may be present. If asbestos-containing materials are identified, they must be removed before demolition or alteration activities. During renovation, regulated asbestos-containing materials also must be removed prior to any operations that would cover the asbestos materials, making them inaccessible. During removal activities, the contractor must implement controls to ensure that there are no visible asbestos emissions to the outside air. The contractor can use methods such as wetting exposed asbestos-containing materials or providing exhaust controls to prevent asbestos emissions to the outside air. The structure being abated must also be isolated by containment barriers during removal operations, and a negative air pressure must be maintained within the containment barrier. The air district periodically inspects asbestos removal operations and will typically inspect removal operations when a complaint is received.

The local office of CalOSHA must be notified of work involving 100 square feet or more of asbestos-containing material work. The work must be conducted in accordance with the requirements Title 8 of the California Code of Regulations, division 1, chapter 3.2, subchapter 2, sections 341.6 through 341.14, and the asbestos requirements of the General Construction Safety Orders specified in Title 8 of the California Code of Regulations, chapter 4, subchapter 4, article 4, section 1529. To ensure adequate compliance with these regulatory requirements, asbestos removal contractors must be certified as such by the Contractors State License Board of California.

Lead in Construction Standard

CalOSHA's Lead in Construction Standard (contained in Title 8 of the California Code of Regulations, division 1, chapter 4, subchapter 4, article 4, section 1532.1) addresses the demolition, removal, cleanup, transportation, storage, and disposal of lead-containing material. The regulations outline the permissible exposure limit, protective measures, monitoring requirements, and compliance standards to ensure the safety of construction workers exposed to lead-based materials. CalOSHA's Lead in Construction Standard requires project proponents to develop and

implement a lead compliance plan when lead-based paint would be disturbed during construction. The plan must describe activities that could emit lead, methods for complying with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. CalOSHA requires 24-hour notification if more than 100 square feet of lead-based paint would be disturbed.

Cleanup of PCBs

The regional board has established a residential Environmental Screening Level of 0.25 mg/kg for PCBs in soil.⁷⁰ The commercial and industrial Environmental Screening Level for PCBs is 1.0 mg/kg.

Disposal of Fluorescent Light Ballasts

Most fluorescent light ballasts manufactured before 1978 contain PCBs in their capacitor and potting material. Ballasts manufactured after January 1, 1978, do not contain PCBs and should be labeled as such on the ballast. California requirements for management of fluorescent light ballasts containing PCBs are specified in Title 22 of the California Code of Regulations, division 4.5, chapter 42, section 67426.1 et seq. Under these regulations, generators who transport no more than two 55-gallon drums of PCB-containing ballasts per transportation vehicle are exempt from California regulatory requirements for generators of hazardous waste. The transporter of the ballasts must meet certain regulatory requirements, depending on the number of ballasts transported in one load. In accordance with Title 40 of the Code of Federal Regulations, section 761.60, fluorescent light ballasts with PCBs in their potting material must be disposed of in an approved landfill or decontaminated.

Between 1979 and the early 1990s, DEHP was used in place of PCB as a dielectric fluid in some fluorescent light ballasts and other electrical equipment.⁷¹ DEHP is classified as a probable human carcinogen by the U.S. Department of Health and Human Services⁷² and as a hazardous substance by the U.S. EPA in accordance with Title 40 of the Code of Federal Regulations, chapter I, subchapter I, part 261, subpart D, section 261.33. Because of this, ballasts containing DEHP must be legally disposed of or recycled and are commonly handled in the same manner as PCB ballasts.

Disposal of Mercury Containing Equipment

Spent fluorescent lamps and tubes commonly contain mercury vapors. These, and electrical switches that contain mercury, are considered a hazardous waste in California under Title 22 of the California Code of Regulations, division 4.5, chapter 11, section 66261.50. Because they are considered a hazardous waste, all fluorescent lamps and mercury-containing switches must be recycled or taken to a universal waste handler.

⁷⁰ California Regional Water Quality Control Board, San Francisco Bay Region, *Update to Environmental Screening Levels. Interim Final*, February, 2016.

⁷¹ Green Lights Recycling, Inc., *Ballasts*, <http://www.glrnow.com/#front-page-4>, accessed January 24, 2018.

⁷² U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, *Substances Listed in the Thirteenth Report on Carcinogens*, 2014, https://ntp.niehs.nih.gov/ntp/roc/content/listed_substances_508.pdf, accessed January 24, 2018.

Naturally Occurring Asbestos

Asbestos-containing material is defined in Title 17 of the California Code of Regulations, section 93105(h)(9) as any material that has an asbestos content of 0.25 percent or greater. In 2001, the California Air Resources Board adopted the Asbestos Airborne Toxics Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations in areas of serpentine and other ultramafic rocks (contained in Title 17 of the California Code of Regulations, section 93105), which became effective in July 2002. The Airborne Toxics Control Measure protects public health and the environment by requiring the use of best available dust mitigation measures to prevent the offsite migration of asbestos-containing dust from road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas of ultramafic rock, serpentine, or naturally occurring asbestos. The Bay Area Air Quality Management District implements the regulation.

For construction activities that would disturb more than 1 acre of land where asbestos-containing materials are present, construction contractors must prepare an asbestos dust mitigation plan specifying measures that will be taken to ensure that no visible dust crosses the property boundary during construction. The asbestos dust mitigation plan must be submitted to and approved by the air district before construction starts, and the site operator must ensure the implementation of all specified dust mitigation measures throughout the construction project. In addition, the air district may require air monitoring for offsite migration of asbestos dust during construction activities and may change the plan on the basis of the air monitoring results. The air district may exempt a project from the requirements of the Asbestos Airborne Toxics Control Measure if a geologic evaluation by a professional geologist determines that no serpentine or ultramafic rock is likely to be found in the area to be disturbed. A construction contractor engaged in construction activities involving materials containing naturally occurring asbestos is also be required to comply with the work practices and personnel exposure monitoring requirements specified in Title 8 of the California Code of Regulations, section 1529.

Methane Control

Title 27 of the California Code of Regulations includes requirements for the control of methane from waste disposal units. Under section 20921, Gas Monitoring and Control, to provide for the protection of public health and the environment, the disposal site operator must ensure that landfill gas generated at a disposal site is controlled so that the concentration of methane gas does not exceed 1.25 percent by volume in air within any portion of any onsite structures. The project site is not a landfill; however, this criterion is used by San Francisco Department of Public Health to determine if additional monitoring of methane concentrations or implementation of gas migration controls is required.⁷³

⁷³ California Regional Water Quality Control Board, Letter to Mr. Scott Nakamura, City and County of San Francisco Department of Public Health, *Subject: Clarification of the AB2061 Process, Clarification of the California Integrated Waste Management Board (CIWMB) Letter Dated April 4, 2001, and Development of a Protocol for Management of Methane, Mission Bay Project Area, City and County of San Francisco*, May 15, 2001.

Hazardous Waste Tracking and Transportation

Title 40 of the Code of Federal Regulations, section 260.10, defines the generator of hazardous waste as the person or entity whose action produces a waste or causes a hazardous waste to become subject to regulation. Generators of hazardous wastes are subject to the regulatory requirements of the California Department of Toxic Substances Control. In accordance with Title 22 of the California Code of Regulations, division 4.5, chapter 12, the generator of hazardous waste must have a hazardous waste generator number assigned by and registered with the State of California Department of Toxic Substances Control.

Regulatory requirements for the transport of hazardous wastes in California are specified in Title 22 of the California Code of Regulations, division 4.5, chapters 13 and 29. Under these regulations, all hazardous waste transporters must have identification numbers. These transporters must also comply with the California Vehicle Code, California Highway Patrol regulations (contained in Title 13 of the California Code of Regulations); the California State Fire Marshal regulations (contained in Title 19 of the California Code of Regulations); U.S. Department of Transportation regulations (Title 49 of the Code of Federal Regulations); and U.S. EPA regulations (contained in Title 40 of the Code of Federal Regulations).

A hazardous waste manifest is required for transport of hazardous wastes. The hazardous waste manifest documents the legal transport and disposal of the waste and is signed by the generator and transporter(s) of the waste as well as the disposal facility. California regulations require specific cleanup actions that must be taken by a hazardous waste transporter in the event of a discharge or spill, and for the safe packaging and transport of hazardous wastes.

Transport, Use, and Storage of Explosive Materials

The transport, use, and storage of explosive materials is regulated under the General Industry Safety Orders contained in Title 8 of the California Code of Regulations, division 1, chapter 4, subchapter 7, group 18 (Explosives and Pyrotechnics). In accordance with these regulations, any contractor providing blasting services must be licensed by CalOSHA, and the blaster must be physically present on site when blasting operations are performed. Explosive materials must be stored in an appropriate magazine⁷⁴ until they are used, and some materials must be stored in their shipping containers until used. All magazines must be located or protected as to minimize damage from vehicles or falling objects, and a 50-foot buffer around the magazine must be kept clear of brush, dried grass, leaves, and other combustible materials. The ground around the magazines must be sloped away from the magazine or drainage must be protected to protect the magazine from flooding. No smoking, open flames or other sources of ignition within 50 feet of any area where explosive materials are being handled, except devices necessary to ignite the fuses of set charges. The transfer of explosive materials must also be arranged so that no undue delay will occur between the time the explosive materials leave the magazine and the time they are used.

⁷⁴ A magazine is a structure specifically designed for the safe storage of explosive materials.

Local Regulations

San Francisco Health Code – Hazardous Materials and Hazardous Wastes

The City and County of San Francisco has enacted local ordinances and regulations to address the potential of encountering hazardous materials in the soil, groundwater, soil vapors, and hazardous building materials, and to ensure the safe handling of hazardous materials and hazardous and medical wastes. The following sections of the health code are implemented by the San Francisco Department of Public Health as the Hazardous Materials Unified Program Agency, and are briefly summarized below. These regulations would apply to the proposed project to address the use of hazardous materials and the potential to encounter hazardous materials in the soil:

- Article 21 (Hazardous Materials) provides for safe handling of hazardous materials in San Francisco. It requires any person or business that handles, sells, stores, or otherwise uses specified quantities of hazardous materials to keep a current certificate of registration and to implement a hazardous materials business plan. Threshold quantities are 500 pounds for solids, 55 gallons for liquids, and 200 cubic feet for compressed gases. Every business that must implement a hazardous materials business plan must also obtain a certificate of registration certifying that the hazardous materials business plan meets the requirements of Article 21. This article also specifies requirements for the installation and operation of underground storage tanks, reporting of unauthorized releases, and closure of permitted facilities (including underground storage tanks). The closure of any underground storage tank must also be conducted in accordance with a permit from the San Francisco Fire Department.
- Article 22 (Hazardous Waste Management) provides for safe handling of hazardous wastes in San Francisco. It authorizes the health department to implement the state hazardous waste regulations, including authority to conduct inspections and document compliance.
- Article 22A (Analyzing the Soils for Hazardous Waste, known as the Maher Ordinance and updated in 2013) applies to projects that involve disturbance of more than 50 cubic yards of soil, if they are located bayward of the historic high tide line, have been zoned or used for industrial purposes, are located within 150 feet of an elevated highway, have soil or groundwater contamination, or are within 100 feet of a known or suspected underground storage tank. In accordance with this article, covered projects must prepare a site history report to identify whether past site uses may have caused contamination, conduct soil and/or groundwater testing for the presence of the potentially hazardous constituents (including methane), prepare a soils analysis report, and prepare a site mitigation plan (if contamination is identified).

If hazardous materials remain in the soil or groundwater, approval of the site mitigation plan by the health department, would be required. The site mitigation plan would include many of the same elements as the risk management plans that already exist for the project site. A land use covenant may also be required, similar to those that already exist for the project site. Upon completion of site mitigation, the site owner must submit certification that the project has received certification or verification from the appropriate state or federal agency that mitigation is complete, before health department can issue a letter of no further action.

- Article 22B (Construction Dust Control Requirements) and San Francisco Building Code section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance which was adopted in July 2008. The ordinance applies to all site preparation work, demolition, or other

construction activities within San Francisco that have the potential to create dust. Projects that expose or disturb more than 10 cubic yards or 500 square feet of soil must comply with specified dust control measures whether or not the activity requires a permit from the building department. For projects over 0.5 acre, the Dust Control Ordinance requires that the project sponsor submit a dust control plan for approval by health department prior to issuance of a building permit by the building department. Building permits will not be issued without written notification from the Director of Public Health that the applicant has a site-specific dust control plan, unless the director waives the requirement.

The Construction Dust Control Ordinance requires project sponsors and contractors responsible for construction activities to control construction dust on the site or to implement other practices that result in equivalent dust control. Dust suppression activities may include sufficient watering of all active construction areas to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by article 21, section 1100 et seq. of the San Francisco Public Works Code.

- Article 25 (Medical Waste Generator Registration, Permitting, Inspection and Fees) requires facilities that generate medical waste to store, treat, and dispose of that waste in a manner that complies with the California Medical Waste Management Act. Small and large quantity generators of medical waste that use onsite steam sterilization, incineration, or microwave technology to treat the waste must obtain a permit from the health department, file a medical waste management plan, and maintain individual treatment and tracking records. The generator must also have an emergency action plan. The health department is required to conduct compliance inspections of small quantity generators once every two years and large quantity generators once per year. Article 25 also specifies requirements for containment, storage, treatment, and transportation of medical waste.

If a small quantity generator is not required to register with the health department pursuant to article 25, the generator must complete an information document stating how medical wastes are stored, treated, and disposed of. The generator must also keep records of any medical waste transported offsite for treatment and disposal. These records must be maintained at the office of the small quantity generator.

San Francisco Existing Building Code – Work Practices for Lead-Based Paint

Work that could result in disturbance of lead-based paint must comply with section 327 of the San Francisco Existing Building Code, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Section 327 applies to the exterior of all buildings or steel structures on which original construction was completed prior to 1979 (which are assumed to have lead-based paint on their surfaces, unless demonstrated otherwise through sampling and laboratory analysis), and to the interior of residential buildings, hotels, and childcare centers. The ordinance contains performance standards, including requirements for restricting access during abatement activities; establishing containment barriers that are at least as effective at protecting human health and the environment as those in the U.S. Department of Housing and Urban Development Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards); protecting the ground from contamination during exterior work; protecting floors and other horizontal surfaces from work debris during interior work; preventing migration of lead paint beyond containment barriers during the course of the work; and achieving clean-up standards. The clean-up standards

require the removal of visible work debris, including the use of a HEPA vacuum following interior work. Section 3426 prohibits these work practices for the removal of lead-based paint: (1) open flame burning or torching; (2) heat guns without containment and barrier systems, or operating above 1,100 degrees Fahrenheit (611.1 degrees Celsius) or causing the charring of paint; (3) hydroblasting or high-pressure washing without containment and barrier systems; and (4) dry manual sanding or scraping, or machine sanding or grinding, or abrasive blasting or sandblasting without containment and barrier systems or a HEPA vacuum local exhaust tool.

Section 327 also includes notification requirements. Prior to the commencement of work, the responsible party must provide written notice to the building department of the address and location of the project; the scope of work, including specific location within the site; methods and tools to be used; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential, owner-occupied or rental property; the dates by which the responsible party has fulfilled or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Section 327 contains provisions regarding inspection and sampling for compliance by the building department, as well as enforcement, and describes penalties for non-compliance with the requirements of the ordinance.

San Francisco Public Works Code - Blasting

In addition to the applicable requirements of Title 8 of the California Code of Regulations (described above under “State Regulations”), article 15, section 776 of the San Francisco Public Works Code requires a permit from San Francisco Department of Public Works for the use of explosives. Section 779 also requires that the explosives are only used during the hours specified in the permit, and that the explosives used must be approved by the department of public works. Use of a protective mat (blasting mat) to cover explosive areas may also be required.

Emergency Response Plan

The City’s Emergency Response Plan addresses the roles and responsibilities of city agencies during hazards-related emergency responses, in particular their interaction with regional, state, and federal entities.⁷⁵ Integral to this plan, the Transportation Annex describes the procedures for assessment, identification of temporary alternative solutions, and restoration of damage to transportation systems, facilities, and infrastructure due to an emergency incident. To provide flexibility for incident response to select appropriate routing, the plan does not specify designated emergency response or evacuation routes.

⁷⁵ City and County of San Francisco Emergency Management Program, *City and County of San Francisco Emergency Response Plan*, December 2010, <http://www.sfdem.org/Modules/ShowDocument.aspx?=1154>, accessed January 24, 2018.

San Francisco General Plan

San Francisco General Plan

The Community Safety Element of the San Francisco General Plan includes:

- **Objective 1:** Reduce structural and non-structural hazards to life safety and minimize property damage resulting from future disasters.

Policy 1.23: Enforce state and local codes that regulate the use, storage, and transportation of hazardous materials in order to prevent, contain, and effectively respond to accidental releases.

Policy 1.24: Educate public about hazardous materials procedures including transport, storage, and disposal.

Policy 1.26: Monitor emerging industries like bioscience, and ensure that state and local codes manage risks effectively.

- **Objective 3:** Establish strategies to address the immediate effects of a disaster.

Policy 3.1: After an emergency, follow the mandates of the Emergency Response Plan and Citywide Earthquake Response Plan.

Policy 3.12: Address hazardous material and other spills by requiring appropriate cleanup by property owners per local, state, and federal environmental laws.

4.K.4 Impacts and Mitigation Measures

Significance Criteria

The criteria for determining the significance of impacts in this analysis are consistent with the environmental checklist in Appendix G of the CEQA Guidelines, which has been modified by the San Francisco Planning Department. For the purpose of this analysis, the following applicable criteria were used to determine whether implementing the proposed project would result in a significant impact on hazards and hazardous materials. Implementation of the proposed project would have a significant effect on hazards and hazardous materials if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Approach to Analysis

Criteria Not Analyzed

The following criteria are not analyzed in this section for the reasons described below:

- *Safety hazards in the vicinity of a public airport or private airstrip.* The nearest airports to the project area are San Francisco International Airport approximately 8 miles to the south and Oakland International Airport over 7.5 miles to the southeast. The proposed buildings would be a maximum of 300 feet high and would not interfere with air traffic. Therefore, there is no impact related safety hazards from location within an airport land use plan, within 2 miles of a public airport, or in the vicinity of a private air strip.

Project Features

Both construction and operation of the project would involve the use of hazardous materials, which without appropriate controls, could create a significant hazard to the public or the environment. In general, commercial and industrial uses involve the use of greater amounts of hazardous materials. Therefore, the proposed project would result in the greatest use of hazardous materials if more flex blocks were developed for commercial and industrial uses than residential uses.

Several project-related construction activities have the potential to expose hazardous materials that are present in the soil and groundwater as well as naturally occurring asbestos in the soil based on their location, depth of excavation, and area of ground disturbance within the project site. These activities include proposed building demolitions; grading and excavation; controlled rock fragmentation for the construction of basements; construction of street improvements; and installation of new utilities for potable water, recycled water, fire protection water, wastewater, stormwater, electricity, and natural gas. In addition, there may be hazardous building materials in buildings proposed for demolition or reuse. While some flex blocks could be used for either residential or commercial purposes, both types of land uses would involve the same amount of building demolition and substantially the same amount of soil excavation. Therefore, the impacts would be substantially the same for the proposed project, maximum residential scenario, or maximum commercial scenario.

During project operations, new residential, commercial, recreational, and day care uses, could also result in exposure of future site users to hazardous materials in soil and soil vapors unless appropriate controls are implemented. In general, residential occupants of a site are considered more exposed to chemical risks than commercial occupants. This is because commercial or industrial users of a site generally occupy a site only during work hours while residential users may occupy the site for longer periods of time and consequently be exposed to the same hazardous materials for a longer period of time. In addition, residential users often include children who are more sensitive to chemical effects than adults. Further, PG&E will remediate the Power Station and PG&E sub-areas to cleanup standards for commercial and industrial land uses prior to construction of the proposed project. Therefore, the proposed project would result in a greater risk to human health if more flex blocks were developed for residential rather than commercial or industrial uses.

Methodology for Analysis of Construction Impacts

The analysis of construction-related impacts identifies hazardous materials that may be used during construction and the potential that people or the environment may be exposed to those materials during construction. Project construction could result in exposure to hazardous materials in the soil and groundwater (including via soil vapor) during excavation activities, and a release of hazardous building materials could occur during building demolition or renovation.

With respect to the use, transport, or disposal of hazardous materials, these activities would be of limited duration during construction, and hazardous materials would not be used on a long-term or routine basis during the construction period. This analysis assumes that the proposed project would comply with applicable regulations for the use of hazardous materials during construction, including the Construction General Stormwater Permit and regulatory requirements for the use of explosives. The impact analysis also assumes that the management of hazardous building materials during building demolition and renovation would be conducted in accordance with air district Rule 11, Regulation 2; San Francisco Existing Building Code, section 327; the CalOSHA Lead in Construction Standard; and disposal requirements for universal wastes. The analysis evaluates whether compliance with these regulations would ensure that impacts related to the use of hazardous materials during construction would be less than significant.

With respect to exposure to hazardous materials in the soil and groundwater, the impact analysis assumes that all construction activities would comply with the following regulatory requirements: applicable risk management plans approved by the regional board and/or the health department; local regulations, including articles 22A and 22B of the health code; the air district Asbestos Airborne Toxic Control Measure; the state board General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (Construction General Stormwater Permit); and article 4.1 of the San Francisco Public Works Code, Part 146. The analysis evaluates whether compliance with these requirements would ensure that impacts related to exposure to hazardous materials in the soil and groundwater during construction would be less than significant.

Methodology for Analysis of Operational Impacts

Operational effects of the proposed project would primarily be related to the use of hazardous materials for routine maintenance and additional hazardous materials use for life science and R&D purposes; the potential to encounter hazardous materials in the soil, groundwater, and soil vapor once construction is completed and the proposed land uses are activated; and the potential for increased fire hazards and interference with an emergency response plan.

The impact analysis assumes that all hazardous materials use during the operation of the project would comply with applicable regulations, including articles 21, 22, and 25 of the health code for the handling of hazardous materials, hazardous wastes, and medical wastes.

With respect to the potential to encounter hazardous materials in the soil, groundwater, and soil vapor during project operations, the impact analysis assumes that PG&E has or will implement regional board approved remediation plans and prepare an approved risk management plan to ensure that each of the remediation areas of the Power Station and PG&E sub-areas are suitable for commercial and industrial land uses. However, the project may develop residential land uses on all of the remediation areas and could develop hotel uses at Block 9 and the Unit 3 Power Block. Day care facilities and recreational areas may also be constructed. The analysis considers whether implementation of applicable regulatory requirements would ensure that potential health risks related to these more sensitive land uses would be less than significant. PG&E is not responsible for remediating the Port, City, and Southern sub-areas; therefore, the analysis for these areas considers applicable regulatory requirements, including compliance with article 22A of the health code.

Similarly, the impact analysis assumes that the project would comply with the San Francisco Building and Fire codes which address impacts related to fire hazards and impairment or interference with an adopted emergency response plan or emergency evacuation plan.

Methodology for Analysis of Cumulative Impacts

Impacts from hazards and hazardous materials are generally site specific, and do not result in cumulative impacts unless the potentially cumulative projects are near one another. Accordingly, the geographic scope of potential hazards and hazardous materials-related impacts is limited to the project site and adjacent sites. The cumulative analysis utilizes a list-based approach to analyze the potential for cumulative physical effects of the project in combination with past, present, and reasonably foreseeable future projects in the immediate vicinity. Similar to the analysis for project impacts, the cumulative impact analysis assumes that construction and operations of other projects in the immediate vicinity, such as PG&E's remediation activities in the Offshore Sediment area and at the Pier 70 Mixed-Use District project area adjacent to the project site, would also comply with applicable regulations, including the Construction General Stormwater Permit; articles 21, 22, 22A, 22B, and 25 of the health code; air district Rule 11, Regulation 2; section 327 of the San Francisco Existing Building Code; the CalOSHA Lead in Construction Standard; disposal requirements for universal wastes; and the San Francisco Building and Fire Codes. The analysis considers whether or not there would be a significant, adverse cumulative impact associated with project implementation in combination with past, present, and reasonably foreseeable future projects in

the immediate vicinity, and if so, whether or not the project's contribution to the cumulative impact would be significant (i.e., cumulatively considerable).

Impact Evaluation

Impact HZ-1: Construction and operation of the proposed project would not create a significant hazard through routine transport, use, or disposal of hazardous materials. (*Less than Significant*)

The proposed project would use hazardous materials during both construction and operation, and could use explosives for controlled rock fragmentation during construction. Impacts related to this use are discussed below along with regulations that are in place to ensure that impacts related to the use of hazardous materials would be less than significant.

Construction

During construction of the proposed project, diesel fuel and hazardous materials such as paints, fuels, solvents, and adhesives would be used. An inadvertent release of large quantities of these materials into the environment could adversely affect soil and bay water quality. As described in Section 4.J, Hydrology and Water Quality, the proposed project would be subject to the Construction General Stormwater Permit issued by the regional board, and an Erosion Control Plan would be required under article 4.1 of the San Francisco Public Works Code. In accordance with these regulatory requirements, the project sponsor would also be required to prepare and implement a Storm Water Pollution Prevention Plan and Erosion Control Plan to minimize construction-related water quality impacts.

The Storm Water Pollution Prevention Plan and Erosion Control Plan would identify hazardous materials sources within the construction area and recommend site-specific best management practices (i.e., stormwater controls) to prevent discharge of these materials into stormwater and bay waters. The minimum best management practices that would be required include: maintaining an inventory of materials used onsite; storing chemicals in water-tight containers protected from rain; developing a spill response plan and procedures to address hazardous and nonhazardous spills; maintaining spill cleanup equipment onsite; assigning and training spill response personnel; and preventing leaked oil, grease, and fuel from equipment from entering the storm drain or bay. Per the Construction General Stormwater Permit, the project sponsor must ensure that the construction site is visually inspected weekly, and daily during rain events, and must implement corrective actions if any shortcomings are identified. If a discharge of pollutants to the bay were indicated, the discharge would be sampled in accordance with the General Construction Stormwater Permit.

During construction, the contractor could also use explosives for controlled rock fragmentation in locations where the Franciscan bedrock is not rippable with standard excavation equipment. Under section 776 of the Public Works Code (described in Section 4.K.3, Regulatory Framework above, under "San Francisco Public Works Code – Blasting," p. 4.K-38), the contractor would obtain a permit for the use of explosives from San Francisco Public Works. While the rock fragmentation is occurring, the contractor would use and store the explosives in accordance with the California

General Industry Safety Order for Explosives (described in the Regulatory Framework above, under “Transport, Use, and Storage of Explosive Materials”), which would ensure that they are stored in the appropriate type of magazine protected from damage, and that they would not be inappropriately or accidentally ignited. Compliance with these regulations would ensure the safe handling and use of explosives during construction.

Further, the vendors and contractors responsible for delivery of hazardous materials would be required to comply with the regulations of the California Highway Patrol and the California Department of Transportation related to the transportation of hazardous materials during construction (described above under “State Regulations,” p. 4.K-29).

With implementation of these regulatory requirements, including any applicable future updates, impacts related to the routine use, transport, and disposal of hazardous materials during construction would be *less than significant*.

Operation

Commercial businesses, offices, restaurants, hotel, and residential uses would use common types of hazardous materials such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of public use and residential areas, commercial bathrooms, and food preparation areas. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. When tenant spaces are maintained, remodeled, or sold, the maintenance and renovation activities would also include the use of paints, glues, and other materials similar to those used during construction. Life science and R&D uses could involve the use of other hazardous materials for research purposes that may be toxic, flammable, ignitable, reactive, oxidizing, or explosive. Operations, including proposed commercial and retail uses, may also result in the production of minor amounts of hazardous waste requiring offsite disposition such as disposal or recycling. Life science and R&D uses could also produce medical wastes.

In addition, as described in Section 4.G, Air Quality, 12 parcels would include buildings with back-up generators (14 generators total), and the proposed wastewater pump station would also include an emergency generator. All back-up generators would operate in emergency situations and would be periodically tested. The generators would use diesel fuel.

However, as described above under “Local Regulations,” the use and storage of hazardous materials during project operations would comply with the requirements of article 21 of the health code, and the management of hazardous wastes would be conducted in accordance with article 22 of the health code, which provides for the safe handling of hazardous materials and wastes in San Francisco. Life science and R&D uses that generate medical wastes would be required to manage these wastes in accordance with article 25 of the health code.

Under article 21, any facility that handles hazardous materials, including hazardous wastes, in excess of specified quantities would be required to obtain a Certificate of Registration from the San Francisco Department of Public Health and to implement a hazardous materials business plan that includes inventories, a program for reducing the use of hazardous materials and generation of hazardous wastes, site layouts, a program and implementation plan for training all new employees

and annual training for all employees, and emergency response procedures and plans. Under article 22 of the health code, generators of hazardous waste must pay an annual fee to the health department, based on the quantity of hazardous wastes generated annually. Under article 25, medical waste generators would also obtain a permit from the health department, file a medical waste management plan, and maintain individual treatment and tracking records. The medical waste generator would also have an emergency action plan and waste transporters must be appropriately licensed.

Further, the vendors responsible for delivery of hazardous materials would comply with the regulations of the California Highway Patrol and the California Department of Transportation related to the transportation of hazardous materials during construction (described above under "State Regulations").

With implementation of these regulatory requirements, including any applicable future updates, impacts related to the routine use, transport, and disposal of hazardous materials during operation would be *less than significant*.

Mitigation: None required.

Impact HZ-2: Demolition and renovation of buildings during construction would not expose workers or the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, di (2-ethylhexyl) phthalate (DEHP), and mercury, or result in a release of these materials into the environment. (*Less than Significant*)

Construction

As described in Chapter 2, Project Description, the project would rehabilitate and convert the Unit 3 power block and Stack for a new purpose such as a hotel and retail uses. Alternatively, Block 9 could be improved with a residential use instead of a hotel, in which case, the Unit 3 power block would be demolished. The project would also demolish approximately 20 buildings and structures on the project site. All of these buildings were constructed as part of the historical power generating and industrial activities at the project site. Based on their age, hazardous building materials may have been used in their construction. In all cases the Stack would be preserved. No PCB-containing transformers currently remain on the project site.

Workers and the public could be exposed to hazardous building materials if they are not removed or abated prior to demolition or renovation of the existing buildings and utility systems. However, as described above under "State Regulations" and "Local Regulations," there is a well-established regulatory process that must be followed for ensuring adequate abatement of these materials prior to building demolition or renovation.

Asbestos-Containing Materials

In accordance with air district Regulation 11, Rule 2 (discussed above under “State Regulations”), the project sponsor would be required to retain a qualified contractor to survey each building scheduled for demolition or renovation and each utility system planned for demolition in order to identify asbestos-containing materials. If asbestos-containing materials are identified, the project sponsor would retain a qualified asbestos removal contractor certified as such by the Contractors State License Board to remove the regulated materials prior to demolition or alteration activities. During removal activities, the contractor would implement controls to ensure that there are no visible asbestos emissions to the outside air. This may include methods such as wetting exposed asbestos-containing materials or providing exhaust controls to prevent asbestos emissions from being released to the outside air; and constructing containment barrier(s) around the building(s) and maintaining negative air pressure within the containment barrier(s). The removal activities would be conducted in accordance with the state regulations contained in Title 8 of the California Code of Regulations, section 1529, and Title 8 of the California Code of Regulations, sections 341.6 through 341.17. Pursuant to California law, the building department would not issue the building demolition or renovation permit until the project sponsor has complied with the notice and abatement requirements described above.

Compliance with the regulatory requirements described above and implementation of the required procedures prior to building demolition or renovation would ensure that potential impacts due to demolition or renovation of structures with asbestos-containing materials would be *less than significant*.

Lead-Based Paint

Because all of the buildings that would be demolished or renovated were constructed prior to 1979, and could contain lead-based paint, the project sponsor would be required to implement the requirements of section 327 of the San Francisco Existing Building Code, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures (described above under “Local Regulations”). Accordingly, the project sponsor would retain a qualified contractor to abate the lead-based paint prior to demolition or renovation of any building(s). Prior to demolition or renovation, the contractor would provide required notifications. During demolition, the contractor would establish containment barriers that are at least as effective at protecting human health and the environment as those in the U.S. Department of Housing and Urban Development Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards); protect the ground from contamination during exterior work; protect floors and other horizontal surfaces from work debris during interior work; and make all reasonable efforts to prevent migration of lead paint beyond containment barriers during the course of the work. At the completion of abatement activities, the contractor would demonstrate compliance with the clean-up standards of section 327 that require removal of visible work debris, including the use of a high efficiency particulate air vacuum following interior work. Pursuant to section 327, the building department would not issue the building demolition or renovation permit until the project sponsor has complied with the requirements described above.

Demolition of other structures that include lead-containing materials, and the renovation of the Unit 3 Power Block, could also result in exposure of workers and the public to lead. However, these

activities would be subject to the CalOSHA Lead in Construction Standard (Title 8 of the California Code of Regulations, section 1532.1) described above under "State Regulations." This standard requires development and implementation of a lead compliance plan when materials containing lead would be disturbed during construction. The plan must describe activities that could emit lead, methods that will be used to comply with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. Measures to reduce and maintain low levels of worker exposure to lead include implementing good housekeeping practices, providing adequate hand and face washing facilities, providing worker training, and using proper respirators. CalOSHA would require 24-hour notification if more than 100 square feet of materials containing lead would be disturbed.

Any lead-based paint during abatement activities would be consolidated and disposed of at a permitted facility in accordance with applicable law. Implementation of procedures required by section 327 of the San Francisco Existing Building Code and the Lead in Construction Standard, along with legal disposal of the lead-based paint by the project sponsor, would ensure that potential impacts related to demolition or renovation of structures with lead-based paint would be *less than significant*.

Other Hazardous Building Materials

Other hazardous building materials that are likely present within the buildings to be demolished or renovated include fluorescent light ballasts that could contain PCBs or DEHP; fluorescent lamps that contain mercury vapors; electrical switches and thermostats that could also contain mercury or PCBs; and caulking or paints that could contain PCBs. Disruption or disturbance of these materials could pose health threats for construction workers if not properly disposed of. However, prior to demolition or renovation, the project sponsor, through its contractor, would remove these items and dispose of them in accordance with the established regulations described above under "State Regulations." Therefore, through compliance with regulatory requirements, impacts related to exposure to PCBs, DEHP, and mercury in these materials would be *less than significant*.

Operation

The Unit 3 Power Block could be renovated and reused under the proposed project. This structure could contain asbestos-containing materials and lead-based paint as well as other hazardous building materials such as fluorescent lamps, PCB-containing light ballasts, and mercury switches and thermostats. However, these materials would be required to be abated and/or removed during the construction phase of the proposed project, prior to reuse of Unit 3, as discussed above. Therefore, site occupants and the public would not be exposed to hazardous building materials during operation of the proposed project, and this impact would be *less than significant*.

Mitigation: None required.

Impact HZ-3: Project development within the Power Station and PG&E sub-areas would be conducted on a site included on a government list of hazardous materials sites, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Less than Significant*)

As discussed in the Environmental Setting, both the Power Station and PG&E sub-areas are identified in numerous environmental databases. In addition, environmental investigations have identified chemicals of concern such as polynuclear aromatic hydrocarbons, PCBs, petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylenes; and metals in both sub-areas. Methane was detected at a maximum concentration of 20.8 percent in the Northeast remediation area of the Power Station sub-area and naturally occurring asbestos is present in the fill materials and bedrock throughout the site. The discussion below analyzes impacts related to exposure to these materials during construction and operation of the proposed project. Operational impacts are discussed first because as described above under "Overview of Site Remediation Process," the human health risk assessment and risk management plan governing hazardous materials control measures are largely based on proposed future land uses.

Operation

Independent of the proposed project, PG&E has implemented or will implement remediation plans that require approval by the regional board. PG&E is responsible for preparing risk management plans for each remediation area that are designed to ensure that each of the remediation areas of the Power Station and PG&E sub-areas are suitable for commercial and industrial land uses. The risk management plans are subject to approval by the regional board, and the land use covenant on each sub-area will require implementation of the specified risk management measures and also restrict future land uses to commercial and industrial. Residential, hospital, day care, and school uses will be prohibited in both sub-areas without further risk assessments and implementation of the necessary measures to reduce risks related to these sensitive land uses. The 2016 PG&E Restrictions that applies to the Power Station sub-area specify the requirements for approval of additional land uses that may occur on the project site.

The project would develop residential land uses within both the Power Station and PG&E sub-areas and could develop hotel uses on Block 9. Child care uses may also be implemented. Once the site is developed, site occupants, visitors, and maintenance workers could be exposed to hazardous materials in the soil and future residents could potentially be exposed to chemicals in the soil vapors as a result of vapor intrusion. However, potential health risks related to these more sensitive land uses would be addressed by the project sponsor through development of a risk evaluation as required by the 2016 PG&E Restrictions for the Power Station sub-area and the January 2012 Site Management Plan for the PG&E sub-area. The regional board may require additional sampling to complete the risk evaluation.

If the risk evaluation demonstrates that there would be unacceptable health risks (i.e., greater than one in a million incremental cancer risk or a non-cancer hazard index greater than 1) under the proposed land uses, the project sponsor would be required to conduct site remediation and/or incorporate measures into the building and site designs to minimize or eliminate site risks. As

described above under Setting, consistent with the 2016 PG&E Restrictions, the project sponsor would also be required to implement measures to control the intrusion of methane vapors into all building designs. Example remedial activities and potential site design features to manage site risks could include localized soil excavation and offsite disposal, localized in-situ soil stabilization, soil vapor mitigation (e.g., sub-slab venting systems), more robust durable cover specifications, and/or more robust monitoring and maintenance activities.

If the risk evaluation relies on engineering controls (site design features) to reduce site risks under the proposed land uses, the project sponsor would be required to prepare and implement a risk management plan specifying measures to minimize or eliminate exposure pathways to chemicals in the soil and groundwater, and achieve health-based goals (an excess cancer risk of one in a million and a hazard index of 1). At a minimum, the risk management plan would include:

- Regulatory-approved cleanup levels for the proposed land uses;
- A description of existing conditions, including a comparison of site data to regulatory-approved cleanup levels;
- Regulatory oversight responsibilities and notification requirements;
- Post-development risk management measures, including management measures for the maintenance of engineering controls (e.g., durable covers, vapor mitigation systems) and site maintenance activities that could encounter contaminated soil;
- Monitoring and reporting requirements; and
- An operations and maintenance plan, including annual inspection requirements.

The risk management plan, if determined to be necessary, would be submitted to the regional board for review and approval prior to the start of ground disturbance, and it would also include the construction measures discussed below.

If the risk evaluation demonstrates that risks would be within acceptable levels (less than one in a million incremental cancer risk or a non-cancer hazard index less than 1) under a project-specific development scenario, no risk management plan would be required.

The risk evaluation, remedial measures (if required), proposed site design, and risk management plan would be reviewed and approved by the regional board. A land use covenant would be executed, which would require implementation of the risk management measures and also would restrict future uses of the project site, as appropriate.

In addition, the permanent land use restrictions in the 2016 PG&E Restrictions would continue to apply to the Power Station sub-area. Specifically, single family residences and use of groundwater for domestic purposes would be prohibited in the Power Station sub-area.

On the basis of the information provided above, with the implementation of applicable requirements of the 2016 PG&E Restrictions for the Power Station sub-area and the January 2012 Site Management Plan for the PG&E sub-area and any subsequent regulatory requirements,

impacts related to exposure to hazardous materials in the soil, groundwater, and soil vapor during operation in the Power Station and PG&E sub-areas would be *less than significant*.

Construction

During construction, including excavation for new structures and utilities, the public (including students and staff at nearby schools as well as occupants of offsite residences and developments on adjacent parcels) could be exposed to chemicals of concern through inhalation of airborne dust, contact with accumulated dust, and contaminated runoff, potentially resulting in adverse health effects. However, as discussed above and in the Environmental Setting, under "Potrero Power Station Sub-Area Land Use Covenant," prior to development of the project site, the project sponsor would be required to conduct a human health risk assessment for the proposed land uses; implement site design measures to control risks related to exposure to chemicals in soil, groundwater, and soil vapors; and implement a risk management plan.

Construction-related risk management measures in the risk management plan would describe actions to be implemented during construction and would provide for the protection of public health, including nearby schools and other sensitive receptors. The measures would also ensure appropriate disposition of soil and groundwater removed from the site. The specific construction-related measures would include:

- A project-specific health and safety plan;
- A description of required access controls;
- Soil management protocols for soil movement, soil stockpile management, and import of clean soil;
- A dust control plan specifying measures to be conducted in accordance with the California Air Resources Board Asbestos Air Toxics Control Measure for control of naturally occurring asbestos (Title 17 of California Code of Regulations, section 93105), article 22B of the San Francisco Health Code, and other applicable regulations;
- A stormwater pollution prevention control plan specifying measures to be conducted in accordance with the State Water Resources Control Board's *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ) and article 4.1 of the San Francisco Public Works Code;
- Parameters for determining the appropriate method of offsite soil disposal;
- A project-specific groundwater management plan for temporary dewatering;
- Risk management measures to minimize the potential for new utilities to become conduits for the spread of groundwater contamination;
- Appropriate design of underground pipelines to prevent the intrusion of groundwater or degradation of pipeline construction materials by chemicals in the soil or groundwater;
- Methods for restoring the integrity of the previously existing durable cover should any activities disturb the durable cover; and
- Protocols for unforeseen conditions.

The risk management plan and all subordinate plans prepared in accordance with the risk management plan would be submitted to the regional board for review and approval.

In the event that an equivalent document, such as an existing PG&E risk management plan, adequately addresses the above topics and has been approved by the regional board, the project sponsor may request approval from regional board to implement the equivalent document rather than prepare a separate risk management plan.

On the basis of the information provided above, with implementation of regulatory requirements described above, impacts related to exposure to hazardous materials in soil, groundwater, and soil vapors during construction in the Power Station and PG&E sub-areas would be *less than significant*.

Mitigation: None required.

Impact HZ-4: Construction and operation of developments within the Port, City, and Southern sub-areas could encounter hazardous materials in the soil and groundwater, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (*Less than Significant*)

Under the proposed project, the Port, City, and Southern sub-areas would not be developed for residential or commercial purposes. The western portion of the Port sub-area and all of the City and Southern sub-areas would be covered by 23rd Street. The shoreline portion of the Port sub-area would be developed as public open space. These areas were not part of the former Potrero Power Plant property and are not subject to the land use covenants that apply to that property. No sampling has been conducted to evaluate soil quality in these areas, with the exception of the shoreline portion of the Port property. However, based on their proximity to the former power plant, soil in these areas are likely to contain chemicals of potential concern such as polynuclear aromatic hydrocarbons; PCBs; petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylenes; and metals. The soil also is likely to contain naturally occurring asbestos and metals.

Development of these areas would be subject to article 22A of the health code (the Maher Ordinance), which is administered and overseen by the health department. Soil disturbance would also be subject to the requirements of the air district Asbestos Airborne Toxics Control Measure. Under article 22A of the health code, the project sponsor would retain the services of a qualified professional to prepare a site history report for the Port, City, and Southern sub-areas that meets the requirements of health code section 22.A.6. The site history report would determine the potential for hazardous materials to be present in the soil and groundwater and the level of exposure risk associated with the project. Based on that information, the project sponsor would conduct soil and/or groundwater sampling and analysis, if required by the health department. If such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor would submit a site mitigation plan to the health department or other appropriate state or federal agencies, and would remediate any site contamination in accordance with an approved site mitigation plan. The site mitigation plan would include measures for the

control of dust under article 22B of the health code. All required plans and reports would be prepared prior to construction and subject to review and approval by the health department. Any or all of the article 22A requirements may be waived by the health department, at its sole discretion, upon receipt of a Maher application for proposed soil disturbance activities in the Port, City, and Southern sub-areas.

The project sponsor has already initiated the Maher Ordinance application process with the health department. The current agreement with the health department is that an application would be submitted to cover the first two development phases. The application would then be amended for subsequent phases of development. The project sponsor has completed and submitted the initial application package to the health department. This package included all property within in the first two phases of development, including Station A, Power Generating Unit 3, City property along 23rd Street; and all Port property, excluding that area adjacent to the Northeast remediation area. The first amendment would include the Northeast area and the Port property adjacent to the Northeast area. The second amendment will include the balance of the property, namely the Tank Farm area and the PG&E sub-area.

Per the Asbestos Airborne Toxics Control Measure, the project sponsor would prepare an asbestos dust mitigation plan specifying measures that would be taken to ensure that no visible dust crosses the property boundary during construction. The project sponsor would submit the asbestos dust mitigation plan to the air district for approval prior to the beginning of construction, and the site operator would need to ensure the implementation of all specified dust mitigation measures throughout the construction project. In addition, the project sponsor would comply with any air district requirements for air monitoring for offsite migration of asbestos dust during construction activities and any changes to the plan on the basis of the air monitoring results. With implementation of the above regulatory requirements, impacts associated with exposure to hazardous materials in soil, groundwater, and soil vapors in the Port, City, and Southern sub-areas would be *less than significant* during both construction and operation.

Mitigation: None required.

Impact HZ-5: The proposed project would not handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Although construction activities would emit diesel particulate matter and naturally occurring asbestos, these emissions would not result in adverse effects on nearby schools. (*Less than Significant*)

Section 15186 of the CEQA Guidelines requires that the environmental document for projects that are located within one-quarter mile of a school address the use of extremely hazardous materials and hazardous air emissions. Certain consultation and notification requirements apply if either of these activities would result in a health or safety hazard to persons who would attend or work at a school. The proposed project would be located within one-quarter mile of La Scuola International School at 728 20th Street, the Dogpatch Alternative School (Site 1 and Site 2), located at 2265 3rd Street and at 610 20th Street, Potrero Kids Preschool, located at 810 Illinois Street, and

Friends of Potrero Hill Nursery School, located at 1060 Tennessee Street. The State of California defines extremely hazardous materials and other regulated substances in section 25532 (i) of the Health and Safety Code. Construction of the proposed project would only use common hazardous materials: paints, solvents, cements, adhesives, and petroleum products (such as asphalt, oil, and fuel). None of these materials is considered extremely hazardous under the state's definition. Further, extremely hazardous materials would not be used during operation of the project. Therefore, there is no impact related to the use of these materials within one-quarter mile of a school during either construction or operation of the proposed project.

Toxic air contaminants that constitute hazardous air emissions are listed in Title 17 of the California Code of Regulations, section 93000. As discussed in Section 4.G, Air Quality (Impact AQ-3), construction equipment and vehicular traffic would emit diesel particulate matter and fine particulate matter during construction. Additionally, emergency generators and vehicular traffic would emit diesel particulate matter, fine particulate matter, and some compounds or variations of reactive organic gases during operation. All of these compounds are toxic air contaminants. However, as summarized in Impact AQ-3 the health risk assessment conducted for the proposed project indicates excess cancer risks would be less than 10 in one million with implementation of air quality mitigation measures that would minimize construction and haul truck emissions; provide specifications for the design of the diesel backup generators; and include additional transportation demand management measures for the project. Therefore, for the purposes of this hazardous materials analysis, impacts related to the use of extremely hazardous materials and hazardous emissions within ¼ mile of a school would be *less than significant*.

As discussed in Impacts HZ-3 and HZ-4, construction activities throughout the project site would disturb rock and soil that contain naturally occurring asbestos. Asbestos is also considered a toxic air contaminant by the air board. However, the project sponsor would implement risk management plans for the project site. These risk management plans would include dust control measures in compliance with article 22B of the health code and the air district Asbestos Airborne Toxics Control Measure. Implementation of these measures, including the use of methods such as blasting mats⁷⁶ during controlled rock fragmentation, would ensure that no visible dust crosses the property boundary during construction, and would prevent adverse exposure of school occupants to airborne asbestos. Therefore, impacts related to emissions of toxic air contaminants within one-quarter mile of a school during construction would be *less than significant* and no mitigation is necessary.

Mitigation: None required.

⁷⁶ A blasting mat is a reinforced mat that can be used during rock blasting to contain the blast, prevent flying rock, and suppress dust.

Impact HZ-6: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving fires, nor would it impair implementation of or physically interfere with and adopted emergency response plan or emergency evacuation plan. (*Less than Significant*)

San Francisco ensures fire safety primarily through provisions of the San Francisco Building Code. Accordingly, the proposed development would be required to comply with the applicable sections of this building code, which requires several fire safety features, such as equipping the building with a fire protection system, constructing the building with noncombustible materials or with a fire-resistive design, and including fire walls, fire barriers, fire partitions, smoke barriers, and smoke partitions in the building. The final building plans would be reviewed by the San Francisco Fire Department of the San Francisco Department of Building Inspection to ensure conformance with these provisions. Consequently, the proposed project would not create a substantial fire hazard or increase the risk of fires above existing levels.

The proposed project could be subject to earthquake hazards as discussed in the initial study under geology and soils (see Appendix B of this EIR). Occupants of and visitors to the proposed development would increase the temporary and permanent localized population along the waterfront. This increased population could contribute to congestion if an emergency evacuation were required after a major earthquake or other emergency. Although not adopted by legislative action, the City has a published Emergency Response Plan, prepared by the Department of Emergency Management as part of the City's Emergency Management Program, which includes plans for hazard mitigation and disaster preparedness and recovery. The Emergency Response Plan contains 16 annexes (similar to appendices) that cover a number of emergency topics. The Earthquake Annex, in particular, sets forth planning assumptions for a series of earthquakes of varying magnitudes on different faults, and sets forth procedures for assessment of damage and injuries, as well as operational response strategies in the event of a major earthquake.

During a major earthquake, glass, and in some cases building cladding, may endanger those on the streets and sidewalks. However, the buildings that would be constructed under the proposed project would be subject to the most up-to-date building and structural standards, and this would reduce the potential for damage in the event of a major earthquake. Therefore, persons attending or living and working in and around the new buildings as well as those passing by would be relatively safer than those in some older existing buildings. The proposed project is required to include provisions for emergency response for visitors and residents of the completed project. These provisions would be integrated and be compatible with existing emergency response plans, and would neither obstruct implementation of the City's Emergency Response Plan, nor interfere with emergency evacuation planning. Through compliance with the existing codes and regulations noted above and implementation of project provisions for emergency response that account for and are compatible with the City's Emergency Response Plan, impacts related to interference with emergency response or evacuation plans would be *less than significant*, and no mitigation is necessary.

Mitigation: None required.

Cumulative Impacts

Impacts from hazards and hazardous materials are generally site-specific and do not result in cumulative impacts unless the cumulative projects are in close proximity to one another. Accordingly, the geographic scope of potential hazards and hazardous materials is limited to the project site and immediately adjacent sites. Thus, this analysis considers the impacts of the proposed project in combination with those of the Pier 70 Mixed Use District project directly to the north of the project site.

Impact C-HZ-1: The proposed project, in combination with other past, present or reasonably foreseeable future projects in the project vicinity, would not result in a considerable contribution to significant cumulative impacts related to hazards and hazardous materials. (Less than Significant)

As discussed above, the proposed project would not result in any significant impacts with respect to hazards or hazardous materials during construction or operation with implementation of and compliance with applicable regulatory requirements for hazardous materials. All cumulative development in San Francisco would be subject to the same regulatory framework as the project for the transport, use, and storage of hazardous materials (Impact HZ-1) as well as the abatement of hazardous building materials (Impact HZ-2). Compliance with these existing regulations would serve to ensure that cumulative impacts related to these topics are less than significant.

During construction, the proposed project could result in exposure to chemicals as well as naturally occurring asbestos and metals in soils (Impacts HZ-3, HZ-4, and HZ-5), and concurrent construction of cumulative projects adjacent to the project site could also encounter these materials on their sites. However, compliance with the San Francisco Dust Control ordinance (article 22B of the health code) and the Asbestos Airborne Toxics Control Measure by the proposed project and adjacent projects such as the Pier 70 Mixed-Use District project would ensure that the public, students and staff at nearby schools, and site occupants are not exposed to contaminated materials during construction such that there would be no cumulative impact. Therefore, cumulative impacts related to exposure to chemicals as well as naturally occurring asbestos and metals in soil during construction would be *less than significant*.

During operations, the proposed project could expose site occupants, workers, recreational users, and visitors to chemicals in the soil once the project is constructed. However, this project-level effect would be site specific and not result in a cumulative effect from adjacent projects because the same receptors would not be exposed to chemical risks from more than one site. Therefore, there would be no cumulative effects, and cumulative impacts related to exposure to chemicals in soil during operation would be *less than significant*.

With implementation of the City's Emergency Response Plan, which provides a framework for Citywide emergency planning, and compliance with the San Francisco Building Code by all projects, cumulative impacts related to increased fire risks and interference with or impedance of an emergency response plan would be *less than significant*.

For the reasons described above, overall, cumulative impacts related to hazards and hazardous materials would be *less than significant*.

Mitigation: None required.

CHAPTER 5

Other CEQA Considerations

5.A Growth Inducement

The CEQA Guidelines require that an EIR evaluate the growth-inducing impacts of a proposed action (section 15126.2(d)). A growth-inducing impact is defined in the CEQA Guidelines section 15126.2(d) as:

[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involved construction of new housing that would result in new residents moving to the area. A project can have indirect growth-inducement potential if it were to establish substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises) or if it were to involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it were to remove an obstacle to additional growth and development, such as removing a constraint on required public services, utilities, or infrastructure facility. Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The project site is primarily located within the Eastern Neighborhoods Priority Development Area (PDA), (which includes East SoMa, Western SoMa, the Mission District, Showplace Square and Potrero Hill, and the Central Waterfront), as well as partially within the Port of San Francisco Waterfront PDA. PDAs as identified in Plan Bay Area 2040 Final, call for an increasing percentage of Bay Area growth to occur as infill development in areas located near transit and where services necessary to daily living are provided in proximity to housing and jobs.¹ With its abundant transit

¹ Association of Bay Area Governments, Plan Bay Area, Priority Development Area Showcase. Available at <http://gis.abag.ca.gov/website/PDAShowcase/>, accessed May 1, 2018.

service and mixed-use neighborhoods, San Francisco is expected to accommodate an increasing share of future regional growth.

As stated under Section 4.C, Population and Housing, Impact PH-1, the addition of up to 3,014 new market-rate and affordable residential units under the maximum residential scenario would increase the residential population on the site by approximately 6,842 persons.² The population of San Francisco is projected to increase by 46 percent over a 30-year period to nearly 1,173,952 persons by 2040.³ The residential population introduced under the proposed project would constitute approximately 1.9 percent of this population increase; therefore, the population increase associated with the proposed project is accounted for within the planned growth for San Francisco.⁴ As also described in the Impact PH-1, the proposed retail/restaurant, office, commercial and entertainment uses on the project site would result in total employment of about 5,524 employees under the maximum office scenario, a substantial increase in onsite employment compared to the existing 20 employees.⁵ Therefore, the proposed project would increase new housing demand from employment; however, as addressed in Impact PH-1, this demand would be offset by the proposed housing units. Further, as addressed under their respective topics in the EIR, this project-related growth would be served by existing utilities, infrastructure, and public services. In summary, the increase in the residential and employment population on the project site would not result in a substantial or unplanned increase in the population of the project vicinity or the city.

The proposed project also would not indirectly induce substantial population growth in the project area because it would be located on an infill site in an urbanized area and would not involve any extensions of roads or other infrastructure that could enable additional development in currently undeveloped areas. Instead, the proposed project would implement a portion of the planned residential growth within the Eastern Neighborhoods Plan and the Central Waterfront as areas of San Francisco where future growth will be focused. Furthermore, this level of population growth can be accommodated under the City's existing zoning (height and bulk controls), and therefore the existing zoning controls for the project site are not a barrier to growth. Thus, the project would not induce growth by removing a barrier to growth, but would serve to concentrate growth in the project area instead of elsewhere in San Francisco. Based on this analysis, the project would not have a significant growth-inducing impact, and no mitigation is required.

² The Population and Housing analysis considers the "worst-case" scenario, which is the maximum residential scenario, while the proposed project would develop up to 2,682 new units.

³ Plan Bay Area 2040 does not provide a forecast of future population by city, while the 2013 Draft Plan Bay Area provides this detail. Therefore, by considering the 2013 Draft Plan Bay Area forecasts 447,800 households within 469,430 housing units in 2040, with a population of 1,085,730 (Table 14, page 42), this ratio can be applied to the Final Plan Bay Area 2040, which provides an updated forecast with San Francisco expected to have 483,700 households. Adhering to the same population generation rates, the Final Plan Bay Area 2040 forecasts of 483,700 households would be expected to result in approximately 507,600 housing units, with an overall population of 1,173,952.

⁴ The growth from 2010 to 2040 is an estimated 368,717 persons (from 805,235 in 2010). (6,842 project resident/368,717 new city residents = 1.85 percent)

⁵ Existing onsite employees are associated with the PG&E Subarea at the General Construction Yard (currently used by PG&E for storage and construction); temporary employees associated with hazardous material remediation; and temporary employees associated with the project applicant, California Barrel Company LLC.

5.B Significant and Unavoidable Environmental Impacts

CEQA Guidelines section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. As described in Chapter 5, the impacts listed below would be considered significant and unavoidable, even with implementation of feasible mitigation measures. With the exception of the impacts listed below, all other project impacts would be either less than significant or reduced to less-than-significant levels by implementation of the identified mitigation measures.

Historic Architectural Resources

- The proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources. Mitigation measures to prepare appropriate documentation of affected resources and to implement a public interpretation and salvage program would lessen the severity of the impact, but not to a less-than-significant level. (Impact CR-4)
- The proposed demolition of or substantial and adverse alteration to contributing buildings (Station A, the Gate House, the Meter House, the Compressor House, and the Unit 3 Power Block) would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources. Mitigation measures to prepare appropriate documentation of affected resources and to implement public interpretation and salvage program would lessen the severity of the impact, but not to a less-than-significant level. Proposed alterations to the Boiler Stack, however, could be mitigated to a less than significant level through a rehabilitation design that conforms to the Secretary of the Interior's Standards and implementation of a historic preservation plan and vibration control measures during construction. (Impact CR-5)
- The impacts of the proposed project, in combination with those of past, present, and reasonably foreseeable future projects, would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a significant cumulative impact. The project's contribution to this impact would be cumulatively considerable. Mitigation measures to prepare appropriate documentation of affected resources, to implement public interpretation and salvage program, to prepare and implement historic preservation plan and protective measures for alteration of the Boiler Stack, and to effect design controls for new construction within the Third Street Industrial District, would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-CR-2)

Transportation and Circulation

- The proposed project would result in a substantial increase in transit demand that could not be accommodated by nearby Muni transit capacity. Mitigation measures to increase capacity on affected Muni routes would lessen the severity of the impact, but not to a less-than-significant level. (Impact TR-4)
- The proposed project would result in a substantial increase in transit delays or operating costs such that significant adverse impacts to Muni would occur. Mitigation including measures to reduce transit delay would lessen the severity of the impact, but not to a less-than-significant level. (Impact TR-5)
- The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to

transit capacity utilization on Muni routes. Mitigation measures to increase capacity on affected Muni routes would reduce the severity of the impact, but not to a less-than-significant level. (Impact C-TR-4)

- The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni. Mitigation including measures to reduce transit delay and travel time impacts on a potential new Muni route would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-TR-5)

Noise and Vibration

- Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project. Mitigation including construction noise control measures and noise controls during pile driving and controlled rock fragmentation/rock drilling would lessen the severity of the impact, but not to a less-than-significant level. (Impact NO-2)
- Project traffic would result in a substantial permanent increase in ambient noise levels. Mitigation including measures to incorporate noise-attenuation features in the design of project buildings for sensitive uses at affected locations and to reduce transit delay, which in turn could reduce vehicle trips, would lessen the severity of the impact, but not to a less-than-significant level. (Impact NO-8)
- Construction of the proposed project, in combination with construction of other cumulative development, would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, due to overlapping construction activities in proximity to future planned offsite and proposed onsite receptors, resulting in a significant cumulative impact. The project's contribution to this impact would be cumulatively considerable. Mitigation including construction noise control measures and noise controls during pile driving and controlled rock fragmentation/rock drilling would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-NO-1)
- Operation of the proposed project, in combination with other cumulative development would cause a substantial permanent increase in ambient noise levels in the project vicinity due to cumulative traffic noise increases. Mitigation measures to reduce transit delay, which in turn could reduce vehicle trips, would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-NO-2)

Air Quality

- During project construction (including during construction phases that overlap with project operations), the proposed project would generate criteria air pollutants at levels that would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Mitigation measures to (1) minimize construction emissions for off- and on-road equipment and vehicles, (2) require emission reductions for diesel back-up generators, (3) promote use of green consumer products, (4) electrify loading docks, (5) implement measures to reduce transit delay, which in turn could reduce vehicle trips, (6) implement additional mobile source control measures, and (7) fund or implement a program that would offset the operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact AQ-2)

- During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Mitigation measures to (1) require emission reductions for diesel back-up generators, (2) promote use of green consumer products, (3) electrify loading docks, (4) implement measures to reduce transit delay, which in turn could reduce vehicle trips, and (5) fund or implement a program that would offset the operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact AQ-3)
- The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts. Mitigation measures to (1) minimize construction emissions for off- and on-road equipment and vehicles, (2) require emission reductions for diesel back-up generators, (3) promote use of green consumer products, (4) electrify loading docks, (5) implement measures to reduce transit delay, which in turn could reduce vehicle trips, (6) implement additional mobile source control measures, and (7) fund or implement a program that would offset the operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact C-AQ-1)

Wind

- The phased construction of the proposed project could alter wind in a manner that substantially affects public areas on or near the project site. Mitigation measures to identify and mitigate, if determined necessary, interim hazardous wind impacts would lessen the severity of the impact. However, due to unknowns associated with future interim wind conditions and/or the feasibility of interim wind reduction measures, this impact would remain significant and unavoidable, even with mitigation. (Impact WS-2)

5.C Irreversible and Irretrievable Commitments of Resources

In accordance with section 21100(b)(2)(B) of CEQA, and section 15126.2(c) of the CEQA Guidelines, an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. This may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. In general, such irreversible commitments include resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

Construction of the proposed project would require the use of energy, including energy produced from non - renewable resources, and energy would be consumed during the operational period of the proposed project. Construction would also require the commitment of construction materials, such as steel, aluminum, and other metals, concrete, masonry, lumber, sand and gravel, and other

such materials, as well as water. However, new buildings in California are required to conform to energy conservation standards specified in California Code of Regulations Title 24, which are among the most stringent in the United States. The standards establish energy budgets for different types of residential and nonresidential buildings with which all new buildings must comply. In addition, to ensure that all buildings are healthy, sustainable places to live, work, and learn, the San Francisco Green Building Code requirements are designed to reduce energy and water use, divert waste from landfills, encourage alternate modes of transportation, and support the health and comfort of building occupants in San Francisco. New construction in San Francisco must meet all applicable California and local building codes, provide onsite facilities for recycling and composting, and meet the City's green building requirements tied to the Leadership in Energy and Environmental Design (LEED) and GreenPoint Rated green building rating systems, all of which would ensure that natural resources are conserved or recycled to the maximum extent feasible and that greenhouse gas emissions resulting from the project would be minimized. Even with implementation of conservation measures, the consumption of natural resources, including electricity and natural gas, would generally increase with implementation of the proposed project. However, the proposed project would not involve the wasteful, inefficient, or unnecessary consumption of energy resources, as discussed in the initial study (see Appendix B). Overall, this development would be expected to use less energy and water over the lifetime of the proposed buildings than comparable structures not built to these same standards.

As further described in Appendix B, Initial Study, under Topic E.10, Utilities and Service Systems, Impact UT-1, while the proposed project would incrementally increase the demand for water in San Francisco, the estimated increase in demand would be accommodated within available water supplies and current water supply planning. While potable water use would increase, the proposed project would be designed to incorporate water-conserving measures, such as low-flush toilets and urinals, as required by the San Francisco Green Building Ordinance and the City's Non-potable Water Ordinance. During construction activities, water may be used for soil compaction and dust control activities. However, as discussed under Section 4.G, Air Quality, San Francisco Public Works Code Article 21 restricts the use of potable water for soil compaction and dust control activities undertaken in conjunction, unless permission is obtained from the San Francisco Public Utilities Commission. Therefore, while the consumption of water would increase as the result of construction and operation of the proposed project, the proposed project would not involve the wasteful, inefficient, or unnecessary use of water resources, as discussed in the initial study (see Appendix B).

Development of the proposed project, an infill project within a developed urban area, would not substantially alter the pattern of land use or transportation in the project vicinity and, therefore, would not commit future generations of the project site and vicinity to any particular land use or transportation pattern, nor would it mean that the project site could not be feasibly redeveloped again at some unknown date in the future.

5.D Areas of Known Controversy and Issues to Be Resolved

On November 1, 2017, the Planning Department issued a Notice of Preparation (NOP) of an EIR on the proposed Potrero Power Station Mixed-Use Development project and made the NOP available on its website. The NOP was sent to governmental agencies, organizations, and persons interested in the proposed project to initiate the 30-day public scoping period for this EIR, which started on November 1, 2017 and ended on December 1, 2017. A scoping meeting was held on November 15, 2017, to solicit comments on the scope of the EIR. The NOP and comments on the NOP are included in Appendix A of this document.

Based on the comments received, controversial issues for the proposed project include:

- Project land uses, consideration of alternate uses, and compatibility of land uses on parcels adjacent to Pier 70;
- Noise from construction, operational traffic, and generators on sensitive receptors;
- Impact from exposure to air pollutants during construction and operation on sensitive receptors;
- Wind and shadow impacts generated by the project and cumulatively by the project and Pier 70, with particular concern to recreation resources and the bay;
- The approach to the transportation impact analysis, reasons for the assumptions incorporated (specifically into mode share), employees by different income brackets and miles travelled, times of day and week studied, and cumulative projects considered;
- Impacts on transportation and circulation (including highways, arterial streets, local streets, transit stations and service, and emergency response);
- The project's assumptions and analysis for onsite parking demand and supply;
- Impacts associated with site remediation or management of soils during project construction;
- Project consistency with McAteer-Petris Act, Bay Plan, Coastal Zone Management Act, and with San Francisco Bay Conservation and Development Commission (BCDC) jurisdiction – including with respect to 100-foot shoreline band compliance, BCDC related permits, public access, remediation and sea level rise;
- Impacts to onsite historic buildings (including the Meter House, the Compressor House, Station A, and the Gate House) and consideration of their preservation and possibilities for reuse;
- Impacts related to affordable housing and jobs housing balance by the project;
- Financing, (including fair share contribution), monitoring, scheduling, and responsibility for implementation of mitigation measures; and
- Cumulative impacts of development of the project combined with development of other projects (including Pier 70), and development under other plans, in the vicinity.

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CHAPTER 6

Alternatives

6.A Introduction

This chapter presents the alternatives analysis as required by the California Environmental Quality Act (CEQA) for the proposed Potrero Power Station Mixed-Use Development project (proposed project). The discussion includes the methodology used to select alternatives to the proposed project for detailed CEQA analysis, with the intent of developing potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified for the proposed project while still meeting most of the project's basic objectives. This chapter identifies a reasonable range of alternatives that meet these criteria, and these alternatives are evaluated for their comparative merits with respect to minimizing adverse environmental effects. For the alternatives selected for detailed analysis, this chapter evaluates the alternatives' impacts against existing environmental conditions and compares the potential impacts of the alternatives with those of the proposed project. Based on this analysis, this chapter then identifies the environmentally superior alternative. Finally, other alternative concepts that were considered but eliminated from detailed consideration are described along with the reasons for their elimination.

6.A.1 CEQA Requirements for Alternatives Analysis

The CEQA Guidelines, section 15126.6(a), state that an environmental impact report (EIR) must describe and evaluate a reasonable range of alternatives to the proposed project that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

CEQA, the CEQA Guidelines, and the case law on the subject have found that feasibility can be based on a range of factors and influences. CEQA Guidelines, section 15364, defines "feasibility" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." CEQA Guidelines section 15126.6(f)(1) states that the factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (if the site is not already owned by the proponent).

The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Specifically, the CEQA Guidelines set forth the following criteria for selecting and evaluating alternatives:

- "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible." (section 15126.6[a])
- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (section 15126.6[b])
- "The range of potential alternatives shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." (section 15126.6[c])
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (section 15126.6[e][1])
- "The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making." (section 15126.6[f])

6.A.2 Organization of this Chapter

This chapter is divided into five main sections. Section 6.A is this introductory section. Section 6.B describes the basis for selecting the alternatives analyzed in this EIR; it reviews the project objectives, summarizes the significant impacts of the project that were identified in Chapter 4, and describes the alternatives screening and selection process. Section 6.C provides a detailed description of each of the selected alternatives and summarizes their ability to meet the project objectives.

Section 6.D presents the detailed alternatives analysis and evaluates the environmental impacts of each of the alternatives, compared to those of the proposed project and relative to each other; it is organized by resource topic and compares the impacts of the alternatives to the impacts of the proposed project and to one another. Section 6.D identifies the environmentally superior alternative. The last section, section 6.E, discusses alternative concepts considered but rejected from further study.

6.B Alternatives Selection

This section describes the basis for determining the range of CEQA alternatives and identifies the specific alternatives that are analyzed in this EIR.

6.B.1 Project Objectives

As presented in Chapter 2, Project Description, the project sponsor has identified 16 objectives of the project, which are reiterated below for use in the identification, selection, and evaluation of alternatives. As noted above, an EIR need only consider alternatives that would feasibly accomplish most of the project's basic objectives.

The project sponsor's objectives of the proposed project are to:

- Redevelop the former power plant site to provide a mix of residential, retail, office, Production, Distribution, and Repair (PDR), research and development (R&D) space, a hotel, and activated waterfront open spaces to support a daytime population in a vibrant neighborhood retail district and to provide employment opportunities within walking distance to residents of the surrounding neighborhood.
- Provide access to San Francisco Bay and create a pedestrian- and bicycle-friendly environment along the waterfront, by opening the eastern shore of the site to the public and extending the Bay Trail and the Blue Greenway.
- Provide active open space uses such as playing fields and a playground to improve access to sports, recreational, and playground facilities in the Dogpatch, Potrero Hill, and Bayview-Hunters Point neighborhoods and complement other nearby passive open space uses and parks in the Central Waterfront.
- Increase the city's supply of housing to contribute to meeting the San Francisco General Plan Housing Element goals, and the Association of Bay Area Governments' Regional Housing Needs Allocation for San Francisco by optimizing the number of dwelling units, particularly housing near transit.
- Attract a diversity of household types by providing dense, mixed-income housing, including below-market rate units.
- If Pacific Gas and Electric Company (PG&E) relocates its facilities in the PG&E sub-area, it would be redeveloped with community facilities, PDR, and housing in a fashion that provides continuity with the remainder of the project site and vicinity.
- Build a neighborhood resilient to projected levels of sea level rise and earthquakes.
- Incorporate the project and the anticipated adjacent Pier 70 Mixed-Use District project into a single neighborhood, by creating a network of streets and pedestrian pathways that connect to the street and pedestrian network.
- Create an iconic addition to the city's skyline as part of the Dogpatch neighborhood and the Central Waterfront.

- Provide opportunities for outdoor dining and gathering and create an active waterfront in the evening hours by encouraging ground floor retail and restaurant uses with outdoor seating along the waterfront.
- Build adequate parking and vehicular and loading access to serve the needs of project residents, workers, and visitors.
- Construct a substantial increment of new PDR uses in order to provide a diverse array of commercial and industrial opportunities in a dynamic mixed-use environment.
- Create a circulation and transportation system that emphasizes transit-oriented development and promotes the use of public transportation and car-sharing through an innovative and comprehensive demand management program.
- Demonstrate leadership in sustainable development by constructing improvements intended to reduce the neighborhood's per capita consumption of electricity, natural gas, and potable water, and generation of wastewater.
- Create a development that is financially feasible and that can fund the project's capital costs and on-going operation and maintenance costs relating to the redevelopment and long-term operation of the property.
- Construct a waterfront hotel use in order to provide both daytime and nighttime activity on the waterfront promenade.

6.B.2 Summary of Significant Impacts

As stated in the CEQA Guidelines, alternatives to a project selected for analysis in an EIR must substantially lessen or avoid any of the significant environmental impacts associated with the project. The following summarizes the conclusions for potentially significant and significant impacts identified in Chapter 4 of this EIR and in the initial study (see Appendix B).

6.B.2.1 Significant and Unavoidable Impacts

The proposed project was determined to have the following significant and unavoidable impacts, even with implementation of feasible mitigation measures, as described in detail in Chapter 4 of this EIR.

Historic Architectural Resources

- The proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources. Mitigation measures to prepare appropriate documentation of affected resources and to implement a public interpretation and salvage program would lessen the severity of the impact, but not to a less-than-significant level. (Impact CR-4)
- The proposed demolition of or substantial and adverse alteration to contributing buildings (Station A, the Gate House, the Meter House, the Compressor House, and Unit 3 Power Block) would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical

Resources. Mitigation measures to prepare appropriate documentation of affected resources and to implement public interpretation and salvage program would lessen the severity of the impact, but not to a less-than-significant level. Proposed alterations to the Boiler Stack, however, could be mitigated to a less than significant level through a rehabilitation design that conforms to the Secretary of the Interior's Standards and implementation of a historic preservation plan and vibration control measures during construction. (Impact CR-5)

- The impacts of the proposed project, in combination with those of past, present, and reasonably foreseeable future projects, would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a significant cumulative impact. The project's contribution to this impact would be cumulatively considerable. Mitigation measures to prepare appropriate documentation of affected resources, to implement public interpretation and salvage program, to prepare and implement historic preservation plan and protective measures for alteration of the Boiler Stack, and to effect design controls for new construction within the Third Street Industrial District would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-CR-2)

Transportation and Circulation

- The proposed project would result in a substantial increase in transit demand that could not be accommodated by nearby Muni transit capacity. Mitigation measures to increase capacity on affected Muni routes would lessen the severity of the impact, but not to a less-than-significant level. (Impact TR-4)
- The proposed project would result in a substantial increase in transit delays or operating costs such that significant adverse impacts to Muni would occur. Mitigation including measures to reduce transit delay would lessen the severity of the impact, but not to a less-than-significant level. (Impact TR-5)
- The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to transit capacity utilization on Muni routes. Mitigation measures to increase capacity on affected Muni routes would reduce the severity of the impact, but not to a less-than-significant level. (Impact C-TR-4)
- The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni. Mitigation including measures to reduce transit delay and travel time impacts on a potential new Muni route would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-TR-5)

Noise and Vibration

- Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project. Mitigation including construction noise control measures and noise controls during pile driving and controlled rock fragmentation/rock drilling would lessen the severity of the impact, but not to a less-than-significant level. (Impact NO-2)
- Project traffic would result in a substantial permanent increase in ambient noise levels. Mitigation including measures to incorporate noise-attenuation features in the design of

project buildings for sensitive uses at affected locations and to reduce transit delay, which in turn could reduce vehicle trips, would lessen the severity of the impact, but not to a less-than-significant level. (Impact NO-8)

- Construction of the proposed project, in combination with construction of other cumulative development, would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, due to overlapping construction activities in proximity to future planned offsite and proposed onsite receptors, resulting in a significant cumulative impact. The project's contribution to this impact would be cumulatively considerable. Mitigation including construction noise control measures and noise controls during pile driving and controlled rock fragmentation/rock drilling would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-NO-1)
- Operation of the proposed project, in combination with other cumulative development, would cause a substantial permanent increase in ambient noise levels in the project vicinity due to cumulative traffic noise increases. Mitigation including measures to reduce transit delay, which in turn could reduce vehicle trips, would lessen the severity of the impact, but not to a less-than-significant level. (Impact C-NO-2)

Air Quality

- During project construction (including during construction phases that overlap with project operations), the proposed project would generate criteria air pollutants at levels that would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Mitigation measures to (1) minimize construction emissions for off- and on-road equipment and vehicles, (2) require emission reductions for diesel back-up generators, (3) promote use of green consumer products, (4) electrify loading docks, (5) implement measures to reduce transit delay, which in turn could reduce vehicle trips, (6) implement additional mobile source control measures, and (7) fund or implement a program that would offset the operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact AQ-2)
- During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Mitigation measures to (1) require emission reductions for diesel back-up generators, (2) promote use of green consumer products, (3) electrify loading docks, (4) implement measures to reduce transit delay, which in turn could reduce vehicle trips, and (5) fund or implement a program that would offset the operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact AQ-3)
- The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts. Mitigation measures to (1) minimize construction emissions for off- and on-road equipment and vehicles, (2) require emission reductions for diesel back-up generators, (3) promote use of green consumer products, (4) electrify loading docks, (5) implement measures to reduce transit delay, which in turn could reduce vehicle trips, (6) implement additional mobile source control measures, and (7) fund or implement a program that would offset the

operational emissions would substantially lessen the severity of the impact. However, due to the unknowns associated with implementing an emission offset program, this impact is conservatively considered significant and unavoidable, with mitigation. (Impact C-AQ-1)

Wind

- The phased construction of the proposed project could alter wind in a manner that substantially affects public areas on or near the project site. Mitigation measures to identify and mitigate, if determined necessary, interim hazardous wind impacts would lessen the severity of the impact. However, due to unknowns associated with future interim wind conditions and/or the feasibility of interim wind reduction measures, this impact would remain significant and unavoidable, even with mitigation. (Impact WS-2)

6.B.2.2 Significant Impacts that can be Mitigated to Less than Significant

The proposed project was determined to have the following potentially significant impacts, all of which could be mitigated to a less-than-significant level with implementation of identified mitigation measures, as described in detail in Chapter 4 of this EIR and in the initial study (see Appendix B).

Archeological Resources

- The project could cause a substantial adverse change in the significance of an archeological resource. Mitigation measures to conduct archeological testing, monitoring, data recovery, and reporting, as necessary, would reduce this impact to less than significant. (Impact CR-1, initial study)
- The project could disturb human remains, including those interred outside of dedicated cemeteries. Mitigation measures to conduct testing, monitoring, data recovery, and reporting, as necessary, would reduce this impact to less than significant. (Impact CR-2, initial study)
- The project could result in a substantial adverse change in the significance of a tribal cultural resource as defined in CEQA section 21074. Mitigation measures to conduct archeological testing, monitoring, data recovery, and reporting as necessary as well as a tribal cultural resources interpretive program would reduce this impact to less than significant. (Impact CR-3, initial study)
- The proposed project in combination with past, present, and reasonably foreseeable future projects in the vicinity could result in cumulative impacts on archeological resources, human remains, and tribal cultural resources. Mitigation measures to conduct archeological testing, monitoring, data recovery, and reporting, as necessary, as well as a tribal cultural resources interpretive program would reduce this impact to less than significant. (Impact C-CR-1, initial study)

Historic Architectural Resources

- The proposed infill construction could materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources. Mitigation measures to effect design controls for new construction to ensure compatibility with the character of the Third Street Industrial District would reduce this impact to less than significant. (Impact CR-6)

Transportation and Circulation

- The proposed project would not create hazardous conditions for people walking, or otherwise interfere with accessibility for people walking to the site or adjoining areas, but existing pedestrian facilities could present barriers to accessible pedestrian travel. Mitigation measures to improve pedestrian facilities at the intersection of Illinois and 22nd streets would reduce this impact to less than significant. (Impact TR-7)

Noise and Vibration

- Project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies. Mitigation measures to implement a construction noise control measures would reduce this impact to less than significant. (Impact NO-1)
- Project construction would generate excessive groundborne vibration that could result in building damage. Mitigation including vibration control measures during use of vibratory equipment and during pile driving and controlled blasting would reduce this impact to less than significant. (Impact NO-4).
- Operation of the stationary equipment on the project site could result in a substantial permanent increase in ambient noise levels in the immediate project vicinity, and permanently expose noise-sensitive receptors to noise levels in excess of standards in the San Francisco Noise Ordinance. Mitigation measures to implement noise controls on stationary equipment would reduce this impact to less than significant. (Impact NO-5)

Air Quality

- Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, which could expose sensitive receptors to substantial pollutant concentrations. Mitigation measures to (1) minimize construction emissions for off- and on-road equipment and vehicles, (2) require emission reductions for diesel back-up generators, and (3) appropriately site future land uses that emit toxic air contaminants would reduce this impact to less than significant. (Impact AQ-4)
- The proposed project could conflict with implementation of the Bay Area 2017 Clean Air Plan. Mitigation measures to minimize construction emissions, to electrify loading docks, to implement measures to reduce transit delay, which in turn could reduce vehicle trips, and additional mobile source control measures, and to implement other applicable control measures from the Clean Air Plan would reduce this impact to less than significant. (Impact AQ-5)
- The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, could contribute to cumulative health risk impacts on sensitive receptors. Mitigation measures to minimize construction emissions for off- and on-road equipment and vehicles would reduce this impact to less than significant. (Impact C-AQ-2)

Biological Resources

- Construction of the proposed project could have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Mitigation measures to protect nesting birds prior to and during construction would reduce this impact to less than significant. (Impact BI-1)

- Construction of the proposed project could have a substantial adverse effect either directly or through habitat modification on bats identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U. S. Fish and Wildlife Service. Mitigation measures to avoid and minimize impacts on bats prior to and during construction would reduce this impact to less than significant. (Impact BI-3)
- Construction of the proposed project could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration. Mitigation measures to protect fish and marine mammals during pile driving would reduce this impact to less than significant. (Impact BI-4)
- Construction of the proposed project could have a substantial adverse effect on San Francisco Bay through direct removal, filling, hydrological interruption, or other means. Mitigation measures to compensate for fill of jurisdictional water as determined by the permitting agencies would reduce this impact to less than significant. (Impact BI-7)
- The proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Mitigation measures to protect nesting birds during construction and to protect fish and marine mammals during pile driving would reduce this impact to less than significant. (Impact BI-9)
- The proposed project, in combination with past, present, present, and reasonably foreseeable projects in the site vicinity, could result in a cumulatively considerable contribution to significant impacts on biological resources. Mitigation measures to protect nesting birds, bats, fish and marine mammals and to provide compensation for fill of jurisdictional waters would reduce this impact to less than significant. (Impact C-BI-1)

Paleontological Resources

- The proposed project could directly or indirectly destroy a unique paleontological resource or site. Mitigation measures to conduct paleontological resources and mitigation as required would reduce this impact to less than significant. (Impact GE-6, initial study)

6.B.3 Alternatives Screening and Selection

6.B.3.1 Alternatives Screening

In accordance with CEQA Guidelines section 15126.6(a), this project-level EIR examines a reasonable range of alternatives to the proposed project or to the location of the project. An alternative selected for analysis must meet three criteria: (1) the alternative would attain *most* of the project's basic objectives; (2) the alternative would *avoid or substantially lessen* the significant environmental impacts of the proposed project; and (3) the alternative must be potentially *feasible*. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster informed decision-making and public participation.

Screening Process

The alternatives selection process for the proposed project was based on first identifying strategies that would avoid or lessen the significant impacts identified above, with focus on strategies that address the significant and unavoidable impacts of the proposed project. In most cases where impacts were determined to be less than significant with mitigation, alternative strategies were not warranted because feasible and effective mitigation measures have been identified for avoiding or substantially lessening those impacts.

The alternative strategies were then reviewed for their feasibility, and the potentially feasible strategies were then screened for their ability to meet most of the project objectives. This process resulted in the development of the final project alternatives that were determined to represent a reasonable range of alternatives as described and analyzed in this EIR. As described below, the alternatives selected for detailed analysis include a comprehensive range of historic preservation alternatives—including two full preservation alternatives and four partial preservation alternatives—in combination with a range of reduced development programs. The full preservation alternatives include one with a substantially reduced development program and one with a development program very similar to that of the proposed project, while the four partial preservation alternatives include slight reductions and variations to the development under the proposed project.

Strategies to Avoid or Lessen Significant Impacts

All of the significant and unavoidable impacts identified for the proposed project, as summarized above, can be broken down into the following categories with respect to strategies for avoiding or lessening impacts related to:

- demolition and/or alteration of historic buildings
- increase in transit demand
- noise and air quality effects of construction activities
- increase in vehicles on local roadways (noise, air quality, transit operation impacts)
- increase in operational sources of air emissions (area, stationary, and energy sources)
- construction phasing (potential interim wind hazards)

These strategies were then used to formulate alternatives for analysis in this chapter.

Alternative Strategy to Address Impacts on Historic Architectural Resources

Impacts on historic architectural resources would be avoided or substantially lessened by retaining all or some of the historic resources proposed for demolition and rehabilitating them consistent with the Secretary of the Interior's Standards for Rehabilitation. In March 2018, Page & Turnbull prepared *Potrero Power Station Mixed-Use Development Project Preservation Alternatives Report*,¹ which developed and analyzed a range of project alternatives that would either fully or partially preserve

¹ Page & Turnbull, *Potrero Power Station Mixed-Use Development Project, Preservation Alternatives Report*, San Francisco, California, Prepared for Associate Capital, March 9, 2018.

the historic architectural resources located on the project site. Based on the information in this report, this chapter analyzes two full preservation alternatives and four partial preservation alternatives, which are described and analyzed in detail below. One of the full preservation alternatives is a variation of the full preservation alternative presented in the Page & Turnbull report. This alternative was revised at the direction of the Architectural Review Committee (ARC) of the San Francisco Historic Preservation Commission from the initial Page & Turnbull concept to accommodate a very similar development program to that of the proposed project. The other full preservation alternative entails approximately one-third less overall development than the proposed project, as described further below. Additional details were added to partial preservation alternative 4 at the direction of the ARC. The remaining three partial preservation alternatives are based on the Page & Turnbull report, with minor modifications.

Alternative Strategy to Address Transportation, Noise, and Air Quality Impacts

The significant and unavoidable transportation, noise, and air quality impacts all relate to the operational effects associated with the magnitude and nature of the proposed development; significant and unavoidable noise and air quality impacts also relate to construction activities. Long-term development of over 5 million gross square feet of residential, commercial, and other land uses would introduce over 6,000 new residents and over 5,000 new employees to the project site. As described in Chapter 4, this would generate increases in demand for transit that would exceed capacity thresholds as well as increases in vehicles on local roadways that would affect transit operations and generate noise and criteria air pollutant emissions that would also exceed applicable thresholds. In addition to the mobile sources of air pollutant emissions, stationary and area sources associated with long-term operation of the proposed project (e.g., emergency diesel generators, landscaping equipment, architectural coatings, and consumer products) would generate criteria air pollutant emissions that together with the mobile sources would exceed thresholds for ozone precursors, even with mitigation.

One strategy to reduce these construction and operational impacts is to reduce the magnitude of the development, which in turn could reduce the magnitude and duration of construction as well as the gross square footage of development, the number of new residents and employees, and the associated number of vehicle trips. While this strategy would compromise some of the project's objectives, it could, depending on the degree of reduced development, substantially reduce the severity of the proposed project's significant and unavoidable transportation, noise, and air quality impacts.

As discussed in Section 6.C, below, all of the alternatives selected for detailed analysis represent some degree of reduced development compared to the proposed project. However, the No Project/Code Compliant Alternative (73 percent reduction in gross square feet) and the Full Preservation/Reduced Program Alternative (34 percent reduction in gross square feet) are the two alternatives most likely to substantially reduce the significant and unavoidable transportation, noise, and air quality impacts. These alternatives are described and analyzed in detail below.

Alternative Strategy to Address Interim Wind Hazards

As described in Chapter 4, Section 4.H, the phased construction of the proposed project could result in temporary wind conditions that exceed wind hazards thresholds. At full buildout, the proposed

project would generally improve wind conditions somewhat on the project site, compared to existing conditions, and the project's effect on pedestrian-level wind speeds would be less than significant. However, during the lengthy construction period, a particular building configuration resulting from development of one or more individual structures could result in localized wind conditions that would be worse than are reported for the project as a whole. Because the wind modeling conducted for the project did not consider every permutation of partial buildout scenarios, this EIR conservatively assumes such impacts to be significant. Furthermore, in addition to the unknown wind hazards during partial buildout, the feasibility and effectiveness of interim wind-reduction measures are also unknown. Therefore, this impact was determined to be significant and unavoidable.

No feasible alternative strategies that would meet most of the basic project objectives are available that would substantially reduce or avoid this impact, because the size of the project site requires that construction be conducted in phases and over an extended, multi-year construction period. Mitigation Measure M-WS-2, Identification and Mitigation of Interim Hazardous Wind Impacts, that was identified in Chapter 4, Section 4.H, is the only feasible approach to avoiding or substantially lessening the severity of this potential impact, and even with this mitigation measure, the impact would remain significant and unavoidable due to the uncertain nature of the impacts at any particular stage of construction. Thus, none of the alternatives described and analyzed below other than Alternative A, No Project/Code Compliant Alternative, address this impact, and this same significant and unavoidable impact could potentially occur under all of the other alternatives selected for detailed analysis.

6.C Descriptions of Alternatives Selected for Analysis

Based on the screening process described above, the following seven alternatives were selected for detailed analysis in this EIR:

- Alternative A: No Project/Code Compliant Alternative
- Alternative B: Full Preservation/Reduced Program Alternative
- Alternative C: Full Preservation/Similar Program Alternative
- Alternative D: Partial Preservation 1 Alternative
- Alternative E: Partial Preservation 2 Alternative
- Alternative F: Partial Preservation 3 Alternative
- Alternative G: Partial Preservation 4 Alternative

These seven alternatives were determined to adequately represent the range of potentially feasible alternatives required under CEQA for this project. These alternatives would lessen, and in some cases avoid, significant and unavoidable adverse impacts related to historic architectural resources, transportation, air quality, and noise that were identified for the proposed project. A "no project alternative" is included as Alternative A, as required by CEQA, even though it would not meet the basic project objectives.

Alternatives B through G are all potentially feasible options that would meet most of the basic project objectives to varying degrees; these six alternatives are all full or partial preservation alternatives; the descriptions and assumptions are based mainly on the alternatives presented in the *Preservation Alternatives Report* prepared by Page & Turnbull.² However, Alternative B, Full Preservation/Reduced Program Alternative, is not discussed in the Page & Turnbull report but was developed specifically for this EIR alternatives analysis. Alternative C, Full Preservation/Similar Program Alternative, is also not explicitly discussed in the Page & Turnbull report but is a slight variation of one of the full preservation alternatives in that report. Other alternatives considered in the Page & Turnbull report, but not carried forward for detailed analysis and the reasons they were not carried forward, are described in Section 6.E, below.

Table 6-1, Characteristics of Proposed Project and Alternatives, summarizes and compares the characteristics of the proposed project with those of Alternatives A through G. For comparison purposes, **Figure 6-1, Proposed Project**, depicts the proposed project from an oblique aerial perspective showing the proposed land uses and building massing; **Figures 6-2 through 6-8** depict the seven alternatives from a similar perspective. **Table 6-2, Summary of Ability of Alternatives to Meet Project Objectives**, summarizes the ability of each of the alternatives to meet the project objectives.

Detailed descriptions of each alternative are presented below, including the assumptions used in analyzing their environmental impacts. For each alternative, the descriptions include the land use plan, historic resources and transportation features, travel demand assumptions, and construction assumptions. Based on the same methodology used for the proposed project, **Table 6-3, Proposed Project and Project Alternatives Person Trip Generation by Time Period**, presents the travel demand for weekday daily, and a.m. and p.m. peak hours for the proposed project and the seven alternatives, and includes both internal and external trips, while **Table 6-4, Proposed Project and Project Alternatives Trip Generation By Mode and Time Period**, presents the person trips by mode and vehicle trips for external trips (i.e., the trips arriving to or leaving from the project site).

As with the proposed project, all alternatives, including the no project alternative, assume that PG&E will complete the ongoing environmental remediation for hazardous materials in soils and groundwater at each portion of the project site prior to any development on that portion, and that PG&E's remediation program will achieve clearance for commercial/industrial development, as approved by the San Francisco Regional Water Quality Control Board. Alternatives B through G (Alternative A has no residential uses) assume also that the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), if applicable, and would implement site design measures to control risks related to exposure to chemicals in soil, groundwater, and soil vapors, (including conducting further remediation, if necessary) as approved by the regional board. In addition, this alternatives analysis assumes that all alternatives would be developed to include resiliency to sea level rise and earthquakes and would incorporate sustainability principles in their design.

² Page & Turnbull, 2018. Potrero Power Station Mixed-Use Development Project, Preservation Alternatives Report, San Francisco, California. Prepared for Associate Capital, March 9, 2018.

TABLE 6-1
CHARACTERISTICS OF PROPOSED PROJECT AND ALTERNATIVES

Characteristic	Proposed Project ^a	Alternative A: No Project/Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Land Uses								
Area of site, acres	29.0	22.9 (does not include 4.8-acre PG&E sub-area or 1.3-acre portion of Port sub-area along 23rd Street)	29.0	29.0	29.0	29.0	29.0	29.0
Residential, dwelling units	2,682	0	1,764	2,681	2,445	2,682	2,459	2,492
Residential, gsf	2,682,427	0	1,764,202	2,681,272	2,444,690	2,682,427	2,458,595	2,491,852
Hotel, rooms	220	0	145	220	220	220	220	220
Hotel, gsf	241,574	0	160,290	241,574	241,574	241,574	241,574	241,574
Commercial (office), gsf	597,723	87,655	450,362	544,228	551,694	488,012	597,723	592,018
Commercial (R&D), gsf	645,738	0	373,747	645,738	645,738	645,738	645,738	645,738
Commercial (PDR), gsf	45,040	1,088,735	29,726	45,040	45,040	45,040	45,040	45,040
Commercial (retail), gsf	107,439	20,768	70,910	107,439	107,439	107,439	107,439	107,439
Community Facilities, gsf	100,938	0	66,619	100,938	100,938	100,938	100,938	100,938
Entertainment/Assembly, gsf	25,000	0	16,500	25,000	25,000	25,000	25,000	25,000
Parking, no. of spaces	2,622	784	1,729	2,585	2,409	2,549	2,487	2,502
Parking, gsf	921,981	274,400	634,032	905,226	857,276	892,276	870,717	875,750
Total Building Area, gsf	5,367,860	1,471,558	3,566,388	5,296,455	5,019,389	5,228,444	5,092,764	5,126,349
Total Building Area, % of project	100%	27%	66%	99%	94%	97%	95%	96%
Open Space, acres	6.2	4.4	6.2	6.2	6.2	6.2	6.2	6.2
Open Space, % of area	21%	19%	21%	21%	21%	21%	21%	21%

TABLE 6-1 (CONTINUED)
CHARACTERISTICS OF PROPOSED PROJECT AND ALTERNATIVES

Characteristic	Proposed Project ^a	Alternative A: No Project/Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Building Characteristics								
Stories, no.	5 to 30	4	4 to 20	5 to 30	5 to 30	5 to 30	5 to 30	5 to 30
Height, feet	65 to 180 ft, one building 300 ft tall	40 ft	45 to 120 ft, one building 200 ft tall	65 to 240 ft, two buildings 300 ft	65 to 180 ft, one building 300 ft tall	65 to 180 ft, one building 300 ft tall	65 to 180 ft, one building 300 ft tall	65 to 180 ft, one building 300 ft tall
Towers (building >180 ft, no.	1 (300-ft tower)	0	1 (200-ft tower)	2 (300-ft towers) 2 (240-ft towers)	1 (300-ft tower)	1 (300-ft tower)	1 (300-ft tower)	1 (300-ft tower)
Residential Buildings, LEED gold standard	Yes	No (no residential uses)	Yes	Yes	Yes	Yes	Yes	Yes
Transportation Features								
Bicycle Parking, Class 1, no.	1,577	123	1,114	1,413	1,357	1,556	1,446	1,454
Bicycle Parking, Class 2, no.	373	52	291	349	333	345	333	338
Space for future Muni bus stop on 23rd Street	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Sidewalk Improvements, Illinois St (same as project)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Signal on Illinois/23rd (same as project)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Signal on Illinois/Humboldt (same as project)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Bay Trail (same as project)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TDM Plan (same as project)	Yes	No, but would comply with TDM Ordinance	Yes	Yes	Yes	Yes	Yes	Yes
Transit Shuttle Service (same as project)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

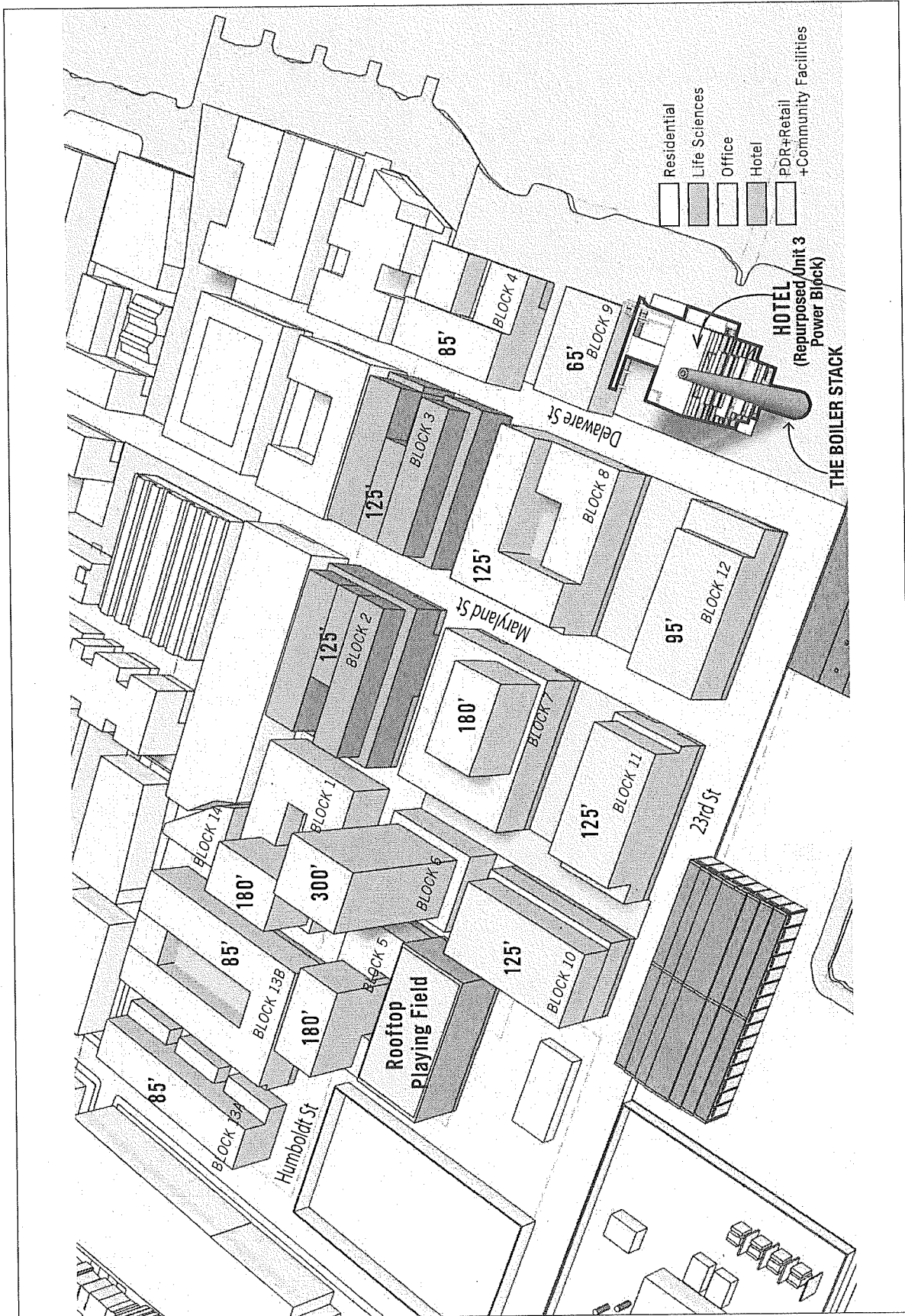
TABLE 6-1 (CONTINUED)
CHARACTERISTICS OF PROPOSED PROJECT AND ALTERNATIVES

Characteristic	Proposed Project ^a	Alternative A: No Project/Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Other Features								
Dock	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Rooftop Playing Field	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Onsite Historical Resources^b								
Station A	Demolish	Demolish	Rehabilitate	Rehabilitate	Rehabilitate	Rehabilitate southern portion to the extent feasible; demolish northern portion	Demolish	Retain façade, new vertical construction within and above
Meter House	Demolish	Demolish	Rehabilitate	Rehabilitate	Demolish	Demolish	Rehabilitate	Retain façade new vertical construction within and above
Compressor House	Demolish	Demolish	Rehabilitate	Rehabilitate	Demolish	Demolish	Rehabilitate	Retain façade, new vertical construction within and above
Gate House	Demolish	Demolish	Rehabilitate	Rehabilitate	Demolish	Demolish	Demolish	Demolish
Unit 3 Power Block	Retain or Demolish	Demolish	Rehabilitate	Rehabilitate	Retain	Retain	Retain	Retain
Unit 3 Boiler Stack	Retain	Retain	Rehabilitate	Rehabilitate	Rehabilitate	Rehabilitate	Rehabilitate	Rehabilitate
Construction								
Start Date ^c	2020	2020	2020	2020	2020	2020	2020	2020
End Date	2034	2026	2030	2034	2034	2034	2034	2034
Total Duration, years	15	7	11	15	15	15	15	15
Construction phases	6	3	6	6	6	6	6	6

^a Represents the preferred project characteristics, which includes the anticipated but not the range of development of flex blocks. See Chapter 2, Project Description, for full description.

^b "Demolish" means the building would be entirely demolished. "Rehabilitate" means the project would rehabilitate a historic building to meet the Secretary of the Interior's Standards. "Retain" means that the building would not be completely demolished but the alterations may not meet the standards.

^c Actual construction start date would be affected by PG&E's ongoing remediation process and market conditions, and construction would not start until all necessary permits are secured.



Potrero Power Station Mixed-Use Development Project

Figure 6-1
Proposed Project

SOURCE: California Barrel Company, 2018

Figure 6-2

Alternative A: No Project/Code Compliant Alternative

SOURCE: California Barrel Company, 2018

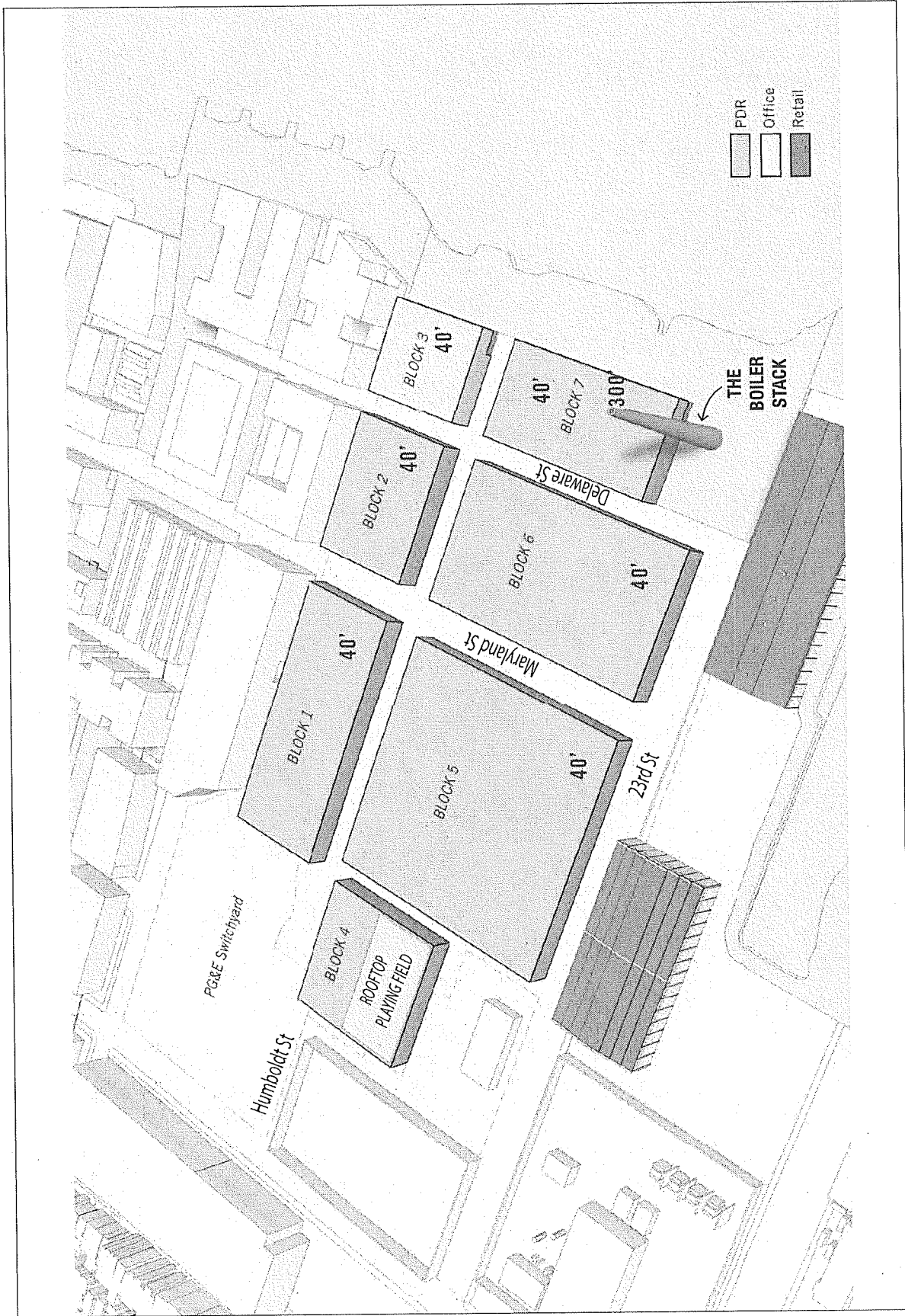


Figure 6-3
Alternative B: Full Preservation/Reduced Program Alternative

SOURCE: California Barrel Company, 2018

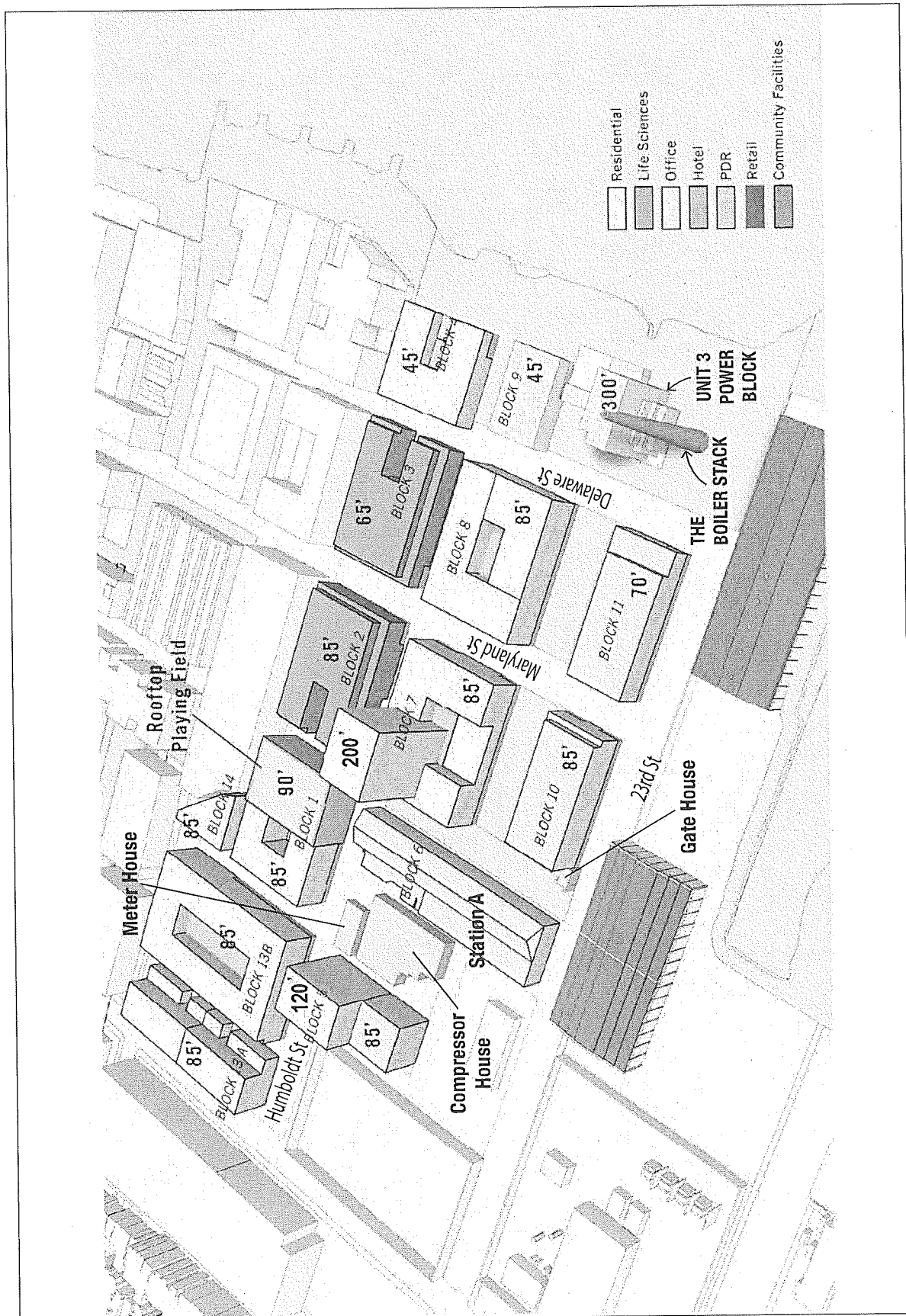
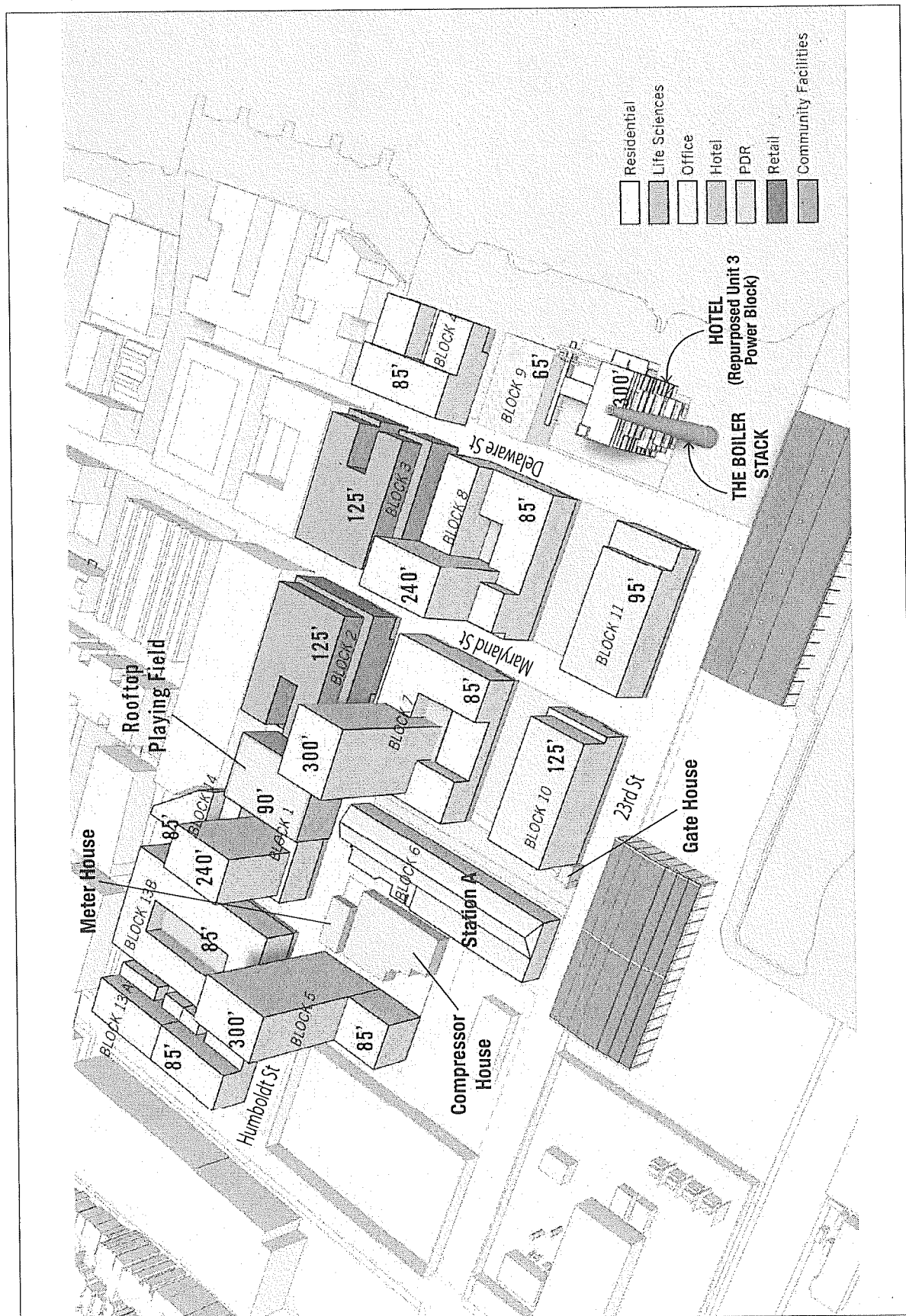
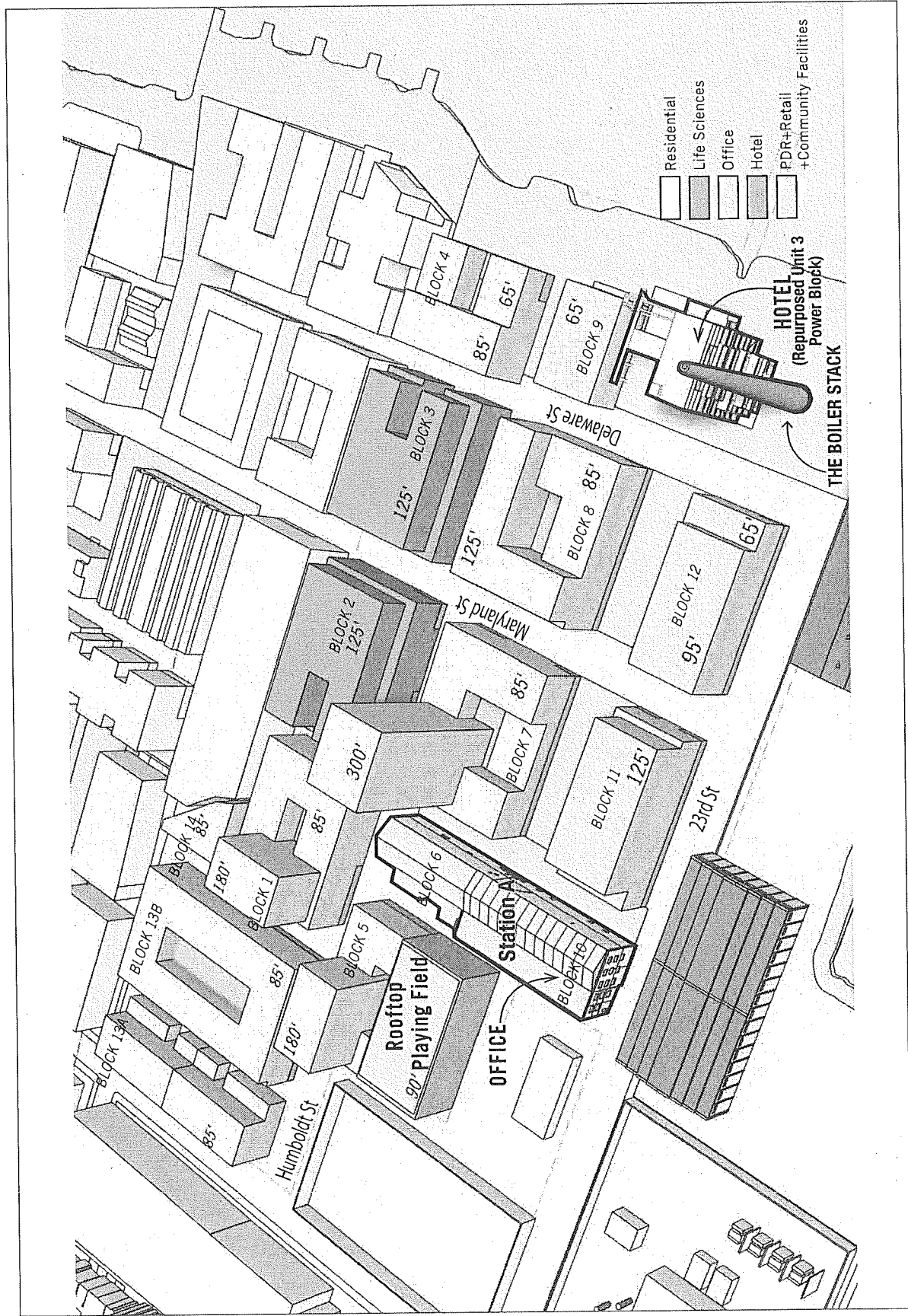


Figure 6-4
Alternative C: Full Preservation/Similar Program Alternative

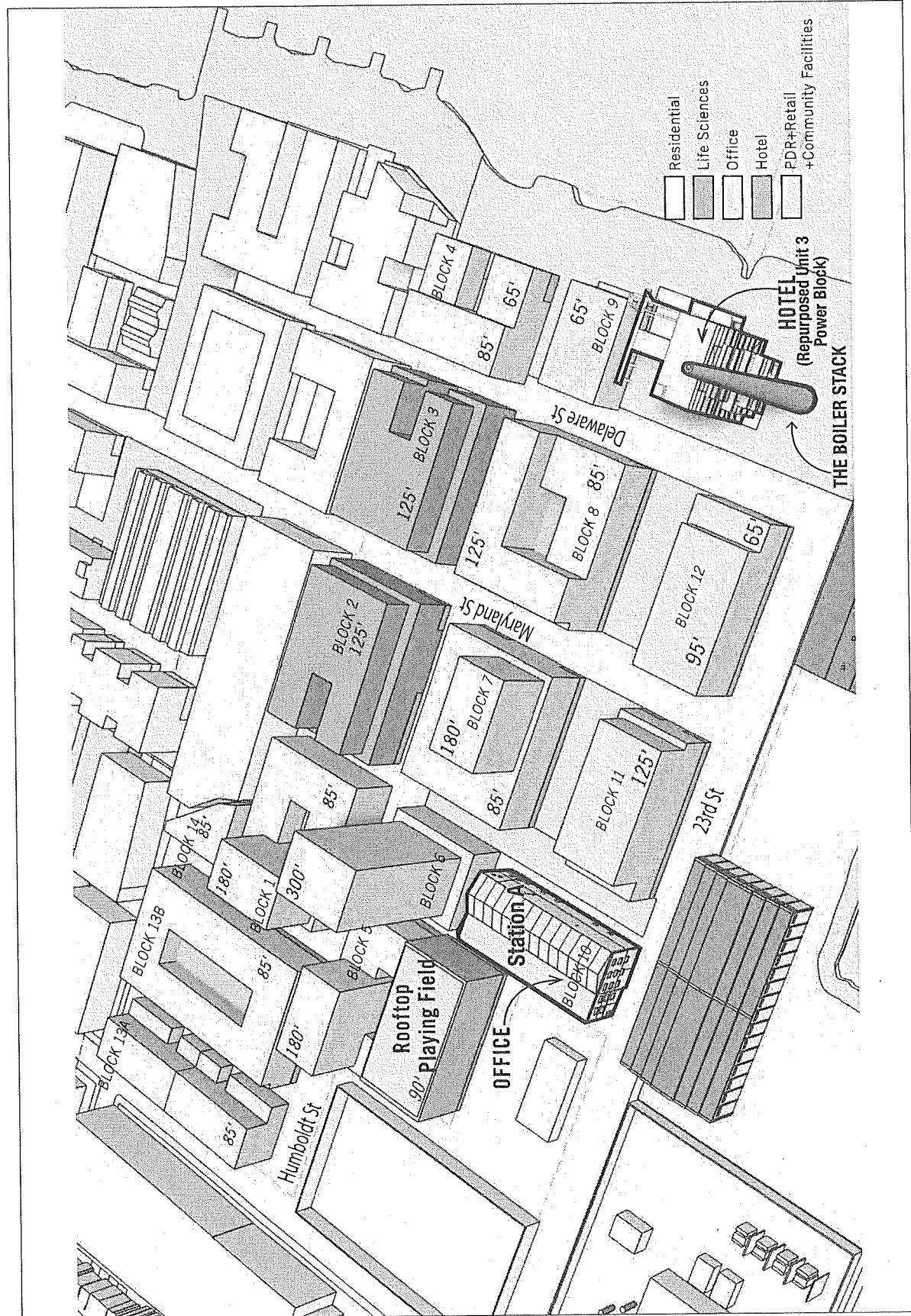


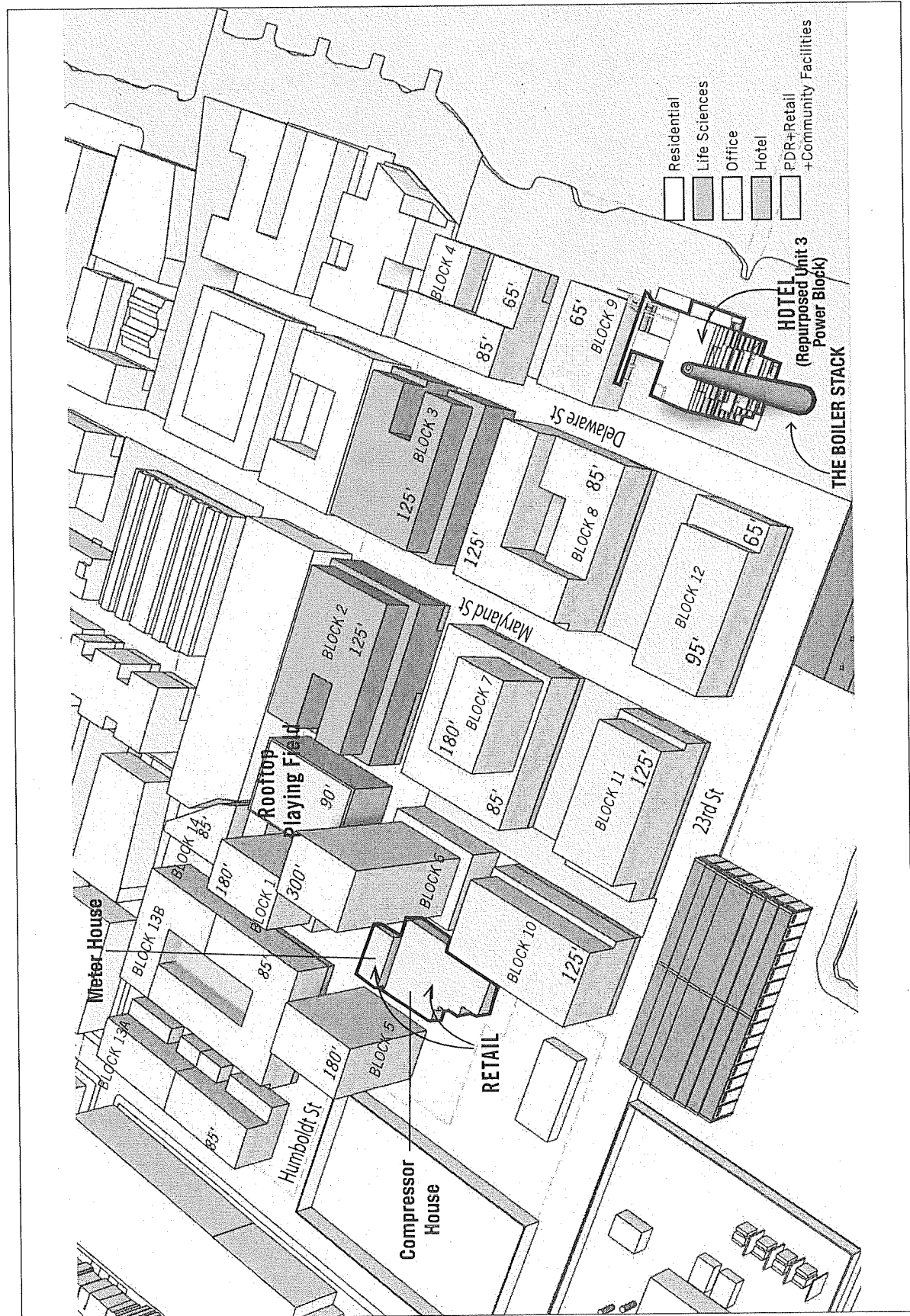


Potrero Power Station Mixed-Use Development Project

Figure 6-5
Alternative D: Partial Preservation 1 Alternative

SOURCE: California Barrel Company, 2018





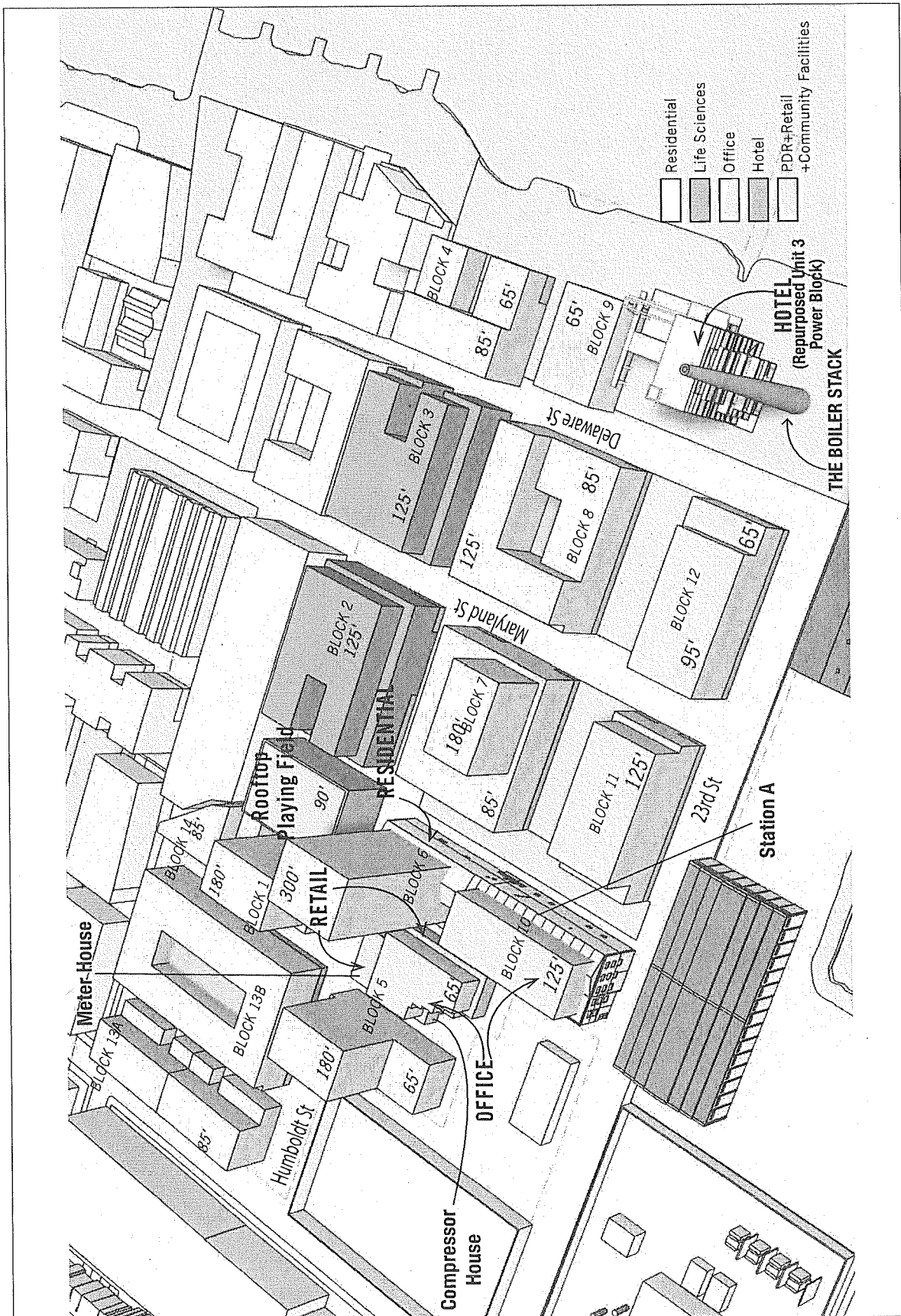


TABLE 6-2
SUMMARY OF ABILITY OF ALTERNATIVES TO MEET PROJECT OBJECTIVES

Project Objective	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
	<i>Would the alternative meet this objective?</i>						
1. Redevelop the former power plant site to provide a mix of residential, retail, office, PDR, R&D spaces, a hotel, and activated waterfront open spaces to support a daytime population in a vibrant neighborhood retail district and to provide employment opportunities within walking distance to residents of the surrounding neighborhood.	No (would provide some but not the full mix of uses)	Partial (compared to project, provides 66% residential, 66% retail, 75% office, 66% PDR, and 58% R&D)	Yes (compared to project, provides 100% residential, 100% retail, 91% office, 100% PDR, and 100% R&D)	Yes (compared to project, provides 91% residential, 100% retail, 92% office, 100% PDR, and 100% R&D)	Yes (compared to project, provides 100% residential, 100% retail, 82% office, 100% PDR, and 100% R&D)	Yes (compared to project, provides 92% residential, 100% retail, 100% office, 100% PDR, and 100% R&D)	Yes (compared to project, provides 93% residential, 100% retail, 99% office, 100% PDR, and 100% R&D)
2. Provide access to San Francisco Bay and create a pedestrian- and bicycle-friendly environment along the waterfront, by opening the eastern shore of the site to the public and extending the Bay Trail and the Blue Greenway.	Partial (compared to project, limited bicycle parking and extension of Bay Trail)	Yes	Yes	Yes	Yes	Yes	Yes
3. Provide active open space uses such as playing fields and a playground to improve access to sports, recreational, and playground facilities in the Dogpatch, Potrero Hill, and Bayview-Hunters Point neighborhoods and complement other nearby passive open space uses and parks in the Central Waterfront.	Partial (compared to project, provides 70% open space)	Yes	Yes	Yes	Yes	Yes	Yes
4. Increase the city's supply of housing to contribute to meeting San Francisco General Plan Housing Element goals, and the Association of Bay Area Governments' Regional Housing Needs Allocation for San Francisco by optimizing the number of dwelling units, particularly housing near transit.	No (compared to project, provides 0% residential)	Partial (compared to project, provides 66% residential)	Yes	Partial (compared to project, provides 91% residential)	Yes	Partial (compared to project, provides 92% residential)	Partial (compared to project, provides 93% residential)
5. Attract a diversity of household types by providing dense, mixed-income housing, including below-market rate units.	No	Yes	Yes	Yes	Yes	Yes	Yes
6. Redevelop the PG&E sub-area with community facilities, PDR, and housing.	No	Yes	Yes	Yes	Yes	Yes	Yes

TABLE 6-2 (CONTINUED)
SUMMARY OF ABILITY OF ALTERNATIVES TO MEET PROJECT OBJECTIVES

Project Objective	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
7. Build a neighborhood resilient to projected levels of sea level rise and earthquakes.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8. Incorporate the project and the anticipated adjacent Pier 70 Mixed-Use District project into a single neighborhood, by creating a network of streets and pedestrian pathways that connect to the street and pedestrian network.	Partial	Partial (grade changes at Meter House and Compressor House would affect some connecting pathways)	Partial (grade changes at Meter House and Compressor House would affect some connecting pathways)	Yes	Yes	Partial (grade changes at Meter House / Compressor House would affect some connecting pathways)	Partial (grade changes at Meter House / Compressor House would affect some connecting pathways)
9. Create an iconic addition to the city's skyline as part of the Dogpatch neighborhood and the Central Waterfront.	No	Yes	Yes	Yes	Yes	Yes	Yes
10. Provide opportunities for outdoor dining and gathering and create an active waterfront in the evening hours by encouraging ground floor retail and restaurant uses with outdoor seating along the waterfront.	No	Yes	Yes	Yes	Yes	Yes	Yes
11. Build adequate parking and vehicular and loading access to serve the needs of project residents, workers, and visitors.	Yes (but no residents)	Yes	Yes	Yes	Yes	Yes	Yes
12. Construct a substantial increment of new PDR uses in order to provide a diverse array of commercial and industrial opportunities in a dynamic mixed use environment.	Partial (provides 2.4 times more PDR than project but not in a mixed use environment)	Partial (compared to project, provides 66% PDR uses)	Yes	Yes	Yes	Yes	Yes
13. Create a circulation and transportation system that emphasizes transit-oriented development and promotes the use of public transportation and car-sharing through an innovative and comprehensive demand management program.	No	Yes	Yes	Yes	Yes	Yes	Yes

TABLE 6-2 (CONTINUED)
SUMMARY OF ABILITY OF ALTERNATIVES TO MEET PROJECT OBJECTIVES

Project Objective	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
14. Demonstrate leadership in sustainable development by constructing improvements intended to reduce the neighborhood's per capita consumption of electricity, natural gas, and potable water, and generation of wastewater.	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15. Create a development that is financially feasible and that can fund the project's capital costs and on-going operation and maintenance costs relating to the redevelopment and long-term operation of the property.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
16. Construct a waterfront hotel use in order to provide both daytime and nighttime activity on the waterfront promenade.	No	Yes	Yes	Yes	Yes	Yes	Yes

TABLE 6-3
PROPOSED PROJECT AND PROJECT ALTERNATIVES PERSON TRIP GENERATION BY TIME PERIOD –
INTERNAL AND EXTERNAL TRIPS

Proposed Project/Project Alternative	Person Trips ^a		
	Daily	AM Peak Hour	PM Peak Hour
Proposed Project	93,609	6,665	11,218
No Project/Code Compliant Alternative	18,506	1,276	2,028
Reduced Program Alternative	62,364	4,411	7,418
Full Preservation Alternative	92,633	6,578	11,134
Partial Preservation 1 Alternative	90,749	6,303	10,796
Partial Preservation 2 Alternative	91,623	6,489	11,049
Partial Preservation 3 Alternative	91,702	6,394	10,888
Partial Preservation 4 Alternative	91,881	6,425	10,928

NOTES:

^a Numbers may not sum to total due to rounding.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

6.C.1 Alternative A: No Project/Code Compliant

As required by CEQA Guidelines section 15126.6(e), a no project alternative is evaluated in this EIR to allow decision-makers to compare the environmental effects of approving the proposed project with the effects of not approving the project. The no project alternative is not intended to meet any of the project sponsor's objectives. The no project alternative is "the circumstance in which the project does not proceed." (CEQA Guidelines section 15126.6(e)(3)(B)). Due to the desirable location and the value of the land, the project sponsor (and owner of the Power Station sub-area) has indicated that if the project does not proceed, the project site would not remain in its current state of limited temporary uses and vacant buildings, but instead would be developed to the extent permitted by existing land use and planning code designations.

6.C.1.1 Alternative A: Land Use Plan

Alternative A is the No Project/Code Compliant Alternative, shown in Figure 6-2, above. This alternative assumes that the project sponsor would develop the Power Station sub-area in compliance with the existing planning code and land use designations. In addition, the adjoining Southern, City and eastern portions of the Port sub-areas of the project site (see Figure 2-2, p. 2-6, in Chapter 2, Project Description) would be developed in conjunction with the Power Station sub-area to provide continuity and connectivity to the bay and surrounding land uses; however, the 1.3 acre portion of the Port sub-area along 23rd Street would not be developed since it would not be germane to the development. However, due to the limited development potential under the existing zoning code and land use designations, this alternative assumes that the project sponsor would not seek to partner with PG&E in the development of the adjacent PG&E sub-area and that the 4.8-acre PG&E sub-area would remain in its current use as storage and housing for power transmission equipment. Thus, Alternative A would consist of development of a total of 22.9 acres compared to the 29 acres under the proposed project.

TABLE 6-4
PROPOSED PROJECT AND PROJECT ALTERNATIVES TRIP GENERATION BY MODE AND TIME PERIOD –
EXTERNAL TRIPS ONLY^{a,b}

Proposed Project/Project Alternative	Person Trips by Travel Mode				Vehicle Trips
	Auto	Transit	Other ^c	Total	
Daily					
Proposed Project	33,495	15,969	18,351	67,814	19,522
No Project/Code Compliant Alternative	11,661	2,976	3,868	18,506	6,635
Reduced Program Alternative	22,405	10,698	12,261	45,363	13,045
Full Preservation Alternative	33,017	15,704	18,122	66,844	19,256
Partial Preservation 1 Alternative	32,802	15,422	18,212	66,435	18,938
Partial Preservation 2 Alternative	32,415	15,416	17,808	65,639	18,931
Partial Preservation 3 Alternative	33,227	15,666	18,403	67,296	19,182
Partial Preservation 4 Alternative	33,216	15,683	18,371	67,270	19,205
AM Peak Hour					
Proposed Project	2,472	1,796	871	5,139	1,862
No Project/Code Compliant Alternative	846	247	183	1,276	578
Reduced Program Alternative	1,638	1,189	577	3,404	1,233
Full Preservation Alternative	2,426	1,767	860	5,052	1,830
Partial Preservation 1 Alternative	2,357	1,695	833	4,884	1,762
Partial Preservation 2 Alternative	2,379	1,738	849	4,965	1,799
Partial Preservation 3 Alternative	2,400	1,724	844	4,968	1,793
Partial Preservation 4 Alternative	2,406	1,732	847	4,985	1,800
PM Peak Hour					
Proposed Project	3,835	2,223	1,764	7,823	2,540
No Project/Code Compliant Alternative	1,329	337	362	2,028	837
Reduced Program Alternative	2,540	1,472	1,167	5,179	1,682
Full Preservation Alternative	3,791	2,195	1,753	7,740	2,509
Partial Preservation 1 Alternative	3,732	2,131	1,738	7,601	2,447
Partial Preservation 2 Alternative	3,746	2,167	1,743	7,656	2,479
Partial Preservation 3 Alternative	3,773	2,159	1,748	7,680	2,476
Partial Preservation 4 Alternative	3,778	2,166	1,749	7,693	2,482

NOTES

^a Numbers may not sum to total due to rounding.

^b External trips are those whose origin or destination is outside the project site.

^c Other modes include walk, bicycle, motorcycle, and additional modes such as taxis.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018.
 See Appendix C.

Currently, the Power Station sub-area is zoned M-2 (Heavy Industrial) and located in a 40-X Height and Bulk District. Thus, under the No Project/Code Compliant Alternative, the project site would be developed with 87,655 gross square feet (gsf) of commercial uses (general office; 510,068 gsf less than the project), 1,088,735 gsf of Production, Distribution, and Repair (PDR) uses (1,043,695 gsf more than the project), and 20,768 gsf of retail uses (86,671 gsf less than the project). The retail uses would be comprised of 3,131 gsf of general retail, 7,054 gsf of sit-down restaurant, and 10,583 gsf of quick service restaurant. There would be no residential uses (including no childcare uses), and no commercial uses designated for R&D/life sciences uses, since these uses are not be allowed under the existing zoning. There would be 274,400 gsf of parking (647,581 gsf less than the project), providing 784 parking spaces (1,838 fewer than the project), but no centralized parking facility would be developed. Total building area would be 1,471,558 gsf, as compared with 5,367,860 gsf for the proposed project (about 28 percent of the proposed project's total building area. All buildings would be 40 feet in height, consistent with the existing height limit.

This alternative would include 4.4 acres of open space (1.9 acres less than the project), including a rooftop playing field on one of the commercial buildings. Similar to the project, this alternative is assumed to extend the Blue Greenway and Bay Trail through the project site. However, there would be no dock or associated wharf and gangway along the bay shoreline. The overall land use plan, with the exception of the retention of the Boiler Stack, would be completely different from that of the proposed project, as shown in Figure 6-2.

6.C.1.2 Alternative A: Historical Resources and Transportation Features

The No Project/Code Compliant Alternative assumes that Station A, the Compressor House, the Gate House, the Meter House, and the Unit 3 Power Block would be demolished to enable the redevelopment of the site with new, code compliant land uses. This alternative assumes that the Boiler Stack would be retained and repurposed for retail uses, though not necessarily rehabilitated in accordance with the Secretary of Interior's Standards.

Under this alternative, the interior street network would connect with the planned street network on the Pier 70 Mixed-Used District project site (directly to the north of the project site), but not in the same way as the proposed project. Unlike the proposed project, there would be no provisions for a future Muni bus stop on 23rd Street, sidewalk improvements on Illinois Street, or a new traffic signal at Illinois/Humboldt, none of which would be warranted based on the small size of the increase in onsite population; however, a new traffic signal may be warranted at Illinois/23rd. Likewise, the No Project/Code Compliant Alternative would not necessarily include a transit shuttle service. This alternative, however, would comply with the Transportation Demand Management (TDM) Ordinance, which requires new development projects meeting the applicability requirement to develop and implement a TDM plan.

6.C.1.3 Alternative A: Travel Demand Assumptions

As indicated in Table 6-3 above, the number of total person trips (i.e., both internal and external) generated by Alternative A would be substantially less than with the proposed project. On a daily basis, Alternative A would generate a total of 18,506 person trips by all modes, compared to

93,609 person trips for the proposed project (i.e., 75,103 fewer person trips). Similarly, as indicated in Table 6-4 above, the number of *external* person trips and vehicle trips generated by Alternative A on a daily basis and during the a.m. and p.m. peak hours would also be substantially less than with the proposed project. During the a.m. peak hour, Alternative A would generate 1,276 external person trips by all modes and 578 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 3,863 fewer person trips and 1,284 fewer vehicle trips). During the p.m. peak hour, Alternative A would generate 2,028 external person trips by all modes and 837 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 5,795 fewer person trips and 1,703 fewer vehicle trips).

6.C.1.4 Alternative A: Construction

Construction of Alternative A would be similar to the proposed project, though substantially reduced in both magnitude and duration. With the reduced size of the buildings, deep foundations might not be needed, in which case less pile driving would occur. No in-water construction would occur. It is anticipated that construction would take less than half the time as the project, starting in 2020 and completed in 2026, a seven-year construction duration compared to the 15-year duration for the proposed project. Only three construction phases, rather than six, would be needed. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions, and construction would not start until all necessary permits are secured. Since this alternative includes only commercial/industrial uses, no additional remediation efforts would be required beyond those currently be completed by PG&E.

6.C.2 Alternative B: Full Preservation/Reduced Program

Alternative B is the Full Preservation/Reduced Program Alternative, shown in Figure 6-3, above. The purpose of this alternative is to avoid or substantially reduce the significant and unavoidable impacts on historic architectural resources, both to individual resources and to the historic district, as well as to substantially reduce the severity of significant, adverse transportation, noise, and air quality impacts that would occur under the proposed project.

6.C.2.1 Alternative B: Land Use Plan

The Full Preservation/Reduced Program Alternative would retain and rehabilitate in accordance with the Secretary of Interior's Standards all six onsite historic structures: Station A, the Meter House, the Compressor House, the Gate House, the Unit 3 Power Block, and the Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development reduced in all aspects to about two thirds the size of the proposed project, thereby reducing the magnitude of both construction and operational impacts, but still retaining the diversity of land uses under the proposed project.

The general site plan for Alternative B would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street (including the rehabilitated Station A and Gate House); residential uses would be generally located in the

northwest, central, and northeast portions of the site and within the tower and tallest buildings; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and the hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The parking garage and rooftop playing field, however, would be on the north side of the site, rather than in the center part of the site, due to the retention of the Meter House and Compressor House.

Under Alternative B, it is assumed that the site would be developed with 1,764,202 gsf of residential uses (1,764 dwelling units, 918 fewer than the project), 160,290 gsf of hotel uses (145 rooms, 75 fewer than the project), 450,362 gsf of commercial uses (general office; 147,361 gsf less than the project), 373,747 gsf of commercial uses (R&D; 271,991 gsf less than the project), 29,726 gsf of PDR uses (15,314 gsf less than the project), and 70,910 gsf of retail uses (36,529 gsf less than the project). The retail uses would be comprised of 7,091 gsf of general retail, 28,364 gsf of supermarket use, 10,636 gsf of sit-down restaurant, and 24,818 gsf of quick service restaurant. The Full Preservation/Reduced Program Alternative would also include 66,619 gsf of community facilities (e.g., childcare, media library, or community center; 34,319 gsf less than the project) and 16,500 gsf of entertainment/assembly uses (8,500 gsf less than the project). There would also be 634,032 gsf of parking (287,949 gsf less than the project), providing 1,729 parking spaces (893 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 3,566,388 gsf, less than the amount of development in the proposed project (5,367,860 gsf or about 66 percent of the proposed project). Buildings heights would generally be reduced compared to the proposed project, ranging from 45 to 120 feet instead of 65 to 180 feet, and the 300-foot tower on Block 6 would be replaced by a 200-foot-tall tower at Block 7. Two of the three 180-foot-tall buildings on Blocks 1 and 7 would be eliminated, and the 180-foot-tall building on Block 5 would be replaced by a 120-foot-tall building.

Alternative B, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.2.2 Alternative B: Historical Resources and Transportation Features

With respect to historical resources, this alternative would retain the exterior character-defining features of all individually eligible historical resources and the majority of the Third Street Industrial District contributing structures. The historic buildings would be rehabilitated in accordance with the Secretary of the Interior's Standards. Station A would be used as office space, while the Meter House, Compressor House, and Gate House would be used for retail. Unlike the proposed project under which the Unit 3 Power Block would be retained or demolished, the Unit 3 Power Block would be retained, rehabilitated in accordance with the Secretary of the Interior's Standards, and converted to a hotel, even if the reuse of the structure were more limited than under the proposed project. Like the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could

also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative B would be similar to the proposed project and would connect with the planned street network on the Pier 70 Mixed-Used District site directly to the north of the project site; however, Georgia Lane, on the west side of Station A, would not be constructed. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan that includes a transit shuttle service as described for the proposed project.

6.C.2.3 Alternative B: Travel Demand Assumptions

On a daily basis, Alternative B would generate a total of 62,364 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 31,245 fewer person trips). The number of external person trips and vehicle trips generated by Alternative B would also be less than with the proposed project. During the a.m. peak hour, Alternative B would generate 3,404 external person trips by all modes and 1,233 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 1,735 fewer person trips and 629 fewer vehicle trips). During the p.m. peak hour, Alternative B would generate 5,179 external person trips by all modes and 1,682 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 2,644 fewer person trips and 858 fewer vehicle trips).

6.C.2.4 Alternative B: Construction

Construction of Alternative B would be similar to the proposed project, though somewhat reduced in magnitude and duration due to the reduced program, but construction activities associated with rehabilitation of the historical structures would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. However, construction of Alternative B would take four years less than the proposed project. It is anticipated that construction would start in 2020 and be completed in 2030, an 11-year construction duration compared to the 15-year duration for the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates could be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, under this alternative, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.C.3 Alternative C: Full Preservation/Similar Program

Alternative C is the Full Preservation/Similar Program Alternative, shown in Figure 6-4, above. The purpose of this alternative is to avoid or substantially reduce the significant and unavoidable impacts on historic architectural resources that would occur under the proposed project, while retaining nearly the same number of residential units as the proposed project. This alternative was designed to meet the basic project objectives and a majority of all the objectives.

6.C.3.1 Alternative C: Land Use Plan

As indicated by the name, the Full Preservation/ Similar Program Alternative would retain and rehabilitate in accordance with the Secretary of Interior's Standards all six onsite historic structures: Station A, the Meter House, the Compressor House, the Gate House, the Unit 3 Power Block, and the Boiler Stack. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate these structures into a development program similar in magnitude to the proposed project, and would specifically include about the same number of residential units as the project.

The general site plan for Alternative C would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street (including within the rehabilitated Station A and Gate House); residential uses would be generally located in the northwest, central, and northeast portions of the site and within the tallest buildings, including the two 300-foot towers and; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The district parking garage and rooftop playing field, however, would be on the north side of the site, rather than in the center of the site.

Under Alternative C, it is assumed that the site would be developed with 2,681,272 gsf of residential uses (2,681 dwelling units, essentially the same as the project), 241,574 gsf of hotel uses (220 rooms, same as the project), 544,228 gsf of commercial uses (general office, 53,495 gsf less than the project), 645,738 gsf of commercial uses (R&D, same as the project), 45,040 gsf of PDR uses (same as the project), and 107,439 gsf of retail uses (same as the project). As under the proposed project, the retail uses would be comprised of 10,744 gsf of general retail, 42,976 gsf of supermarket use, 16,116 gsf of sit-down restaurant, and 37,604 gsf of quick service restaurant. The Full Preservation/ Similar Program Alternative would also include 100,938 gsf of community facilities (e.g., childcare, media library, or community center; same as the project) and 25,000 gsf of entertainment/assembly uses (same as the project). There would also be 905,226 gsf of parking (16,755 gsf less than the project), providing 2,585 parking spaces (37 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 5,296,455 gsf, which is a slight reduction in the magnitude of the development compared to the proposed project (5,367,860 gsf or about 99 percent of the proposed project). Buildings heights would generally be the same as those identified for proposed project, ranging from 65 to 180 feet, but the 300-foot tower on Block 6 would be moved to Block 7, in order to retain all of Station A. In addition, unlike the proposed project which has three 180-foot

buildings on Blocks 1, 5, and 7, to allow for additional residential units, this alternative would have a second 300-foot tower on Block 5 and two 240-foot towers on Blocks 1 and 8.

Alternative C, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.3.2 Alternative C: Historical Resources and Transportation Features

With respect to historical resources, like the other full preservation alternative, Alternative C would retain the exterior character-defining features of all six onsite historical resources, and the historic buildings would be rehabilitated in accordance with the Secretary of the Interior's Standards. Station A would be used as office space, while the Meter House, Compressor House, and Gate House would be used for retail. Unlike the proposed project under which the Unit 3 Power Block would be retained or demolished, the Unit 3 Power Block would be retained, rehabilitated in accordance with the Secretary of the Interior's Standards, and converted to a hotel, even if the reuse of the structure were more limited than under the proposed project. Like the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space, but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative C would be similar to the proposed project and would connect with the planned street network on the Pier 70 Mixed-Used District site directly to the north of the project site; however, Georgia Lane between Block 5 and Blocks 6 and 10 would not be constructed because of grade changes that would have to be maintained to rehabilitate the Meter House and Compressor House. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan and a transit shuttle service as described for the proposed project.

6.C.3.3 Alternative C: Travel Demand Assumptions

On a daily basis, Alternative C would generate a total of 92,633 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 976 fewer person trips). The number of external person trips and vehicle trips generated by Alternative C would also be very similar to the proposed project. During the a.m. peak hour, Alternative C would generate 5,052 external person trips by all modes and 1,830 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 87 fewer person trips and 32 fewer vehicle trips). During the p.m. peak hour, Alternative C would generate 7,740 external person trips by all modes and 2,509 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 83 fewer person trips and 31 fewer vehicle trips).

6.C.3.4 Alternative C: Construction

Construction of Alternative C would be similar to the proposed project, both in magnitude and duration, but construction activities associated with rehabilitation of the historical structures would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. Construction of Alternative C would take about the same amount of time as the proposed project. It is anticipated that construction would start in 2020 and be completed in 2036, the same 15-year construction duration as the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.C.4 Alternative D: Partial Preservation 1

Alternative D is the Partial Preservation 1 Alternative, shown in Figure 6-5, above. The purpose of this alternative is to substantially lessen the significant impacts on historic architectural resources to both individual resources and the historic district that would occur under the proposed project, while still meeting most of the project objectives. The partial preservation alternatives aim to retain in full or in part the character-defining features of one or more of the identified individual resources and, at the same time, reduce impacts to the historic district. This alternative was designed to meet the basic project objectives and a majority of all the objectives.

6.C.4.1 Alternative D: Land Use Plan

Alternative D would retain Station A and rehabilitate its exterior character-defining features in accordance with the Secretary of Interior's Standards. Building floors would be added to the open volume interior space of Station A. This alternative would incorporate a development program similar in magnitude to the proposed project. Three historic structures—the Meter House, the Compressor House, and the Gate House—would be demolished. The major changes from the proposed project would be that Station A would exist in place of a 125-foot building on Block 10, and the 300-foot tower on Block 6 would be relocated to Block 7. Similar to the proposed project, Alternative D would retain the Unit 3 Power Block for hotel use. Also as with the project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

The general site plan for Alternative D would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street (including the rehabilitated Station A); residential uses would be generally located in the northwest, central, and northeast portions of the site and within the tallest buildings including the 300-foot tower; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and the hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The parking garage with rooftop playing field would be in the same location as under the proposed project.

Under the Alternative D, it is assumed that the site would be developed with 2,444,690 gsf of residential uses (2,445 dwelling units, 237 fewer units than the project), 241,574 gsf of hotel uses (220 rooms, same as the project), 551,694 gsf of commercial uses (general office, 46,029 gsf less than the project), 645,738 gsf of R&D uses (same as the project), 45,040 gsf of PDR uses (same as the project), and 107,439 gsf of retail uses (same as the project). As under the proposed project, the retail uses would be comprised of 10,744 gsf of general retail, 42,976 gsf of supermarket use, 16,116 gsf of sit-down restaurant, and 37,604 gsf of quick service restaurant. The Partial Preservation 1 Alternative would also include 100,938 gsf of community facilities (e.g., childcare, media library, or community center; same as the project) and 25,000 gsf of entertainment/assembly uses (same as the project). There would also be 857,276 gsf of parking (64,705 gsf less than the project), providing 2,409 parking spaces (213 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 5,019,389 gsf, which is a slight reduction in the magnitude of the development program compared to the proposed project (5,367,860 gsf or about 94 percent of the proposed project). Buildings heights would generally be the same as those identified for the proposed project, ranging from 65 to 180 feet, with a 300-foot tower on Block 7. In addition, unlike the proposed project which has three 180-foot buildings on Blocks 1, 5, and 7, this alternative would have only two 180-foot buildings on Blocks 1 and 5.

Alternative D, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.4.2 Alternative D: Historical Resources and Transportation Features

With respect to historical resources, Alternative D would retain Station A and rehabilitate its exterior character-defining features in accordance with the Secretary of the Interior's Standards. Station A would be used as office space. The Meter House, the Compressor House, and the Gate House would be demolished. The Unit 3 Power Block would be retained and converted to a hotel. Similar to the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space, but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative D would be similar to the proposed project and would connect with the planned street network on the Pier 70 Mixed-Used District site directly to the north of the project site; however, Georgia Lane between Block 5 and Blocks 6 and 10 would not be constructed because of grade changes that would have to be maintained to rehabilitate the Meter House and Compressor House. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan and a transit shuttle service as described for the proposed project.

6.C.4.3 Alternative D: Travel Demand Assumptions

On a daily basis, Alternative D would generate a total of 90,749 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 2,860 fewer person trips). The number of external person trips and vehicle trips generated by Alternative D would be similar to the proposed project. During the a.m. peak hour, Alternative D would generate 4,884 external person trips by all modes and 1,762 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 255 fewer person trips and 100 fewer vehicle trips). During the p.m. peak hour, Alternative D would generate 7,601 external person trips by all modes and 2,447 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 222 fewer person trips and 93 fewer vehicle trips).

6.C.4.4 Alternative D: Construction

Construction of Alternative D would be similar to the proposed project, both in magnitude and duration, but construction activities associated with rehabilitation of Station A would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. Construction of Alternative D would take about the same amount of time as the proposed project. It is anticipated that construction would start in 2020 and be completed in 2036, the same 15-year construction duration as the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.C.5 Alternative E: Partial Preservation 2

Alternative E is the Partial Preservation 2 Alternative, shown in Figure 6-6, above. The purpose of this alternative is to substantially lessen the significant impacts on historic architectural resources to both individual resources and the historic district that would occur under the proposed project, while still meeting most of the project objectives. The partial preservation alternatives aim to retain in full or in part the character-defining features of one or more of the identified individual resources and at the same time reduce impacts to the historic district. This alternative was designed to meet the basic project objectives and a majority of all the objectives.

6.C.5.1 Alternative E: Land Use Plan

Alternative E would retain the southern portion of Station A and rehabilitate all or a portion of the exterior character-defining features of the remaining portion of the structure in accordance with the Secretary of Interior's Standards to the extent feasible. Building floors would be added to the open volume interior space of the remaining portion of Station A. The southern portion of Station A was selected because there are more character-defining features at that end, and it would replace a 125-foot-tall office building in the same location under the proposed project. Otherwise, this alternative generally follows the same land use mixes, heights, and configurations as the proposed project, including demolition of the Meter House, the Compressor House, the Gate House, and northern portion of Station A. Similar to the proposed project, Alternative E would retain the Unit 3 Power Block for hotel use. Also as with the project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

The general site plan for Alternative E would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street (including the rehabilitated southern portion of Station A); residential uses would be generally located in the northwest, central, and northeast portions of the site within the tallest buildings, including the 300-foot tower; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and a hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The district parking garage with rooftop playing field would be in the same location as with the proposed project.

Under Alternative E, it is assumed that the site would be developed with 2,682,427 gsf of residential uses (2,682 dwelling units, same as the proposed project), 241,574 gsf of hotel uses (220 rooms, same as the project), 488,012 gsf of commercial uses (general office, 109,711 gsf less than the project), 645,738 gsf of commercial uses (R&D, same as the project), 45,040 gsf of PDR uses (same as the project), and 107,439 gsf of retail uses (same as the project). As under the proposed project, the retail uses would be comprised of 10,744 gsf of general retail, 42,976 gsf of supermarket use, 16,116 gsf of sit-down restaurant, and 37,604 gsf of quick service restaurant. The Partial Preservation 2 Alternative would also include 100,938 gsf of community facilities (e.g., childcare, media library, or community center; same as the project) and 25,000 gsf of entertainment/assembly uses (same as the

project). There would also be 892,276 gsf of parking (29,705 gsf less than the project), providing 2,549 parking spaces (73 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 5,228,444 gsf, which is a slight reduction in the magnitude of the development program compared to the proposed project (5,367,860 gsf or about 97 percent of the proposed project). With the exception of the southern portion of Station A replacing a 125-foot-building on Block 10, the buildings heights would otherwise be the same as those identified for the proposed project, ranging from 65 to 180 feet, with a 300-foot tower on Block 6 and three 180-foot-tall buildings on Blocks 1, 5, and 7.

Alternative E, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.5.2 Alternative E: Historical Resources and Transportation Features

With respect to historical resources, Alternative E would retain the southern portion of Station A and rehabilitate the exterior character-defining features of the remaining portion of the building in accordance with the Secretary of the Interior's Standards to the extent feasible. Building floors would be added to the open volume interior space of Station A. Station A would be used as office space. The Meter House, the Compressor House, and the Gate House would be demolished. The Unit 3 Power Block would be retained and converted to a hotel. Similar to the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space, but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative E would be identical to that of the proposed project and would connect with the planned street network on the Pier 70 Mixed-Used District site directly to the north of the project site. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan and a transit shuttle service as described for the proposed project.

6.C.5.3 Alternative E: Travel Demand Assumptions

On a daily basis, Alternative E would generate a total of 91,623 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 1,986 fewer person trips). The number of external person trips and vehicle trips generated by Alternative E would be similar to the proposed project. During the a.m. peak hour, Alternative E would generate 4,965 external person trips by all modes and 1,799 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 174 fewer person trips and 63 fewer vehicle trips). During the p.m. peak hour, Alternative E would generate 7,656 external person trips by all modes and 2,479

external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 167 fewer person trips and 61 fewer vehicle trips).

6.C.5.4 Alternative E: Construction

Construction of Alternative E would be similar to the proposed project, both in magnitude and duration, but construction activities associated with rehabilitation of the southern portion of Station A would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. Construction of Alternative E would take about the same amount of time as the proposed project. It is anticipated that construction would start in 2020 and be completed in 2036, the same 15-year construction duration as the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.C.6 Alternative F: Partial Preservation 3

Alternative F is the Partial Preservation 3 Alternative, shown in Figure 6-7, above. The purpose of this alternative is to substantially lessen the significant impacts on historic architectural resources to both individual resources and the historic district that would occur under the proposed project, while still meeting most of the project objectives. The partial preservation alternatives aim to retain in full or in part the character-defining features of one or more of the identified individual resources and at the same time reduce impacts to the historic district. This alternative was designed to meet the basic project objectives and a majority of all the objectives.

6.C.6.1 Alternative F: Land Use Plan

Alternative F would retain the Compressor House and the Meter House and rehabilitate all or a portion of their exterior character-defining features in accordance with the Secretary of Interior's Standards. This alternative would incorporate these structures into a development program similar in magnitude to the proposed project. Two historic structures—Station A and the Gate House—would be demolished. The major change from the proposed project would be that the parking garage with rooftop playing field would be relocated from Block 5 to Block 1, with an associated reduction in the building area of the garage and residential uses that are proposed on these blocks under the project. Similar to the proposed project, Alternative F would retain the Unit 3 Power Block for a hotel use. Also as with the project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

The general site plan for Alternative F would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street; residential uses would be generally located in the northwest, central, and northeast portions of the site, within the tallest buildings including the 300-foot tower; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and the hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The parking garage and rooftop playing field would be on the north side of the site, rather than in the center part of the site.

Under Alternative F, it is assumed that the site would be developed with 2,458,595 gsf of residential uses (2,459 dwelling units, 223 fewer units than the project), 241,574 gsf of hotel uses (220 rooms, same as the project), 597,723 gsf of commercial uses (general office, same as the project), 645,738 gsf of commercial uses (R&D, same as the project), 45,040 gsf of PDR uses (same as the project), and 107,439 gsf of retail uses (same as the project). As under the proposed project, the retail uses would be comprised of 10,744 gsf of general retail, 42,976 gsf of supermarket use, 16,116 gsf of sit-down restaurant, and 37,604 gsf of quick service restaurant. Partial Preservation 3 Alternative would also include 100,938 gsf of community facilities (e.g., childcare, media library, or community center; same as the project) and 25,000 gsf of entertainment/uses (same as the project). There would also be 870,717 gsf of parking (51,264 gsf less than the project), providing 2,487 parking spaces (135 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 5,092,764 gsf, which is a slight reduction in the magnitude of the development program compared to the proposed project (5,367,860 gsf or about 95 percent of the proposed project). Buildings heights would generally be the same as those identified for proposed project, ranging from 65 to 180 feet, with a 300-foot tower on Block 6. In addition, similar to the proposed project, there would be three 180-foot buildings on Blocks 1, 5, and 7.

Alternative F, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.6.2 Alternative F: Historical Resources and Transportation Features

With respect to historical resources, Alternative F would retain the Compressor House and Meter House and rehabilitate all or a portion of their exterior character-defining features in accordance with the Secretary of the Interior's Standards. The Compressor House and the Meter House would be converted to retail uses. Station A and the Gate House would be demolished. The Unit 3 Power Block would be retained and converted to a hotel. Similar to the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative F would be similar to the proposed project and would connect with the planned street network in the Pier 70

Mixed-Used District site directly to the north of the project site; however, Georgia Lane, on the east side of the Compressor House and Meter House, would be narrower, with sidewalks only on one side of the lane. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan and a transit shuttle service as described for the proposed project.

6.C.6.3 Alternative F: Travel Demand Assumptions

On a daily basis, Alternative F would generate a total of 91,702 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 1,907 fewer person trips). The number of external person trips and vehicle trips generated by Alternative F would be similar to the proposed project. During the a.m. peak hour, Alternative F would generate 4,968 external person trips by all modes and 1,793 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 171 fewer person trips and 69 fewer vehicle trips). During the p.m. peak hour, Alternative F would generate 7,680 external person trips by all modes and 2,476 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 143 fewer person trips and 64 fewer vehicle trips).

6.C.6.4 Alternative F: Construction

Construction of Alternative F would be similar to the proposed project, both in magnitude and duration, but construction activities associated with rehabilitation of the Compressor House and Meter House would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. Construction of Alternative F would take about the same amount of time as the proposed project. It is anticipated that construction would start in 2020 and be completed in 2036, the same 15-year construction duration as the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.C.7 Alternative G: Partial Preservation 4

Alternative G is the Partial Preservation 4 Alternative, shown in Figure 6-8, above. The purpose of this alternative is to substantially lessen the significant impacts on historic architectural

resources to both individual resources and the historic district that would occur under the proposed project, while still meeting most of the project objectives. The partial preservation alternatives aim to retain in full or in part the character-defining features of one or more of the identified individual resources and at the same time reduce impacts to the historic district. This alternative was designed to meet the basic project objectives and a majority of all the objectives.

6.C.7.1 Alternative G: Land Use Plan

Alternative G would retain the façades and exterior character-defining features of Station A, the Compressor House, and the Meter House, but would include new construction within and above these buildings. A 125-foot-tall office building would extend from within the façades of the southern portion of Station A, and a 300-foot-tall residential tower would rise from within the façades of the northern portion of Station A. The ground floors within the façades of the Compressor House and Meter House would be used for retail, with new construction extending 65 feet above the Compressor House to be used for office space. The alternative would incorporate these structures into a development similar in magnitude to the proposed project. One historic structure—the Gate House—would be demolished. The major changes from the proposed project would be: (1) the parking garage with rooftop playing field would be relocated from Block 5 to Block 1, with an associated reduction in the building area of the garage and residential uses that are proposed on these blocks under the project, and (2) the 65-foot and 180-foot residential buildings adjacent to the Compressor House and Meter House would be redesigned. Similar to the proposed project, Alternative G would retain the Unit 3 Power Block for a hotel use. Also as with the project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

The general site plan for Alternative G would remain similar to that of the proposed project: office uses would be located on the south side of the site along 23rd Street (including the new construction within the façades of Station A and the Compressor House); residential uses would be generally located in the northwest, central, and northeast portions of the site within the tallest buildings including the 300-foot tower within the façade of the northern portion of Station A; R&D/life sciences uses would be located on the north side of the site, abutting the Pier 70 development to the north; and hotel use would be along the bay shoreline, within and adjacent to the Unit 3 Power Block. The parking garage and rooftop playing field would be on the north side of the site, rather than in the center part of the site.

Under the Alternative G, it is assumed that the site would be developed with 2,491,852 gsf of residential uses (2,492 dwelling units, 190 fewer units than the project), 241,574 gsf of hotel uses (220 rooms, same as the project), 592,018 gsf of commercial uses (general office, 5,705 gsf less than the project), 645,738 gsf of commercial uses (R&D, same as the project), 45,040 gsf of PDR uses (same as the project), and 107,439 gsf of retail uses (same as the project). As under the proposed project, the retail uses would be comprised of 10,744 gsf of general retail, 42,976 gsf of supermarket use, 16,116 gsf of sit-down restaurant, and 37,604 gsf of quick service restaurant. Partial Preservation 4 Alternative would also include 100,938 gsf of community facilities (e.g., childcare,

media library, or community center; same as the project) and 25,000 gsf of entertainment/assembly uses (same as the project). There would also be 876,750 gsf of parking (45,231 gsf less than the project), providing 2,502 parking spaces (120 fewer than the project), including a centralized parking facility.

Overall, the total building area would be 5,126,349 gsf, which is a slight reduction in the magnitude of the development compared to the proposed project (5,367,860 gsf or about 96 percent of the proposed project). Buildings heights would generally be the same as those identified for the proposed project, ranging from 65 to 180 feet, with a 300-foot tower on Block 6. In addition, similar to the proposed project, there would be three 180-foot buildings on Blocks 1, 5, and 7.

Alternative G, like all the preservation alternatives, would not reduce any of the open space elements of the proposed project. Similar to the proposed project, this alternative would include 6.2 acres of open space, including a rooftop playing field and extension of the Blue Greenway and Bay Trail through the project site. This alternative would also include the proposed dock and associated wharf and gangway along the bay shoreline.

6.C.7.2 Alternative G: Historical Resources and Transportation Features

With respect to historical resources, Alternative G would retain the façades of Station A, the Compressor House, and the Meter House, and it would add new construction within and above these three structures. However, due to the unknown design of the new construction, the combination of the retained/rehabilitated façades of these structures and new interior construction, the resultant structure would not necessarily be in accordance with the Secretary of the Interior's Standards. The Gate House would be demolished. Within the façade of Station A would be a 125-foot office building in the southern portion and a 300-foot tower in the northern portion. Within the façades of the Compressor House and the Meter House, the ground floor would be retail uses, while the upper floors in the new construction above the Compressor House would be office uses. The Unit 3 Power Block would be retained and converted to a hotel. Similar to the proposed project, the Boiler Stack would be retained and repurposed as a ground floor retail space (though allowable uses could also include entertainment, arts, and recreation), but unlike the proposed project, it would also be rehabilitated in accordance with the Secretary of the Interior's Standards.

With respect to transportation features, the interior street network of Alternative F would be similar to the proposed project and would connect with the planned street network on the Pier 70 Mixed-Used District site directly to the north of the project site; however, Georgia Lane, on the east side of the Compressor House and Meter House, would be narrower, with sidewalks only on one side of the lane. Like the proposed project, this alternative would provide for a future Muni bus stop on 23rd Street, construct sidewalk improvements on Illinois Street, and install new traffic signals at Illinois/23rd and Illinois/Humboldt. Similarly, this alternative would include a transportation demand management (TDM) plan and a transit shuttle service as described for the proposed project.

6.C.7.3 Alternative G: Travel Demand Assumptions

On a daily basis, Alternative G would generate a total of 91,881 person trips by all modes, compared to 93,609 person trips for the proposed project (i.e., 1,728 fewer person trips). The number of external person trips and vehicle trips generated by Alternative G would be similar to the proposed project. During the a.m. peak hour, Alternative G would generate 4,985 external person trips by all modes and 1,800 external vehicle trips, compared to 5,139 external person trips and 1,862 external vehicle trips for the proposed project (i.e., 154 fewer person trips and 62 fewer vehicle trips). During the p.m. peak hour, Alternative G would generate 7,693 external person trips by all modes and 2,482 external vehicle trips, compared to 7,823 external person trips and 2,540 external vehicle trips for the proposed project (i.e., 130 fewer person trips and 58 fewer vehicle trips).

6.C.7.4 Alternative G: Construction

Construction of Alternative G would be similar to the proposed project, both in magnitude and duration, but construction activities associated with retaining the façades of Station A, the Compressor House, and the Meter House would be incorporated into the construction plan. In general, the same types of construction activities and equipment would be required. Construction of Alternative G would take about the same amount of time as the proposed project. It is anticipated that construction would start in 2020 and be completed in 2036, the same 15-year construction duration as the proposed project. Construction would occur in six phases, similar to the proposed project. Like the proposed project, actual construction dates would be affected by the PG&E remediation process and market conditions and would not start until all necessary permits are secured.

Like the proposed project, the project sponsor would conduct a human health risk assessment for the proposed sensitive land uses (residential/day care), and the San Francisco Regional Water Quality Control Board may require the project sponsor to implement additional onsite remediation to accommodate the proposed uses and/or to address previously unknown contaminants that may potentially be discovered during the course of project construction. The project sponsor would implement any additional onsite remediation requirements as part of the project implementation.

6.D Alternatives Analysis

6.D.1 Impacts of Alternatives

This section presents the detailed analysis of the impacts of the selected alternatives compared to the proposed project. Each of the seven alternatives are analyzed for all the same resource topics presented in Chapter 4 and the initial study (Appendix B). The impact analysis is based on the same environmental setting and significance thresholds presented for each resource topic in Chapter 4. Except as noted, the impact analysis of the alternatives is qualitative, relative to the identified impacts of the project, and the reader is referred to Chapter 4 and the initial study for the more detailed analysis. For transportation, noise, and air quality, however, the analyses are

quantitative in order to provide a more refined comparison of the severity of impacts associated with the alternatives relative to those of the proposed project.

6.D.1.1 Land Use

Like the proposed project, none of the seven alternatives would physically divide an established community. As described in Chapter 4, Section 4.B, the project site is isolated from the Central Waterfront area, and any development on the project site, such as those described in Alternatives A through G, would reconnect the site to the established surrounding community, both through the proposed street network and publicly accessible open spaces and shoreline access. Therefore, for all alternatives, like the proposed project, this impact, both at a project level and at a cumulative level, would be *less than significant*.

Similarly, like the proposed project, none of the seven alternatives would conflict with applicable land use plans or policies adopted for purposes of avoiding or reducing environmental impacts, such that a substantial adverse physical change in the environment related to land use would result. Alternative A, by definition, would be consistent with the Planning Code, and it would be consistent with other plans because it would continue the site's historic largely industrial use while providing new public access to the Bay and publicly accessible open spaces, including the Bay Trail and Blue Greenway. The development scenarios under Alternatives B through G are not substantially different from the proposed project with respect to this impact. For Alternatives B through G, if the Board of Supervisors finds that amendments to the General Plan and Planning Code are warranted to allow for implementation of the alternative, conflicts between the General Plan and Planning Code, and the alternative would be resolved through legislative amendment to the General Plan and Planning Code. To the extent that physical environmental impacts may result from such conflicts for Alternatives B through G, this section discloses and analyzes these physical impacts under the relevant environmental topic sections, below. Therefore, for all alternatives, like the proposed project, this impact, both at a project level and a cumulative level, would be *less than significant*.

6.D.1.2 Aesthetics

Like the proposed project, all seven alternatives would be located on an infill site, within a transit priority area, and would include an employment center. Therefore under CEQA section 21099, aesthetics are not to be considered in determining significant environmental effects of any of the alternatives.

6.D.1.3 Population and Housing

Like the proposed project, construction of Alternatives A through G would not induce substantial population growth, because project construction workers would likely be drawn from the local and regional construction work force. In all cases, the magnitude and duration of construction would be similar to or less than that of the proposed project, and for the same reasons described in Chapter 4, Section 4.C, construction workers for any of the alternatives would likely be drawn from the local and regional construction work force such that none of the alternatives would induce population growth by attracting a substantial number of construction workers from outside of the region.

Therefore, under all alternatives, like the proposed project, project construction would not create demand for additional housing or other facilities and services associated with growth, and the growth-inducing impact of construction of any of the alternatives would be *less than significant*.

Similar to the proposed project, the operation of Alternatives A through G would not induce substantial population growth beyond growth planned for the city or region. In all cases, the proposed development plan for Alternatives A through G would be similar to or less than that of the proposed project, such that residential population growth or employment growth generated by the alternatives would be the same as or less than that of the proposed project, and this growth would be consistent with the City's and regional plans for growth in the area. Therefore, like the proposed project, the operational growth-inducing impacts of all alternatives, at both a project and cumulative level, would be *less than significant*.

As described in Chapter 4, Section 4.C, none of the alternatives would displace existing housing or substantial numbers of people because the project site is currently a mostly vacant industrial site which does not include residential uses. Therefore, like the proposed project, there would be *no impact* on housing or population displacement for any of the alternatives.

6.D.1.4 Cultural Resources

Archeological Resources, Human Remains, and Tribal Cultural Resources

As described in the initial study in Appendix B, any ground-disturbing activities during project construction—particularly excavation, grading, and foundation work—could have the potential to uncover terrestrial prehistoric archeological resources, submerged prehistoric archeological resources, historic archeological resources, tribal cultural resources, and/or human remains. This same impact would be true of all of the alternatives, since ground-disturbing activities, including excavation, would be required for construction of all alternatives. However, implementation of Mitigation Measures M-CR-1, Archeological Testing, and M-CR-3, Tribal Cultural Resources Interpretive Program, would (1) require the development of an archeological testing program to determine presence or absence of such resources; (2) ensure that work would halt if sensitive resources are inadvertently discovered during project implementation; and (3) require that proper procedures are followed to ensure appropriate treatment of significant resources, including tribal cultural resources. Therefore, for Alternatives A through G, project and cumulative impacts on archeological resources, human remains, and tribal cultural resources would be *less than significant with mitigation*, the same as for the proposed project, and the same mitigation measures would apply to all alternatives.

Historic Architectural Resources

Project impacts on historic architectural resources are described in Chapter 4, Section 4.D, and as described below, impacts of the full and partial preservation alternatives on these resources are reduced compared to the project. See Section 4.D for a more detailed description of the impacts. Potential construction impacts on onsite historic resources to be retained and/or rehabilitated under the full and partial preservation alternatives are described below under Noise and Vibration, page 6-67.

Impacts on Individual Historical Resources

Alternative A (No Project/Code Compliant Alternative) would demolish Station A, the Meter House, and the Compressor House, the three resources on the project site that are individually eligible for the California Register, the same effect as the proposed project. Once demolished, these structures would no longer be eligible as historical resources under CEQA. And like the proposed project, the same measures—Mitigation Measures M-CR-5a, 5b, and 5c—requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Therefore, like the proposed project, the impact on individual historical resources under Alternative A would be *significant and unavoidable with mitigation*.

Alternatives B and C (Full Preservation Alternatives) are both full preservation alternatives, and they would restore and rehabilitate Station A, the Meter House, and the Compressor House in a manner consistent with the Secretary of the Interior's Standards. However, implementation of Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that these historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, the impact on individually eligible historical resources under Alternatives B and C would be *less than significant with mitigation*.

Alternative D (Partial Preservation 1 Alternative) would restore and rehabilitate Station A in accordance with the Secretary of the Interior's Standards, but would demolish the Meter House and the Compressor House, two individually eligible resources. Once demolished, these structures would no longer be eligible as historical resources under CEQA. Thus, like the proposed project, the same measures—Mitigation Measures M-CR-5a, 5b, and 5c—requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, like the proposed project but to a lesser degree, the impacts on individually eligible historical resources under Alternative D would be *significant and unavoidable with mitigation*.

Alternative E (Partial Preservation 2 Alternative) would restore and rehabilitate the southern portion of Station A in accordance with the Secretary of the Interior's Standards to the extent feasible, but would demolish the northern portion of Station A as well as the Meter House and the Compressor House. Once demolished, these structures would no longer be eligible as historical resources under CEQA. For the purposes of this analysis, it is assumed that demolition of the northern portion of Station A would render this structure ineligible for the California Register along with the other two buildings. Like the proposed project, the same measures—Mitigation Measures M-CR-5a, 5b, and 5c—requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, like the proposed project but to a

lesser degree (but to a greater degree than Alternative D), the impacts on individually eligible historical resources under Alternative E would be *significant and unavoidable with mitigation*.

Alternative F (Partial Preservation 3 Alternative) would restore and rehabilitate the Meter House and the Compressor House in accordance with the Secretary of the Interior's Standards, but would demolish Station A. Once demolished, this structure would no longer be eligible as a historical resource under CEQA. Like the proposed project, the same measures—Mitigation Measures M-CR-5a, 5b, and 5c—requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, like the proposed project but to a lesser degree, the impacts on individually eligible historical resources under Alternative F would be *significant and unavoidable with mitigation*.

Alternative G (Partial Preservation 4 Alternative) would retain the façades of Station A, the Meter House, and the Compressor House, but would not necessarily rehabilitate these structures in accordance with the Secretary of the Interior's Standards. However, this alternative would not necessarily rehabilitate Station A, the Meter House, and the Compressor House in accordance with the Secretary of the Interior's Standards because façade retention alone may not be sufficient to preserve the distinctive character of these historic buildings, particularly given the vertical additions to two structures. Under this alternative, two buildings would be altered with respect to their historic massing, spatial relationships, and proportions, likely resulting in a loss of integrity of design, setting, and feeling, which are three of the seven characteristics of integrity necessary for a resource to be eligible for the California Register. Although the smaller Meter House would not be increased in height, it would be diminished in scale next to the taller Compressor House, thus potentially losing integrity of setting and feeling. While the three buildings might retain integrity of materials (at least in part), association (with historic events and persons), location, and workmanship, this might not be sufficient for the buildings to retain California Register eligibility, particularly if complete façade retention is not feasible. Assuming the structures are not rehabilitated in accordance with the Secretary's Standards, they may no longer be eligible as historic resources under CEQA. Thus, like the proposed project, the same measures—Mitigation Measures M-CR-5a, 5b, and 5c—requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained historic resources and façades would be protected during construction of the rest of the development. Therefore, like the proposed project but to a lesser degree, the impacts on individually eligible historic resources under Alternative G would be *significant and unavoidable with mitigation*.

Demolition and Alteration Impacts on the Third Street Industrial District

Alternative A (No Project/Code Compliant Alternative) would result in demolition or substantial and adverse alteration of five buildings and structures that contribute to the significance of the Third Street Industrial District. These are Station A, the Gate House, the Meter House, the

Compressor House, and the Unit 3 Power Block. Like the proposed project, the Boiler Stack would be retained, and assuming implementation of Mitigation Measures M-CR-5d (Rehabilitation of the Boiler Stack), M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack) and M-NO-4a, 4b, and 4c (regarding vibration monitoring and vibration controls), this historic structure would be rehabilitated consistent with appropriate performance standards approved by Planning Department preservation staff. Impacts on the Boiler Stack, similar to the proposed project, would be *less than significant with mitigation*.

Nevertheless, according to the HRER, the demolition of these contributors (i.e., Station A, the Gate House, the Meter House, the Compressor House, and the Unit 3 Power Block) would result in "the loss of the above characteristics that justify, in part, the district's eligibility for the California Register" and would "remove historic materials, features, and spaces that characterize the historic district and justify the existing district boundary, and ... result in physical destruction, damage or alteration such that the significance of the district [would] be materially impaired." As with individual resources, Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program would lessen the severity of the impact but not to a less-than-significant level. Therefore, overall, like the proposed project, the impact of demolition of these buildings and its effect on the integrity of the Third Street Industrial District, despite the rehabilitation of the Boiler Stack, would be *significant and unavoidable with mitigation*.

Alternatives B and C (Full Preservation Alternatives) would retain and rehabilitate the six buildings and structures that contribute to the significance of the Third Street Industrial District in accordance with the Secretary of the Interior's Standards. These are Station A, the Gate House, the Meter House, the Compressor House, the Unit 3 Power Block, and the Boiler Stack. For these alternatives, it is assumed that rehabilitation of the Unit 3 Power Block would be feasible, even if the reuse of the structure were more limited than under the proposed project. With the rehabilitation of these structures in accordance with the Secretary's Standards, these resources would maintain their significance as contributors to the Third Street Historic District. However, it is assumed that mitigation measures similar to Mitigation Measure M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack) would be required for all six historical structures, not just the Boiler Stack. In addition, Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that these historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, the alteration impacts on the physical characteristics of the Third Street Industrial District under Alternatives B and C would be *less than significant with mitigation*.

Alternative D (Partial Preservation 1 Alternative) would retain Station A and the Boiler Stack and rehabilitate these structures consistent with the Secretary of Interior's Standards, but three contributing resources, the Meter House, the Compressor House, and the Gate House, would be demolished. The Unit 3 Power Block would be retained and reused, but alterations may not be in accordance with Secretary's Standards. If Alternative D is constructed as proposed, the resultant count would be 50 architectural resources remaining in the district, 22 of which are contributing resources (approximately 44 percent) and 28 of which are non-contributing resources

(approximately 56 percent). Given that Station A is the largest and one of the most visually prominent buildings on the project site, is one of the oldest buildings in the district, represents a relatively rare typology of large industrial brick building within the district, and is associated with the site's long history of power generation, retention and rehabilitation of this building such that it would retain its historic integrity, along with retention of the Unit 3 Power Block and retention and historically sensitive rehabilitation of the Boiler Stack, would sufficiently lessen effects on the Third Street Industrial District, compared to those of the proposed project, such that unlike the proposed project, effects on the district would be considered *less than significant with mitigation*. Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program would apply to this alternative with respect to the buildings to be demolished (i.e., Meter House, Compressor House, and Gate House) or substantially altered (i.e., Unit 3 Power Block), and Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development.

Alternative E (Partial Preservation 2 Alternative) would retain and rehabilitate the southern portion of Station A in accordance with the Secretary of the Interior's Standards to the extent feasible and would rehabilitate the Boiler Stack in accordance with the Secretary's Standards. However, this alternative would demolish the northern portion of Station A as well as the Meter House, the Compressor House, and the Gate House. The Unit 3 Power Block would be retained, but alterations may not be in accordance with the Secretary's Standards. Retention of a portion of Station A would retain the following characteristics of the district that justify, in part, its eligibility for the California Register: prominent industrial brick building typology, industrial facilities from the turn of the 20th century, and association with early 20th century power generation. Retention of Station A would also help to visually connect the Spreckels Sugar Warehouses on 23rd Street and the Unit 3 power block and Boiler Stack on the project site with the rest of the district on Third Street. Therefore, retention of a portion of Station A, retention of the Unit 3 Power Block, and retention and rehabilitation of the Boiler Stack, would sufficiently lessen effects on the Third Street Industrial District, compared to those of the proposed project, such that unlike the proposed project, effects on the district would be considered *less than significant with mitigation*. Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program would apply to this alternative with respect to the buildings to be demolished (i.e., northern portion of Station A as well as the Meter House, Compressor House, and Gate House) or substantially altered (i.e., Unit 3 Power Block), and Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development.

Alternative F (Partial Preservation 3 Alternative) would retain and rehabilitate the Meter House, the Compressor House, and the Boiler Stack in accordance with the Secretary of the Interior's Standards, but would demolish Station A and the Gate House. The Unit 3 Power Block would be retained, but alterations may not be in accordance with the Secretary's Standards. Although the demolition of or substantial alterations to Station A, the Gate House, and the Unit 3 Power Block would reduce the association of the remaining three contributors to the main portion of the

historic district along Third Street., the retention and rehabilitation in accordance with the Secretary's Standards of the Meter House, Compressor House, and Boiler Stack would help to retain the continuity of the historic district between 23rd Street and rest of the district on Third Street. Additionally, the physical prominence and unique building typologies of the Meter House, the Compressor House, and the Boiler Stack would maintain continuity with the Third Street Industrial District's broader industrial themes. Despite the loss of three of the 25 district contributors and the changes to the historic district's integrity of setting due to new construction on the project site, rehabilitation of the unique qualities of the Meter House, the Compressor House, and the Boiler Stack would allow the Third Street Industrial District to retain its eligibility for listing in the California Register. Rehabilitation of these three district contributors in accordance with the Secretary's Standards plus implementation of Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program with respect to the buildings to be demolished (i.e., Station A and the Gate House) or substantially altered (i.e., the Unit 3 Power Block) would reduce the impacts to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, this alternative's effect on the Third Street Industrial District would be *less than significant with mitigation*.

Alternative G (Partial Preservation 4 Alternative) would rehabilitate the Boiler Stack in accordance with the Secretary of the Interior's Standards and retain the façades of Station A, the Meter House, and the Compressor House, with new vertical construction built within and above Station A and the Compressor House. However, this alternative would not necessarily rehabilitate Station A, the Meter House, and the Compressor House in accordance with the Secretary of the Interior's Standards because façade retention alone may not be sufficient to preserve the distinctive character of these historic buildings, particularly given the vertical additions to two structures.

Under this alternative, the Gate House would be demolished. The Unit 3 Power Block would be retained, but alterations may not be in accordance with Secretary's Standards. In summary, one of the six contributors would be retained in accordance with the Secretary's Standards, four would be retained in part, and one contributor would be demolished. Although retaining the façades of Station A, the Meter House, and the Compressor House would help communicate the character-defining features of the historic district to an extent, it would also adversely affect the integrity of these buildings. Likewise, the integrity of the Unit 3 Power Block would be diminished. Although the historic buildings that are retained, in whole or in part, would remain in proximity to the contributing Western Sugar Refinery Warehouses immediately to the south of the project site, the overall industrial character of the project site would be compromised. Nevertheless, in terms of the district as a whole, the preservation of five contributors in whole or in part would continue to communicate the Third Street Industrial District's industrial themes. Despite the loss of the Gate House, the partial loss or alteration of four contributing structures, and changes to the historic district's integrity of setting due to new construction on the project site, this alternative would retain sufficient character-defining features of the Third Street Industrial District on the project site (such as prominent industrial brick building typology, industrial facilities from the turn of the 20th century, and association with early 20th century

power generation) and elsewhere within the district to allow the Third Street Industrial District to retain its eligibility for listing in the California Register. These considerations plus implementation of Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program with respect to the building to be demolished (i.e., the Gate House) or substantially altered (i.e., the Unit 3 Power Block) would reduce the impacts to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, this alternative's effect on the Third Street Industrial District would be *less than significant with mitigation*.

Infill Construction Impacts on the Third Street Industrial District

Under all alternatives, new construction could be of a size, scale, and density and/or could use exterior materials that would be incompatible with the Third Street Industrial District. This would adversely affect the integrity of the Third Street Industrial District's setting and feeling. However, in and of itself and apart from the demolition and/or adverse alteration of several district contributors, evaluated above, the density and height of new construction would not necessarily affect the historic district's overall integrity such that the district would no longer be able to convey its historic significance. Given the limited design detail available for any of the alternatives, like the proposed project, it is conservatively determined that the new construction of any of the alternatives could be incompatible with the Third Street Industrial District, a significant impact. However, for all alternatives, implementation of Mitigation Measure M-CR-6, Design Controls for New Construction, future new construction would be compatible with the character-defining features of the Third Street Historic District. Therefore, like the proposed project, for Alternatives A through G, this impact would be *less than significant with mitigation*.

Impacts on the Union Iron Works Historic District

Like the proposed project, all alternatives could have an indirect visual impact on the Union Iron Works Historic District located directly north of the project site. But similar to the proposed project, the Pier 70 Mixed-Use District project includes planned infill construction between the closest contributing properties in this historic district and the project site. The planned infill construction on the Pier 70 site will introduce a new roadway and new construction with heights up to 90 feet along the southern edge of the Union Iron Works Historic District. New construction from any of the alternatives would be more than 200 feet away from contributing properties in this historic district. Additionally, new construction under any of the alternatives would be contemporary in design and materials such that the character-defining features and form of the Union Iron Works Historic District would be clearly differentiated from new development on the project site. For these reasons, the indirect visual impacts of any of the alternatives, like the proposed project, would be those of a project that "demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by the lead agency for purposes of CEQA." Therefore, like the proposed project, this impact would be *less than significant* for all alternatives.

Cumulative Impacts on Third Street Industrial District

As described in Chapter 4, Section 4.D, past, present, and reasonably foreseeable future projects will result in the loss of seven contributing resources to demolition or substantial alteration, which in combination with the impact on historical resources associated with the various alternative would be a cumulative impact on the Third Street Industrial District.

Alternative A (No Project/Code Compliant Alternative) would demolish or substantially alter all district contributors other than the Boiler Stack. Like the proposed project, the demolition or substantial alteration under Alternative A would be a considerable contribution to the cumulative impact on the Third Street Industrial District, a significant impact. Implementation of Mitigation Measures M-CR-5a, 5b, 5c, 5d, and 5e and M-CR-6 would reduce the severity of the contribution, but not to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the Boiler Stack would be protected during construction of the rest of the development. Therefore, like the proposed project, Alternative A would make a considerable contribution to a cumulative impact on the Third Street Industrial District. The impact would be *significant and unavoidable with mitigation*, the same as the proposed project.

Alternatives B and C (Full Preservation Alternatives). The two Full Preservation Alternatives would retain and rehabilitate the six district contributors in a manner consistent with the Secretary of Interior's Standards. Therefore, neither of these two alternatives would result in a cumulatively considerable contribution to the cumulative impact on the Third Street Industrial District. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, the cumulative impact of Alternatives B and C on the Third Street Industrial District would be *less than significant with mitigation*.

Alternative D (Partial Preservation 1 Alternative). Alternative D would retain and rehabilitate Station A in a manner consistent with the Secretary of Interior's Standards, thereby retaining intact the largest and most visually prominent structure on the project site associated with the site's history of power generation. This feature, along with retention of the Unit 3 Power Block and retention and historically sensitive rehabilitation of the Boiler Stack, which would be retained, repurposed, and rehabilitated consistent with Secretary's Standards, would lessen the contribution of this alternative to the cumulative impacts on the Third Street Industrial District. Furthermore, implementation of Mitigation Measures M-CR-5a, 5b, and 5c, requiring documentation, public interpretation, and a salvage program would apply to this alternative with respect to the buildings to be demolished (i.e., the Meter House, the Compressor House, and the Gate House) or substantially altered (i.e., the Unit 3 Power Block), such that the overall contribution of this alternative to the cumulative impact on the Third Street Industrial District would be less than significant. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, the contribution of Alternative D on the cumulative impacts on the Third Street Industrial District would be *less than significant with mitigation*.

Alternatives E, F, and G (Partial Preservation 2, 3, and 4 Alternatives) would demolish and/or substantially alter important district contributors, including Station A, the Meter House, the Compressor House, and the Gate House. The Boiler Stack would be retained and rehabilitated consistent with the Secretary of Interior's Standards. However, in all cases, these partial preservation alternatives would retain certain character-defining features of at least two or more contributors to the historic district, sufficient to provide a link to the rest of the Third Street Industrial District and would allow the district to retain its eligibility for listing in the California Register. These considerations plus implementation of Mitigation Measures M-CR-5a, 5b, and 5c with respect to the buildings to be demolished or substantially altered and implementation of Mitigation Measure M-CR-6 with respect to design controls for new construction within the district would reduce the contribution of these alternatives to the cumulative impact to a less-than-significant level. Mitigation Measures M-NO-4a, 4b, and 4c regarding vibration monitoring and vibration controls would be required to ensure that the retained and rehabilitated historic resources would be protected during construction of the rest of the development. Therefore, unlike the proposed project, the contribution of Alternatives E, F, and G on the cumulative impact on the Third Street Industrial District would be *less than significant with mitigation*.

6.D.1.5 Transportation and Circulation

Transportation impacts of the proposed project are described in Chapter 4, Section 4.E, and as described below, transportation impacts of the alternatives would be similar. See Section 4.E for a more detailed description of the impacts.

Construction-related Transportation Impacts

Construction-related transportation impacts associated with Alternatives A through G would be similar to the proposed project, and like the project, these impacts would be less than significant. Improvement Measure I-TR-A, Construction Management Plan and Public Updates, identified for the proposed project, would also be applicable to all alternatives.

Alternative A (No Project/Code Compliant Alternative) would include similar construction activities as the proposed project. However, Alternative A would entail substantially less construction than the proposed project. The construction duration would be shorter (by seven years), compared to the proposed project, given the reduced level of overall square footage and internal street network improvements. Like the proposed project, the construction-related transportation impacts of Alternative A would be *less than significant*, albeit also less severe than those of the project.

Alternatives B through G (Full and Partial Preservation Alternatives) would include similar construction activities as under the proposed project as they would involve construction of a similar number of buildings and buildout of the internal street network. The construction duration of Alternative B would be four years shorter (11 years), than the proposed project (15 years), given the reduced level of overall square footage and internal street network improvements. The construction duration of Alternatives C through G would be the same as under the proposed project. Therefore, like the proposed project, the construction-related

transportation impacts of Alternatives B through G would be *less than significant*, albeit impacts of Alternative B would be somewhat less severe than those of the project.

VMT Impacts

Similar to the proposed project, all alternatives would be located in an area where the existing VMT is more than 15 percent below the existing regional average for non-residential uses. In addition, the project site meets the Proximity to Transit screening criterion, which also indicates that the proposed uses under any of the alternatives would not result in substantial additional VMT. All alternatives would generate fewer daily vehicle trips than the proposed project and therefore would generate less daily VMT than the proposed project. Alternative A would implement measures to meet the requirements of the TDM Ordinance, while Alternatives B, C, D, E, F and G would include a TDM Plan similar to the proposed project. Similar to the proposed project, the alternatives' features that would alter the transportation network (e.g., buildout of the internal street network, reconstruction of the sidewalk on the north side of 23rd Street, and restriping of 23rd Street east of Illinois Street to provide bicycle lanes in both directions and new traffic signals) would fit within the general types of projects that would not substantially induce automobile travel. Therefore, similar to the proposed project, the impacts related to VMT for Alternatives A through G would be *less than significant*.

Traffic Hazard Impacts

Traffic hazard impacts associated with Alternatives A through G would be similar to the proposed project, and like the project, these impacts would be less than significant. For all alternatives, as with the proposed project, street network designs would be required to undergo more detailed design and review to ensure that they are designed to meet City design standards. The street designs would be subject to approval by the SFMTA, Public Works, and the San Francisco Fire Department, along with other City agencies, to ensure that the streets are designed consistent with City policies and design standards and do not result in traffic hazards. Improvement Measure I-TR-B, Monitoring and Abatement of Queues, identified for the proposed project, would also be applicable to all alternatives.

Alternative A (No Project/Code Compliant Alternative). Under Alternative A, the interior street network would not be the same as under the proposed project. However, the streets would meet the standards for industrial streets within the Better Streets Plan to ensure that the streets and vehicular access to the buildings do not result in traffic hazards. Roadway widths would be designed to accommodate trucks and other vehicles associated with PDR uses. Alternative A would generate substantially fewer daily vehicle trips than the proposed project (6,635 daily vehicle trips for Alternative A, compared to 19,522 vehicle trips for the proposed project), and, similar to the proposed project, this increase in traffic volumes on the surrounding roadways would not be considered a traffic hazard. Therefore, as with the proposed project, impacts related to traffic hazards under Alternative A would be *less than significant*.

Alternatives B, C, D, E, F, and G (Full Preservation/Reduced Program, Full Preservation/Similar Program, and Partial Preservation Alternatives). Under Alternatives B through G, the street network within the project site would be similar to the proposed project, and would be designed

consistent with the Better Streets Plan to prioritize safe bicycle and pedestrian travel within the site, limit curb cuts into garages and loading facilities, and provide adequate turning radii and sight distances at intersections and driveways. Alternatives B, C and D would not include Georgia Lane, while Alternatives F and G would provide a narrower Georgia Lane with a sidewalk on one side of the street. The internal street network for Alternative E would be the same as for the proposed project. In addition, similar to the proposed project, Alternatives B through G would include new traffic signals at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street.

Alternatives B through G would generate fewer daily vehicle trips than the proposed project (between 13,045 and 19,256 daily vehicle trips for Alternatives B through G, compared to 19,522 vehicle trips for the proposed project), and, similar to the proposed project, this increase in traffic volumes on the surrounding roadways would not be considered a traffic hazard. Therefore, similar to the proposed project, impacts related to traffic hazards under Alternatives B through G would be *less than significant*.

Transit Impacts

Alternative A (No Project/Code Compliant Alternative). Unlike the proposed project, Alternative A would not include transit shuttle service between the project site and Caltrain's 22nd Street station, and BART's 16th Street station. Alternative A would also generate substantially fewer transit trips than the proposed project. During the weekday a.m. peak hour, Alternative A would generate 247 transit trips compared to 1,796 transit trips for the proposed project (i.e., 1,549 fewer transit trips), while during the weekday p.m. peak hour Alternative A would generate 337 transit trips compared to 2,223 transit trips for the proposed project (i.e., 1,886 fewer transit trips).

- The transit trips generated by Alternative A would be accommodated within SFMTA's capacity utilization standard on the T Third light rail line, as well as on the 22 Fillmore and 48 Quintara bus routes serving the project site, and therefore, unlike the proposed project, impacts related to Muni capacity would be less than significant. In addition, unlike for the proposed project, Alternative A would not affect Muni transit operations in terms of increases in transit travel times. Therefore, unlike the proposed project, impacts of Alternative A on Muni capacity utilization and transit operations would be *less than significant*. Proposed project Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Bus Routes and Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, would not be applicable to this alternative.
- Similar to the proposed project, transit trips generated by Alternative A would be accommodated on the regional transit providers, with the exception of BART to the East Bay which currently operates at more than the regional capacity utilization standard in the peak direction during the a.m. and p.m. peak hours. Alternative A would not contribute considerably to ridership on BART from the East Bay during the a.m. peak hour and to the East Bay during the p.m. peak hour, and therefore regional transit capacity utilization impacts would be less than significant. In addition, similar to the proposed project, Alternative A would not affect regional transit operations. Therefore, similar to the proposed project, impacts of Alternative A on regional transit would be *less than significant*.

Alternative B (Full Preservation/Reduced Program Alternative). Similar to the proposed project, Alternative B would include transit shuttle service between the project site and Caltrain's 22nd

Street station, and BART's 16th Street station. Alternative B would generate about 34 percent fewer transit trips than the proposed project. Alternative B would generate 1,189 transit trips compared to 1,796 transit trips for the proposed project (i.e., 607 fewer transit trips) during the weekday a.m. peak hour, and 1,472 transit trips compared to 2,223 transit trips for the proposed project (i.e., 751 fewer transit trips) during the weekday p.m. peak hour.

- Similar to the proposed project, the new transit trips would be accommodated on the T Third light rail line, and would not be accommodated on the 48 Quintara/24th Street route. However, unlike the proposed project, Alternative B's transit trips on the 22 Fillmore route would be accommodated without exceeding SFMTA's capacity utilization standard. To mitigate the impacts of Alternative B on the 48 Quintara/24th Street route, Alternative B would require a mitigation measure similar to a portion of Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes, which was identified for the proposed project. Implementation of the portion of the measure related to the 48 Quintara/Street route, would reduce the effect of increased ridership on this route to less-than-significant levels. However, similar to the proposed project, because it is not known whether SFMTA would be able to provide additional service on this route, the impact of Alternative B on the 48 Quintara/24th Street route would be considered *significant and unavoidable with mitigation*.
- Unlike the proposed project, Alternative B would not impact Muni transit operations on the 22 Fillmore or the 48 Quintara/24th Street bus routes in terms of increases in transit travel times. Therefore, unlike the proposed project, the impact of Alternative B on Muni transit operations would be *less than significant*. Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, would not be applicable to this alternative.
- Similar to the proposed project, the transit trips generated by Alternative B would be accommodated on the regional transit providers, with the exception of BART to the East Bay which currently operates at more than the regional capacity utilization standard in the peak direction during both the a.m. and p.m. peak hours. Similar to the proposed project, Alternative B would not contribute considerably to ridership on BART from the East Bay during the a.m. peak hour and to the East Bay during the p.m. peak hour, and therefore regional transit capacity utilization impacts would be less than significant. In addition, similar to the proposed project, Alternative B would not affect regional transit operations and impacts of Alternative B on regional transit would be *less than significant*.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Similar to the proposed project, Alternatives C through G would include transit shuttle service between the project site, and Caltrain's 22nd Street station, and BART's 16th Street station. Alternatives C through G would generate a similar number of transit trips as the proposed project. Alternatives C through G would generate between 1,695 and 1,767 transit trips compared to 1,796 transit trips for the proposed project (i.e., between 29 and 101 fewer transit trips) during the weekday a.m. peak hour, and between 2,131 and 2,195 transit trips compared to 2,223 transit trips for the proposed project (i.e., between 28 and 92 fewer transit trips) during the weekday p.m. peak hour.

- Similar to the proposed project, the new transit trips would be accommodated within SFMTA's capacity utilization standard on the T Third light rail line, but not on the 22 Fillmore or the 48 Quintara bus routes. Implementation of Mitigation Measure M-TR-6,

Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes, identified for the proposed project, would reduce the effect of increased ridership on these routes to less-than-significant levels. However, similar to the proposed project, because it is not known whether SFMTA would be able to provide additional service on these routes, the impact of Alternatives C through G on the 22 Fillmore and the 48 Quintara/24th Street routes would be considered *significant and unavoidable with mitigation*.

- Similar to the proposed project, Alternatives C through G would result in significant impacts on Muni transit operations on the 22 Fillmore or 48 Quintara/24th Street bus routes in terms of increases in transit travel times. Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, would be applicable to this alternative. Similar to the proposed project, because it is not certain that implementation of this mitigation measure would reduce project-generated vehicles to mitigate significant impacts of the alternatives to less-than-significant levels, the impact of Alternatives C through G on Muni transit operations would be *significant and unavoidable with mitigation*.
- Similar to the proposed project, transit trips generated by Alternatives C through G would be accommodated on the regional transit providers, with the exception of BART to the East Bay which currently operates at more than the regional capacity utilization standard in the peak direction during the a.m. and p.m. peak hours. Similar to the proposed project, Alternatives C through G would not contribute considerably to ridership on BART from the East Bay during the a.m. peak hour and to the East Bay during the p.m. peak hour, and therefore regional transit capacity utilization impacts would be less than significant. In addition, similar to the proposed project, Alternatives C through G would not affect regional transit operations. Therefore, similar to the proposed project, impacts of Alternatives C through G on regional transit would be *less than significant*.

Walking/Accessibility Impacts

Alternative A (No Project/Code Compliant Alternative). Under Alternative A, unlike the proposed project, the street network within the project site and on 23rd Street east of Illinois Street would be built out to Better Streets Plan standards for industrial streets. Unlike the proposed project, Alternative A would not reconstruct the sidewalk on the east side of Illinois Street between Humboldt and 22nd streets, nor signalize the intersection of Illinois Street/Humboldt Street. It is anticipated that under Alternative A the intersection of Illinois Street/23rd Street would be signalized, similar to the proposed project. In addition, similar to the proposed project, Alternative A would provide a multi-use trail along the waterfront.

Because the total building area of Alternative A would be about 27 percent of the proposed project and would primarily consist of PDR uses, Alternative A would result in substantially fewer person-trips compared to the proposed project, and people walking to and from the site would be accommodated on existing sidewalks and proposed sidewalks within and adjacent to the project site. Alternative A would result in an increase in the number of vehicles, pedestrians, and bicycles in the vicinity of the project site. However, this increase would be substantially less than under the proposed project, and, unlike the proposed project, would not be substantial enough to impede people walking on adjacent sidewalks and crosswalks, or affect pedestrian safety and accessibility. Unlike the proposed project, Alternative A would not result in a substantial number of people crossing at the unsignalized intersection of Illinois Street/22nd Street, and therefore would not result in a significant impact related to pedestrian safety and

accessibility at this location. Therefore, unlike the less-than-significant-with-mitigation impact under the proposed project, the impact of Alternative A on people walking would be *less than significant*.

Alternatives B, C, D, E, F, and G (Full Preservation/Reduced Program, Full Preservation/Similar Program, and Partial Preservation Alternatives). Alternatives B through G would include similar street network changes within the project site and offsite improvements as under the proposed project (e.g., signalization of the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, sidewalk reconstruction on the east side of Illinois Street between 22nd and 23rd streets) to accommodate pedestrian travel within and adjacent to the project site.

Alternative B would result in about 34 percent fewer person trips compared to the proposed project, while Alternatives C through G would generate a similar number of person trips as the proposed project. Under Alternatives B through G, similar to the proposed project, it is anticipated that the existing and proposed pedestrian-related features would accommodate people walking within the site, and would not result in hazardous conditions or present barriers to people walking to and from the project site. However, similar to the proposed project, the combination of existing conditions at the intersection of Illinois Street/22nd Street, project-generated increases in vehicular travel on Illinois Street, and the large number of people walking between the project site and destinations to the north and west, would result in significant impacts related to pedestrian safety and accessibility. Proposed project Mitigation Measure M-TR-12, Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street would also be applicable to Alternatives B through G, and with implementation of this measure, the impacts on people walking, similar to the proposed project, would be *less than significant with mitigation*.

Bicycle Impacts

Alternative A (No Project/Code Compliant Alternative). Alternative A would not provide bicycle facilities on streets within the project site, however, similar to the proposed project, would provide bicycle lanes on 23rd Street east of Illinois Street and the Planning Code class 1 bikeway along the waterfront. Because the total building area of Alternative A would be about 27 percent of the proposed project and would primarily consist of PDR uses, Alternative A would result in substantially fewer bicycle trips compared to the proposed project. Similar to the proposed project, Alternative A would result in an increase in the number of vehicles, pedestrians, and bicycles in the vicinity of the project site; however, this increase would be substantially less than for the proposed project, and, similar to the proposed project, would not be substantial enough to affect bicycle travel or facilities in the area, create potentially hazardous conditions for bicyclists, or interfere with bicycle accessibility. Therefore, similar to the proposed project, the impact of Alternative A on bicycle facilities and circulation would be *less than significant*.

Alternatives B, C, D, E, F, and G (Full Preservation/Reduced Program, Full Preservation/Similar Program, and Partial Preservation Alternatives). Alternatives B through G would provide a similar street network within the project site as under the proposed project, and proposed bicycle facilities would be similar to the proposed project. The exception would be Alternatives B, C and D which would not include Georgia Lane (which for the proposed project includes class II and

class III bicycle facilities in the northbound and southbound directions, respectively). Alternative B would result in about 34 percent fewer bicycle trips compared to the proposed project, while the number of bicycle trips generated by Alternatives C through G would be similar to the proposed project. Under Alternatives B through G, similar to the proposed project, it is anticipated that the existing, planned, and proposed bicycle facilities in the project vicinity would be well utilized, and it is not expected that the vehicle, bicycle or pedestrian trips associated with these alternatives would result in significant impacts on bicyclists. Therefore, similar to the proposed project, the impacts of Alternatives B through G on bicycle facilities and circulation would be *less than significant*.

Loading Impacts

Alternative A (No Project/Code Compliant Alternative). Similar to the proposed project, Alternative A would provide onsite (i.e., within buildings) and on-street commercial loading spaces to accommodate the loading demand. Based on the currently anticipated program for Alternative A, the number of commercial loading spaces that would be provided under this alternative would be less than would be provided under the proposed project (i.e., 25 loading spaces for Alternative A, compared to 54 spaces for the proposed project); however, it is anticipated that at the time the buildings are constructed, the number of loading spaces for each building would be determined based on the actual PDR use.

Alternative A would provide substantially fewer square feet of development than the proposed project, however, depending on the type of activity that would occur within the PDR space, the number of delivery/service vehicle trips could be up to the 687 delivery/service vehicle trips per day for the proposed project. The maximum loading demand during the peak hour of loading activities, assuming the higher manufacturing/industrial type uses within the PDR space would be 40 spaces. Because PDR uses that generate a greater commercial loading demand would include additional loading spaces within the building or on-street loading zones adjacent to the proposed uses, the loading demand associated with Alternative A would be accommodated within the project site either within buildings or within the proposed on-street commercial loading zones and would not result in double-parking of trucks within travel lanes or bicycle lanes on adjacent streets such as 23rd Street or Illinois Street, or affect transit and vehicle circulation, or bicyclists or people walking. In addition, similar to the proposed project, Alternative A would include some passenger loading/unloading zones to serve the office uses, albeit fewer than the proposed project. Because Alternative A would provide commercial and passenger loading spaces within the project site to accommodate the commercial and passenger loading demand, loading impacts under this alternative, similar to the proposed project, would be *less than significant*.

Alternative B (Full Preservation/Reduced Program Alternative). Similar to the proposed project, Alternative B would include onsite and on-street commercial loading spaces and on-street passenger loading/unloading zones to accommodate the loading demand. Because Alternative B would provide less residential and non-residential uses, the number of onsite and on-street commercial loading spaces that would be provided would be less than for the proposed project (i.e., 36 commercial loading spaces for Alternative B, compared to 54 for the proposed project). Similar to

the proposed project, Alternative B would provide on-street passenger loading/unloading zones throughout the project site.

Alternative B would generate 452 daily truck and service vehicle trips compared to 687 for the proposed project. The commercial loading demand during the peak hour of loading activities would also be less than for the proposed project (i.e., peak loading demand of 28 spaces, compared to 42 spaces for the proposed project), and the demand for 28 loading spaces would be accommodated within the 36 on-street and onsite commercial loading spaces, similar to the proposed project. Therefore, the peak commercial vehicle and passenger loading demand associated with Alternative B would be accommodated within the project site without resulting in double-parking of trucks within travel lanes or bicycle lanes, or affect transit, vehicle, bicycle or pedestrian circulation. Because Alternative B would accommodate the commercial and passenger loading demand, loading impacts under this alternative, similar to the proposed project, would be *less than significant*.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Similar to the proposed project, Alternatives C through G would include on- and off-street commercial loading spaces and on-street passenger loading/unloading zones to accommodate the projected demand for loading spaces. The number of onsite and on-street commercial loading spaces would be the same or similar to the proposed project (i.e., 54 loading spaces for Alternatives C and F, 53 loading spaces for Alternative D, and 52 loading spaces for Alternatives E and G, compared to 54 for the proposed project). Similar to the proposed project, Alternatives C through G would also provide on-street passenger loading/unloading zones throughout the project site.

Alternatives C through G would provide a similar land use program as the proposed project, and would therefore generate a similar number of delivery/service vehicle trips (between 664 and 680 daily delivery/service vehicle trips for Alternatives C through G, compared to 687 for the proposed project). Similar to the proposed project, because the proposed supply of commercial loading spaces would exceed the commercial loading demand during the peak hour of loading operations, the commercial loading demand would be accommodated without resulting in double-parking of trucks within travel lanes or bicycle lanes, or affect transit, vehicle, bicycle or pedestrian circulation. Similar to the proposed project, Alternatives C through G would accommodate the commercial loading and passenger loading/unloading demand, and, similar to the proposed project, loading impacts under these alternatives would be *less than significant*.

Parking Impacts

Alternative A (No Project/Code Compliant Alternative). Alternative A would provide 784 onsite vehicle parking spaces (1,838 fewer spaces than the proposed project). The vehicle parking demand generated by Alternative A would be 1,652 spaces during the midday period and 374 spaces during the evening period (2,552 and 2,635 spaces less than the proposed project during the midday and evening periods, respectively). Similar to the proposed project, the parking demand during the midday period would not be accommodated onsite; however, because Alternative A would not provide any residential uses and would provide substantially less

commercial office and retail uses, parking demand associated with Alternative A land uses would be accommodated onsite during the evening period. Similar to the proposed project, during the midday period drivers may seek parking elsewhere or change travel modes to transit, walking, bicycling, or other modes, however this would not create hazardous conditions affecting transit, traffic, bicycling, or people walking, or significantly delay transit. Therefore, similar to the proposed project, the impact of Alternative A related to parking would be *less than significant*.

Alternative B (Full Preservation/Reduced Program Alternative). Alternative B would provide 1,729 onsite vehicle parking spaces (893 fewer spaces than the proposed project), and, similar to the proposed project, Alternative B would include a district parking garage. The vehicle parking demand generated by Alternative B would be 2,814 spaces during the midday period and 1,989 spaces during the evening period (1,391 and 1,020 spaces less than the proposed project during the midday and evening periods, respectively). Similar to the proposed project, the parking demand during both the midday and evening periods would not be accommodated onsite; however, because Alternative B would provide a third less of residential and non-residential uses than the proposed project, the demand that would not be accommodated onsite would be less than for the proposed project. Similar to the proposed project, drivers may seek parking elsewhere or change travel modes to transit, walking, bicycling, or other modes, however this would not create hazardous conditions affecting transit, traffic, bicycling, or people walking, or significantly delay transit. Similar to the proposed project, impacts of Alternative B related to parking would be *less than significant*.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Alternatives C through G would provide between 37 and 213 fewer onsite vehicle parking spaces than the proposed project, and, similar to the proposed project, these alternatives would include a district parking garage. The vehicle parking demand generated by Alternatives C through G would range between 4,003 and 4,115 spaces during the midday period and between 2,827 and 2,999 spaces during the evening period (between 90 and 200 fewer spaces than the proposed project during the midday period, and between 10 and 182 fewer spaces during the evening period). Similar to the proposed project, the parking demand would not be accommodated onsite, and drivers may seek parking elsewhere or change travel modes to transit, walking, bicycling, or other modes, however this would not create hazardous conditions affecting transit, traffic, bicycling, or people walking, or significantly delay transit. Similar to the proposed project, the impact of Alternatives C through G related to parking would be *less than significant*.

Emergency Access Impacts

Alternative A (No Project/Code Compliant Alternative). Similar to the proposed project, emergency access to the project site would remain unchanged from existing conditions, and emergency vehicles would continue to access the project site from Third Street and from Illinois Street via 23rd Street, Humboldt Street, and 22nd Street. Under Alternative A, roadways within the project site would be designed to accommodate larger trucks, and therefore, would also accommodate San Francisco Fire Department fire trucks and engines. Alternative A would generate substantially fewer daily vehicle trips than the proposed project, and, similar to the proposed project, this increase in traffic volumes on the surrounding roadways would not

impede or hinder emergency vehicles. Therefore, as with the proposed project, the impacts of Alternative A on emergency access would be *less than significant*.

Alternatives B, C, D, E, F, and G (Full Preservation/Reduced Program, Full Preservation/Similar Program, and Partial Preservation Alternatives). Under Alternatives B through G, the street network within the project site would be similar to the proposed project, and would be designed to prioritize safe bicycle and pedestrian travel within the site, limit curb cuts into garages and loading facilities, and provide adequate turning radii and sight distances at intersections and driveways. Alternatives B, C and D would not include Georgia Lane, while Alternatives F and G would provide a narrower Georgia Lane with a sidewalk on one side of the street. The internal street network for Alternative E would be the same as for the proposed project. Alternatives B through G would include the new traffic signals at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street. Alternatives B through G would generate fewer daily vehicle trips than the proposed project (between 13,045 and 19,256 daily vehicle trips for Alternatives B through G, compared to 19,522 vehicle trips for the proposed project), and, similar to the proposed project, this increase in traffic volumes on the surrounding roadways would not impede or hinder emergency vehicles. Therefore, similar to the proposed project, the impact of Alternatives B through G on emergency access would be *less than significant*.

Cumulative Impacts

Alternative A (No Project/Code Compliant Alternative). Alternative A would include substantially less land use development on the project site than the proposed project, and would generate substantially fewer trips by all modes than the proposed project. Similar to the proposed project, Alternative A would not contribute considerably to significant 2040 cumulative VMT or regional transit impacts, and therefore the impacts of Alternative A related to cumulative VMT and regional transit would be *less than significant*.

Unlike the proposed project, Alternative A would not contribute considerably to significant 2040 cumulative Muni transit capacity and transit operations impacts on the 22 Fillmore and 48 Quintara/24th bus routes, and therefore the impacts of Alternative A on cumulative Muni transit capacity and transit operations and transit delay would be *less than significant*. Thus, unlike the proposed project, Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes, and Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, would not be applicable to this alternative.

In addition, for the same reasons as discussed for the proposed project, 2040 cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts, would be less than significant, and therefore, Alternative A would result in *less-than-significant* cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts.

Alternative B (Full Preservation/Reduced Program Alternatives). Alternative B would include about two thirds of the proposed project's land use program, and would generate proportionally fewer trips by all modes than the proposed project. Similar to the proposed project, Alternative B

would not contribute considerably to significant 2040 cumulative VMT or regional transit impacts, and therefore, the cumulative impact of Alternative B on VMT and regional transit would be *less than significant*.

Alternative B would generate fewer transit trips than the proposed project, and as a result, unlike the proposed project, Alternative B would not contribute considerably to significant Muni transit capacity impacts on the 22 Fillmore route. However, similar to the proposed project, Alternative B would contribute considerably to significant cumulative impacts on the 48 Quintara/24th Street route. Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes would be applicable to this alternative. However, similar to the proposed project, because it is not known whether SFMTA would be able to provide additional service on this route, implementation of this measure is uncertain, and the impact on Muni transit capacity would be *significant and unavoidable with mitigation*. Unlike the proposed project, Alternative B would not contribute considerably to significant cumulative impacts related to Muni transit operations on the 22 Fillmore and 48 Quintara/24th Street routes, and cumulative transit impacts related to travel delay would be *less than significant*. Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, would not be applicable to this alternative.

For the same reasons as described for the proposed project, 2040 cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts would be less than significant. Therefore, similar to the proposed project, Alternative B would result in *less-than-significant* cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Alternatives C through G include a similar land use program as the proposed project, and therefore would generate a similar number of trips by all modes to the proposed project. Similar to the proposed project, Alternatives C through G would not contribute considerably to significant 2040 cumulative VMT or regional transit impacts, and therefore, the impacts of these alternatives on cumulative VMT and regional transit would be *less than significant*.

Similar to the proposed project, Alternatives C through G would contribute considerably to significant cumulative Muni transit ridership impacts on the 22 Fillmore and 48 Quintara/24th Street bus routes. Like the proposed project, Mitigation Measure M-TR-4, Increase Capacity on the Muni 22 Fillmore and 48 Quintara/24th Street Routes would be applicable to these alternatives. However, similar to the proposed project, because it is not known whether SFMTA would be able to provide additional service on this route, implementation of this measure is uncertain, and the contribution of Alternatives C through G to cumulative Muni transit capacity impacts would be *significant and unavoidable with mitigation*.

Similar to the proposed project, Alternatives C through G would contribute considerably to significant cumulative Muni transit operations impacts on the 22 Fillmore/Route XX and 48 Quintara/24th Street bus routes. Mitigation Measure M-TR-5, Implement Measures to Reduce

Transit Delay, would also be applicable to these alternatives. However, because it is not certain that implementation of these mitigation measures would reduce enough project-generated vehicles to reduce impacts on the 22 Fillmore/Route XX and 48 Quintara/24th Street bus routes to less-than-significant levels, as with the proposed project, the contribution of Alternatives C through G to cumulative Muni transit operations impacts would be *significant and unavoidable with mitigation*.

For the same reasons as discussed for the proposed project, cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts would be less than significant. Therefore, similar to the proposed project, Alternatives C through G would result in *less-than-significant* cumulative impacts related to traffic hazards, people walking and bicycling, loading, parking, emergency access, and construction-related transportation impacts.

6.D.1.6 Noise and Vibration

Noise impacts of the proposed project are described in Chapter 4, Section 4.F, and as described below, noise impacts of the alternatives would be similar. However, the magnitude of some of the impacts would be less under Alternative A (No Project Alternative/Code Compliant Alternative) and Alternative B (Full Preservation/Reduced Program Alternative). See Section 4.F for a more detailed description of the impacts.

Construction Impacts: Exposure to Noise Levels in Excess of Standards

All alternatives would use the same types of equipment that are proposed to be used for the proposed project. Like the proposed project, operation of some types of construction equipment under all alternatives would also be expected to exceed the City's noise ordinance threshold limit for equipment (86 dBA at 50 feet) and implementation of Mitigation Measure M-NO-1, Construction Noise Control Measures, would be required under all alternatives. Therefore, the impact related to noise generated by operating equipment in excess of the ordinance threshold limit for all alternatives, like the proposed project, would be *less than significant with mitigation*.

Nighttime construction activities (primarily surface preparation, foundation construction, and building construction) could occur under all alternatives³ and noise generated by these activities could exceed the City's "Ambient + 5 dBA" threshold limit for nighttime construction. If nighttime noise levels exceed this nighttime noise limit, section 2908 would require that a special permit be obtained from the City to ensure that the project would meet section 2908 ordinance requirements are met under all alternatives.

³ All alternatives except Alternatives A and B would have the same phasing schedule as the proposed project. Alternatives A and B would involve less extensive development than other alternatives, and the estimated phasing schedule would be commensurately shorter. Therefore, it is possible that nighttime construction could still occur under these alternatives.

Construction Impacts: Increase in Ambient Noise Levels at Sensitive Receptors

When compared to the proposed project, overall noise impacts resulting from construction-related noise increases under Alternatives A and B would be reduced, while Alternatives C through G would be similar. The site boundaries under Alternatives B through G would be the same as the proposed project, but under Alternative A (No Project/Code Compliant Alternative), the PG&E sub-area (proposed Block 13) would not be included and therefore, project-related construction activities would be located farther away from the closest existing offsite receptors to the west. When compared to the proposed project's 15-year construction duration, Alternative A would have a substantially shorter construction duration of seven years (2020 to 2026), while Alternative B would have a slightly shorter duration of 11 years (2020 to 2034). Alternatives C through G would have the same 15-year construction duration as the proposed project.

Alternative A (No Project/Code Compliant Alternative). Although Alternative A's construction duration would be substantially shorter than the proposed project's, future residents located on Pier 70's Parcels F/G could still be exposed to construction-related noise increases (for three years compared to 12 years under the proposed project). With the shorter duration and less pile driving required, the magnitude of this impact would be less than the proposed project. However, similar construction equipment would likely be used to construct new development and therefore, operation of construction equipment under this alternative would have the same potential to exceed both the Federal Transit Administration's limit of 90 dBA at sensitive receptor locations and the applicable "Ambient + 10 dBA" threshold as the proposed project. Therefore, this impact would still be *less than significant* at existing offsite receptors, like the proposed project. There would be no onsite residential uses developed on the project site under Alternative A; therefore, construction-related noise impacts on future onsite receptors would be avoided altogether (*no impact* under Alternative A versus *significant and unavoidable with mitigation* under the proposed project). Construction phases under Alternative A and Pier 70 would still overlap, and there would continue to be *significant and unavoidable with mitigation* noise impacts on future residents at Pier 70's Parcels F/G under this alternative. With implementation of noise controls during all construction phases as specified in Mitigation Measure M-NO-1, Construction Noise Control Measures, the severity of noise impacts on the closest Pier 70 receptors on Parcels F/G under Alternative A would be less than the proposed project due to the shorter construction duration and less pile driving required. However, because the feasibility of quieter, alternative pile driving methods under this alternative cannot be determined at this time, the potential would still exist that combined noise levels from simultaneous operation of the noisiest types of construction equipment could still exceed the "Ambient + 10 dBA" threshold. Given this uncertainty, this impact would still conservatively be *significant and unavoidable with mitigation* (even with implementation of Mitigation Measure M-NO-1) like the proposed project, even though the magnitude of the residual impact would be substantially less under this alternative than under the proposed project.

Alternative B (Full Preservation/Reduced Program Alternative). With fewer residential receptors proposed and shorter construction duration under Alternative B, overall noise impacts on existing offsite receptors, future onsite receptors, and planned offsite receptors would be less than the proposed project. However, significance determinations are expected to be the same as the proposed project – *less than significant* for existing offsite receptors and *significant and unavoidable*

with mitigation (even with implementation of Mitigation Measure M-NO-1) for future onsite receptors and planned offsite receptors.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Site boundaries and construction durations under Alternatives C through G would be the same as the proposed project, and estimated combined noise levels at the closest existing offsite receptors under these alternatives would be the same as the proposed project. Therefore, like the proposed project, construction-related noise increases at existing offsite receptors would be *less than significant* under Alternatives C through G. In addition, since these alternatives would include development of residential uses on the project site with the same phasing schedule as the proposed project, impacts and significance determinations under these alternatives are expected to be the same as the proposed project – *significant and unavoidable with mitigation* (even with implementation of Mitigation Measure M-NO-1) for future onsite receptors and planned offsite receptors.

Construction Impacts: Offsite Haul Truck Traffic Noise

Construction-related haul and vendor truck traffic increases on local access streets would be less than the proposed project under Alternatives A and B and similar to the proposed project under Alternatives C through G. This impact was determined to be *less than significant* for the proposed project, and likewise, it would also be *less than significant* for all alternatives. However, it is still recommended that Improvement Measures I-NO-A, Avoidance of Residential Streets, and Improvement Measure I-TR-A, Construction Management Plan and Public Updates be implemented under all alternatives in order to minimize potential disturbance of residents in the Dogpatch neighborhood from the construction-related truck noise increases under all alternatives and the combined truck noise increases resulting from the overlapping construction schedules of all alternatives and Pier 70.

Construction Impacts: Vibration

Alternative A (No Project/Code Compliant Alternative). Alternative A would not include a recreational dock, and therefore, unlike the proposed project, vibratory pile drivers would not be required, and construction-related vibration impacts on existing structures due to use of vibratory pile drivers would be *less than significant* and Mitigation Measure M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment, would not be required under this alternative. Additionally, there would be less pile driving under this alternative if deep foundations are not required. With a much shorter construction duration, it is possible that any limited pile driving or controlled blasting required along the northern site boundary could be completed prior to or during construction of adjacent Pier 70 buildings on Parcels F/G. Although this impact could be avoided altogether under this alternative, it is still possible that any required pile driving along the northern boundary might occur during or after construction of Pier 70 buildings on along the northern boundary, and therefore, implementation of Mitigation Measures M-NO-4a, Construction Vibration Monitoring, and M-NO-4b, Vibration Control Measures During Pile Driving and Controlled Blasting, would still be required under this alternative to reduce impacts on onsite and offsite historic resources and offsite structures to the north to a less-than-significant level. Therefore,

construction-related vibration impacts on planned structures under Alternative A, like the proposed project, would be *less than significant with mitigation*.

Alternatives B, C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Alternatives B through G would have the same site boundaries and general building locations as the proposed project and all alternatives would include a recreational dock. Additionally, the proximity of the closest existing historic and planned offsite structures on the Pier 70 site would be the same as under the proposed project. Therefore, construction-related vibration impacts would be the same as the proposed project and vibration levels could exceed established thresholds. Proposed pile driving and controlled blasting associated with controlled rock fragmentation under these alternatives would require implementation of Mitigation Measure M-NO-4a, Construction Vibration Monitoring, Mitigation Measure M-NO-4b, Vibration Control Measures During Use of Vibratory Equipment, and Mitigation Measure M-NO-4c, Vibration Control Measures During Pile Driving and Controlled Blasting, to reduce impacts on the existing structure to the south and planned structures to the north, including onsite and offsite historic resources, to a less-than-significant level. Therefore, construction-related vibration impacts on existing and planned structures under Alternatives B through G, like the proposed project, would be *less than significant with mitigation*.

These alternatives, however, could damage existing onsite structures that are designated for preservation, in contrast to the proposed project where all existing onsite structures would be demolished, with the exception of the Boiler Stack and possibly the Unit 3 Boiler. The degree of potential impact would depend on whether the buildings to be preserved are retrofitted before or after proposed vibration-generating construction activities such as pile driving and controlled blasting (these generate the highest vibration levels). This analysis assumes that historic structures would be retrofitted prior to these activities. Therefore, it would be feasible to maintain vibration levels below the 0.5 in/sec PPS threshold level if pile driving and controlled blasting activities were to not occur within approximately 90 feet of these structures (no mitigation). However, construction could occur as close as 10 to 30 feet with implementation of lower vibration-generating techniques (see Table 4.F-12, low end of the range for pile driving and controlled blasting). If historic structures to be retained were not retrofitted prior to pile driving and controlled blasting activities, a lower threshold of 0.2 in/sec PPV would be more appropriate to apply, and pile driving or controlled blasting could require relatively greater setbacks of up to 250 feet. However, with the use of lower vibration-generating techniques, pile driving and controlled blasting could occur as close as approximately 25 feet. Since setback distances and the condition of the structures to be retained at the time of construction are unknown, this impact is considered to be potentially significant. However, limiting charge sizes or using other controlled rock fragmentation techniques, as required in Mitigation Measures M-NO-4a, Construction Vibration Monitoring, and M-NO-4b, Vibration Control Measures During Pile Driving and Controlled Blasting, plus implementation of Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack, would reduce this potential impact to a less-than-significant level, and like the proposed project, this impact would be *less than significant with mitigation*.

Operational Impacts: Exposure to Noise Levels in Excess of Standards

Operation of the proposed project would increase ambient noise levels on and near the project site from the onsite use of stationary equipment (i.e., heating/ventilation/air conditioning systems and emergency generators) and from the introduction of noise-generating uses on the project site such as rooftop uses and open space activities. These noise sources would be present under all of the alternatives, although the extent of such equipment may be less under Alternatives A and B. Implementation of noise control measures in the design of mechanical equipment, as specified in Mitigation Measure M-NO-5, Stationary Equipment Noise Controls, would reduce potential noise conflicts to a less-than-significant level. Therefore, like the proposed project, for Alternatives A through G, these impacts would be *less than significant with mitigation*.

Operational Impacts: Exposure to Noise Levels from Events that include Outdoor Amplified Sound

Development of public open spaces would introduce new uses such as: assembly and entertainment spaces for temporary events, spill-out spaces for retail or outdoor dining, quiet spaces, waterfront viewing terraces, playgrounds, and soccer fields. These active/passive recreational activities (including soccer fields and rooftop recreational facilities) would not involve large crowds and would be subject to noise ordinance limits. Proposed temporary events could involve the use of outdoor amplified sound. Performances, fairs, weddings, or any events held in open space areas and involving amplified sound would have the potential to cause a 10-dBA noise increase (generally perceived as a doubling of loudness) above future onsite ambient noise levels. All seven alternatives would include open space uses similar to the proposed project. Therefore, this same impact could occur under all alternatives, and like the proposed project, compliance with noise limits established under the Police and Health codes (which limits residential interior noise levels to 45 dBA or less between 10 p.m. and 7 a.m.), time restrictions (i.e., amplified sound cannot be audible at 50 feet from the property line after 10 p.m.), and other permit requirements specified in sections 49 and 1060 of the Police Code would ensure that periodic and temporary noise increases from amplified sound associated with such events would be *less than significant*.

Operational Impacts: Exposure to Noise Levels from Rooftop Bars and Restaurants

Like the proposed project, rooftops of any non-residential buildings under all alternatives could be developed with bars and restaurants and these uses could include playing of amplified music in outdoor areas during the evening/nighttime hours. However, like the proposed project, compliance with noise limits established under the Police and Health codes (which limits residential interior noise levels to 45 dBA or less between 10 p.m. and 7 a.m.), time restrictions (i.e., amplified sound cannot be audible at 50 feet from the property line after 10 p.m.), and other permit requirements specified in sections 49 and 1060 of the Police Code would ensure that periodic and temporary noise increases from amplified sound at rooftop bars and restaurants would be *less than significant* under all alternatives.

Operational Impacts: Offsite and Onsite Traffic Noise Increases

The proposed project would result in significant traffic noise increases (increases would be more than 5 dBA) along three street segments east of Illinois Street, on the western portion of the project site (22nd Street, Humboldt Street, and 23rd Street) as well as the segments of 22nd Street and 23rd Street between Third and Illinois streets, west of the project site. Likewise, operation of all alternatives would result in permanent increases in traffic and associated noise levels along roadways in the project vicinity.

Alternative A (No Project/Code Compliant Alternative). As shown in Table 6-4, above, Alternative A would generate only about one third (34 percent) of the daily vehicle trips that would be generated by the proposed project, which would substantially reduce project-related noise increases along some roadway segments. Assuming this estimated reduction in vehicle trip generation would occur along street segments that would be significantly affected by the proposed project, Alternative A could reduce the number of significantly affected road segments from five under the proposed project to one (Humboldt Street east of Illinois). However, even with implementation of Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, traffic noise increases would still be significant on this one remaining segment even with any vehicle trip reductions that result from this measure. Therefore, traffic noise increases under Alternative A would be substantially reduced from the proposed project but could still be *significant and unavoidable with mitigation*.

Under the proposed project, the only uses considered to be sensitive to noise would be residential, hotel, and childcare uses and future noise levels along the sections of 22nd Street, Humboldt Street, and 23rd Street east of Illinois and along the section of Illinois Street adjacent to the project site were determined to be conditionally acceptable for these uses. For the proposed project, implementation of Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses, would reduce this significant impact to a less-than-significant level, and the impact was determined to be *less than significant with mitigation*. When compared to the proposed project, Alternative A would avoid this impact because no residential, hotel, or childcare uses would be developed on the project site. Therefore, unlike the proposed project, there would be *no impact* under Alternative A to onsite sensitive receptors, although as described in the preceding paragraph, impacts to offsite sensitive receptors would still be significant and unavoidable with mitigation.

Alternative B (Full Preservation/Reduced Program Alternative). As shown in Table 6-4 above, Alternative B would generate about two-thirds (67 percent) of the proposed project's daily vehicle trips, which would substantially reduce project-related noise increases along some roadway segments. Assuming this estimated reduction in vehicle trip generation would occur along street segments that would be significantly affected by the proposed project, Alternative B could reduce the number of significantly affected road segments from five under the proposed project to four (only the increase on the segment of 22nd Street between Third and Illinois would decrease to less than 5 dBA). However, even with implementation of Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, traffic noise increases would still be significant on at least two, if not all four, of the remaining segments even with any vehicle trip reductions that result from this measure. Therefore, traffic noise increases under Alternative B would be

reduced slightly from the proposed project but would still be *significant and unavoidable with mitigation*.

Alternative B would include residential, hotel, and childcare uses and despite the modest decrease in onsite traffic noise levels under this alternative, future noise levels would still be conditionally acceptable for residential, hotel, and childcare uses on the project site under this alternative. Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses, would be required to reduce this significant impact to a less-than-significant level. Therefore, like the proposed project, impacts to onsite sensitive receptors would be *less than significant with mitigation* under Alternative B, although as described in the preceding paragraph, impacts to offsite sensitive receptors would still be *significant and unavoidable with mitigation*.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Alternatives C through G would generate approximately the same level of vehicle trips as the proposed project (97 to 99 percent). Therefore, no reduction in traffic noise would occur under these alternatives. The significance of this impact and requirement of Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay, under these alternatives would be the same as the proposed project, and would be *significant and unavoidable with mitigation*.

Alternatives C through G would include residential, hotel, and childcare uses and despite the modest decrease in onsite traffic noise levels under Alternative B, future noise levels would still be conditionally acceptable for residential and childcare uses on the project site under all of these alternatives. Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses, would be required to reduce this significant impact to a less-than-significant level. Therefore, like the proposed project, impacts to onsite sensitive receptors would be *less than significant with mitigation* under Alternatives C through G, although as described in the preceding paragraph, impacts to offsite sensitive receptors would still be *significant and unavoidable with mitigation*.

Cumulative Impacts: Construction

Concurrent construction of the proposed project, the adjacent Pier 70 Mixed-Use District project, and other cumulative development in the area would have the potential to result in cumulative noise increases at the closest residential receptors to the project site. For the proposed project, cumulative construction-related noise increases from concurrent construction activities and construction-related traffic were determined not to exceed the "Ambient + 10 dBA" threshold or Federal Transit Administration's limit of 90 dBA at the closest existing offsite sensitive receptor locations, but could exceed these thresholds at certain future planned offsite and proposed onsite receptors. Even with implementation of Mitigation Measure M-NO-1, Construction Noise Control Measures, it was determined that cumulative construction noise impacts would be *significant and unavoidable with mitigation*. Alternatives A and B would have a shorter construction duration than the proposed project, while Alternatives C through G would have a construction phasing schedule that would be the same as the proposed project. Therefore, like the proposed project, the potential for cumulative construction-related noise increases to result from concurrent construction would be less than the proposed project under Alternatives A and B, and it would be the same as the proposed project under Alternatives C through G. Therefore, like the proposed project, cumulative

construction noise increases would be *significant and unavoidable with mitigation* under all alternatives, although impacts under Alternatives A and B would be less in magnitude than those under the project while impacts under Alternatives C through G would be about the same as the project.

Cumulative Impacts: Operation

Traffic noise increases related to cumulative development in the area (including the proposed project and Pier 70 project) would result in cumulative traffic noise increases of up to 20.7 dBA (L_{dn}) when compared to existing traffic noise levels on streets segments in the project vicinity. Based on the significance thresholds for traffic noise increases, these cumulative traffic noise increases on 26 street segments (listed in Section 4.F) would be a cumulatively significant impact because cumulative development would result in substantial permanent increases in existing noise levels.

Alternative A (No Project/Code Compliant Alternative). As indicated above, Alternative A would generate about one-third (34 percent) the level of traffic generated by the proposed project and would thereby contribute proportionately less to cumulative traffic noise increases. The reduction would be sufficient to reduce cumulative traffic noise increases to a less-than-significant level on approximately 11 of the 26 street segments. As noted above under Transportation and Circulation, Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delays, would not be warranted for transit operations impacts under Alternative A, but it would be warranted insofar as it would reduce vehicle trips and associated noise increases along roadways. Regardless of whether this mitigation measure were implemented or not, this alternative would still result in a considerable contribution to this cumulative impact on 15 street segments, and like the proposed project, would be a *significant and unavoidable impact with mitigation*.

Alternative B (Full Preservation/Reduced Program Alternative). Alternative B would generate about two-thirds (67 percent) of the proposed project's daily vehicle trips, which would reduce the alternative's contribution to cumulative traffic noise increases. Alternative B would reduce cumulative traffic noise to a less-than-significant level on approximately 5 of the 26 street segments. Implementation of additional trip reduction measures required in Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delays, could further reduce traffic noise increases to a less-than-significant level on additional street segments. However, the effectiveness of this mitigation measure and the resulting level of traffic noise reduction is unknown. Therefore, Alternative B would still result in a considerable contribution to this cumulative impact, and although this impact would be less than with the proposed project, it would be *significant and unavoidable impact with mitigation*.

Alternatives C, D, E, F, and G (Full Preservation/Similar Program and Partial Preservation Alternatives). Since Alternatives C through G would generate the same level of traffic as the proposed project, traffic noise increases under these alternatives would be the same as the proposed project. Implementation of additional trip reduction measures required in Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delays, could reduce significant traffic

noise increases to a less-than-significant level, the effectiveness of this mitigation measure and the resulting level of traffic noise reduction is unknown. Therefore, like the proposed project, Alternatives C through G would result in a considerable contribution to this cumulative impact, a *significant and unavoidable impact with mitigation*.

6.D.1.7 Air Quality

Air quality impacts of the proposed project are described in Chapter 4, Section 4.G, and as described below, air quality impacts of the alternatives would be similar. See Section 4.G for more detailed description of the proposed project's impacts.

Construction Impacts: Fugitive Dust Emissions

As with the proposed project, construction activities under all alternatives would be required to comply with the Construction Dust Control Ordinance, and to implement specified dust control measures. Building permits would not be issued without written notification from the Director of Public Health that states that the applicant has a site-specific Dust Control Plan. The Construction Dust Control Ordinance requires the project sponsor and the contractors who are responsible for construction activities to minimize visible dust by: watering all construction areas sufficiently to prevent dust from becoming airborne; providing as much water as necessary to control dust in any area of land clearing, earth movement, excavation, drillings, and other dust-generating activity; during excavation and earth-moving activities, wet sweeping or vacuuming the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday; covering any inactive stockpiles greater than 10 cubic yards or 500 square feet of excavated materials, and using dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area. These measures would be applicable under any of the seven alternatives considered. Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would ensure that like the proposed project, potential dust related air quality impacts for Alternatives A through G would be *less than significant*.

Construction and Overlapping Operational Impacts: Criteria Air Pollutant Emissions

As described in Chapter 4, Section 4.G, Air Quality, criteria air pollutant emissions during project construction and overlapping operations would be significant and unavoidable even with implementation of Mitigation Measures M-AQ-2a (Construction Emissions Minimization), M-AQ-2b (Diesel Backup Generator Specifications), M-AQ-2c (Promote Use of Green Consumer Products), M-AQ-2d (Electrification of Loading Docks), M-TR-5 (Implement Measures to Reduce Transit Delay), M-AQ-2e (Additional Mobile Source Control Measures), and M-AQ-2f (Offset Construction and Operational Emissions). Specifically, emissions of ozone precursors (reactive organic gases, ROG, and oxides of nitrogen, NOx) would exceed significance thresholds, even with mitigation. As shown in Section 4.G, Tables 4.G-7A and 4.G-7B, the highest mitigated construction-related emissions of ROG was estimated to be 94 pounds per day (lb/day) for the proposed project, which would occur during the Phase 6 construction and concurrent operation of Phases 1 through 5, which are conservatively assumed to be occupied at that time. As shown in Table 4.G-7, mitigated

emissions of NO_x for the proposed project reached a maximum of 88 lb/day during the construction of Phases 4, 5, and 6 and concurrent operation of Phases 1 through 3.

For each alternative, the reduction in ROG and NO_x emissions compared to the proposed project can be roughly correlated to the reduction in square footage constructed (see Table 6-1, above, for total building area of each alternative as a percentage of the building area for the proposed project). However, the difference in construction duration and phasing for the proposed project and each alternative is also considered. **Table 6-5, Unmitigated and Mitigated Maximum Average Daily Construction Emissions for the Project and Alternatives**, presents an estimate of the maximum mitigated and unmitigated ROG and NO_x emissions during construction with overlapping operations for each alternative.

Alternative A (No Project/Code Compliant Alternative). For Alternative A, the gross square footage would be 27 percent of the building area of the proposed project, as shown in Table 6-1. A reduction in ROG emissions can be correlated to the building square footage reduction because ROG emissions are largely due to construction equipment activity and off-gassing of asphalt and paint. Reducing emissions of ROG to 27 percent of the maximum unmitigated project emissions of 103 lb/day results in emissions of approximately 28 lb/day, which would be below significance thresholds. Since emissions for Alternative A occur over a shorter time frame (seven years compared to 15 years for the proposed project), daily ROG emissions may be higher than the estimated 28 lb/day during any particular year; however, ROG emissions are still expected to be below significance thresholds under Alternative A.⁴ For NO_x, a reduction to 34 percent (which correlates to the external daily vehicle reduction and therefore the construction equipment activity largely responsible for the NO_x emissions) would result in NO_x emissions of 70 lb/day, thus exceeding the 54 lb/day threshold. Therefore, it is likely that mitigation would still be required for Alternative A. With implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, construction-related emissions of NO_x and ROG would be less than significant. Thus, unlike the proposed project, construction impacts related to criteria air pollutant emissions under Alternative A would be *less than significant with mitigation*, a substantial reduction in the significant and unavoidable construction impact identified for the proposed project.

Alternative B (Full Preservation/Reduced Program Alternative). For Alternative B, the gross square footage would be 66 percent of the building area of the proposed project, as shown in Table 6-1. For ROG, reduction of emissions to 66 percent of the maximum unmitigated emissions of 103 lb/day results in emissions of approximately 69 lb/day, which would still exceed significance thresholds. For NO_x, a reduction to 66 percent (which correlates to the building square footage reduction and therefore the construction equipment activity which drives NO_x emissions) would result in NO_x emissions of 137 lb/day, exceeding thresholds. Therefore, mitigation would be required for Alternative B. As shown in Table 6-5, with implementation of Mitigation Measures M-AQ-2a, Construction Emissions Minimization, construction-related emissions of ROG and NO_x would be 63 and 58 lb/day, respectively, still exceeding significance thresholds. Thus, like the proposed project,

⁴ A seven-year time period is 2.14 times shorter than a 15-year period. Accounting for this compressing of emissions into a shorter time period would result in 25 lb/day x 2.14 = 53.6 lb/day ROG, which is still less than the 54-lb/day threshold.

TABLE 6-5
UNMITIGATED AND MITIGATED MAXIMUM AVERAGE DAILY CONSTRUCTION EMISSIONS FOR THE PROJECT AND
ALTERNATIVES, INCLUDING OVERLAPPING CONSTRUCTION AND OPERATION

	Average Daily Emissions (lb/day)*	
	ROG	NOx
Significance Thresholds	54	54
Proposed Project		
Maximum Daily Unmitigated Emissions	103	206
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	94	88
Significant?	Yes	Yes
Alternative A, No Project/Code Compliant Alternative		
Maximum Daily Unmitigated Emissions	28	70
Significant?	No	Yes
Maximum Daily Mitigated Emissions	25	30
Significant?	No	No
Alternative B, Full Preservation/Reduced Program Alternative		
Maximum Daily Unmitigated Emissions	69	137
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	63	58
Significant?	Yes	Yes
Alternative C, Full Preservation/Similar Program Alternative		
Maximum Daily Unmitigated Emissions	102	204
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	93	87
Significant?	Yes	Yes
Alternative D, Partial Preservation 1 Alternative		
Maximum Daily Unmitigated Emissions	97	194
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	89	82
Significant?	Yes	Yes
Alternative E, Partial Preservation 2 Alternative		
Maximum Daily Unmitigated Emissions	100	200
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	92	85
Significant?	Yes	Yes
Alternative F, Partial Preservation 3 Alternative		
Maximum Daily Unmitigated Emissions	98	196
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	90	83
Significant?	Yes	Yes
Alternative G, Partial Preservation 4 Alternative		
Maximum Daily Unmitigated Emissions	99	198
Significant?	Yes	Yes
Maximum Daily Mitigated Emissions	91	84
Significant?	Yes	Yes

* Note that values derived from data presented in this table may not exactly match due to rounding.

SOURCE: Ramboll, 2018. See Appendix E.

additional mitigation measures, including Mitigation Measure M-AQ-2a through 2f and M-TR-5, would be required, including a requirement for the project sponsor to provide for offset emissions to reduce ROG and NOx levels to below the significance thresholds. Therefore, while construction impacts related to criteria air pollutant emissions under Alternative B would be approximately one third less than that of the proposed project, the impact would still be *significant and unavoidable with mitigation*, but the amount of emissions offset required under Mitigation Measure M-AQ-2f would be commensurately lower.

Alternatives C, D, E, F, and G (Full and Partial Preservation Alternatives). Building area development under Alternatives C, D, E, F, and G would be reduced marginally, with gross square footage of development ranging from 94 to 99 percent of the proposed project, as shown in Table 6-1. As shown in Table 6-5, like the proposed project, all five of these alternatives would exceed emissions thresholds for ROG and NOx both with and without mitigation, albeit with a slight reduction in emissions compared to that of the project, and Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5 would apply to all of these alternatives. Consequently, like the proposed project, the construction-related air quality impacts with regard to criteria air pollutants of Alternatives C, D, E, F, and G would be *significant and unavoidable with mitigation*.

Operational Impacts: Criteria Air Pollutant Emissions

For the proposed project, the estimated unmitigated operational emissions of ROG and NOx would be 105 and 102 lb/day, respectively, exceeding significance thresholds. With mitigation, these would be reduced to 101 and 85 lb/day, respectively, still exceeding significance thresholds. PM₁₀ and PM_{2.5} emissions for the proposed project would be below significance thresholds for both the unmitigated and mitigated scenarios. Based on ROG and NOx emissions, the impact associated with operational criteria pollutant emissions for the proposed project was found to be significant and unavoidable with mitigation.

Alternative A (No Project/Code Compliant Alternative). Alternative A would result in substantially lower vehicle trip generation and less total square footage of development compared to the proposed project and, consequently, would have lower operational emissions. Specifically, Alternative A would only generate approximately 34 percent of the vehicle trips relative to the proposed project. Since operational NOx emissions are primarily due to mobile source emissions, this reduction in vehicle trips would result in a large reduction of NOx emissions to approximately 34 percent of the proposed project emissions (i.e., 34 percent x 102 lb/day = 35 lb/day NOx), which is below the significance threshold. Similarly, Alternative A would construct only approximately 27 percent of the total proposed project square footage. Since ROG emissions are primarily due to area sources, this reduction in gross square footage would result in a reduction of ROG emissions to below significance thresholds (i.e., 27 percent x 105 lb/day = 28 lb/day ROG). PM₁₀ and PM_{2.5} emissions would also be reduced under Alternative A compared to the proposed project, and would, therefore, remain below significance thresholds. As a result, the operation impact of Alternative A criteria air pollutant emissions at full buildout is considered *less than significant*. Alternative A would substantially reduce the significant and unavoidable operational impact from criteria air pollutants that is identified for the proposed

project. None of the mitigation measures identified for operational impacts would be required under Alternative A. In addition, it should be noted that under this alternative building heights would be reduced to the extent that backup diesel generators would not be required for any buildings, which would reduce operational emissions.

Alternative B (Full Preservation/Reduced Program Alternative). Alternative B would construct approximately one-third less square footage of development than the proposed project. The largest portion of ROG emissions are from area sources, which directly correlate to square footage. Therefore, ROG emissions under Alternative B would be roughly one-third less than ROG emissions from the proposed project, or 70 lb/day (two-thirds \times 105 lb/day = 70 lb/day). Even with this reduced program under Alternative B, unmitigated operational ROG emissions would still exceed the significance threshold and mitigation would be required. Alternative B would generate roughly one-third fewer vehicle trips than the proposed project. Additionally, Alternative B would have fewer emergency generators than the proposed project, which are the second largest contributor to NOx emissions. Therefore, NOx emissions for Alternative B would be roughly one-third less than emissions from the proposed project. Unmitigated operational NOx emissions of Alternative B would result in emissions of 68 lb/day (two-thirds \times 102 lb/day = 68 lb/day). Unmitigated operational NOx emissions would still exceed the significance threshold and mitigation would be required. With implementation of Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5, operational emissions of ROG and NOx would be 67 lb/day and 56 lb/day, respectively, and therefore the impact would remain significant and unavoidable. Thus, like the proposed project, operational impacts related to criteria air pollutant emissions under Alternative B would be *significant and unavoidable with mitigation*, but about one third less severe than under the project.

Alternatives C, D, E, F, and G (Full and Partial Preservation Alternatives). Alternatives C through G would result in slightly fewer vehicle trips than the proposed project (roughly 97 – 99 percent of the proposed project) and, consequently, would have only marginal reductions in operational emissions of criteria air pollutants. This very slight reduction in vehicle trips would not result in a considerable reduction in ROG and NOx emissions after full buildout of Alternatives C through G. Therefore, like the proposed project, both unmitigated and mitigated operational emissions of ROG and NOx under Alternatives C, D, E, F, and G would be expected to exceed significance thresholds, and this impact would be *significant and unavoidable with mitigation*. The same mitigation measures identified for the proposed project—Mitigation Measures M-AQ-2c, M-AQ-2d, M-AQ-2e, M-TR-5, and M-AQ-2f— would apply to Alternatives C through G, although there could be a slight reduction in operational emissions of criteria air pollutants and the amount of offset operational emissions under Mitigation Measure M-AQ-2f would vary slightly.

Toxic Air Contaminants, Construction and Operation

Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, which could expose both offsite and onsite sensitive receptors to a localized health risk. Table 4.G-10 in Section 4.G, Air Quality, shows the lifetime cancer risk and PM_{2.5} concentrations of the proposed project at offsite sensitive receptors under both unmitigated and mitigated conditions, and Table 4.G-11 shows similar results for onsite

receptors. For offsite receptors, lifetime cancer risk for the proposed project was found to be less than significant with mitigation; the unmitigated risk at the residential and daycare receptors located at Pier 70 was found to be 419 in a million, but was reduced to 63 in a million with mitigation. PM_{2.5} concentrations from the proposed project at all offsite receptor locations would be below significance thresholds for construction and operation under unmitigated conditions.

For onsite receptors, lifetime cancer risk for the proposed project was found to be less than significant with mitigation; the unmitigated risk at the maximum onsite receptor was found to be 387 in a million, but was reduced to 77 in a million with mitigation. Therefore, implementation of Mitigation Measure M-AQ-2a would reduce the lifetime cancer risk to onsite receptors to less than significant with mitigation. PM_{2.5} concentrations from the proposed project at onsite receptor locations would be below significance thresholds for construction and operation without mitigation.

For all alternatives, the same offsite and onsite receptors as identified for the proposed project are analyzed.

Excess Cancer Risk to Offsite Receptors

Alternative A (No Project/Code Compliant Alternative). Similar to the proposed project, construction and operation of Alternative A would generate toxic air contaminants, including diesel particulate matter. However, as discussed above, Alternative A would result in only approximately 27 percent of the square footage of development of the proposed project, and the reduction in construction-related diesel particulate matter emissions are expected to roughly correlate with the reduction in square footage. Similarly, Alternative A would generate fewer vehicle trips than the proposed project, and building heights would be reduced to less than 40 feet, which would eliminate the need for backup diesel generators for all buildings; therefore, Alternative A would result in less operational emissions of diesel particulate matter. While it cannot be determined definitively that development under Alternative A would be significant without mitigation without a full quantitative health risk assessment, given that the risk values for the project would still be significant if the contribution from project construction and operation were reduced to 27 percent of those of the proposed project, it is likely that increased cancer risk would be significant in the absence of mitigation. Based on the reduced square footage of construction compared with the proposed project, reducing the contribution to cancer risk from unmitigated project construction and operation by 27 percent is 136 in one million, which exceeds the threshold of significance.⁵ However, with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, lifetime cancer risk to offsite receptors under Alternative A would be lower than that of the proposed project due to less construction activity. Unlike the proposed project, Mitigation Measure M-AQ-2b, Diesel Backup Generator Specifications, would not be required under this alternative because building heights would be reduced to the extent that backup diesel generators would not be required for any buildings. Therefore, with mitigation, Alternative A would not result

⁵ The contribution from unmitigated project construction and operation is 388 in a million. Twenty-seven percent of 388 in a million is 105 in a million. The background contribution remains at 31 in a million. Thus, the estimated resulting cancer risk is $105 + 31 = 136$ in one million.

in offsite sensitive receptor locations meeting the Air Pollutant Exposure Zone criterion for cancer risk, and impacts related to construction and operational exposure to toxic air contaminants would be *less than significant with mitigation*.

Alternative B (Full Preservation/Reduced Program Alternative). Similar to Alternative A, this analysis also holds for Alternative B, where the square footage of development would be 66 percent of the proposed project's (one third less), which would correlate with a reduction in construction emissions. Additionally, Alternative B would result in less diesel particulate matter emissions compared to the proposed project because fewer emergency generators would be required with this reduced development. Reducing the unmitigated cancer risk by one-third for Alternative B would still result in a cancer risk above significance thresholds at offsite receptors at Pier 70 and would require mitigation; however, actual results would depend somewhat on phasing and location of Alternative B construction. Under Alternative B, like the proposed project, implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, would reduce the risk to offsite receptors to less than significant. Therefore, with mitigation Alternative B would not result in offsite sensitive receptor locations meeting the Air Pollutant Exposure Zone criterion for cancer risk, and impacts related to construction and operational exposure to toxic air contaminants would be *less than significant with mitigation*.

Alternatives C, D, E, F, and G (Full and Partial Preservation Alternatives). Reductions in the building area under Alternatives C, D, E, F, and G would be marginal, with development ranging from 94 to 99 percent of the proposed project, and the nearest offsite receptors on the Pier 70 site would be the same distance from construction activities on Blocks 1, 2, and 3 as the proposed project. Therefore, the impact of these alternatives with respect to cancer risk at offsite receptors would be the same as under the proposed project. Like the proposed project, with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, these alternatives would not result in offsite sensitive receptor locations meeting the Air Pollutant Exposure Zone criterion for cancer risk and impacts related to construction and operational exposure to toxic air contaminants for Alternatives C, D, E, F, and G would be *less than significant with mitigation*.

Excess Cancer Risk to Onsite Receptors

Alternative A (No Project/Code Compliant Alternative). Under Alternative A there would be no residential uses or child care facilities developed onsite. Consequently, there would be *no impact* related to increased cancer risk at onsite receptors under Alternative A.

Alternative B (Full Preservation/Reduced Program Alternative). For Alternative B, there would be 66 percent of the building area of the proposed project, though building footprints would remain largely the same and, with the exception of a portion of Block 1, the location of residential receptors would remain largely the same as under the proposed project. Given the magnitude of the unmitigated risk values for the project at onsite receptors (387 in one million) even with reduced construction durations, construction-related risk would result in significant impacts without mitigation. Like the proposed project, with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, Alternative B would not result in onsite sensitive receptor locations meeting the Air Pollutant Exposure Zone criterion for cancer risk, and impacts

related to construction and operational exposure to toxic air contaminants would be *less than significant with mitigation*.

Alternatives C, D, E, F, and G (Full and Partial Preservation Alternatives). Reduction in building area development under Alternatives C, D, E, F, and G would be marginal, with development ranging from 94 to 99 percent of the proposed project, and the location of residential receptors would remain largely the same as under the proposed project. Therefore, the impact of these alternatives with respect to cancer risk to onsite receptors would be the same as for the proposed project. Like the proposed project, with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, these alternatives would not result in onsite sensitive receptor locations meeting the Air Pollutant Exposure Zone criterion for cancer risk, and impacts related to construction and operational exposure to toxic air contaminants under Alternatives C, D, E, F, and G would be *less than significant with mitigation*.

PM2.5 Concentrations at Offsite Receptors

As discussed in Section 4.G, Air Quality (see Table 4.G.10, Lifetime Cancer Risk and PM2.5 Concentration Contributions of the Proposed Project at Offsite Receptors), PM2.5 concentrations from the proposed project at all offsite receptor locations would be below significance thresholds for construction and operation without mitigation. Because all alternatives would result in a reduction in the square footage of development of the proposed project and construction-related PM2.5 emissions are expected to roughly correlate with the reduction in square footage, all project alternatives would result in less operational emissions of PM2.5, and like the proposed project, impacts to offsite receptors under Alternatives A through G would be *less than significant*.

PM2.5 Concentrations at Onsite Receptors

As discussed in Section 4.G, Air Quality (see Table 4.G.11, Lifetime Cancer Risk and PM2.5 Concentration Contributions of the Proposed Project at Onsite Receptors), PM2.5 concentrations from the proposed project at all onsite receptor locations would be below significance thresholds for construction and operation, without mitigation. Because all alternatives would result in a reduction in the square footage of development of the proposed project and construction-related PM2.5 emissions are expected to roughly correlate with the reduction in square footage, all project alternatives would result in less operational emissions of PM2.5. Alternative A would have no residential or childcare uses, and therefore, there would be *no impact* related to onsite receptors. Like the proposed project, under Alternatives B through G impacts to onsite receptors would also be *less than significant*.

Cancer Risk from Operation of Proposed Land Uses

Like the proposed project, all seven alternatives would result in onsite operation of production, distribution, and repair (PDR) uses and all but Alternative A would result in development of R&D/life science uses. Sources of TAC emissions from both of these land use types are usually subject to the Bay Area Air Quality Management District's permitting process, which requires implementation of Best Available Control Technology for toxics and would deny an Authority to Construct or a Permit to Operate for any new or modified source of toxic air contaminants that exceeds a cancer risk of 10 in one million or a chronic or acute hazard index of 1.0. Consequently,

Mitigation Measure M-AQ-4, Siting of Uses that Emit Toxic Air Contaminants, would apply to all seven alternatives, and with implementation Mitigation Measure M-AQ-4 together with Mitigation Measures M-AQ-2a (Construction Emissions Minimization) and M-AQ-2b (Diesel Backup Generator Specifications), the resultant impact would be *less than significant with mitigation* for all alternatives. Mitigation Measure M-AQ-2b, Diesel Backup Generator Specifications, would not apply to Alternative A, as discussed above.

Consistency with Clean Air Plan

Alternative A would be required to comply with the City's Transportation Demand Management (TDM) ordinance, which would require preparation and implementation of a TDM plan and compliance with the City's TDM ordinance could include a shuttle service. Similar to the proposed project, Alternative A would require additional mitigation measures to ensure consistency with the Clean Air Plan, and with inclusion of such mitigation measures, this impact would be *less than significant with mitigation*. In addition to any TDM-related measures, it would be expected that Mitigation Measures M-AQ-2a (Construction Emissions Minimization), M-AQ-2b (Diesel Backup Generator Specifications), M-AQ-2e (Additional Mobile Source Control Measures), M-AQ-4 (Siting of Uses that Emit Toxic Air Contaminants), and M-AQ-5 (Include Spare the Air Telecommuting Information to Transportation Welcome Packets) would apply to Alternative A.

All other alternatives, like the proposed project, would incorporate a TDM Plan that includes a shuttle service and would be largely consistent with the control measures of the Clean Air Plan. Therefore, like the proposed project, with implementation of Mitigation Measures M-AQ-2a (Construction Emissions Minimization), M-AQ-2b (Diesel Backup Generator Specifications), M-AQ-2d (Electrification of Loading Docks), M-TR-5 (Implement Measures to Reduce Transit Delay), M-AQ-2e (Additional Mobile Source Control Measures), M-AQ-4 (Siting of Uses that Emit Toxic Air Contaminants), and M-AQ-5 (Include Spare the Air Telecommuting Information to Transportation Welcome Packets), the impact of Alternatives B through G would be *less than significant with mitigation*.

Odors

Like the proposed project, none of the alternatives would create objectionable odors that would affect a substantial number of people. As described for the project, for all alternatives, construction odors associated with diesel-powered vehicles and equipment would be temporary and not likely to extend beyond the project site. During operations, small-scale localized odor issues could occur (e.g., near sources such as solid waste collection, food preparation, etc.), but all alternatives would be required to implement odor controls as required by applicable Bay Area Air Quality Management District regulations that place limitations on odorous substances. Therefore, for Alternatives A through G, odor impacts would be *less than significant*.

Cumulative Impacts: Regional Air Quality

No single project by itself would be sufficient in size to result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative air

quality conditions.⁶ As discussed above, the construction-related and operational criteria air pollutant emissions associated with Alternative A would be less than significant with mitigation. Therefore, unlike the proposed project, the contribution of Alternative A to cumulative air quality impacts with respect to regional emissions would be *less than significant with mitigation*, assuming implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization.

Also as discussed above, all other alternatives would result in significant and unavoidable air quality impacts from both construction and operations, similar to the proposed project. Therefore, the contributions of Alternatives B through G to cumulative air quality impacts would be *significant and unavoidable with mitigation*, and the same mitigation measures identified for the proposed project would apply to Alternatives B through G.

Cumulative Impacts: Health Risk

Alternative A (No Project/Code Compliant Alternative). Alternative A would result in fewer vehicle trips and would not include backup diesel generators, and would, therefore, result in the same cumulative impact determination for PM_{2.5} impact as the proposed project: less than significant for all receptors. Additionally, Alternative A would also contribute to a cumulative health risk impact for lifetime cancer risk for offsite receptors on the Pier 70 site, but the contribution would be less than significant with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization. Reducing the proposed project risk by 27 percent (to correlate with the reduction of square footage to be constructed in this alternative) results in a risk that is still greater than the significance threshold of 100.⁷ However, the maximum mitigated risk would remain under the established threshold for Alternative A. The offsite receptor not located at Pier 70 would likely be less than significant, since 27 percent of the project risk plus the background and Pier 70 risk is below the 100-in-a-million threshold.⁸ The maximum cancer risk at a school receptor for Alternative A would be less than significant, similar to the proposed project. There would be no impact to the onsite receptors since no residences would be constructed onsite under this alternative. Thus, overall, contribution of Alternative A to the cumulative health risk impact would be *less than significant with mitigation*.

Alternative B (Full Preservation/Reduced Program Alternative). The proposed project's contribution to a cumulative health risk impact was determined to be less than significant with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization. Although Alternative B would result in fewer vehicle trips and fewer backup diesel generators would be required, Alternative B would result in a similar contribution to cumulative health risk impact as the proposed project. Impacts to the school receptor for Alternative B would be less

⁶ BAAQMD, *CEQA Air Quality Guidelines*, May 2017, p. 2-1.

⁷ The contribution from unmitigated project construction and operation is 388 in a million. Twenty-seven percent of 388 in a million is 105 in a million. The background contribution remains at 30 in a million and the Pier 70 contribution remains at 4.7 in a million. Thus, the estimated resulting cancer risk is $105 + 30 + 4.7 = 140$ in one million.

⁸ The contribution from unmitigated project construction and operation is 47 in a million. Twenty-seven percent of 47 in a million is 13 in a million. The background contribution remains at 56 in a million and the Pier 70 contribution remains at 6.9 in a million. Thus, the estimated resulting cancer risk is $13 + 56 + 6.9 = 76$ in one million.

than significant, similar to the proposed project. Thus, overall, the contribution of Alternative B to the cumulative health risk impact would be *less than significant with mitigation*.

Alternatives C, D, E, F, and G (Full and Partial Preservation Alternatives). As Alternatives C through G would result in only marginally fewer vehicle trips (one to three percent fewer trips) than the proposed project and would require the same number of backup diesel generators as the proposed project, Alternatives C through G would result in similar contributions to cumulative health risk impact as the proposed project, which was determined to be less than significant with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, primarily as the result of construction-related emissions of diesel particulate matter. Thus, overall, contributions of Alternatives C through G to the cumulative health risk impact would be *less than significant with mitigation*.

6.D.1.8 Greenhouse Gas Emissions

Similar to the proposed project as described in the initial study in Appendix B, Alternatives A through G would generate greenhouse gas (GHG) emissions, but not at levels that would result in a significant impact on the environment or that would conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions. During both construction and operation, the alternatives would generate GHG emissions, primarily related to increases in transportation, energy, and waste disposal uses. However, it can be reasonably assumed that all alternatives would incorporate strategies to reduce GHG emissions to comply with the City's numerous GHG reduction regulations, thereby being consistent with the City's GHG Reduction Strategy.

Compliance with the City's Commuter Benefits Program, Emergency Ride Home Program, transportation management programs, Transportation Sustainability Fee, Jobs-Housing Linkage Program, bicycle parking requirements, low-emission car parking requirements, and car sharing requirements would reduce the alternatives' transportation-related emissions. All alternatives would be required to comply with the energy efficiency requirements and/or renewable energy criteria of the City's Green Building Code, Stormwater Management Ordinance, Water Conservation and Irrigation ordinances, and Energy Conservation Ordinance, all of which would promote energy and water efficiency, thereby reducing the alternatives' energy-related GHG emissions. Waste-related GHG emissions for all alternatives would be reduced through compliance with the City's Recycling and Compositing Ordinance, Construction and Demolition Debris Recovery Ordinance, and Green Building Code requirements. These regulations reduce the amount of materials sent to a landfill, reducing GHGs emitted by landfill operations. Compliance with the City's Street Tree Planting requirements would serve to increase carbon sequestration. Other regulations, including those limiting refrigerant emissions and the Wood Burning Fireplace Ordinance would reduce emissions of GHGs and black carbon, respectively. Compliance with regulations requiring low-emitting finishes would reduce volatile organic compounds.

Assuming compliance with the above regulations, similar to the project, all alternatives would be consistent with the City's GHG Reduction Strategy, which in turn implies consistency with the goals of state and regional plans and policies related to GHG reduction. Therefore, Alternatives A through G would not generate GHG emissions at levels that would result in a significant impact on

the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions. Therefore, like the proposed project, impacts related to GHG emissions for all alternatives would be *less than significant*.

6.D.1.9 Wind and Shadow

Wind and shadow impacts of the proposed project are described in Chapter 4, Section 4.H, and as described below, wind and shadow impacts of the alternatives would be similar. See Section 4.H for more detailed description of the impacts.

Wind

Wind Impacts under Buildout Conditions

Chapter 4, Section 4.H, describes the quantitative, wind-tunnel testing methodology used to determine that the proposed project at buildout would not result in an increase in the number of hours that the Planning Code wind hazard criterion is exceeded or an increase in the area that is subjected to winds that exceed the hazards criterion. The wind tunnel testing results indicated that the proposed project at buildout would not alter wind speeds in a manner that substantially affects public areas in the vicinity of the project site. Therefore, the wind impacts of the project at buildout would be less than significant. No wind tunnel testing was conducted for any of the alternatives. However, based on the project's test results, comparative wind impacts of the alternatives relative to those of the project can be inferred, as described below.

Alternative A (No Project/Code Compliant Alternative) would have much less total building mass than the project, with all buildings no more than 40 feet tall, and therefore would have much less effect on existing wind patterns at the site. Typically, no wind-tunnel testing would be required for such a development, because as described in Section 4.H, new buildings less than approximately 80 feet in height are unlikely to result in substantial adverse effects on ground-level winds such that pedestrians would be uncomfortable or hazardous wind conditions would result. Therefore, wind impacts for Alternative A at buildout would be *less than significant*, similar to the proposed project, although with much less effect on wind patterns than the proposed project, and its contribution to cumulative wind impacts would also be less than significant.

Alternative B (Full Preservation/Reduced Program Alternative) at buildout would likely result in similar wind conditions when compared to the project because it would have a similar land use configuration but with overall reduced massing and heights of the structures. Thus, wind impacts of Alternative B at buildout would be *less than significant*, and its contribution to cumulative wind impacts would also be less than significant.

Alternative C (Full Preservation/ Similar Program Alternative) at buildout would likely result in locally worse wind conditions, compared to the project, particularly around its four towers of 240 to 300 feet in height. As noted in Chapter 4, Section 4.H, wind impacts are generally higher for projects that include taller towers, and Alternative C would include two 300-foot-tall and two 240-foot-tall towers compared to one 300-foot-tall and three 180-foot-tall towers for the proposed

project. In the absence of massing-specific wind-tunnel testing of this alternative, to be conservative, wind impacts of Alternative C are assumed to be *significant and unavoidable with mitigation*, although it is unknown at this time what feasible mitigation measures would be available. Although minor design refinements would likely be required as part of building design to reduce wind exceedances, it is unknown if these measures could reduce potentially significant increases in wind hazard conditions to less than significant levels. Similarly, to be conservative, its contribution to cumulative wind impacts would also be considered *significant and unavoidable with mitigation*.

Alternative D (Partial Preservation 1 Alternative) would likely result in similar wind conditions as those of the project because the only major change in massing is the relocation of the 300-foot tower one block east, from Block 6 to Block 7. This would likely result in similar wind conditions as those identified for the proposed project, with only some local shifts in wind conditions. Thus, overall, at a qualitative level, wind impacts of Alternative D at buildout would be *less than significant* and its contribution to cumulative wind impacts would also be less than significant. This assumes that based on the similarities in massing to that of the proposed project, minor design refinements, such as the wind canopy or wind screen included in the proposed project, would be part of the building design if necessary.

Alternative E (Partial Preservation 2 Alternative) would likely result in similar wind conditions as those of the proposed project, as this alternative is nearly identical in overall massing and location of structures as the proposed project. Therefore, wind impacts of Alternative E at buildout would be *less than significant* and its contribution to cumulative wind impacts would also be less than significant. This alternative would likely require the same wind canopy south of the 300-foot tower as with the project and the porous wind screen surrounding the proposed rooftop soccer field on Block 5.

Alternatives F and G (Partial Preservation 3 and 4 Alternatives) would likely result in worse wind conditions, compared to the project, because of the massing of Block 5. In both Alternatives F and G, Block 5 would be developed with a 180-foot tall building with a relatively wide westerly façade, which faces into the prevailing winds, and that façade would have no podium level or setbacks to minimize wind acceleration at ground level. Because this building would be at the southwest corner of the project site, it would be the first tall building on the project site to be reached by approaching westerly, northwesterly, and southwesterly winds. As a result, this building would redirect those winds down to ground level and accelerate them. This would likely cause wind speeds to exceed the hazard criterion at one or more locations around the base of this building. Under existing-plus-project conditions, wind speeds would exceed the hazard criterion for four hours annually at test point 83, at the southwest corner of Block 5. The configuration of the Block 5 building in Alternatives F and G would likely result in a substantial increase in the number of hours of wind hazard criterion exceedance at the southwest corner of Block 5, and could also result in the wind hazard criterion being exceeded at additional test points. While it is possible that wind reduction treatments (e.g., awnings, vertical fins, chamfered building corners) could reduce ground-level wind speeds around Block 5, the effectiveness of these measures is uncertain. Therefore, for purposes of a conservative analysis, this EIR determines that wind impacts of Alternatives F and G at buildout would be *significant and*

unavoidable with mitigation, although it is unknown at this time what feasible mitigation measures would be available. Similarly, to be conservative, their contribution to cumulative wind impacts would also be considered *significant and unavoidable with mitigation*.

Interim Wind Hazards due to Project Phasing

For the proposed project, it was concluded that the phased construction could result in temporary increases in wind hazard conditions, and due to uncertainties of the nature and extent of interim conditions and feasibility of interim wind-reduction measures, this impact was determined to be significant and unavoidable with mitigation. The mitigation consisted of identifying interim hazardous wind impacts, and then developing wind reduction measures as appropriate. With the exception of Alternative A, this impact and mitigation measure also applies to all other alternatives. Alternative A would involve construction of buildings no taller than 40 feet, so even during interim periods of construction, no substantial changes in wind impacts would be expected. Therefore, for Alternative A, this impact would be *less than significant*. For Alternatives B through G, however, interim wind conditions cannot be determined at this time, and the same mitigation measure—Mitigation Measure M-WS-2, Identification and Mitigation of Interim Hazardous Wind Impacts—would apply to these alternatives but uncertainties remain as to the feasibility or effectiveness of this measure. Therefore, like the proposed project, for Alternatives B through G, this impact would be *significant and unavoidable with mitigation*.

Shadow

As described in Section 4.H, to evaluate the shadow impact of the proposed project, a 3D virtual model of the project area was prepared and shadow diagrams were developed depicting the movement of project shadows across the project site and surrounding area at representative times of day and days of the year. The shadow model considers the proposed project at full buildout based on the maximum height of proposed structures and maximum coverage of each block on the project site; the model does not include required building setbacks at upper stories, and is therefore a worst-case scenario. The shadow analysis determined that the proposed project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas, and that this impact would be less than significant at both a project and cumulative level. No similar shadow modeling was conducted for any of the alternatives. However, based on the project's test results, comparative shadow impacts of the alternatives relative to those of the project can be inferred, as described below.

Alternative A (No Project/Code Compliant Alternative) would include maximum building heights of 40 feet, so shadow impacts would be substantially less than those of the project. No shadows from this alternative would extend as far as Esprit Park, unlike the project, and shadows cast on the Bay Trail would be substantially less than those of the project. Shadow impacts of Alternative A would be *less than significant*.

Alternatives B, C, D, E, F and G (Full and Partial Preservation Alternatives) would have similar shadow effects to those of the project. Shadow effects of Alternative B would be somewhat less than those of the project because of the reduced building heights, while shadow effects of Alternative C would be somewhat greater than those of the project due to the greater number of

towers (two 300-foot towers and two 240-foot towers under Alternative C compared to one 300-foot tower and three 180-foot buildings under the project). Alternatives D, E, F, and G would all have similar shadow effects to those of the project. However, for Alternatives B, D, E, F, and G, because no shadow from any alternative would reach any parks, it is not expected that new shadows would be created in a manner that substantially affects outdoor recreation facilities or other public areas, either at a project or cumulative level, and this impact would be *less than significant*.

Under Alternative C, based on a preliminary shadow fan analysis conducted during the project design phase,⁹ there would not likely be any shadow cast on Esprit Park or any other parks governed by section 295 of the Planning Code; however, Alternative C would result in greater shadow effects on other nearby open spaces, streets, and sidewalks compared to that of the proposed project. Therefore, shadow impacts of Alternative C would also be *less than significant*.

6.D.1.10 Recreation

Similar to the proposed project, as described in the initial study (see Appendix B), all of the alternatives would increase the use of existing neighborhood parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated, or such that the construction of new or expanded facilities would be required. The initial study (see Appendix B) concluded that this would be a less-than-significant impact for the proposed project because the proposed development of 6.2 acres of open space and recreational facilities would offset the increased demand for open space and recreation by future residents at the project site, and therefore any increase in use of existing public facilities would not be expected to result in substantial physical deterioration of public parks or recreational facilities. Alternatives B through G would all include the same 6.2 acres of open space and recreational facilities, and the residential demand for all of these alternatives would be of similar magnitude or less than the proposed project; therefore, this impact would also be less than significant for these alternatives. While Alternative A would include less open space than the proposed project (4.4 acres compared to 6.2), there would be no residential uses under this alternative and the increase in demand for open space by future employees and visitors would be substantially less compared to that of the project, since as described in the initial study, residents make the greatest active use of parks and open spaces, and impacts on recreational resources would be also less than significant. Therefore, like the proposed project, impacts of Alternatives A through G on recreational resources at both a project- and cumulative level, would be *less than significant*.

⁹ City and County of San Francisco, *Potrero Power Station Mixed-Use Development Project, Alternative C: Full Preservation Initial Shadow Fan Analysis*, July 16, 2018

6.D.1.11 Utilities and Service Systems

Water Supply

Similar to the proposed project, as described in the initial study (see Appendix B), the City's water service provider would have sufficient water supply available to serve any of the alternatives from existing entitlements and resources, and none of the alternatives would require new or expanded water supply resources or entitlements. The approved water supply assessment for the proposed project concluded that the increased long-term water demand of the project is accounted for within San Francisco's overall retail water demand and that existing water supplies would be sufficient to meet the project's demand. Therefore, the project impacts related to water supply would be less than significant. Because the development program under all alternatives would be similar to or smaller than that of the proposed project, the estimated water demand for all alternatives would be similar to or less than that of the project. Consequently, for all of the alternatives, the increased long-term water demand is accounted for within San Francisco's overall retail water demand, and existing water supplies would be sufficient to meet the that demand. Similarly, like the proposed project, any construction needed to upsize the water distribution facilities for any of the alternatives would not result in significant environmental effects not already disclosed in this EIR. Therefore, for Alternatives A through G, like the proposed project, impacts related to water supply both at a project-specific and cumulative level, would be *less than significant*.

Wastewater

None of the alternatives would exceed wastewater treatment requirements of the Southeast Water Pollution Control Plant. As described in the initial study (see Appendix B), the estimated wastewater demand of the proposed project would be well within the remaining capacity of the Southeast Plant, and the project's impact on wastewater treatment requirements would be less than significant. Because the magnitude of development under all alternatives would be similar to or less than that of the proposed project, the estimated wastewater demand for all alternatives would be similar to or less than that of the project, and therefore also within the remaining capacity of the Southeast Plant. Therefore, for Alternatives A through G, like the proposed project, impacts related to wastewater treatment requirements would be *less than significant*.

Similarly, none of the alternatives would require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. The SFPUC has confirmed that the combined sewer system, including ongoing system upgrades, has sufficient downstream capacity to convey wastewater flows generated from the proposed project to the Southeast Plant, which would also be true of any of the alternatives since they would generate the same or less volume of wastewater as the project. Therefore, none of the alternatives would require new or expanded wastewater facilities to accommodate anticipated demand, and for Alternatives A through G, impacts related to the construction of new or expanded wastewater treatment facilities and wastewater treatment capacity, both at a project-specific and cumulative level, would be *less than significant*.

Stormwater

None of the alternatives would require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Like the proposed project, all of the alternatives would have one of two options for stormwater drainage: (1) a dual system in which a portion of the site drains to the combined sewer system and a portion of the site drains to a separate stormwater only system, or (2) a project-wide combined sewer system. As described in the initial study (see Appendix B), like the project, all of the alternatives would be required to comply with the City's Subdivision Regulations, which specify that both the combined sewer system and any separate stormwater system, streets, and drainage channels must have sufficient capacity to accommodate a specified amount of stormwater runoff from the entire tributary area. Regardless of which stormwater option would be selected for an alternative, the alternative would be required to comply with these regulatory standards as a condition of approval such that stormwater flows from the project site would be accommodated within the newly constructed infrastructure. Thus, for Alternatives A through G, proposed stormwater improvements would accommodate stormwater runoff in compliance with applicable regulations and no new or expanded stormwater drainage facilities beyond those included as part of the alternative would be required. Therefore, like the proposed project, impacts related to stormwater drainage for Alternatives A through G, both at a project-specific and cumulative level, would be *less than significant*.

Solid Waste

Similar to the project, all of the alternatives would result in increased generation of solid waste, but the increases would be served by a landfill with sufficient capacity, and all of the alternatives would comply with all applicable statutes and regulations related to solid waste. Like the project, all alternatives would be required to comply with existing solid waste diversion regulations (e.g., Green Building Ordinance and the San Francisco Construction and Demolition Debris Recovery Ordinance) and recycling regulations (e.g., Mandatory Recycling and Composting Ordinance), which would minimize the amount of solid waste generated during construction and operations. Because the magnitude of development under all alternatives would be similar to or less than that of the proposed project, the estimated solid waste generated by all alternatives would be similar to or less than that of the project; therefore, like the project, existing landfill capacity would accommodate solid waste disposal needs. Therefore, construction and operation of Alternatives A through G would not exceed available permitted landfill capacity, and all alternatives would comply with the applicable solid waste disposal policies and regulations. Therefore, like the proposed project, impacts related to solid waste, both at a project-specific and cumulative level, would be *less than significant* for all alternatives.

6.D.1.12 Public Services

Fire Protection and Emergency Medical Services

Like the project, as described in the initial study (see Appendix B), development under all of the alternatives would result in an increase in demand for fire protection and emergency medical services. As described in the initial study (see Appendix B), both construction and operation of the

project would be required to comply with fire and building code requirements that would minimize demand for future fire protection services (e.g., sprinkler systems; fire-rated design, construction, and materials; restrictions on occupant loads; emergency lighting; smoke alarms; and mechanical smoke control and emergency notification systems), and these same requirements would apply to all of the alternatives, and would minimize the demand for future fire protection services. In addition, similar to the project, all alternatives would be subject to City requirements regarding extension of the high pressure auxiliary water supply system that would serve the project site for firefighting, including coordination with the fire department to determine utility and access requirements for fire protection and emergency services at the project site during construction and operation. As described in Section 4.E, Transportation and Circulation, the fire department reviewed and generally agreed to the preliminary design plans for the proposed street network and the fire access plan, and it is assumed this same process would occur for all alternatives to ensure adequate emergency access would be maintained. Adherence to San Francisco Fire Code requirements as part of the design of all alternatives would minimize demand for future fire protection services.

Nevertheless, like the proposed project (see initial study, Appendix B), all alternatives would result in an increase in demand for fire and emergency medical services attributable to the increase in the residential and employment population at the project site and could require additional fire protection personnel and emergency medical responders; however, the number of additional personnel or equipment that would be attributable to a specific alternative is unknown at this time. The San Francisco Fire Department has indicated that it is in the process of identifying citywide service and facility needs; however, no new facilities are currently proposed. Demand is calculated based on citywide growth and is not generally based on a project-level basis. In the absence of a citywide analysis, it cannot be determined if the project alternatives would require the construction of new or expanded fire protection facilities or where such facilities, if required, would be located. Therefore, like the proposed project, at this time it would be too speculative to evaluate whether or not operation of any of the alternatives would indirectly result in substantial adverse physical impacts associated with construction or alteration of fire protection facilities triggered by any of the alternatives. Even assuming that construction of such facilities were to be warranted, construction would be required to comply with all regulatory requirements designed to avoid or minimize environmental impacts and would be subject to environmental review under CEQA. Thus, like the proposed project, indirect impacts from construction of new facilities are considered *less than significant* at both the project-specific and cumulative level, for all alternatives.

Police Protection Services

Like the project, all of the alternatives would result in more intensive use of the project site compared to existing conditions and would increase the service population on the site, which would result in an increased demand for police protection services. As described in the initial study (see Appendix B), the project site is located within the Bayview Police District, and communication with the San Francisco Police Department regarding the proposed project has indicated that the increased demand for police services associated with the proposed project

could be accommodated by existing facilities.¹⁰ Since all of the alternatives would generate the same or less onsite service population as the project, it is reasonable to assume that existing facilities would also be sufficient to accommodate any of the alternative's police protection needs. Therefore, like the proposed project, the increase in demand for police protection associated with any of the alternatives would not be to an extent that would require the construction of additional facilities or expansion of existing facilities in order to maintain acceptable service ratios, response times, or other performance objectives for police protection. Thus, like the proposed project, Alternatives A through G, both at the project-specific and cumulative level, would have a *less-than-significant* impact related to police protection services.

Schools

Alternative A (No Project/Code Compliant Alternative) would have *no impact* on schools because there would be no residential uses; thus, no additional students would be generated under Alternative A.

As described in the initial study (see Appendix B), the San Francisco Unified School District has capacity for almost 64,000 students, and student enrollment as of fall 2016 was approximately 57,500 students. Given the district's overall capacity and the estimated increase of up to 392 students under the project, the proposed project is not anticipated to necessitate the need for new school facilities or the expansion of existing school facilities, and the impact would be less than significant. Likewise, Alternatives B through G would not be anticipated to result in an increase in demand for school services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities because the estimated increase in students would be the same as or less than that of the proposed project. Therefore, like the proposed project, the impact on schools for Alternatives B through G, both at a project-specific and cumulative level, would be *less than significant*.

Libraries

Like the project, development under all of the alternatives would result in an increase in demand for library services. As described in the initial study (see Appendix B), the existing library branches near the project site have been either recently renovated or newly constructed following the passage of the Branch Library Improvement Program in 2000 and in accordance with the Branch Facilities Plan, and these resources were determined to be sufficient to accommodate the increase in demand generated by the proposed project. Because all alternatives would have the same or less residential and employment population as the project, it is reasonable to assume that existing facilities would also be sufficient to accommodate any of the alternatives' library needs. Therefore, like the proposed project, none of the alternatives would require construction of new or expanded library facilities, and the impacts of Alternatives A through G on library services, both at a project-specific and cumulative level, would be *less than significant*.

¹⁰ Lt. Kathryn Waaland, Officer in Charge, Legal Division City and County of San Francisco Police Department, email correspondence with Jennifer Brown, Senior Associate, Environmental Science Associates, March 14, 2018.

6.D.1.13 Biological Resources

Project impacts on biological resources are described in Chapter 4, Section 4.I, and as described below, impacts of the alternatives on these resources would be similar. See Section 4.I for more detailed description of the impacts.

Special Status Terrestrial and Bird Species

Similar to the proposed project, all of the alternatives would involve demolition of existing structures and multi-year construction activities at the project site, which could have a substantial adverse effect either directly or through habitat modifications on species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. At the project site, this would apply to migratory birds and to special-status bats. Nesting birds may be present on or adjacent to the project site, and construction could adversely affect bird breeding and nesting behavior, a potentially significant impact. However, implementation of Mitigation Measure M-BI-1, Nesting Bird Protection Measures, which requires nesting bird protection measures, would reduce this impact to less than significant. Similarly, special-status bats have the potential to roost in existing vacant or under-utilized buildings within or near the project site, and demolition and/or rehabilitation under any of the alternatives could result in direct mortality of or indirect disturbance to roosting special-status bats, if present. However, implementation of Mitigation Measure M-BI-3, Avoidance and Minimization Measures for Bats, would reduce this impact to less than significant. Therefore, like the proposed project, construction impacts related to special status terrestrial species under Alternatives A through G, at both a project and cumulative level, would be *less than significant with mitigation*.

Like the proposed project, operation of any of the alternatives would not have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. All alternatives would be required to comply with the Standards for Bird-Safe Buildings, which would avoid or minimize the adverse effects of avian collisions during operation of any of the alternatives. Therefore, like the proposed project, operational impacts related to migratory birds and/or on special status bird species under Alternatives A through G, at both a project and cumulative level, would be *less than significant*.

Special Status Marine Species

Like the proposed project, all alternatives could include in-water associated with construction of a new stormwater outfall, and all but one alternatives would also include construction of the proposed dock. In-water construction of these structures could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration. Alternative A does not include construction of a dock, and

therefore would have substantially less severe impacts on marine special status species compared to the proposed project.

Under Alternatives B through G, construction in and adjacent to the San Francisco Bay, particularly construction of the proposed dock, has the potential for affecting water quality and habitat for special status marine species, including certain fish species and marine mammals. The proposed project includes in-water construction avoidance and minimization measures to minimize impacts on water quality and habitat during construction of the dock. If not included as part of Alternatives B through G, these measures would need to be included as mitigation measures to be implemented in conjunction with any other water quality protection measures required under construction permits (e.g., stormwater runoff construction permit) and/or ongoing remediation activities as required by the San Francisco Regional Water Quality Control Board. Together, these measures would reduce impacts on water quality to a less-than-significant level. In addition, construction of the proposed dock would require pile driving, which can generate high levels of underwater noise that is harmful to fish and marine mammals. However, like the proposed project, implementation Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, would ensure that potential impacts from pile installation would be less than significant. Therefore, as was identified for the proposed project, impacts of Alternatives B through G from in-water construction associated with the proposed dock would be *less than significant with mitigation*. On the other hand, for Alternative A, which would not include construction of a dock, compliance with water quality protection measures required during construction (e.g., stormwater runoff construction permit) and/or ongoing remediation activities as required by the San Francisco Regional Water Quality Control Board would ensure that unlike the proposed project, impacts of any construction activities along the shoreline on special status marine species would be *less than significant*.

Similarly, like the proposed project, operation of Alternatives A through G would not be expected to have a substantial adverse effect on special-status marine species. Minor effects associated with increased overwater shading and increased vessel traffic associated with the recreational dock under Alternatives B through G, and operation of the stormwater outfall associated with all these alternatives would result in negligible changes from the existing conditions and have a very limited impact on listed marine species. Therefore, impacts on marine resources associated with operation of all alternatives would be *less than significant*, as under the proposed project.

Sensitive Natural Communities

Like the proposed project, none of the alternatives would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service. The project site contains no sensitive terrestrial communities. Within the San Francisco-Bay Delta region, the National Marine Fisheries Service has identified eelgrass beds as a habitat area of particular concern. No eelgrass beds exist within the project study area, so there would be no impact on this sensitive natural community and the fish that reside within such habitat. Within the project area, a few scattered native oysters are

present on the intertidal rock and debris that comprise the existing shoreline; studies of similar habitat at Piers 64 and 70 concluded that protection of existing oysters was not warranted and that post-construction stabilized shoreline would provide an improved substrate for successful recolonization by oysters. Therefore, like the proposed project, impacts of Alternatives A through G on sensitive natural communities would be *less than significant*.

Jurisdictional Waters

Like the proposed project, construction of Alternatives A through G could have a substantial adverse effect on federally protected waters as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. Under all alternatives, construction of physical shoreline improvements to protect against future sea level rise and/or for a new stormwater outfall for discharging stormwater could result in placement of fill within the jurisdictional waters of the San Francisco Bay. In addition, under Alternatives B through G, construction of a floating dock would also result in placement of fill within jurisdictional waters. Alternative A, the No Project/Code Compliant, does not include construction of a dock. Any activities resulting in the placement of fill in the bay or other disturbances to jurisdictional water would require permit approval from the U.S. Army Corps of Engineers and a water quality certification from the Regional Water Quality Control Board. As part of the permit conditions, the project sponsor would be required to avoid or minimize to the maximum extent practicable placement of fill in jurisdictional waters. In addition, permanent placement of new fill resulting in the loss of jurisdictional waters may trigger a requirement for compensatory mitigation aimed at restoring or enhancing similar ecological functions and services as those displaced. Implementation of Mitigation Measure M-BI-7, Compensation for Fill of Jurisdictional Waters, like the proposed project, would reduce this impact to a less-than-significant level. Therefore, like the proposed project, the construction impacts of all alternatives on jurisdictional waters would be *less than significant with mitigation*. Alternatives B through G would be expected to result in placement of a similar magnitude of fill in jurisdictional waters as the proposed project and require a similar magnitude and type of compensatory mitigation. Alternative A would be expected to result in placement of much less fill in jurisdictional waters than the proposed project because it would not involve construction of a dock, and therefore require a reduced magnitude of compensatory mitigation. Past, present, and reasonably foreseeable future projects along the bay shoreline have resulted in and continue to result in a cumulative impact associated with placement of fill in jurisdictional waters. However, with implementation of the compensatory mitigation as required by the resource agencies, the alternatives' contribution to cumulative impacts would be less than significant. Therefore, like the proposed project, this cumulative impact for all alternatives would be *less than significant with mitigation*.

Similarly, like the proposed project, operation of Alternatives A through G would not be expected to have a substantial adverse effect on jurisdictional waters. Potential effects associated with maintenance dredging for vessel access, resuspension of sediments during dredging, and mobilization of chemicals of concern associated with the recreational dock under Alternatives B through G would be minimized through required compliance with the long-term management strategy for dredging in San Francisco Bay and with any applicable regional-board approved risk

management plans. Therefore, like the proposed project, impacts on jurisdictional waters associated with operation of all alternatives would be *less than significant*.

Wildlife Movement

Similar to the proposed project, construction of any of the alternatives could affect nesting birds, but implementation of Mitigation Measure M-BI-1, Nesting Bird Protection Measures, would reduce this impact to *less than significant with mitigation*. In addition, construction of the dock under Alternatives B through G, could generate high levels of underwater noise that is harmful to the movement of fish and marine mammals, but implementation of Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, would reduce this impact to *less than significant with mitigation*.

Plans and Policies Related to Biological Resources

As described in Chapter 4, Section 4.I, there are no adopted habitat conservation or natural community conservation plans that apply to the terrestrial or marine areas on or adjacent to the project site, and there are no protected significant or landmark trees on the project site. Therefore, like the proposed project, none of the alternatives would conflict with any local policies or ordinances protecting biological resources or the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, like the proposed project, the impacts of Alternatives A through G related to plans and policies related to biological resources would be *less than significant*.

6.D.1.14 Geology, Soils, and Paleontological Resources

Impacts related to geology, soils, and paleontological resources for all alternatives would be the same (or less severe) as those of the proposed project, as described in the initial study (see Appendix B). This is because all alternatives would be located at the same project site and would involve similar (or less intensive) construction. Alternatives C through G would involve the same or very similar magnitude and nature of construction as the proposed project, while Alternatives A and B would have reduced construction. Alternative A, the No Project/Code Compliant alternative, would have a reduced project site area since it does not include the PG&E sub-area; construction requirements would be substantially reduced in magnitude and duration compared to the project, with only 27 percent of the building area and less intensive foundation requirements since all buildings would be a maximum of 40 feet in height. Alternative B, the Full Preservation/Reduced Program alternative, would have similar construction requirements compared to the proposed project because it would encompass the same 29-acre project site, but foundation requirements could be somewhat reduced because the maximum building height would be 200 feet instead of 300 feet.

Therefore, as described in the initial study (see Appendix B), like the proposed project, geologic impacts for Alternatives A through G would be *less than significant* for all impacts, at both a project and cumulative level, related to the following:

- **Geologic Hazards.** As under the proposed project, Alternatives A through G would require a site-specific geotechnical investigation to provide information about geotechnical hazards that must be addressed in the project's design, including design requirements for buildings 240 feet or taller. Given implementation of the recommendations in the geotechnical investigation and building code requirements, none of the alternatives would expose people or structures to potential substantial adverse effects associated with seismic hazards, including fault rupture, seismic ground shaking, liquefaction and seismically-induced ground failure, seismically-induced lateral spreading, or seismically-induced landslides. Furthermore, like the proposed project, none of the alternatives would exacerbate existing or future seismic hazards.
- **Soil Erosion and Loss of Topsoil.** As under the project, compliance with stormwater management requirements during construction and remediation activities, and given appropriate design, none of the alternatives would result in substantial erosion. Previous development at the project site has resulted in removal of any topsoil, so for all alternatives, there would be no impact related to loss of topsoil.
- **Unstable Geologic Unit.** The project site is not located on a geologic unit that is unstable or that could become unstable as a result of proposed development under each of the alternatives. The project site is primarily located within an area of gentle slope at low elevation that has little or no potential for the formation of slumps, translational slides, or earthflows. All alternatives would be required to comply with San Francisco and/or Port of San Francisco requirements for site-specific geotechnical reports in accordance with Section 1803 of the San Francisco and Port of San Francisco Building Codes to ensure that the potential settlement effects of excavation, construction-related dewatering, and pile driving are adequately addressed. In addition, site-specific geotechnical reports would be required for all of the alternatives, subject to review and approval by the City's Department of Building Inspection or the Port of San Francisco, as part of the building permit approval process, and implementation of the required site-specific recommendations related to settlement would ensure that the geologic unit at the project site would not become unstable as a result of proposed development under each of the alternatives.
- **Expansive or Corrosive Soils.** None of the alternatives would create substantial risks to life or property as a result of locating buildings or other features on expansive or corrosive soils. Much of the project site is underlain directly by bedrock, which is not expansive. While the artificial fill beneath the project site could include some expansive clay, the Young Bay Mud below the water table is permanently saturated, and is not subject to moisture changes that would cause expansion and contraction. Testing conducted for the proposed project indicated that the fill material is moderately corrosive (see initial study, Appendix B), but for all alternatives buried features would be constructed to resist corrosion in accordance with the applicable requirements of the building code.
- **Changes in Topography.** Currently, the site is relatively flat, and there are not unique geologic or physical features on the site. Like the proposed project, under all alternatives, grading would be required to increase site elevation by up to 9 feet along the shoreline to prevent inundation due to sea level rise. However, this grading would not result in a substantial change in topography because no existing slopes would be eliminated and no new slopes would be created as a result of raising the site elevation.

Paleontological Resources

Like the proposed project, all alternatives could directly or indirectly destroy a unique paleontological resource because some of the geologic materials underlying the site have the potential to contain significant fossils (see initial study, Appendix B), which could be encountered during construction of any of the alternatives. However, implementation of Mitigation Measure M-GE-6 would ensure that the alternatives would not cause a substantial adverse change to the scientific significance of a paleontological resource and would reduce this impact to a less-than-significant level. Therefore, like the proposed project, for Alternatives A through G, potential impacts on paleontological resources, both at a project-specific and cumulative level, would be *less than significant with mitigation*, with implementation of the same mitigation measure identified for the proposed project.

6.D.1.15 Hydrology and Water Quality

Project impacts on hydrology and water quality are described in Chapter 4, Section 4.J, and as described below, impacts of the alternatives on these resources would be similar. See Section 4.J for more detailed description of the impacts.

Construction Impacts

Like the proposed project, construction of all alternatives could violate water quality standards or otherwise degrade water quality. As described in Section 4.J for the project, water quality impacts to the bay from on-land construction activities at the project site would be minimized through implementation of control measures and best management practices specified under state and local regulations, including the construction general stormwater permit, the City's construction site runoff control permit, erosion and sediment control plan, and stormwater pollution prevention plan; and for Alternatives A through G, this impact would be *less than significant*. As under the project, Alternatives B through G would include in-water construction necessary for construction of the proposed dock, which could affect bay water quality, but compliance with permit requirements and water quality certification would ensure that the anticipated temporary water quality impacts related to construction activities in the San Francisco Bay would be *less than significant*. Furthermore, if any of the alternatives were to conduct groundwater dewatering during construction, compliance with state and local regulatory requirements for discharge of dewatering effluent would protect water quality, and like the proposed project, this impact would be *less than significant*.

However, for all alternatives, like the project, construction of a new stormwater outfall (if a separate stormwater system is constructed) would likely occur within an offshore area undergoing remediation by PG&E, which could interfere with offshore sediment remediation, thereby creating a potential water quality impact. This impact would be remediated through compliance with the Offshore Sediment Risk Management and Monitoring Plan to be prepared by PG&E and which would be subject to approval by the Regional Water Quality Control Board. However, the project sponsor would need to implement risk management measures for the offshore sediment remediation area as required by the regional board to ensure water quality is appropriately protected. Therefore, like the proposed project, for Alternatives A through G, with implementation

of regulatory requirements of the regional board for risk management, this impact would be *less than significant*.

Operational Impacts

Like the proposed project, for all alternatives, operation would not violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality, and runoff from the alternatives would not exceed the capacity of a storm drain system or provide a substantial source of stormwater pollutants. All alternatives would be required to comply with comprehensive regulations and to implement required measures designed to reduce pollutant loading and protect water quality, thereby avoiding or minimizing water quality effects from potential sources of water pollutants associated with project operations. These potential sources include: stormwater discharges to separate stormwater system; stormwater outfall discharges to the bay; wastewater discharges to the combined sewer system; changes in combined sewer discharges; changes in bay circulation; maintenance dredging at the proposed dock; and littering. Please see Section 4.J for description of applicable regulations and how compliance with them would ensure protection of water quality. The project analysis indicated that for all of these potential sources, water quality impacts would be less than significant, both at a project-specific and cumulative level. Wastewater and stormwater infrastructure would be substantially the same under all of the alternatives, and would be appropriately sized for the anticipated discharges from the site. Stormwater discharges under all alternatives would be similar to those for the proposed project, and similarly, wastewater discharges would be the same or less under all alternatives as those for the proposed project. Therefore, potential sources of water pollutants associated with operation of all alternatives would also have a less-than-significant impact on water quality. For Alternatives A through G, like the proposed project, operational water quality impacts, both at a project-specific and cumulative level, would be *less than significant*.

Alteration of Drainage Patterns

Like the proposed project, none of the alternatives would substantially alter the existing drainage pattern at the site. The existing grading at the site is relatively flat, and proposed changes to grading under any of the alternatives would be designed to address sea level rise but not to otherwise substantially alter the existing drainage pattern. Furthermore, neither alteration of existing drainage patterns at the project site nor changes in stormwater runoff volumes would result in substantial erosion, siltation, or flooding onsite or offsite. For Alternatives A through G, like the proposed project, this impact would be *less than significant*, both at a project-specific and cumulative level.

Flooding

Like the proposed project, none of the alternatives would place housing within a 100-year flood zone or place structures within an existing or future 100-year flood zone that would impede or redirect flood flows. Alternative A would not include any residential uses, so there would be no impact related to housing within a 100-year flood zone. Although the shoreline portions of the project site are located within a 100-year flood zone identified on the City's 2008 Interim Flood Hazard Maps, all alternatives would include construction of shoreline protection improvements

to protect the waterfront from the damaging effects of wave action, as well. In addition, to address sea level rise, it is expected that all alternatives would raise the elevation of the entire waterfront portion of the project site above the existing 100-year flood elevation and above the projected worst-case future flood elevation. However, the final slope and shape of the shoreline along the waterfront portion of the project site would be substantially the same as under the existing conditions, and the patterns of flood flows at the project site or in the vicinity would not be substantially affected. For Alternatives A through G, like the proposed project, this impact would be *less than significant*.

Risk of Inundation by Seiche, Tsunami, or Mudflow

The majority of the project site is located in an area identified for potential inundation in the event of a tsunami or seiche based on existing site grades. However, as described above, to address sea level rise, it is expected that all the alternatives would raise the elevation of the entire waterfront portion of the project site above the existing 100-year flood elevation and above the projected worst-case future flood elevation, which is above the maximum tsunami elevation. For Alternatives A through G, like the proposed project, this impact would be *less than significant*, both at a project-specific and cumulative level.

6.D.1.16 Hazards and Hazardous Materials

Project impacts related to hazards and hazardous materials are described in Chapter 4, Section 4.K. As described below, the impacts of the alternatives related to hazards and hazardous materials would be similar to the proposed project. See Section 4.K for more detailed description of the impacts.

Routine Transport, Use, or Disposal of Hazardous Materials

Like the proposed project, none of the alternatives would create a significant hazard through routine transport, use, or disposal of hazardous materials during construction or operation. As described in Section 4.K, extensive state and local regulations are in place that would require the project sponsor to implement numerous control measures to prevent the release of hazardous materials during construction and operation of any of the alternatives. These measures include: the Construction General Stormwater Permit, Erosion Control Plan, Storm Water Pollution Prevention Plan, permits for blasting, California General Industry Safety Order for Explosives, Articles 21 and 22 of the San Francisco Health Code (which provides for the safe handling of hazardous material and management of hazardous wastes), and state regulations governing transportation of hazardous materials. With compliance with applicable hazardous materials and hazardous waste regulations, like the proposed project, impacts of Alternatives A through G related to the routine use, transport, and disposal of hazardous materials would be *less than significant*. Alternative A would include more PDR uses, which may involve routine transport, use, and disposal of hazardous materials; however, compliance with existing regulations would reduce this impact to less than significant.

Hazardous Building Materials

Like the proposed project, demolition and renovation of buildings under any of the alternatives would not expose workers or the public to hazardous building materials or result in a release of these materials into the environment. As described in Section 4.K, there is a well-established regulatory process that must be followed for ensuring adequate abatement of these materials prior to building demolition or renovation. This includes regulations governing safe removal and disposal of hazardous building materials present in structures to be demolished under all alternatives, including asbestos-containing materials, lead-based paint, and other hazardous substances. Under Alternatives B through G, like the proposed project, one or more historic structure would be retained and renovated; however, like the proposed project, any hazardous building materials present in these structures would require abatement in compliance with existing regulations prior to any renovation. Therefore, through compliance with regulatory requirements, impacts related to hazardous building materials under Alternatives A through G would be *less than significant*, both at a project-specific and cumulative level, similar to the proposed project.

Potential for Release of Hazardous Materials in the Power Station and PG&E Sub-areas

As described in Section 4.K, the Power Station and PG&E sub-areas portions of the project site are identified on numerous environmental databases documenting presence of hazardous materials at the site. Like the proposed project, under all alternatives, there would be a potential to encounter hazardous materials in the soil and groundwater during construction or operation that could potentially create a hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

While PG&E will complete the ongoing environmental remediation for hazardous materials in soils and groundwater at the project site prior to any development, the fully remediated site will achieve a commercial/industrial land use standard, as approved by the San Francisco Regional Water Quality Control Board. This level of remediation would be adequate for Alternative A, which would include only commercial and industrial land uses within the Power Station sub-area and not the PG&E sub-area. Therefore, for Alternative A, this impact would be *less than significant*.

However, for Alternatives B through G, like the proposed project, future uses would include residential and associated sensitive land uses such as child care facilities, and the Regional Water Quality Control Board could require additional measures to control site risks appropriate for residential uses. Therefore as directed by the regional board, the project sponsor would be required to conduct additional risk evaluations, to identify site design features to control site risks, and if necessary, to prepare and implement risk management plans. Compliance with directives by the regional board required to permit residential and associated sensitive land uses at the project site would reduce potential impacts to less than significant. It is expected that prior to development of the project site with residential and/or child care uses, the regional board would require the project sponsor to conduct a human health risk assessment for the proposed sensitive land uses and to implement site design measures to control risks related to exposure to chemicals in soil, groundwater, and soil vapors, and as approved by the regional board, and to include appropriate construction measures in the risk management plans. The project sponsor

would also be required to prepare and implement risk management plans as approved by the regional board. Therefore, for Alternatives B through G, impacts related to potential hazards to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment in the Power Station and PG&E sub-areas would be *less than significant* with implementation of the regulatory requirements of the regional board.

Potential for Release of Hazardous Materials in the Port, City, and Southern Sub-areas

Similar to the impact described above for the Power Station and PG&E sub-areas, for Alternatives A through G, there would be a potential to encounter hazardous materials in the soil and groundwater during construction or operation that could potentially create a hazards to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Like the proposed project, for Alternatives B through G (Alternative A would not include the western portion of the Port sub-area, these sub-areas are part of the project site and contiguous with the Power Station sub-area, and would not be developed for residential or commercial purposes, but instead the western portion of the Port sub-area and all of the City and Southern sub-areas would be covered by 23rd Street, and the shoreline portions of the Port sub-area would be public open space. These sub-areas are not subject to the deed restrictions that apply to the Power Station sub-area and are not listed on any environmental databases. However, based on their proximity to the former power plant, there is a high likelihood that similar hazardous materials are present in the soils. These soils are also known to contain naturally-occurring asbestos. Like the proposed project, development of these areas would be subject to article 22A of the San Francisco Health Code and soil disturbance activities would be subject to the requirements of the air district Asbestos Airborne Toxics Control Measure. With implementation of these regulatory requirements, impacts associated with exposure to hazardous materials in soil, groundwater, and soil vapors would be less than significant during both construction and operation. Therefore, like the proposed project, for Alternatives A through G, this impact would be *less than significant*.

Hazardous Materials Impacts on Nearby Schools

Like the proposed project, none of the alternatives would result in adverse effects on nearby schools due to handling of hazardous or acutely hazardous materials, substances, or waste. As described in Section 4.K, the project site is located within one quarter mile of four schools. However, as described above, extensive state and local regulations are in place that would require the project sponsor to implement numerous control measures to prevent the release of hazardous materials (including acutely hazardous materials) during construction and operation of the proposed project or any of the alternatives. Therefore, for Alternatives A through G, like the proposed project, with implementation of required control measures under state and local regulations pertaining to hazardous materials, substances, and waste this impact would be *less than significant*. Additional analysis on the potential for toxic air contaminants to affect nearby sensitive receptors is addressed in the Air Quality section.

Risk of Fire or Interference with Emergency Response Plan

Like the proposed project, none of the alternatives would expose people or structures to a significant risk of loss, injury, or death involving fires, nor would they impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan. San Francisco ensures fire safety primarily through provisions of the San Francisco Building Code. Accordingly, the alternatives would be required to comply with the applicable sections of the building code, which require incorporation of fire safety features. Consequently, none of the alternatives would create a substantial fire hazard or increase the risk of fires above existing levels.

The City has a published Emergency Response Plan, prepared by the Department of Emergency Management as part of the City's Emergency Management Program, which includes plans for hazard mitigation and disaster preparedness and recovery. Through compliance with the existing codes and regulations and implementation of provisions for emergency response that account for and are compatible with the City's Emergency Response Plan, none of the alternatives would impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan. Therefore, like the proposed project, for Alternatives A through G, this impact would be *less than significant*.

6.D.1.17 Mineral and Energy Resources

Like the proposed project (see initial study, Appendix B), Alternatives A through G would not result in the use of large amounts of fuel, water, or energy, or use of these materials in a wasteful manner, either at a project or cumulative level. Given compliance with applicable regulations, including the Non-potable Water Program (which requires onsite non-potable water systems to minimize wasteful use of potable water), and the Green Building Code (which requires energy efficiency measures), these impacts would be *less than significant*.

6.D.1.18 Agricultural and Forest Resources

As described for the proposed project (see initial study, Appendix B), the project site does not contain agricultural or forest resources, nor is the site zoned or designated for agricultural, forest, or timberland uses. Therefore, development under Alternatives A through G would have *no impact* on these resources.

6.D.2 Comparison of Alternatives and Environmentally Superior Alternative

6.D.2.1 Comparison and Summary of Alternatives' Impacts and Ability to Meet Project Objectives

Table 6-6 compares the impacts of all seven alternatives with those of the proposed project, with a focus on the significant impacts. Less-than-significant impacts are not explicitly shown in this table since they are not considered in the alternatives analysis. Significant and unavoidable impacts are shown in **bold face** type. The impacts of each of the alternatives and their ability to meet the project objectives as compared to the proposed project are summarized below.

All of the alternatives, are considered potentially feasible for the purposes of this EIR, as required by CEQA Guidelines section 15126.6(a). With the exception of Alternative A, the No Project/Code Compliant Alternative, each of the alternatives would meet the basic project objectives, though some of the alternatives would only partially meet some of the objectives. However, in all cases, it is unknown if any of the alternatives can meet the objective that the project “create a development that is financially feasible and that can fund the project’s capital costs and on-going operation and maintenance costs relating to the redevelopment and long-term operation of the property.” This is because the alternatives that would reduce the overall program would be expected to generate reduced income compared to the proposed project; in addition, with the exception of Alternative A, all other alternatives would have an increased costs associated with the rehabilitation of historic structures. Together, the reduced income and the increased costs would compromise the ability of the alternatives to meet this objective. This unknown financial feasibility could affect the overall feasibility of an alternative based on “economic viability” as indicated in CEQA Guidelines section 15126.6(f)(1). The San Francisco Planning Commission will consider the actual feasibility of project alternatives, including economic feasibility, at the time of project approval.

Alternative A, No Project/Code Compliant

Alternative A would avoid or reduce some—but not all—of the significant impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant:

- Significant and unavoidable impacts on Muni capacity, both project-specific and cumulative level, would be reduced to less than significant due to reduced number of transit trips.
- Significant and unavoidable impacts on Muni operations, both at a project-specific and cumulative level, would be reduced to less than significant due to the reduced number of vehicle trips.
- Significant and unavoidable impacts from construction-related increases in ambient noise levels to future onsite receptors would be reduced to less than significant due to the absence of residential uses on the site.
- Significant and unavoidable impacts from construction-related plus overlapping operational criteria air pollutant emissions would be reduced to less than significant with mitigation due to the 73 percent reduction in building square footage and associated reduction in vehicle trips.
- Significant and unavoidable impacts from operations-related criteria air pollutant emissions would be reduced to less than significant with mitigation due to the 73 percent reduction in building square footage and the removal of the need for emergency generators.
- Significant and unavoidable impacts from cumulative regional air quality impacts would be reduced to less than significant with mitigation due to the 73 percent reduction in building square footage and the removal of the need for emergency generators.
- Significant and unavoidable impacts from interim wind hazards would be reduced to less than significant due to the reduced building heights.

Other significant though mitigable impacts of the project that would be substantially less severe under Alternative A (i.e., impact would be reduced from less than significant with mitigation to less than significant or no impact) include the following:

- Significant but mitigable impacts on pedestrian safety and accessibility would be reduced to less than significant due to the substantial reduction in the number of people walking.
- Significant but mitigable impacts from operational onsite traffic noise would be avoided due to the absence of residential uses under Alternative A.
- Significant but mitigable health risk impacts from exposure to toxic air contaminants to onsite receptors would be avoided because there would be no residential uses.
- Significant but mitigable impacts on special status fish/marine mammals and associated wildlife movement would be reduced to less than significant because there would be no dock and no in-water pile driving that could affect special status fish/marine mammals.

In the following cases, Alternative A would reduce the severity of a significant impact of the proposed project, but not to the extent that it would be below the significance threshold and change the significance determination:

- Significant and unavoidable operational offsite traffic noise increases would be lessened compared to the project due to the reduction in vehicle trips, but the impact would still be significant and unavoidable with mitigation.
- Significant and unavoidable cumulative construction-related noise increases would be lessened compared to the project due to the reduced contribution to cumulative construction activities and construction vehicle trips, but the impact would still be significant and unavoidable with mitigation.
- Significant but mitigable construction-related vibration impacts on existing buildings would be lessened compared to the project due to the reduced amount of pile driving, but the impact would still be less than significant with mitigation.
- Significant but mitigable impacts due to exposure to operational noise levels in excess of standards would be lessened compared to the project due to the reduced amount of stationary equipment and elimination of diesel backup generators, but the impact would still be less than significant with mitigation.
- Significant but mitigable cumulative health risk to offsite receptors on the Pier 70 site would be lessened compared to the project due to the reduction in vehicle trips and elimination of backup diesel generators, but the impact would still be less than significant with mitigation.

Less-than-significant wind impacts at buildout would be lessened compared to the project due to the substantially reduced height of the buildings, but the impact would still be less than significant. However, because Alternative A would involve development on a site that is currently not in active use (other than ongoing remediation and temporary office uses) many of the same significant impacts and mitigation measures identified for the proposed project would be applicable to Alternative A.

Significant and unavoidable impacts identified for the project that would not be substantially reduced under Alternative A and would still occur include impacts on:

- Individually eligible historic resources due to demolition of Station A, the Meter House, and the Compressor House.
- Effects on Third Street Industrial District, both at a project-specific and cumulative level due to demolition of and substantial alteration to six contributors to the district.
- Construction-related increases in ambient noise levels to future Pier 70 receptors due to the proximity of those receptors.
- Operational offsite traffic noise increases would be less than under the project but would still exceed thresholds, both at a project-specific and cumulative level.
- Cumulative construction-related noise increases would be lessened compared to the project due to the reduced contribution to cumulative construction activities and construction vehicle trips, but the impact would still be significant and unavoidable with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the project and would still apply to Alternative A include impacts related to: archeological resources human remains, and tribal cultural resources; infill construction and rehabilitation effects on the Third Street Industrial District; construction and operational noise levels in excess of standards; construction vibration; project and cumulative level health risk to offsite receptors from toxic air contaminants; Clean Air Plan consistency; construction effects on nesting birds and special-status bats; jurisdictional waters; and paleontological resources.

As indicated above in Table 6-2, Alternative A would not meet the basic project objective to "redevelop the former power plant site to provide a mix of residential, retail, office, PDR, R&D space, a hotel, and activated waterfront open spaces to support a daytime population in a vibrant neighborhood retail district and to provide employment opportunities within walking distance to residents of the surrounding neighborhood." While it would provide a mix of general office, PDR, and retail uses, support a daytime population, and provide employment opportunities, the No Project/Code Compliant Alternative would not provide the full mix of diverse land uses targeted under this objective, since it would not include any residential or hotel uses or commercial uses designated for R&D/life sciences that together with office, PDR, and retail uses would constitute a "vibrant neighborhood retail district." Furthermore, Alternative A would not meet most of the other project objectives, including not increasing the city's supply of housing, not attracting a diversity of household types, not redeveloping the PG&E sub-area, not creating an iconic addition to the city's skyline or a transit-oriented development, and not constructing a waterfront hotel. However, it would partially meet some of the objectives related to providing open space and bicycle use along the waterfront, partially connecting to the Pier 70 Mixed-Use District project to form a single neighborhood, and constructing a substantial amount of PDR uses. It is assumed, however, that this alternative would meet the objectives related to resiliency to sea level rise and earthquakes and sustainable development. The financial feasibility of the No Project/Code Compliant Alternative is unknown.

Alternative B, Full Preservation/Reduced Program

Alternative B would avoid or reduce some—but not all—of the significant impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant:

- Significant and unavoidable impacts on transit operations, both at a project-specific and cumulative level, would be reduced to less than significant due to the substantial reduction in vehicle trips.

This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on individually eligible historic resources would be avoided by retaining and rehabilitating the onsite historic resources, and implementation of vibration monitoring and vibration control mitigation measures would reduce this impact to less than significant.
- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level would be avoided by retaining and rehabilitating the onsite historic resources, and implementation of vibration monitoring and vibration control mitigation measures would reduce this impact to less than significant.

Significant and unavoidable impacts identified for the project that would not be substantially reduced under Alternative B and would still occur include the following:

- Significant and unavoidable Muni capacity impacts, both at a project-specific and cumulative level, impacts would be less than the proposed project and reduce impacts on the 22 Fillmore route to less than significant due to the reduction in demand for transit trips, but the new transit trips would still be above thresholds on the 48 Quintara/24th Street route and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable construction-related increases in ambient noise levels to future onsite and Pier 70 receptors would be less than the proposed project due to the reduction in the magnitude of construction, but noise levels would still be above thresholds and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable operational offsite traffic noise increases would be less than the project due to the reduction in vehicle trips, but noise levels would still exceed thresholds, and the impact would remain significant and unavoidable even with mitigation, at both the project-specific and cumulative level.
- Significant and unavoidable cumulative construction-related noise increases would be lessened compared to the project due to the reduced contribution to cumulative construction activities and construction vehicle trips, but the impact would still be significant and unavoidable with mitigation.
- Significant and unavoidable impacts related to construction- and operations-related criteria air pollutant emissions would be less than the project due to the reduced square footage of development, but emission levels would still exceed thresholds, and the impact would remain significant and unavoidable even with mitigation.

- Significant and unavoidable contribution to cumulative regional air quality impacts would be less than the proposed project due to the reduced square footage of development, but emission levels would still exceed thresholds, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable interim wind hazards would occur similar to the proposed project due to the unknowns and uncertainties associated with phased construction, and the impact would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the project and would still apply to Alternative B include impacts related to: archeological resources, human remains, and tribal cultural resources; infill construction effects on Third Street Industrial District; pedestrian safety and accessibility; construction and operational noise levels in excess of standards; construction vibration; operational onsite traffic noise increases; project and cumulative level health risk from toxic air contaminants (impact would be reduced but would still require mitigation); Clean Air Plan consistency; construction effects on nesting birds, special-status bats, fish, and marine mammals; jurisdictional waters, and paleontological resources.

As indicated above in Table 6-2, Alternative B would partially meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. This alternative would provide the same diverse mix of uses and employment opportunities as the proposed project, but the intensity of those uses and opportunities would be reduced by about one third. Alternative B would meet many of the project objectives, including providing access to the bay and active open space uses, attracting a diversity of household types, redeveloping the PG&E sub-area, creating a transit-oriented development, and constructing a waterfront hotel. However, it would only partially meet other objectives, including those related to increasing the city's housing supply (would provide two thirds the amount of the proposed project), connecting to the Pier 70 Mixed-Use District project due to grade changes at the Meter House and the Compressor House, and constructing a substantial amount of PDR uses (would provide two thirds the amount of the proposed project). The financial feasibility of the Full Preservation/Reduced Program Alternative is unknown.

Alternative C, Full Preservation/Similar Program

Alternative C would avoid or reduce some—but not all—of the significant impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impacts, reducing them from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on individually eligible historic resources would be avoided by retaining and rehabilitating the onsite historic resources, and implementation of vibration monitoring and vibration control mitigation measures would reduce this impact to less than significant.
- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level, would be avoided by retaining and rehabilitating the onsite

historic resources, and implementation of vibration monitoring and vibration control mitigation measures would reduce this impact to less than significant.

Significant and unavoidable impacts identified for the project that would not be reduced under Alternative C and would still occur include the following:

- Significant and unavoidable Muni capacity impacts, both at a project-specific and cumulative level, would be similar to the project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable transit operations impacts, both at a project-specific and cumulative level, would be similar to the project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable construction-related increases in ambient noise levels to future onsite and Pier 70 receptors would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable operational offsite traffic noise increases, both at a project-specific and cumulative level would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable cumulative construction-related noise increases would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable construction and operations related criteria air pollutant emissions would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable cumulative regional air quality impacts would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable interim wind hazards would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.

In addition, there is the potential for Alternative C to have an additional significant and unavoidable impact associated with wind hazards at buildout, at both a project-specific and cumulative level. Although no wind-tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the additional towers. Conservatively, it is assumed that Alternative C would have a significant and unavoidable wind impact at buildout, even with mitigation, and its contribution to cumulative wind impacts would also be significant and unavoidable with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the project and would still apply to Alternative C include impacts related to: archeological resources, human remains, and tribal cultural resources; infill construction effects on Third Street Industrial District; construction and operational noise levels in excess of standards; construction vibration; operational onsite traffic noise increases; project and cumulative level health risks from toxic air

contaminants; Clean Air Plan consistency; construction effects on nesting birds, special-status bats, fish, and marine mammals; jurisdictional waters, and paleontological resources.

As indicated above in Table 6-2, Alternative C would meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. Alternative C would meet this objective to the same degree as the proposed project with only a slight reduction in the amount of office uses. Alternative C would meet most of the project objectives, including providing access to the bay and active open space uses, increasing the city's supply of housing, attracting a diversity of household types, redeveloping the PG&E sub-area, creating a substantial increment of new PDR uses and a transit-oriented development, and constructing a waterfront hotel. However, it would only partially meet the objectives related to connecting to the Pier 70 Mixed-Use District project due to grade changes at the Meter House and the Compressor House. The financial feasibility of the Full Preservation/Similar Program Alternative is unknown.

Alternatives D, Partial Preservation 1

Alternative D would reduce some—but not all—of the significant impacts identified for the proposed project. This alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level would be reduced to less than significant with mitigation due to the retention and rehabilitation of Station A and the Boiler Stack consistent with the Secretary of Interior's Standards.

Significant and unavoidable impacts identified for the project that would not be substantially reduced under Alternative D and would still occur include the following:

- Significant and unavoidable impacts on individually eligible historic resources would be less severe than the proposed project due to the retention and rehabilitation of Station A, but the impact would still be significant and unavoidable due to the demolition of the Meter House and the Compressor House.
- Significant and unavoidable Muni capacity, both at a project-specific and cumulative level, would be similar to the project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable transit operations impacts, both at a project-specific and cumulative level, would be similar to the project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable construction-related increases in ambient noise levels to future onsite and Pier 70 receptors would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.

- Significant and unavoidable operational offsite traffic noise increases both at a project-specific and cumulative level would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable cumulative construction-related noise increases would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable construction and operations related criteria air pollutant emissions would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable cumulative regional air quality impacts would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.
- Significant and unavoidable interim wind hazards would be the same as for the proposed project, and the impact would remain significant and unavoidable even with mitigation.

Significant impacts that could be mitigated to less than significant that were identified for the project and would still apply to Alternative D include impacts related to: archeological resources, human remains, and tribal cultural resources; infill construction and rehabilitation effects on Third Street Industrial District; construction and operational noise levels in excess of standards; construction vibration; operational onsite traffic noise increases; project and cumulative level health risk from toxic air contaminants; Clean Air Plan consistency; construction effects on nesting birds, special-status bats, fish, and marine mammals; jurisdictional waters, and paleontological resources.

As indicated above in Table 6-2, Alternative D would meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. Alternative D would meet this to essentially the same degree as the proposed project, with a slight reduction in residential and office uses. Alternative D would meet most of the project objectives, including providing access to the bay and active open space uses, attracting a diversity of household types, redeveloping the PG&E sub-area, fully connecting to the Pier 70 Mixed-Use District project, creating a substantial increment of new PDR uses and a transit-oriented development, and constructing a waterfront hotel. However, it would only partially meet the objective related to the city's supply of housing (would provide 91 percent compared to the project). The financial feasibility of Partial Preservation 1 Alternative is unknown.

Alternatives E, Partial Preservation 2

The overall impacts of Alternative E compared to those of the proposed project would generally be the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level, would be reduced to less than significant with mitigation due to the retention and rehabilitation of the southern portion of Station A and the Boiler Stack consistent with the Secretary of Interior's Standards.

Alternative E would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determination of significant and unavoidable with mitigation. All of the other impacts of Alternative E compared to those of the proposed project would be the same as described above for Alternative D.

As indicated above in Table 6-2, Alternative E would meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. Alternative E would meet this to essentially the same degree as the proposed project, with a slight reduction in office uses. Alternative E would otherwise meet most of the project objectives, including providing access to the bay and active open space uses, increasing the city's supply of housing, attracting a diversity of household types, redeveloping the PG&E sub-area, fully connecting to the Pier 70 Mixed-Use District project, creating a substantial increment of new PDR uses and a transit-oriented development, and constructing a waterfront hotel. The financial feasibility of Partial Preservation 2 Alternative is unknown.

Alternative F, Partial Preservation 3

The overall impacts of Alternative F compared to those of the proposed project would be generally the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level would be reduced to less than significant with mitigation due to the retention and rehabilitation of the Meter House, Compressor House, and Boiler Stack consistent with the Secretary of Interior's Standards.

Alternative F would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determinations. All of the other impacts of Alternative F compared to those of the proposed project would be the same as described above for Alternative D.

However, there is the potential for Alternative F to have two additional significant and unavoidable impacts associated with wind hazards at buildout, at both a project-specific and cumulative level. Although no wind-tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the massing of the 180-foot tall building at the southwest corner of the project site at Block 5. Conservatively, it is assumed that Alternative F would have a significant and unavoidable wind impact at buildout,

even with mitigation, and its contribution to cumulative wind impacts would also be significant and unavoidable with mitigation.

As indicated above in Table 6-2, Alternative F would meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide employment opportunities within walking distance of the surrounding neighborhood. Alternative F would meet this to essentially the same degree as the proposed project, with a slight reduction in residential uses. Alternative F would otherwise meet most of the project objectives, including providing access to the bay and active open space uses, attracting a diversity of household types, redeveloping the PG&E sub-area, creating a substantial increment of new PDR uses and a transit-oriented development, and constructing a waterfront hotel. However, it would only partially meet the objectives related to the city's supply of housing (would provide 92 percent compared to the project) and connecting to the Pier 70 Mixed-Use District project due to grade changes at the Meter House and Compressor House. The financial feasibility of Partial Preservation 3 Alternative is unknown.

Alternative G, Partial Preservation 4

The overall impacts of Alternative G compared to those of the proposed project would be generally the same as described above for Alternative D. Like Alternative D, this alternative would substantially lessen the severity of the following impact, reducing it from significant and unavoidable with mitigation to less than significant with mitigation:

- Significant and unavoidable impacts on the Third Street Industrial District, both at a project-specific and cumulative level would be reduced to less than significant with mitigation due to the rehabilitation of the Boiler Stack consistent with the Secretary of Interior's Standards and the retention the façades of Station A, the Meter House, and Compressor House.

Alternative G would also partially lessen the severity of the significant and unavoidable impact on individually eligible historic resources, but not substantially enough to change the CEQA significance determinations. All of the other impacts of Alternative G compared to those of the proposed project would be the same as described above for Alternative D.

However, there is the potential for Alternative G to have two additional significant and unavoidable impacts associated with wind hazards at buildout, at both a project-specific and cumulative level. Although no wind-tunnel testing has been completed for this alternative, there is the likelihood that wind conditions would be more severe than those under the project because of the massing of the 180-foot tall building at the southwest corner of the project site at Block 5. Conservatively, it is assumed that Alternative G would have a significant and unavoidable wind impact at buildout, even with mitigation, and its contribution to cumulative wind impacts would also be significant and unavoidable with mitigation.

As indicated above in Table 6-2, Alternative G would meet the basic project objective of redeveloping the former power plant site with a mix of residential, commercial, and open space uses to support a daytime population in a vibrant neighborhood district and to provide

employment opportunities within walking distance of the surrounding neighborhood. Alternative G would meet this to essentially the same degree as the proposed project, with a slight reduction in residential and office uses. Alternative G would otherwise meet most of the project objectives, including providing access to the bay and active open space uses, attracting a diversity of household types, redeveloping the PG&E sub-area, creating a substantial increment of new PDR uses and a transit-oriented development, and constructing a waterfront hotel. However, it would only partially meet the objective related to the city's supply of housing (would provide 93 percent compared to the project) and connecting to the Pier 70 Mixed-Use District project due to grade changes at the Meter House and Compressor House. The financial feasibility of Partial Preservation 4 Alternative is unknown.

6.D.2.2 Environmentally Superior Alternative

The CEQA Guidelines require the identification of an environmentally superior alternative to the proposed project (section 15126.6[e]). Based on the analysis and comparison of the impacts of the alternatives presented above, this subsection identifies Alternative A as the environmentally superior alternative. As described above, Alternative A (No Project/Code Compliant Alternative) would substantially lessen the severity of the significant and unavoidable impacts of the proposed project and would reduce impacts related to transit capacity and operations, construction noise, construction and operational air quality, cumulative regional air quality, and interim wind hazards to less than significant. This alternative would also avoid significant but mitigable impacts related to onsite traffic noise and onsite health risk due to the absence of onsite residential uses. It would also lessen the severity of impacts related to offsite traffic noise increases, construction vibration, operational noise levels, cumulative health risks, and wind conditions at buildout, but not to the extent that it would be below the significance threshold and change the significance determination. However, significant and unavoidable impacts of the proposed project related to individual historic resources, the Third Street Industrial District, construction noise to future Pier 70 receptors, and operational traffic noise increases would still be expected to occur under this alternative. While Alternative A would offer some environmental advantage over the proposed project, significant and unavoidable adverse impacts would still occur. CEQA Guidelines section 15126.6(e)(2) provides that if the "no project" alternative is the environmentally superior alternative, the EIR should also identify an environmentally superior alternative among the other alternatives.

Alternatives F and G (Partial Preservation Alternatives 3 and 4) would substantially lessen the severity of the two significant and unavoidable impacts of the proposed project related to the project-specific and cumulative impacts on the integrity of the Third Street Industrial District as a historical resource under CEQA, reducing these impacts to less than significant with mitigation. However, all other significant and unavoidable impacts of the project related to individual historic architectural resources, Muni ridership and operations, construction and operational noise, construction and operational air quality, and interim wind hazards would still occur under these two alternatives. In addition, Alternatives F and G could result in an additional significant and unavoidable impact on wind hazards at buildout as well as a significant and unavoidable contribution to cumulative wind impacts, neither of which would occur under the proposed project. Therefore, due to the minimal reduction in impacts of the proposed project and the

additional new significant and unavoidable impacts, these alternatives would offer no environmental advantage over the proposed project, and Alternatives F and G are not identified as the environmentally superior alternative.

Alternatives D and E (Partial Preservation Alternative 1 and 2) would also substantially lessen the severity of the two significant and unavoidable impacts of the proposed project related to the project-specific and cumulative impacts on the integrity of the Third Street Industrial District as a historical resource under CEQA, reducing the impact to less than significant with mitigation. However, although some of the adverse impacts to historical resources would be somewhat reduced in severity, all other significant and unavoidable impacts of the project related to individual historic architectural resources, Muni ridership and operations, construction and operational noise, construction and operational air quality, and interim wind hazards would still occur under this alternative. Therefore, due to the minimal reduction in impacts of the proposed project, this alternative would offer little environmental advantage over the proposed project, and Alternatives D and E are not identified as the environmentally superior alternative.

Alternatives B and C, both full preservation alternatives, would substantially lessen the severity of the significant and unavoidable impacts of the proposed project related to individually eligible historic resources as well as to the project-specific and cumulative impacts on the integrity of the Third Street Industrial District as a historical resource under CEQA. However, Alternative C would not reduce the project-specific or cumulative impact related to transit operations, and both impacts would remain significant and unavoidable with mitigation. Alternative C also has the potential to result in an additional significant and unavoidable impact related to wind hazards at buildout, which would not occur under the proposed project. Significant and unavoidable impacts of the project related to Muni ridership, construction and operational noise increases, and construction and operational criteria air pollutant emissions would still occur under both of these alternatives, although the severity of the impacts would be less under Alternative B compared to both the proposed project and Alternative C. Therefore, although it would offer some environmental advantage over the proposed project, Alternative C is not identified as the environmentally superior alternative.

Therefore, among all of the alternatives including the "no project" alternative, Alternative B (Full Preservation/Reduced Program Alternative) is considered the environmentally superior alternative. Alternative B would eliminate the significant and unavoidable impacts related to individually eligible historic resources, effects on the Third Street Industrial District, and transit operations that would occur under the proposed project. Even though some significant and unavoidable impacts would still occur under Alternative B, this alternative would lessen the severity of the significant adverse impacts related to transit capacity, construction and operational noise, and construction and operational criteria air pollutant emissions, pedestrian safety and accessibility, and health risk from exposure to toxic air contaminants when compared to the impacts of the proposed project. Overall, Alternative B would meet most of the basic project objectives and would result in fewer and less severe environmental impacts than the proposed project or any of the other alternatives.

TABLE 6-6
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Land Use							
All impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project
Population and Housing							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Cultural Resources							
Impact CR-1: Archeological resources (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact CR-2: Human remains (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact CR-3: Tribal cultural resources (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact CR-4: Historic architecture, individual resources (SUM)	Same as project, SUM	LSM	LSM	Less than project but still SUM	Less than project but still SUM	Less than project but still SUM	Less than project but still SUM
Impact CR-6: Demolition and alteration effects on Third Street Industrial District (SUM)	Same as project, SUM	LSM	LSM	LSM	LSM	LSM	LSM
Impact CR-6: Infill construction effects on Third Street Industrial District (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact C-CR-2: Cumulative effects on Third Street Industrial District (SUM)	Same as project, SUM	LSM	LSM	LSM	LSM	LSM	LSM
Transportation and Circulation							
Impact TR-4: Muni ridership (SUM)	LTS	Less than project but still SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
Impact TR-5: Muni operations (SUM)	LTS	LTS	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact TR-7: Pedestrian safety and accessibility impacts (LSM)	LTS	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)	Similar to project (LSM)

TABLE 6-6 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Transportation and Circulation (cont.)							
Impact C-TR-4: Cumulative Muni ridership (SUM)	LTS	Less than project but still SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
Impact C-TR-5: Cumulative transit operations (SUM)	LTS	LTS	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM	Similar to project, SUM
All other transportation impacts LTS	Similar to or less than project	Similar to or less than project	Similar to project	Similar to project	Similar to project	Similar to project	Similar to project
Noise and Vibration							
Impact NO-1: Exposure to construction-related noise levels in excess of standards (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact NO-2: Construction-related increases in ambient noise levels at noise-sensitive receptors (SUM)	Less than project but still SUM (impacts on future Pier 70 receptors, only and shorter duration)	Less than project but still SUM (fewer receptors and shorter duration)	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM
Impact NO-4: Construction-related vibration impacts on existing buildings (LSM)	Less than project but still LSM	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact NO-5: Exposure to operational noise levels in excess of standards (LSM)	Same or less than project (LSM)	Same or less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact NO-8: Operational offsite traffic noise increases (SUM)	Less than project but still SUM (fewer affected roadway segments)	Less than project but still SUM (fewer affected roadway segments)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact C-NO-1: Cumulative construction traffic noise increases (SUM)	Less than project but still SUM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact C-NO-2: Cumulative operational traffic noise increases (SUM)	Less than project but still SUM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
All other noise impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project

TABLE 6-6 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Air Quality							
Impact AQ-2: Construction-related plus overlapping operational criteria air pollutant emissions. (SUM)	LSM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact AQ-3: Operations-related criteria air pollutant emissions. (SUM)	LSM	Less than project but still SUM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact AQ-4: Toxic air contaminants, cancer risk and PM _{2.5} concentration at offsite receptors and onsite receptors (LSM)	Offsite (LSM) Onsite (NI)	Less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact AQ-5: Clean Air Plan consistency (LSM)	Similar to project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact C-AQ-1: Cumulative regional air quality (SUM)	LSM	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)	Same as project (SUM)
Impact C-AQ-2: Cumulative health risk (LSM)	Less than project (LSM)	Less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
All other air quality impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project
Greenhouse Gas Emissions							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Wind and Shadow							
Impact WS-1. Wind impacts at buildout (LTS)	Less than the project	Same as or less than project	SUM (conservative in the absence of testing)	Similar to the project	Same as project	SUM (conservative in the absence of testing)	SUM (conservative in the absence of testing)
Impact WS-2. Interim wind hazards or changes in building layout or massing (SUM)	LTS	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM	Same as project, SUM
Impact C-WS-1. Cumulative wind impacts (LTS)	Less than the project	Same as or less than project	SUM (conservative in the absence of testing)	Similar to the project	Same as project	SUM (conservative in the absence of testing)	SUM (conservative in the absence of testing)

TABLE 6-6 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Wind and Shadow (cont.)							
All shadow impacts LTS	Less than the project	Less than the project	Slightly more than the project but still LTS	Similar to the project	Same as project	Similar to the project	Similar to the project
Recreation							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Utilities and Service Systems							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Public Services							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Biological Resources							
Impact BI-1: Construction impacts on nesting birds (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact BI-3: Construction impacts on special-status bats (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact BI-4: Construction impacts on special-status fish and marine mammals (LSM)	LTS (no dock, so no in-water pile driving)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact BI-7: Construction impacts on jurisdictional waters (LSM)	Same as or less than project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact BI-9: Construction impacts on wildlife movement, nesting birds and marine species (LSM)	Same as project (LSM, nesting birds only)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Impact C-BI-1: Cumulative impacts, nesting birds, special-status bats, marine species, and jurisdictional waters (LSM)	Same as project (LSM, nesting birds only)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
All other impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project

TABLE 6-6 (CONTINUED)
COMPARISON OF ENVIRONMENTAL IMPACTS OF THE PROJECT TO IMPACTS OF THE ALTERNATIVES

Impact of Proposed Project ¹	Alternative A: No Project/ Code Compliant	Alternative B: Full Preservation/ Reduced Program	Alternative C: Full Preservation/ Similar Program	Alternative D: Partial Preservation 1	Alternative E: Partial Preservation 2	Alternative F: Partial Preservation 3	Alternative G: Partial Preservation 4
Geology, Soils, and Paleontological Resources							
All geologic hazards impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project
Impact GE-6: Paleontological resources (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)	Same as project (LSM)
Hydrology and Water Quality							
All impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project
Hazards and Hazardous Materials							
All impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project
Mineral and Energy Resources							
All impacts LTS	Same as or less than project	Same as or less than project	Same as project	Same as project	Same as project	Same as project	Same as project
Agriculture and Forest Resources							
All impacts LTS	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project	Same as project

¹ See Chapter 4 for complete impact statements. CEQA significance determination: NI = No Impact; LTS = Less than significant; LSM = Less than significant with mitigation; SUM = Significant and unavoidable with mitigation; SU = Significant and unavoidable.

All SUM and SU impacts are shown in **bold**.

Dark shading indicates a substantial change in impact significance from the proposed project, from SU or SUM to LTS. **Medium shading** indicates a noticeable change in impact significance from the proposed project, from SUM to LSM or from LSM to LTS. **Light shading** indicates a slight change in impact severity from the proposed project but no change in significance determination.

6.E Alternatives Considered but Rejected

In developing the proposed project, the project sponsor considered multiple alternative concepts/designs for development of the project site, including numerous variations on preservation alternatives. The Planning Department reviewed these alternative concepts as potential strategies for reducing or avoiding the significant adverse impacts that were identified for the proposed project. In most cases, the alternative concepts were incorporated into one or more of the seven alternatives selected and analyzed in Section 6.D, above. In some cases, however, alternative concepts were determined to either be infeasible, result in the same or more severe environmental impacts compared to those of the project, or already covered within the range of selected alternatives. The alternatives considered but rejected and the reasons they have been rejected from further analysis are described below.

6.E.1 Alternatives Identified During Scoping

During the scoping process for the EIR, several individuals raised a concern regarding the need to consider alternatives to the proposed project as summarized in Chapter 1, Table 1-1. The concepts raised during scoping included: (1) a reduced height and density alternative; (2) preservation, restoration, and adaptive reuse of historic buildings; (3) a low elevation, no height rezoning alternative with mixed use limited to residences, PDRs, and local-servicing businesses; and (4) a no-office, no-hotel alternative. Three of these concepts have been incorporated into the selected alternatives and are analyzed in Section 6.D, above. The first concept is addressed under Alternative B, Full Preservation/Reduced Program Alternative; the second concept is addressed under Alternatives B through G, Full and Partial Preservation alternatives; and the third concept is addressed under Alternative A, No Project/Code Compliant Alternative. The fourth concept was considered but rejected, as discussed below.

6.E.2 Alternatives Considered but Rejected

6.E.2.1 Alternative Location

CEQA Guidelines section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects. While an alternative location might avoid the impacts associated with demolition of historic resources, the Planning Department has concluded that no feasible alternative locations exist. No comparable parcel of land is available along the bay shoreline to which the project sponsor could reasonably acquire, control, or otherwise have access. Therefore, this concept was rejected from further consideration.

Other Preservation Alternatives

A preservation alternatives report was prepared in March 2018 consistent with guidance provided by San Francisco's Historic Preservation Commission.¹¹ The report presents full and

¹¹ Page & Turnbull, *Potrero Power Station Mixed-Used Development Project Preservation Alternatives Report*, March 9, 2018.

partial preservation alternatives that were developed, collaboratively by the project sponsor, Page & Turnbull, and Planning Department staff. The report identifies four partial preservation alternatives upon which Alternatives D, E, F, and G are based. The report also includes a number of other alternatives that were considered but rejected for the reasons presented below:

- **No Project Alternative from Preservation Alternatives Report.** This alternative consists of no new construction on the project site and retention of all existing buildings, including the historic buildings. The Planning Department rejected this alternative because it does not realistically depict reasonably foreseeable future conditions at the project site, given the location and value of the property. Instead, the Planning Department determined that Alternative A (No Project/Code Compliant) would more appropriately represent what would happen at the project site if the proposed project were not approved, and that Alternative A would satisfy the CEQA requirements for analyzing no project conditions.
- **Full Preservation Alternative from Preservation Alternatives Report.** This alternative consisted of rehabilitation of all six historic buildings on the project site and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,270 compared to 2,682 for the project). This alternative is similar to the two full preservation alternatives analyzed in section 6.D above. The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/Similar Program) adequately represent the range of environmental impacts that could be expected under this preservation scenario such that this alternative would be unnecessary. Therefore, this alternative was rejected from further consideration.
- **Full Preservation Alternative A from Preservation Alternatives Report.** Similar to the Full Preservation Alternative, above, this alternative consisted of rehabilitation of all six historic buildings on the project and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,663 compared to 2,682 for the project). This alternative is similar to the two full preservation alternatives analyzed in section 6.D above. The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/Similar Program) adequately represent the range of environmental impacts that could be expected under this preservation scenario such that this alternative would be unnecessary. Therefore, this alternative was rejected from further consideration.
- **Full Preservation Alternative B from Preservation Alternatives Report.** Similar to the Full Preservation Alternative above, this alternative consisted of rehabilitation of all six historic buildings on the project and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. This alternative included a reduced number of residential dwelling units (2,140 compared to 2,682 for the project) and a reduced amount of open space (18 percent open space compared to 22 percent for the project). This alternative is similar to the full preservation alternatives analyzed in section 6.D above. The Planning Department determined that Alternative B (Full Preservation/Reduced Program) and Alternative C (Full Preservation/Similar Program) adequately represent the range of environmental impacts that could be expected under this preservation scenario. Further, the reduction in open space component under this alternative would not reduce any significant impacts of the proposed project. Therefore, this alternative was rejected from further consideration.

- **Partial Preservation Alternative A from Preservation Alternatives Report.** This alternative consisted of rehabilitation of Station A and the Boiler Stack, retention of the Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. While similar to Alternative D analyzed in section 6.D above, this alternative included a 180-foot tall building on Block 13B (instead of 85 feet tall for the project and for Alternative D). This variation from the project and Alternative D would not serve to reduce any significant impacts of the project. Therefore, the Planning Department determined that Alternative D (Partial Preservation 1) would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.
- **Partial Preservation Alternative B from Preservation Alternatives Report.** This alternative consisted of rehabilitation of the Meter House, the Compressor House, and the Boiler Stack, retention of the Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. While similar to Alternative F analyzed in section 6.D above, this alternative included a 240-foot tower on Block 13B (compared to 85 feet tall for the project and Alternative F). This variation from the project and Alternative F would not serve to reduce any significant impacts of the project. Therefore, the Planning Department determined that Alternative F (Partial Preservation 3) would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.
- **Partial Preservation Alternative C from Preservation Alternatives Report.** This alternative consisted of retaining and building within the façades of the Meter House and the Compressor House, constructing a glass wall to envelope the historic façades of Station A and new construction above Station A, rehabilitation of the Boiler Stack, retention of Unit 3 Power Block, and development of a mix of residential, office, hotel, retail, parking, and open spaces similar to the proposed project. While similar to Alternative G analyzed in Section 6.D above, this alternative included a glass wall of new construction to envelope the historic façades of Station A to provide more usable floor plates. This variation from the project and Alternative G would not serve to reduce any significant impacts of the project. Therefore, the Planning Department determined that Alternative G (Partial Preservation 4) would adequately represent the range of environmental impacts that could be expected under this preservation scenario, and this alternative was rejected from further consideration.
- **Other Partial Preservation Alternatives from Preservation Alternatives Report.** One partial preservation concept considered consisted of rehabilitating and/or relocating only the Gate House; this concept was rejected because it would not avoid or lessen significant impacts to historic resources on the site and because it would mitigate significant impacts to a lesser extent than partial preservation Alternatives D, E, F, and G. Another concept considered would retain the exterior character-defining features of the Compressor House and the Meter House, but would relocate the buildings elsewhere on the project site; this concept was rejected because the feasibility of relocating either of these masonry buildings is unknown due to site constraints and their deteriorated condition such that rehabilitating the relocated structures to Secretary of Interior's standard is questionable. Therefore, these concepts were rejected from further consideration because they would not avoid or lessen significant impacts to historic resources on the site, would mitigate significant impacts to a lesser extent than partial preservation Alternatives D, E, F, and G, and/or would not be feasible.

6.E.2.2 No Office, No-Hotel Alternative

This concept was raised during the scoping period for the EIR and was suggested in the context of concerns with housing/jobs balance and the lack of housing in San Francisco. This concept was rejected because it would not reduce identified significant environmental impacts of the proposed project. However, the proposed project, as well as Alternative C (Full Preservation/Similar Program) and Alternative E (Partial Preservation 2) would aim to maximize housing on the project site; in addition, Alternative A (No Project/Code Compliant) would not include any hotel uses. (For concerns regarding housing/jobs balance, see Chapter 4, section 4.C.)

6.E.2.3 Design Alternatives

As part of project development, the project sponsor considered numerous design and layout concepts for the project site. As none of these concepts were developed for the purpose of reducing significant environmental impacts, the San Francisco Planning Department did not consider these preliminary design concepts as alternatives as part of the CEQA environmental review.

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CHAPTER 7

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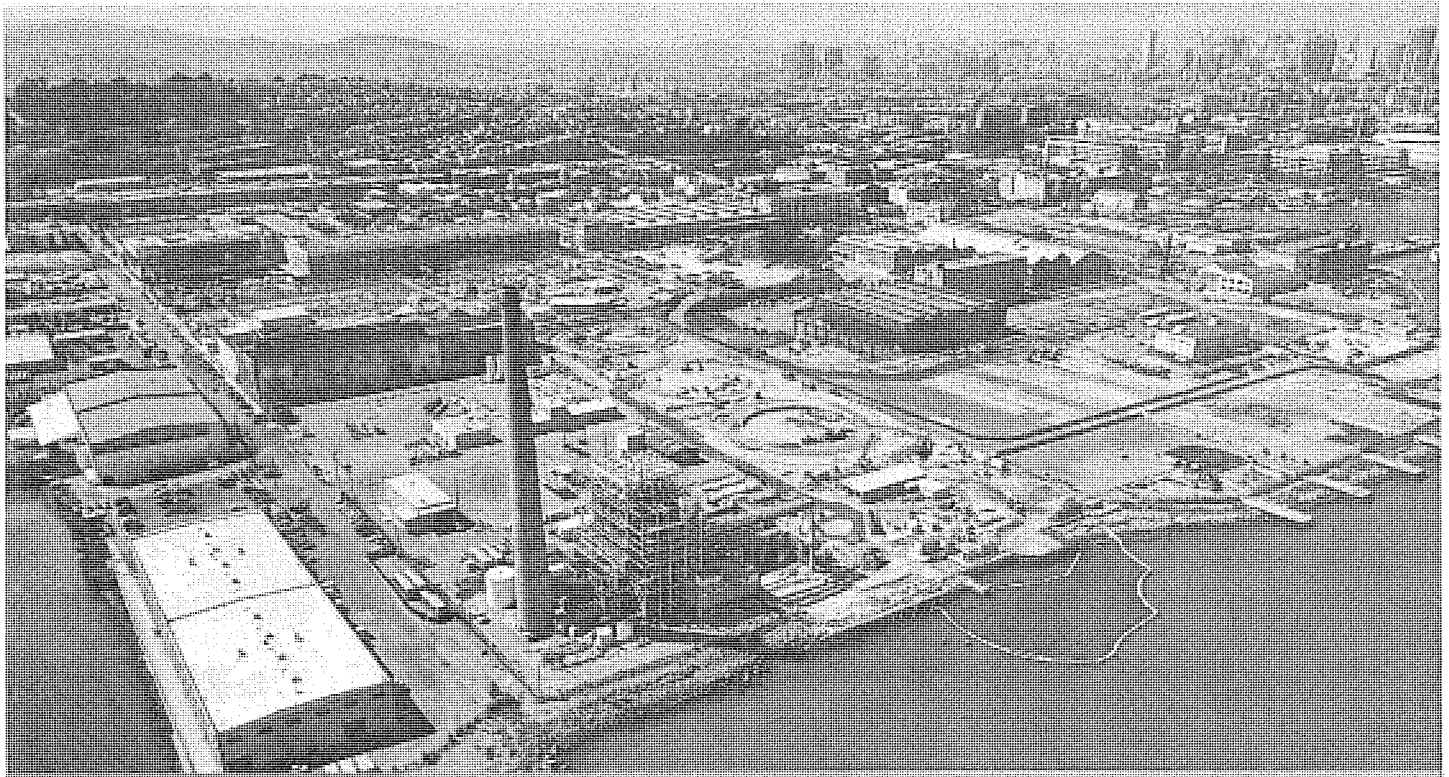
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RESPONSES TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT Volume 3

Potrero Power Station Mixed-Use Development Project

SAN FRANCISCO PLANNING DEPARTMENT
CASE NO. 2017-011878ENV
STATE CLEARINGHOUSE NO. 2017112005



SAN FRANCISCO
PLANNING
DEPARTMENT

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Draft EIR Public Hearing Date:	NOVEMBER 8, 2018
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Responses to Comments Publication Date:	DECEMBER 11, 2019
Final EIR Certification Hearing Date:	JANUARY 9, 2020

Written comments should be sent to:
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RESPONSES TO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT Volume 3

Potrero Power Station Mixed-Use Development Project

SAN FRANCISCO PLANNING DEPARTMENT
CASE NO. 2017-011878ENV
STATE CLEARINGHOUSE NO. 2017112005



SAN FRANCISCO
PLANNING
DEPARTMENT

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Final EIR Certification Hearing Date:	JANUARY 9, 2020

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ACRONYMS AND ABBREVIATIONS

ABAG	Association of Bay Area Governments
ADA	Americans with Disabilities Act
AWSS	Auxiliary Water Supply System
BART	Bay Area Rapid Transit
BCDC	San Francisco Bay Conservation and Development Commission
BMP	Best Management Practice
CalOSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CD	compact disc
CEQA	California Environmental Quality Act
cfs	cubic-foot-per-second
D for D	Design for Development
dBA	A-weighted decibel
DDT	dichloro-diphenyl-trichloroethane
DNAPL	dense non-aqueous phase liquid
DEHP	di (2 ethylhexyl) phthalate
DSM	Deep Soil Mixing
DTR	Downtown Residential District
EDD	Employment Development Department
EIR	environmental impact report
ERO	Environmental Review Officer
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
GHG	greenhouse gas
gpm	gallons per minute
gsf	gross square feet
HRER	Historic Resources Evaluation Responses
HVAC	heating/ventilation/air conditioning
in/sec	inches per second
I-80	Interstate 80
I-280	Interstate 280
kV	kilovolt
LEED	Leadership in Energy and Environmental Design

Ldn	day-night noise level
Leq	steady-state energy level
Lmax	root mean squared maximum level of a noise source or environment
LMI	Labor Market Information
LOS	Level of Service
LTS	less than significant
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MLLW	Mean Lower Low Tide
MS4	Municipal Separate Storm Sewer Systems
MTC	Metropolitan Transportation Commission
Muni	San Francisco Municipal Transportation Agency
NAVD88	North American Vertical Datum of 1988
NI	no impact
NOAA	National Oceanic and Atmospheric Administration
NOP	notice of preparation
NPDES	National Pollutant Discharge Elimination System
PG&E	Pacific Gas and Electric Company
PCB	polychlorinated biphenyl
PDA	Priority Development Area
PDR	Production, Distribution and Repair
PPV	peak particle velocity
PS	potentially significant
R&D	research and development
RMS	root-mean-square pressure level
ROSE	Recreation and Open Space Element
SEL	sound exposure level
sf	square feet
SFMTA	City and County of San Francisco Municipal Transportation Agency
SFPUC	San Francisco Public Utilities Commission
SoMa	South of Market Area
SU	significant and unavoidable
SUD	Special Use District
TAZ	Traffic Analysis Zones
TDM	Transportation Demand Management
U.S. EPA	U.S. Environmental Protection Agency
U.S. 101	United States Highway 101
VMT	vehicle miles traveled
WETA	Water Emergency Transportation Authority

CHAPTER 8

Introduction to Responses to Comments

8.A Purpose of the Responses to Comments Document

This Responses to Comments document is Volume 3 of the environmental impact report (EIR) analyzing potential environmental effects associated with the Potrero Power Station Mixed-Use Development Project (proposed project or project) as proposed by the California Barrel Company LLC. The San Francisco Planning Department, as lead agency responsible for administering the environmental review for projects in the City and County San Francisco, published a Draft EIR¹ on the proposed project on October 3, 2018, and the public review period ended on November 19, 2018. The Draft EIR (Volumes 1 and 2) together with this Responses to Comments document constitute the Final EIR for the proposed project, consistent with CEQA Guidelines section 15132 and in fulfillment of requirements of the California Environmental Quality Act (CEQA) and San Francisco Administrative Code Chapter 31.

This Responses to Comments document provides written responses to comments received during the public review period. It contains the following: (1) a list of persons, organizations, and public agencies commenting on the Draft EIR; (2) copies of comments received on the Draft EIR; (3) written responses to those comments; and (4) revisions to the Draft EIR to clarify or correct information in the Draft EIR. See Section 8.C, below, for a description of the overall contents and organization of the combined Draft EIR and Responses to Comments document.

This Responses to Comments document also includes a description of a "project variant" and analysis of its associated environmental effects at an equal level of detail to that of the proposed project. As described further in the next chapter, subsequent to publication of the Draft EIR, the project sponsor has updated and refined select elements of the proposed project that was described and analyzed in the Draft EIR. The sponsor has incorporated these changes into a variation on the project, which is referred to as the "project variant" and is currently the project sponsor's preferred project. The planning department has determined that the project variant and its environmental impacts are sufficiently similar to the proposed project and its impacts that this EIR also provides complete environmental review under CEQA for the variant. Thus, the written responses to comments received on the proposed project as presented in the Draft EIR also incorporate responses, as applicable, to the project variant.

¹ State Clearinghouse No. 2017112005, and San Francisco Planning Department Case No. 2017-011878ENV.

The Final EIR has been prepared in compliance with CEQA (California Public Resources Code, Sections 21000 et seq.) and the CEQA Guidelines. It is an informational document for use by (1) governmental agencies and the public to aid in the planning and decision-making process by disclosing the physical environmental effects of the project (and variant) and identifying possible ways of reducing or avoiding their potentially significant impacts; and (2) the City and County of San Francisco prior to making a decision to approve, disapprove, or modify the proposed project (or variant). If the City and County of San Francisco approves the proposed project (or variant), CEQA requires that the City adopt the CEQA findings as well as the Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures identified in the Final EIR will be implemented as part of the project (or variant). See Section 8.B, below, for further description of the environmental review process.

8.B Environmental Review Process

CEQA Guidelines sections 15080 to 15097 set forth the EIR process, which includes multiple phases involving notification and input from responsible agencies and the public. The main steps in this process are described below.

8.B.1 Notice of Preparation and Public Scoping

As described in the EIR, on November 1, 2017, the planning department issued a Notice of Preparation (NOP) of an EIR on the proposed project and made the NOP available on its website. The NOP was sent to governmental agencies, organizations, and persons interested in the proposed project, and publication of the NOP initiated the 30-day public scoping period for this EIR, which ended on December 1, 2017. During the public scoping period, the planning department accepted comments from agencies and interested parties identifying environmental issues that should be addressed in the EIR. The planning department held a public scoping meeting on Wednesday, November 15, 2017 at the project site, 420 23rd Street, San Francisco, to receive oral comments on the scope of the EIR. The comment letters received in response to the NOP, both written and oral,² are included in EIR Appendix A and are available for review at the San Francisco Planning Department as part of Case File No. 2017-011878ENV. The planning department has considered the scoping comments made by the public and agencies in preparing the EIR on the proposed project.

8.B.2 Draft EIR Public Review

The planning department published the Draft EIR on the proposed project on October 3, 2018 and circulated it to local, state, and federal agencies and to interested organizations and individuals for their review and comment. On October 3, 2018, the planning department also distributed notices of availability in a newspaper of general circulation in San Francisco and posted notices at the project site. The public review period for the Draft EIR was from October 4, 2018 through November 19, 2018. Paper copies of the Draft EIR were made available for public

² A transcript of the oral comments received at the November 15, 2017 public scoping meeting is included in Draft EIR, Appendix A.

review at the following locations: (1) San Francisco Planning Department, 1660 Mission Street, 1st Floor, Planning Information Counter, San Francisco, California; (2) San Francisco Main Library, 100 Larkin Street, San Francisco, California; and (3) San Francisco Library, Potrero Branch, 1616 20th Street, San Francisco, California. Electronic copies of the Draft EIR and the record of proceedings were made available and can be accessed through the internet on the planning department's website at <https://sfplanning.org/environmental-review-documents>.

During the public review period, the planning department conducted a public hearing to receive oral comments on the Draft EIR. The public hearing was held before the San Francisco Planning Commission on November 8, 2018 at San Francisco City Hall. A court reporter present at the public hearing transcribed the oral comments verbatim and prepared a written transcript. See Appendix K in this Responses to Comments document for the public hearing transcript. During the Draft EIR public review period, the planning department received written and oral comments from a total of four public agencies, seven non-governmental organizations, and 33 individuals. See Chapter 10, List of Persons Commenting, for a complete list of persons commenting on the Draft EIR.

8.B.3 Responses to Comments Document and Final EIR under CEQA

On December 11, 2019 the planning department published and distributed this Responses to Comments document for review to persons who commented on the Draft EIR and to the San Francisco Planning Commission and in compliance with CEQA Guidelines section 15088. The planning commission will hold a public hearing on January 9, 2020 at San Francisco City Hall to consider the adequacy of the Final EIR — consisting of the Draft EIR and the Responses to Comments document — in complying with the requirements of CEQA. If the planning commission finds that the Final EIR complies with CEQA requirements, it will certify the Final EIR.

Following certification of the Final EIR, the City decision-makers will review and consider the certified Final EIR and the associated MMRP before making a decision and taking an approval action on the proposed project or project variant. Consistent with CEQA Guidelines section 15097, the MMRP is a program designed to ensure that the mitigation measures identified in the Final EIR and adopted by decision-makers to lessen or avoid the significant environmental effects of the project (or variant) will be implemented. CEQA also requires the adoption of findings prior to approval of a project for which a certified EIR identifies significant environmental effects (CEQA Guidelines sections 15091 and 15092). If the EIR identifies significant adverse impacts that cannot be mitigated to less-than-significant levels, the findings must include a statement of overriding considerations for those impacts (CEQA Guidelines section 15093[b]) if the project is approved. The board of supervisors will be required to adopt the CEQA findings and the MMRP as conditions of project approval actions.

8.C Document Organization

This Responses to Comments document is organized to complement the Draft EIR and follows the sequential numbering of chapters in the Draft EIR. The Draft EIR consists of Chapter S plus Chapters 1 through 7 and Appendices A through I as follows:

- **Chapter S, Summary.** This chapter summarizes the contents of the Draft EIR, including an overview of the project description and, in a tabular format, a summary of the environmental impacts that would result from project implementation and the mitigation measures identified to reduce or avoid significant impacts. It also briefly describes the alternatives to the proposed project and the areas of controversy.
- **Chapter 1, Introduction.** This chapter describes the purpose of the EIR, the environmental review process, the public and agency comments received on the scope of the EIR, and the organization of the EIR.
- **Chapter 2, Project Description.** This chapter provides a detailed description of the proposed project—including project background, objectives, location, existing site land use characteristics, project components and characteristics, development schedule (including anticipated construction activities)—and identifies required project approvals.
- **Chapter 3, Plans and Policies.** This chapter provides a summary of the plans and policies of local, regional, state, and federal agencies that could be applicable to the proposed project and identifies if the proposed project would be inconsistent with any of those plans and policies.
- **Chapter 4, Environmental Setting, Impacts and Mitigation Measures.** This chapter covers a comprehensive range of environmental resource topics that have a potential for significant adverse impacts and/or known sensitivity (resource topics determined to have less-than-significant impacts are analyzed in the initial study, see Appendix B). Each environmental topic is discussed in a separate section within this chapter, and each section describes the existing and/or baseline conditions relative to that resource; applicable regulatory framework; significance criteria used to assess the severity of the impacts; approach to and methodologies used in the impact analysis; and individually numbered impact statements and associated discussion of project-specific and cumulative impacts of the proposed project and a determination of the significance of each impact. For impacts determined to be significant, mitigation measures that would reduce or avoid those impacts are presented. In some cases, for impacts determined to be less than significant, improvement measures are presented that would further reduce or lessen a less-than-significant impact. This chapter contains the following sub-sections and environmental resource topics:
 - A. Impact Overview
 - B. Land Use and Land Use Planning
 - C. Population and Housing
 - D. Cultural Resources
 - E. Transportation and Circulation
 - F. Noise and Vibration
 - G. Air Quality
 - H. Wind and Shadow
 - I. Biological Resources
 - J. Hydrology and Water Quality
 - K. Hazards and Hazardous Materials

- **Chapter 5, Other CEQA Issues.** Pursuant to section 15126.2 of the CEQA Guidelines, this chapter summarizes any growth-inducing impacts that could result from the proposed project, irreversible changes to the environment, and significant and unavoidable environmental impacts, and this chapter presents areas of controversy to be resolved.
- **Chapter 6, Alternatives.** This chapter presents and evaluates alternatives to the proposed project that could feasibly attain most of the project objectives as well as reduce identified significant adverse impacts of the project. It also identifies the environmentally superior alternative and describes other alternatives that were considered but rejected.
- **Chapter 7, Report Preparers.** This chapter lists the EIR authors and consultants; project sponsor and consultants; and agencies and persons consulted.
- **Appendices.** The planning department prepared an initial study on the project (see Appendix B), which analyzed select topics determined to result in less-than-significant impacts; topics analyzed in the initial study include archeological resources, human remains, tribal cultural resources, greenhouse gas emissions, recreation, utilities and service systems, public services, geology and soils, mineral and energy resources, and agriculture and forest resources. The appendices in the Draft EIR include the following:
 - A. Notice of Preparation and Scoping Comments
 - B. Initial Study
 - C. Transportation Supporting Information
 - D. Noise Analyses Supporting Information
 - E. Air Quality Supporting Information
 - F. Wind and Shadow Supporting Information
 - G. Biological Resources Supporting Information
 - H. Water Supply Assessment
 - I. Historic Resources Evaluation and Historic Resources Evaluation Response

This Responses to Comments document consists of Chapters 8 through 12 plus supplemental appendices, as follows:

- **Chapter 8, Introduction to Responses to Comments.** This chapter describes the purpose of the Responses to Comments document, the environmental review process, and the organization of the overall EIR.
- **Chapter 9, Project Variant.** This chapter describes the variant to the proposed project that was developed since publication of the Draft EIR. It also considers a scenario of the variant in which the PG&E subarea would not be developed. The project variant updates or refines certain aspects of the proposed project description. This chapter describes all potential environmental impacts associated with the project variant and discusses how the environmental impacts and mitigation measures are not substantially different from those identified for the proposed project in the Draft EIR.
- **Chapter 10, List of Persons Commenting.** This chapter describes the coding and organization of comments and lists the persons and organizations that submitted comments on the Draft EIR.
- **Chapter 11, Comments and Responses.** This chapter reproduces the substantive comments received on the Draft EIR together with written responses to those comments. The comments and responses in this chapter are organized by topic, including those environmental topics

addressed either in Chapter 4 of the EIR or in Appendix B, Initial Study. Similar comments on the same topic received from multiple commenters are grouped together and a single, comprehensive response is provided, with each individual comment assigned a unique comment code. The complete letters, emails, and transcript containing the comments and assigned comment code are included in Appendices J (comment letters and emails) and K (transcripts) to this document. Where applicable, the responses also address issues relevant to the project variant. The sub-sections in this chapter are as follows:

11.A General Comments	11.G Noise
11.B Project Description	11.H Air Quality
11.C Plans and Policies	11.I Shadow
11.D Population and Housing	11.J Hydrology and Water Quality
11.E Historic Architectural Resources	11.K Alternatives
11.F Transportation and Circulation	11.L Initial Study

- **Chapter 12, Draft EIR Revisions.** This chapter presents changes and revisions to the Draft EIR. The planning department has made changes and revisions to the Draft EIR either in response to comments received on the Draft EIR, to include updated information, or as necessary to clarify statements and conclusions made in the Draft EIR. In all cases, changes are provided to clarify or correct content in the Draft EIR or to add information received after the release of the Draft EIR. None of the changes and revisions in Chapter 12 substantially affect the analysis or conclusions presented in the Draft EIR.
- **Responses to Comments Document Appendices.** The appendices include full copies of the written comments received on the Draft EIR (Appendix J, Draft EIR Comment Letters) and transcripts of the public hearing on the Draft EIR (Appendix K, Draft EIR Hearing Transcript). Appendix J and Appendix K also show, in the margin of each letter or transcript, the bracketing and comment code used to identify comments and the topic code assigned to the corresponding response. In addition, the technical appendices in the Draft EIR are augmented as necessary to present updated information or updated analysis to support the project variant. The additional appendices are as follows:

- C-1. Transportation Supporting Information, Project Variant
- E-1. Air Quality Supporting Information, Project Variant
- F-1. Wind and Shadow Supporting Information, Project Variant
- H-1. Updated Water Supply Assessment
- J. Draft EIR Comment Letters
- K. Draft EIR Hearing Transcript

CHAPTER 9

Project Variant

9.A Introduction

Since publication of the Draft EIR on October 3, 2018, the project sponsor, California Barrel Company LLC, has updated and refined select elements of the proposed project that was described and analyzed in the Draft EIR (referred to as the “proposed project”) as part of the project development and design process. The sponsor has incorporated these changes into a variation on the project, which is referred to as the “project variant” or “variant.” The project variant would be substantially the same as the proposed project but would include retention of some historic features that were to be demolished under the proposed project. This chapter describes and discusses how the project variant would result in the same or less severe impacts as the proposed project.

In addition, as stated in Chapter 2, Project Description, in the Draft EIR, the project sponsor does not control the PG&E subarea (about 4.8 acres on the northwest corner of the project site, see Chapter 2, Figure 2-2, page 2-6), and development of land uses within the PG&E subarea would only occur when and if PG&E determines it is feasible to relocate the existing utility infrastructure and operations. Therefore, the project sponsor has also identified a “no PG&E scenario” of the project variant that excludes the PG&E subarea from the proposed development. This chapter also discusses how the no PG&E scenario would result in the same or less severe impacts as the proposed project.

The chapter is organized into five sections as follows:

- Section 9.A, Introduction;
- Section 9.B, Comparison of the Project, Variant, and No PG&E Scenario;
- Section 9.C, Description of the Variant;
- Section 9.D, Environmental Impacts and Mitigation Measures of the Variant; and
- Section 9.E, Summary of Impacts and Mitigation Measures of the Variant.

The impact analyses of the project variant and no PG&E scenario, presented in Section 9.D below, specifically address the environmental effects of the new project elements that differ from the proposed project, but the analyses also consider the impacts of the project variant and no PG&E scenario as a whole. However, to avoid unnecessary repetition, the impact analyses refer extensively to the information and analysis presented in Chapters 4, 5, and 6 of the Draft EIR where the environmental impacts would be substantially the same as those of the proposed project.

As disclosed in this chapter, the description and analyses of the project variant, with or without the PG&E subarea, add no *significant* new information to the EIR per CEQA Guidelines section 15088.5. The conclusions presented in the Draft EIR for the proposed project remain largely the same for the project variant, including the no PG&E scenario, with all impact conclusions either the same or less severe than previously identified for the proposed project. Any new information presented in the responses to comments document serves to clarify, amplify, and/or update information presented in the Draft EIR, providing appropriate information in the context of the project variant.

The information presented in Section 9.D provides the supporting analysis that indicates the following overall conclusions for the project variant, including the no PG&E scenario: (1) no new significant effects or substantially more severe significant effects would result beyond those identified in the Draft EIR for the proposed project; (2) no new mitigation measures are identified that would be required to mitigate new or more severe significant impacts; (3) with implementation of mitigation measures identified in the EIR, no substantial increase in the severity of an environmental impact would result; and (4) no additional alternatives or mitigation measures considerably different from those presented and analyzed in the Draft EIR are needed to satisfy CEQA requirements for environmental review of the project variant, with or without the PG&E subarea.

9.B Comparison of the Project, Variant, and No PG&E Scenario

9.B.1 Project Objectives and Location

The objectives and location of the project variant are identical to those of the proposed project, as presented in EIR Chapter 2, Sections 2.B (pp. 2-3 to 2-4) and 2.C (pp. 2-5 to 2-6), respectively. The variant would achieve all of the project objectives at a level comparable to the proposed project, although the no PG&E scenario would not increase the number of dwelling units to the same extent as the proposed project or variant.

9.B.2 Comparison of Program Characteristics

The project variant and no PG&E scenario would have the same overall characteristics and components as the proposed project, including rezoning and establishing development controls for a multi-phased, mixed-use development at the project site. Like the proposed project, the variant and no PG&E scenario would include amendments to the San Francisco general plan and planning code and would create a new Potrero Power Station Special Use District (SUD), including a new Potrero Power Station Design for Development document (D for D). The overall site layout and land use plan would be generally the same for the variant and no PG&E scenario as described in the Draft EIR for the proposed project (pp. 2-15 to 2-17), with the same general block and street network. However, the site layout and land use plan for the project variant would differ from the proposed project in two ways: (1) Blocks 6 (designated for residential use) and 10 (designated for office or R&D use) under the proposed project are combined under the project variant and the no PG&E scenario and replaced with a new long and thin Block 15 (designated for office or R&D use); and (2) the variant

would allow for R&D and/or office uses to be developed on Blocks 2 and 3 instead of just R&D uses. The change in block configuration under the project variant enables retention of certain historic features of the existing Station A, which would be completely demolished under the proposed project. The site layout and land use plan for the no PG&E scenario would generally be the same as that for the variant except it would exclude the 4.8-acre PG&E subarea in the northwest corner of the site and associated modifications to circulation on the remainder of the site.

Table 9-1, Characteristics of Proposed Project, Project Variant, and No PG&E Scenario, provides a comparative overview of the three scenarios. As indicated, the project variant and no PG&E scenario would have generally the same characteristics as those of the proposed project, with slight variations in the total amount of certain land uses and some changes to allowable heights and roadway configurations. Detailed descriptions of the project variant and no PG&E scenario, including figures showing specific details, are presented in Section 9.C.

9.C Description of Project Variant

9.C.1 Project Variant Characteristics

As described above, the project variant would have most of the same characteristics and components as the proposed project but would include a few modifications to the allowable building heights, configuration of blocks and land uses, and the overall land use program. The proposed rezoning under the variant would modify the existing height limits of 40 and 65 feet to various heights ranging from 65 to 240 feet (instead of a maximum of 300 feet under the proposed project). Also, under the project variant, Blocks 4, 12, and 14 have been designated for residential, commercial, and residential land uses, respectively, whereas under the proposed project those blocks were “flex blocks” designated for either residential or commercial uses. Block 9 would still be designated as a flex block for either hotel or residential use, and like the proposed project, the preferred option would be the hotel use on Block 9.

Table 9-2, Potrero Power Station Mixed-Use Development Project Variant Characteristics, summarizes the project variant’s characteristics, including a description of the types and amounts of proposed land uses, details regarding proposed dwelling units, building heights, vehicle and bicycle parking, and other features. As indicated in Tables 9-1 and 9-2, the project variant would have a slightly larger total building area than the proposed project, but only a 0.6 percent increase. The gross square footage of residential uses would decrease by 6 percent, although the number of residential units would decrease by 3 percent. The gross square footage of hotel uses would remain the same, although the number of hotel rooms would increase from 220 to 250. Commercial office space would increase by 36 percent, but production/distribution/repair (PDR) space would decrease by 22 percent and retail space would decrease by 7 percent. Commercial research and development (R&D) space would remain the same. Community facilities space would decrease by about half, although entertainment/assembly space would remain the same. Parking area would increase by 5 percent, and the number of parking spaces would increase by 2 percent. The number of bicycle parking spaces, however, would decrease by 5 percent, from 1,950 to 1,862. Under the project variant, proposed open space would increase from 6.2 to 6.9 acres, over an 11 percent increase.

TABLE 9-1
CHARACTERISTICS OF PROPOSED PROJECT, PROJECT VARIANT, AND NO PG&E SCENARIO

Characteristic	Proposed Project	Project Variant	No PG&E Scenario
Land Uses			
Area of site, acres	29.0	Same as project	24.2
Residential, dwelling units	2,682	2,601	1,466
Residential, gsf	2,682,427	2,522,970	1,422,436
Hotel, rooms	220	250	Same as variant
Hotel, gsf	241,574	Same as project	Same as project
Commercial (office), gsf	597,723	814,240	Same as variant
Commercial (R&D), gsf	645,738	Same as project	Same as project
Commercial (PDR), gsf	45,040	35,000	15,000
Commercial (retail), ^a gsf	107,439	99,464	Same as variant
Community Facilities, ^b gsf	100,938	50,000	Same as variant
Entertainment/Assembly, gsf	25,000	Same as project	Same as project
Parking, no. of spaces	2,622	2,686	2,056
Parking, gsf	921,981	965,458	736,361
Total Building Area, gsf	5,367,860	5,399,444	4,049,813
Open Space, acres	6.2	6.9	6.6
Land Uses by Block			
Block 1	Residential	Same as project	Same as project (but reduced in size)
Block 2	R&D	Office or R&D	Same as variant
Block 3	R&D	Office or R&D	Same as variant
Block 4	Flex Residential/R&D or Office	Residential	Same as variant
Block 5	Residential	Same as project	Same as project
Block 6	Residential	NA (part of Block 15)	Same as variant
Block 7	Residential	Same as project	Same as project
Block 8	Residential	Same as project	Same as project
Block 9	Flex Residential/Hotel	Same as project	Same as project
Block 10	Office or R&D	NA (part of Block 15)	Same as variant
Block 11	Office or R&D	Same as project	Same as project
Block 12	Flex Residential/R&D or Office	Office or R&D	Same as variant
Block 13	Residential	Same as project	Not developed
Block 14	Flex Residential/Office	Residential	Not developed
Block 15	NA (same as Blocks 6 +10)	Office or R&D	Same as variant
Building Characteristics			
Stories, no.	5 to 30	5 to 24	Same as variant
Height, feet	65 to 300	65 to 240	Same as variant
Towers (building >179 ft), no.	1 300-ft tower, 3 180-ft towers	1 240-ft tower, 1 220-ft tower, 1 180-ft tower	Same as variant
Residential Buildings, LEED gold standard	Yes	Same as project	Same as project
Transportation Features			
Bicycle parking, class 1, no. of spaces	1,577	1,513	1,006
Bicycle parking, class 2, no. of spaces	373	349	285
Total bicycle parking, no of spaces	1,950	1,862	1,291

TABLE 9-1 (CONTINUED)
CHARACTERISTICS OF PROPOSED PROJECT, PROJECT VARIANT, AND NO PG&E SCENARIO

Characteristic	Proposed Project	Project Variant	No PG&E Scenario
Transportation Features (cont.)			
Space for future Muni bus stop on 23rd Street	Yes	Same as project	Same as project
Sidewalk Improvements, Illinois St	Yes	Same as project	Same as project, plus also between 23rd and Humboldt Streets
On-street passenger loading spaces	25	22	15
On-street commercial loading spaces	34	34	30
Off-street loading commercial spaces	20	20	16
Signal on Illinois/23rd	Yes	Same as project	Same as project
Signal on Illinois/Humboldt	Yes	Same as project	No
Bay Trail	Yes	Same as project	Same as project
TDM Plan	Yes	Same as project	Same as project
Transit Shuttle Service	Yes	Same as project	Same as project
Connections to External Street Network:			
▪ 22nd Street	Yes	Same as project	Yes, but no access through Georgia St
▪ 23rd Street	Yes	Same as project	Same as project
▪ Illinois Street	Yes	Same as project	No (no connection via Humboldt Street)
Other Features			
Dock Facility	Yes	Same as project, but larger and with the wharfs on two levels	Same as variant
Rooftop Playing Field	Yes	Same as project	Same as project
Onsite Historical Resources			
Station A	Demolish	Retain south and east walls and portions of the north and west walls	Same as variant
Meter House	Demolish	Same as project	Same as project
Compressor House	Demolish	Same as project	Same as project
Gate House	Demolish	Same as project	Same as project
Unit 3 Power Block	Retain or Demolish	Same as project	Same as project
Unit 3 Boiler Stack	Retain	Same as project	Same as project
Construction			
Start Date ^c	2020	Same as project	Same as project
End Date	2034	2035	2033
Total Duration, years	15	16	14
Construction phases	6, plus Phase 0	6, plus Phase 0	5, plus Phase 0

^a Commercial retail is assumed to include a supermarket, sit-down restaurants, and quick service restaurants. See Table 9-4 for assumed breakdown of these uses.

^b Community facilities is assumed to include childcare, library, and other community facilities. See Table 9-4 for assumed breakdown of these uses.

^c Actual construction start date would be affected by PG&E's ongoing remediation process and market conditions, and construction would not start until all necessary permits are secured.

TABLE 9-2
POTRERO POWER STATION MIXED-USE DEVELOPMENT PROJECT VARIANT CHARACTERISTICS^a

Project Characteristic	Metric	
Project Site Size and Shape	Dimensions	
Area	29.0 acres	
Maximum Length and Width	Approximately 1,650 feet by 950 feet	
Proposed Land Use Program^b	Area (gsf)	
Residential	2,522,970	
Commercial (Retail)	99,464	
Commercial (Office) ^c	814,240	
Commercial (R&D) ^c	645,738	
Commercial (Hotel)	241,574 ^d	
Commercial (PDR)	35,000	
Community Facilities	50,000	
Entertainment/Assembly	25,000	
Parking	965,458	
Total Building Area	5,399,444 gsf	
Proposed Dwelling Units	Number	Percentage (approximate)
Studio	377	14.5%
1-Bedroom	1,124	43.2%
2-Bedroom	840	32.3%
3-Bedroom	260	10.0%
Total Dwelling Units	2,601	100%
Proposed Parking	Number	
Vehicle Parking Spaces ^e	2,686	
Car Share Spaces	40	
Bicycle Parking ^f		
Bicycle Parking class 1	1,513	
Bicycle Parking class 2	349	
Total Bicycle Parking	1,862	
Open Space	Area (gsf)	
Publicly Accessible Open Space	Approximately 6.9 acres	
Private Open Space	36 square feet per unit if located on balcony, or 48 square feet per unit if commonly accessible to residents. For Group Housing or Single Room Occupancy units, the minimum open space requirements shall be one-third the amount specified in this subsection for a dwelling unit.	
Building Characteristics	Area (gsf)	
Stories	5 to 24 stories	
Height	65 to 240 feet	
Ground Floor	All blocks would include ground floor active/retail/production space	
Basements	All development blocks would allow but not require one below-grade level of vehicle parking spaces ^g	

NOTES: gsf = gross square feet; R&D = research and development; PDR = production, distribution, and repair

^a All numbers in this table are approximate.

^b The project variant includes one flex block, for which either residential or hotel uses may ultimately be selected. The numbers shown in this table show the anticipated development of the flex block, assuming a targeted hotel development at the flex block. The EIR addresses the potential for variation in the total amount of residential and hotel development on the flex block. See below section on maximum residential scenario of the project variant.

^c Office and R&D (Life Science / Laboratory) uses are permitted on Blocks 2, 3, 11, 12 and 15, subject to the following: (i) One or more of the foregoing blocks must be developed with a building of no less than 130,000 gsf in size that is entirely Life Science / Laboratory above the basement and ground floor; (ii) The amount of office shall not exceed 815,000 gsf unless or until one or more of the foregoing blocks is developed with a Life Science / Laboratory Building of no less than 130,000 gsf in size; (iii) If the total amount of Life Science / Laboratory developed on Blocks 2, 3, 11, 12 and/or 15 is less than 650,000 gsf, then the total amount of office shall be capped according to the following:

TABLE 9-2 (CONTINUED)
POTRERO POWER STATION MIXED-USE DEVELOPMENT PROJECT VARIANT CHARACTERISTICS^a

Life Science / Lab to be built (gsf)	Maximum Office Allowed (gsf)
130,000 to 249,000	1,220,000
250,000 to 349,000	1,176,000
350,000 to 449,000	1,098,000
450,000 to 549,000	998,000
550,000 to 649,000	898,000

^d The hotel would have 250 hotel rooms.

^e Per the proposed D for D document, the number of vehicle parking spaces is based on 0.6 space per residential unit; one space per 1,500 square feet of commercial office, R&D/life science, or PDR uses; three spaces per 1,000 square feet of grocery store use; and one space per each 16 hotel guest rooms. Dedicated car share spaces would be as required by planning code section 166. The number of car share spaces is based on one car share space per residential building with 50 to 200 dwelling units; for residential buildings with over 200 dwelling units, two car share spaces plus one for every 200 dwelling units over 200; for non-residential buildings, providing between 25 and 49 parking spaces, one car share space; for non-residential buildings providing 50 or more parking spaces, one car share space plus one for every 50 parking spaces over 50.

^f Per the proposed D for D document, the number of bicycle parking spaces reflects planning code requirements, as follows.

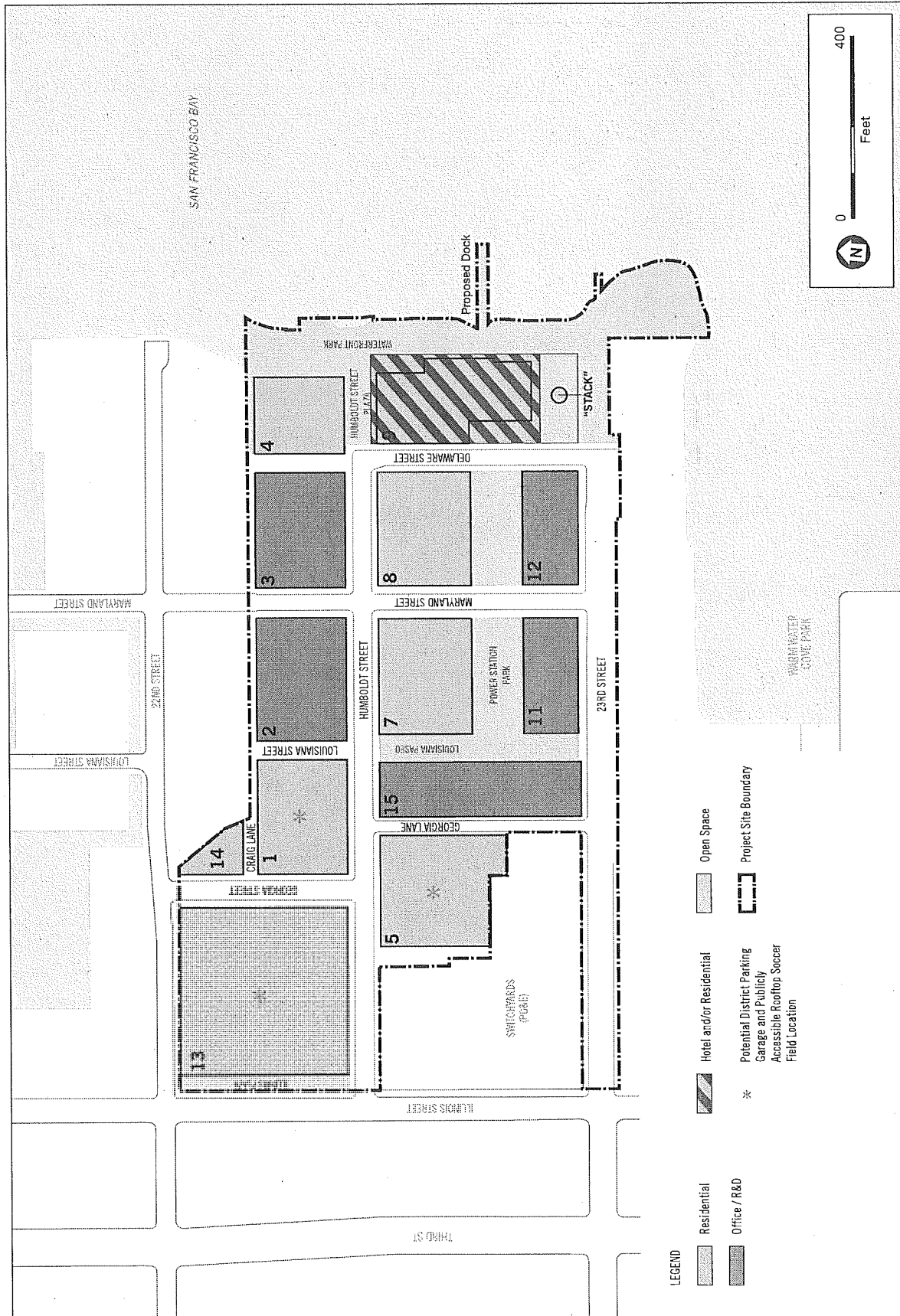
- Residential: One class 1 bicycle parking space for each dwelling unit up to 100 plus one space for every four units in excess of 100; one class 2 bicycle parking space for every 20 dwelling units.
- Office: One class 1 bicycle parking space for every 5,000 square feet of occupied floor area. Minimum two spaces for any Office Use greater than 5,000 square feet of OFA, and one class 2 space for each additional 50,000 occupied square foot.
- PDR, R&D/life science: One class 1 bicycle parking space for every 12,000 square feet of OFA; except no less than two Class 1 spaces for any use larger than 5,000 occupied square foot; minimum two class 2 bicycle parking. Four class 2 spaces for any use larger than 50,000 square feet of OFA.
- Retail: One class 1 bicycle parking space per 7,500 square feet of OFA; minimum two class 2 bicycle parking spaces; one per 2,500 square feet of OFA. For uses larger than 50,000 square feet, 10 class 2 spaces plus an additional class 2 space for each additional 10,000 square feet.
- Eating and drinking, Personal Services, Financial Services: One class 1 bicycle space for every 7,500 square feet of OFA; Minimum two class 2 spaces. One class 2 space for every 750 square foot of OFA.
- Garage: One class 2 bicycle parking space for every 20 car spaces.
- Community Facility: Minimum two spaces. One class 1 space for every 5,000 square feet of OFA; Minimum two spaces or one Class 2 space for every 2,500 occupied square feet of publicly-accessible or exhibition area.
- Hotel: One class 1 space per 30 rooms; one class 2 space per 30 rooms and one class 1 space per 5,000 square feet of conference space.

^g Basement parking is accounted for in the above line item for parking.

Under the variant, the maximum building height would be reduced from 300 to 240 feet, and instead of one 300-foot tower and three 180-foot towers, the variant would include one 240-foot tower, one 220-foot tower, and one 180-foot tower. Shoreline improvements would be somewhat expanded under the project variant, but transportation features and utilities would all remain essentially the same as described for the proposed project. Unlike the proposed project, however, the project variant would retain portions of Station A, restoring and incorporating some of its existing features into a new building at the same location. Like the proposed project, the variant would demolish three other onsite historic structures (Meter House, Compressor House, and Gate House), but would retain and restore the Boiler Stack and possibly the Unit 3 Power Block. Construction of the project variant is anticipated to require 16 years, instead of 15 years for the proposed project due to the addition of one year to Phase 0.

9.C.2 Project Variant Land Use Plan

Figure 9-1, **Project Variant Land Use Plan**, presents the revised land use plan. The major change in the plan is that Blocks 6 (residential) and 10 (office or R&D) under the proposed project have been combined to form a new long and thin Block 15 (office or R&D) under the project variant. The block numbering system under the project variant omits Blocks 6 and 10. The flexible land uses on Blocks 4, 12, and 14 under the proposed project are no longer included in the project variant, but instead, these blocks have specifically designated land uses, as shown on Figure 9-1. Block 9 continues to have a flexible land use program for either hotel or residential uses. The other major change in the project variant land use plan is that open space increased from 6.2 to 6.9 acres. The



Potrero Power Station Mixed-Use Development Project
Figure 9-1
 Project Variant Land Use Plan

SOURCE: Perkins+Will, 2019

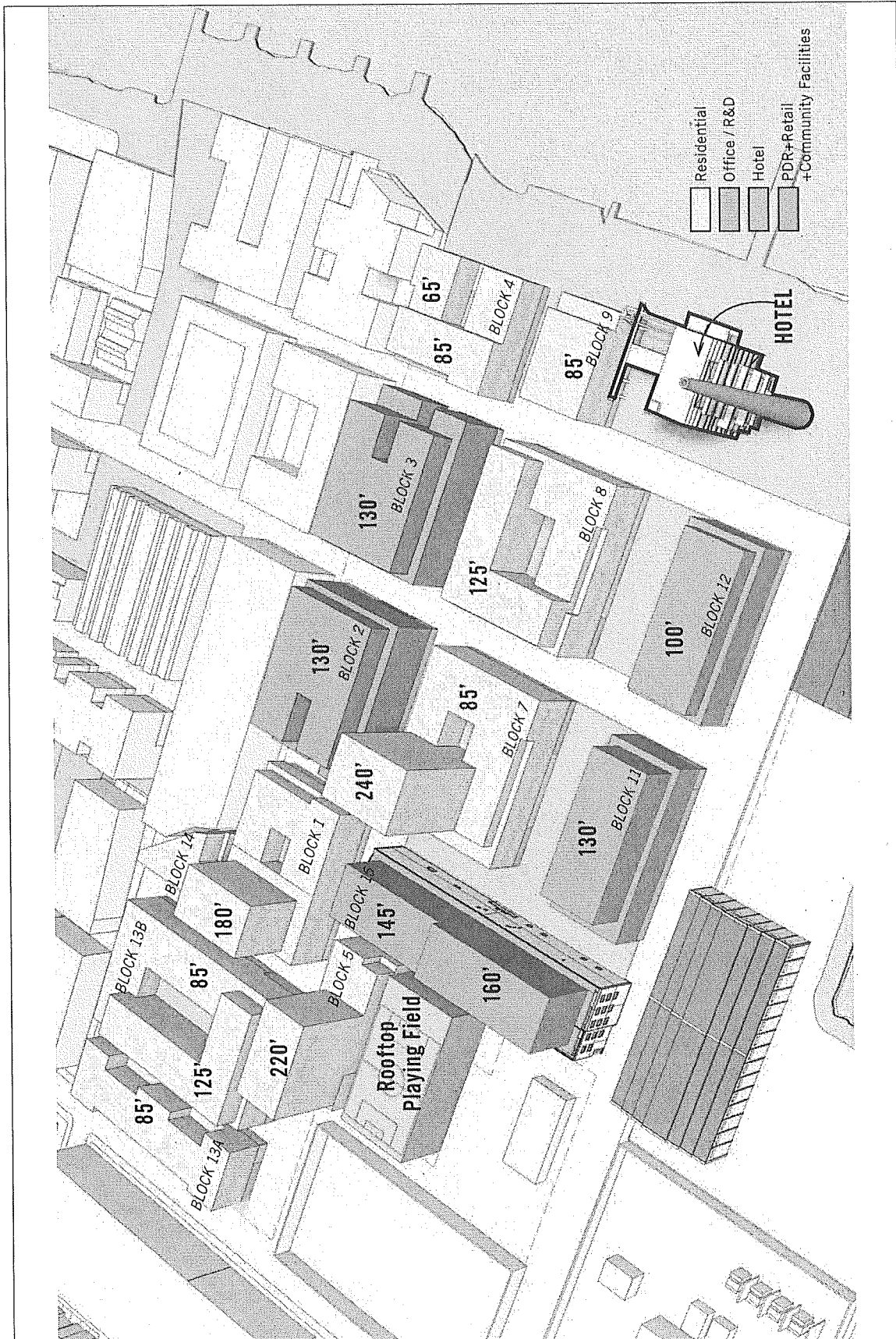
increase is primarily due to the addition of a new open space Illinois Plaza (approximately 0.3 acres) and the inclusion of the following areas that were previously excluded in the total open space acreage of the proposed project: the recreational dock, wharf areas and bay overlook at 23rd Street (approximately 0.3 acres), and the plaza in front of the Unit 3 hotel (approximately 0.2 acres). **Figure 9-2, Project Variant from Oblique Aerial Perspective**, illustrates the land use program under the project variant from an aerial perspective and indicates the general massing and heights of the proposed structures; this figure shows the preferred land use plan in which Unit 3 is repurposed as a hotel on Block 9. In the scenario where Block 9 is developed for residential uses, not hotel use, the total open space would be 7.1 acres.

Similar to the proposed project, the project variant would demolish about 20 existing structures on the project site, including two historic structures (the Meter House and the Compressor house) and one contributor to the Third Street Historic District (the Gate House). But unlike the proposed project, the project variant would retain portions of Station A, including saving and restoring the south and east walls of Station A as well as portions of the north and west walls, and incorporating these existing features into a new building on Block 15, with the design subject to the provisions of the D for D. However, the proposed retention of these features of Station A may not meet the Secretary of Interior's Standards. Similar to the proposed project, the project variant would retain the Boiler Stack, and retain or demolish the Unit 3 Power Block.

Figure 9-3, Project Variant Ground Floor Land Use Plan, presents the proposed ground floor use plan at the project site. Ground floor frontages under the project variant would be essentially the same as described for the proposed project, with the main difference being that the new Block 15 would include continuous usages along its ground floor, where under the proposed project, the ground floor uses were distinct on Blocks 6 and 10. Other minor differences between the proposed project and project variant ground floor land use plans include some variation in the active use and active lane frontages in the northern part of the site, and the addition of two additional active corners, one each on Blocks 7 and 11,

9.C.3 Building Heights and Building Setbacks

Figure 9-4, Project Variant Height District Plan, presents the proposed height district plan for the project variant. Similar to the proposed project, the project variant would amend the Zoning Map (except with respect to portions of the project site owned by the Port), but it would modify the existing height limits of 40 and 65 feet to heights ranging from 65 to 240 feet, rather than to a maximum height of 300 feet. As a result, the number of stories in the proposed buildings would range from five to 24 stories, instead of five to 30 stories. Under the project variant, there would be one 240-foot tower on Block 7, one 220-foot tower on Block 5, and one 180-foot tower on Block 1. This compares to the proposed project, under which there would be one 300-foot tower on Block 6, and three 180-foot towers on Blocks 1, 5, and 7. Other differences in allowable height limits under the project variant include a 5-foot increase on Blocks 2, 3, 11, and 12; and a 40-foot increase on the southeast portion of Block 13. On Block 9, a flex block, with the retention of the Unit 3 Power Block, the height limits would change from 65 and 128 feet to 65 and 130 feet; and without the Unit 3 Power Block, the height limits would change from 65 to 85 and 125 feet. There would be no changes to the height plan for Blocks 1, 4, 8, and 14.

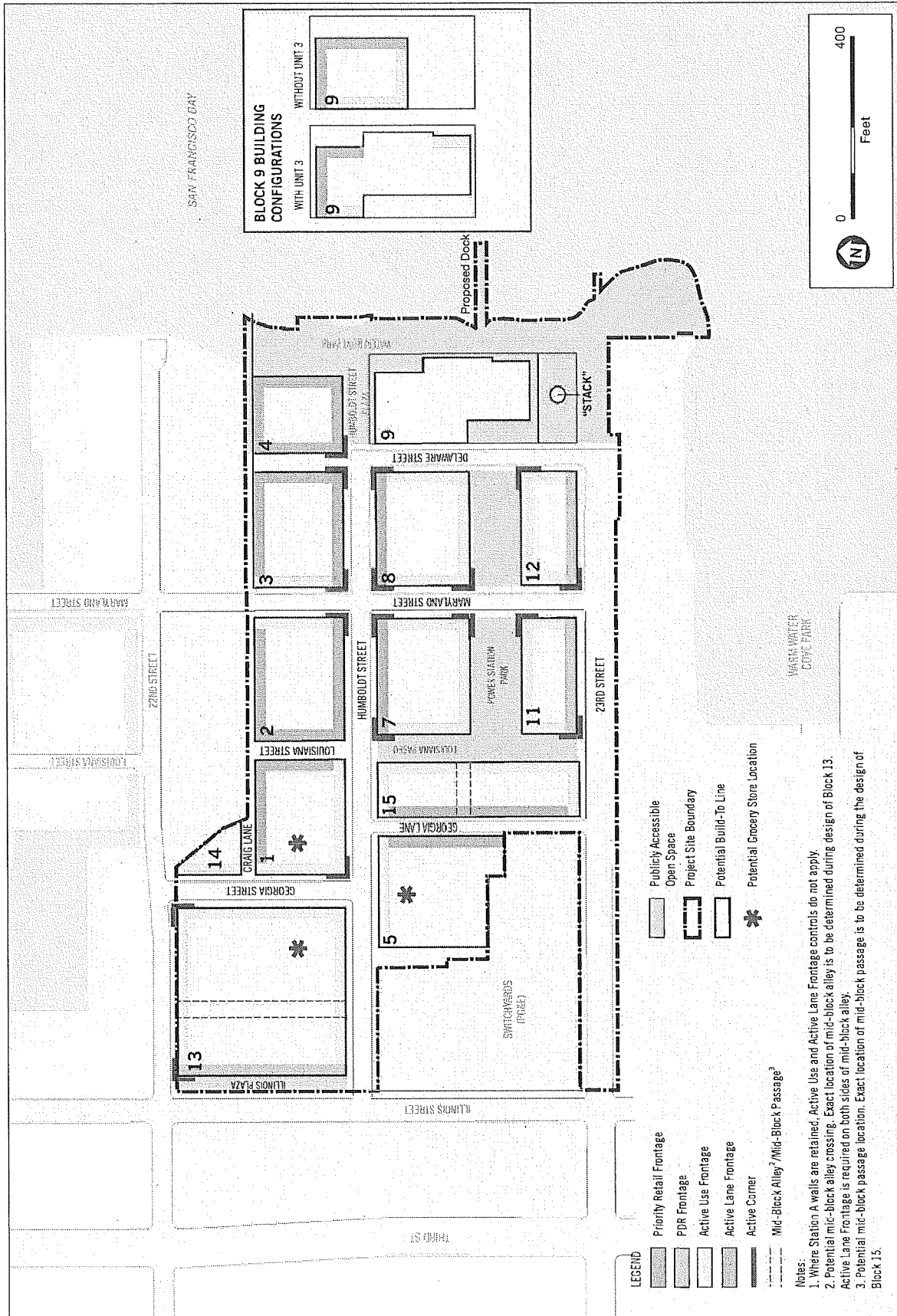


Potrero Power Station Mixed-Use Development Project

Figure 9-2

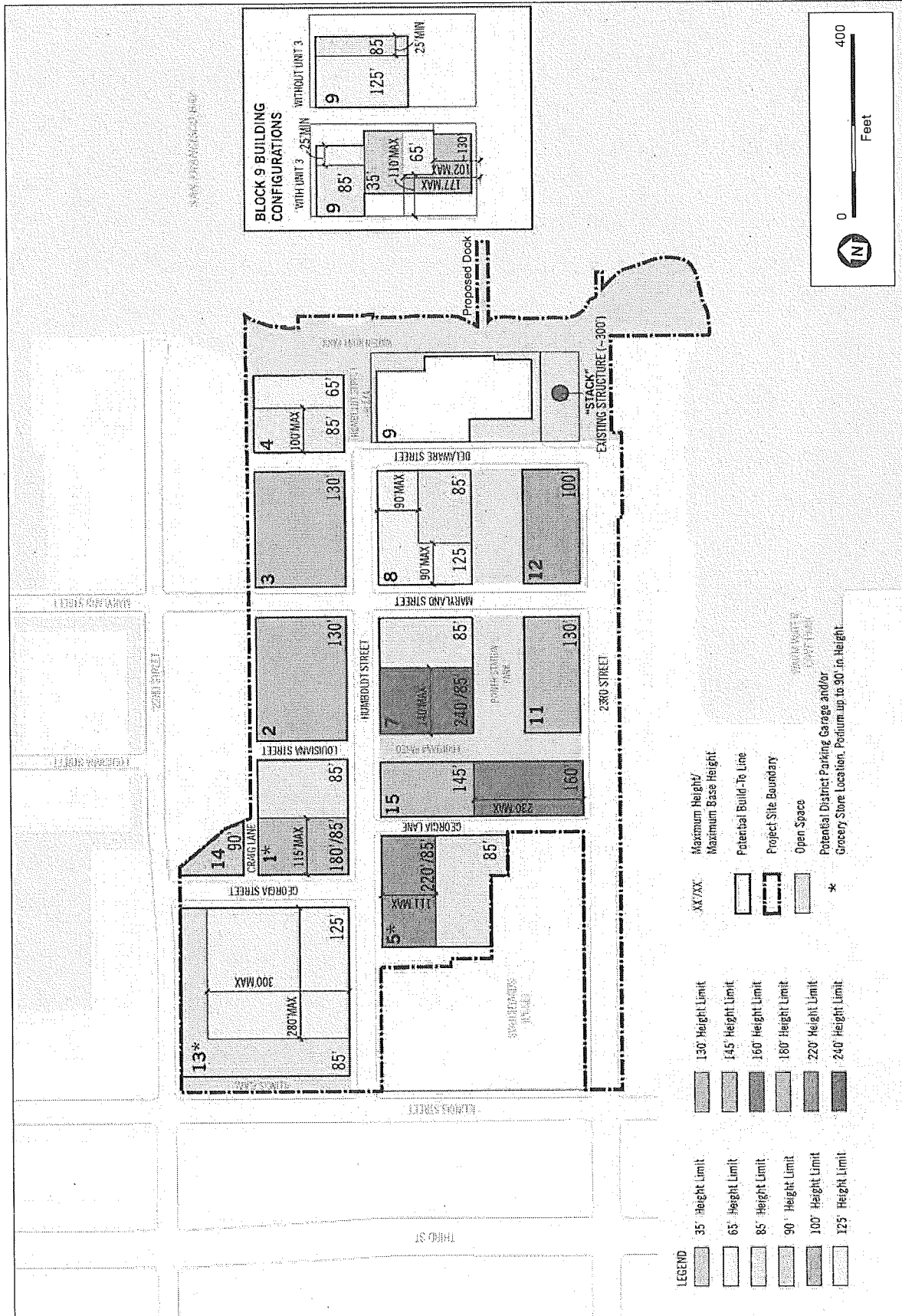
Project Variant, Oblique Aerial Perspective

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-3
 Project Variant Ground Floor Land Use Plan

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-4
 Project Variant Height District Plan

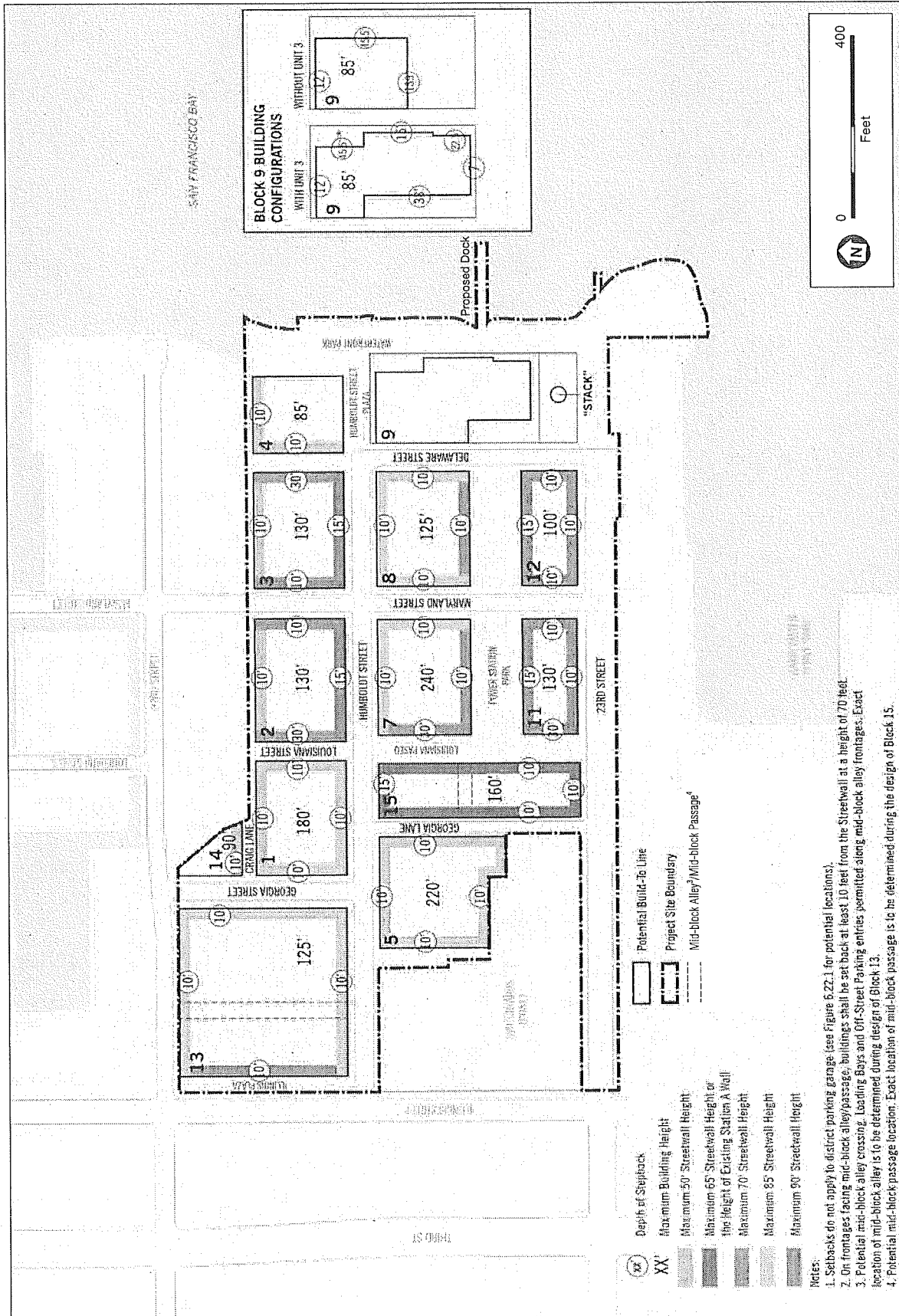
SOURCE: Perkins+Will, 2019

Figure 9-5, Project Variant Building Setbacks, depicts the proposed building setback plan, which has been modified from what was previously presented in Figure 6.4.5 of the October 3, 2018 Design for Development document and was assumed for the proposed project. This modification has been included for the project variant to better accommodate various construction types, setback transitions, and ground floor uses. The streetwall heights as presented for the proposed project in the Draft EIR have been increased from a maximum of 45, 65, and 85 feet to a maximum of 50, 70, 85 and 90 feet, respectively, as shown in Figure 9-5. In addition, the proposed depth of setback along the north side of Blocks 2 and 3 (fronting Craig Lane) is reduced from 15 to 10 feet under the project variant.

9.C.4 Open Space Improvements

As shown in **Figure 9-6, Project Variant Park and Open Space Plan**, the preferred project variant would provide approximately 6.9 acres of publicly accessible open space, compared to 6.2 acres for the proposed project. This plan is substantially the same as described in the Draft EIR for the proposed project with the following exceptions:

- **Waterfront Park.** This waterfront park would be 4.0 acres under the variant, instead of 3.7 acres, due to the expanded recreational dock and the inclusion of the wharf areas, bay overlook, and plaza in front of the Unit 3 hotel in the total acreage. If Unit 3 is repurposed as a hotel, there would be a minimum 70-foot wide access through the building for public access to waterfront park (this project element is the same for the proposed project and project variant but it was not called out specifically as part of the proposed project in the Draft EIR). In the scenario where Unit 3 is not repurposed, waterfront park increases to 4.25 acres.
- **Louisiana Paseo.** This proposed plaza-type open space would be adjacent to Block 15, instead of Blocks 6 and 10, and would no longer include the space between the former Blocks 6 and 10, reducing this open space area from 0.70 to 0.63 acre.
- **Power Station Park.** This central green space would be slightly expanded under the project variant, at 1.29 acres, instead of 1.22 acre. Similar to the proposed project, the park could contain play or fitness structures, art, trellis structures, and outdoor dining areas (though not barbecues), and the park would contain a flexible lawn area large enough to accommodate two U-6 soccer fields.
- **Rooftop Soccer Field.** Similar to the proposed project, the project variant would include a 0.68 acre public open space on the roof of the parking structure on Block 5 for a U-10 soccer field.
- **Illinois Street Plaza.** Unique to the project variant, a proposed 0.28-acre linear plaza would stretch between 22nd Street and Humboldt Street along the west side of Block 13. The plaza would serve as spill out space for ground floor uses. Additional amenities could include art, trellis structures, and seating areas.

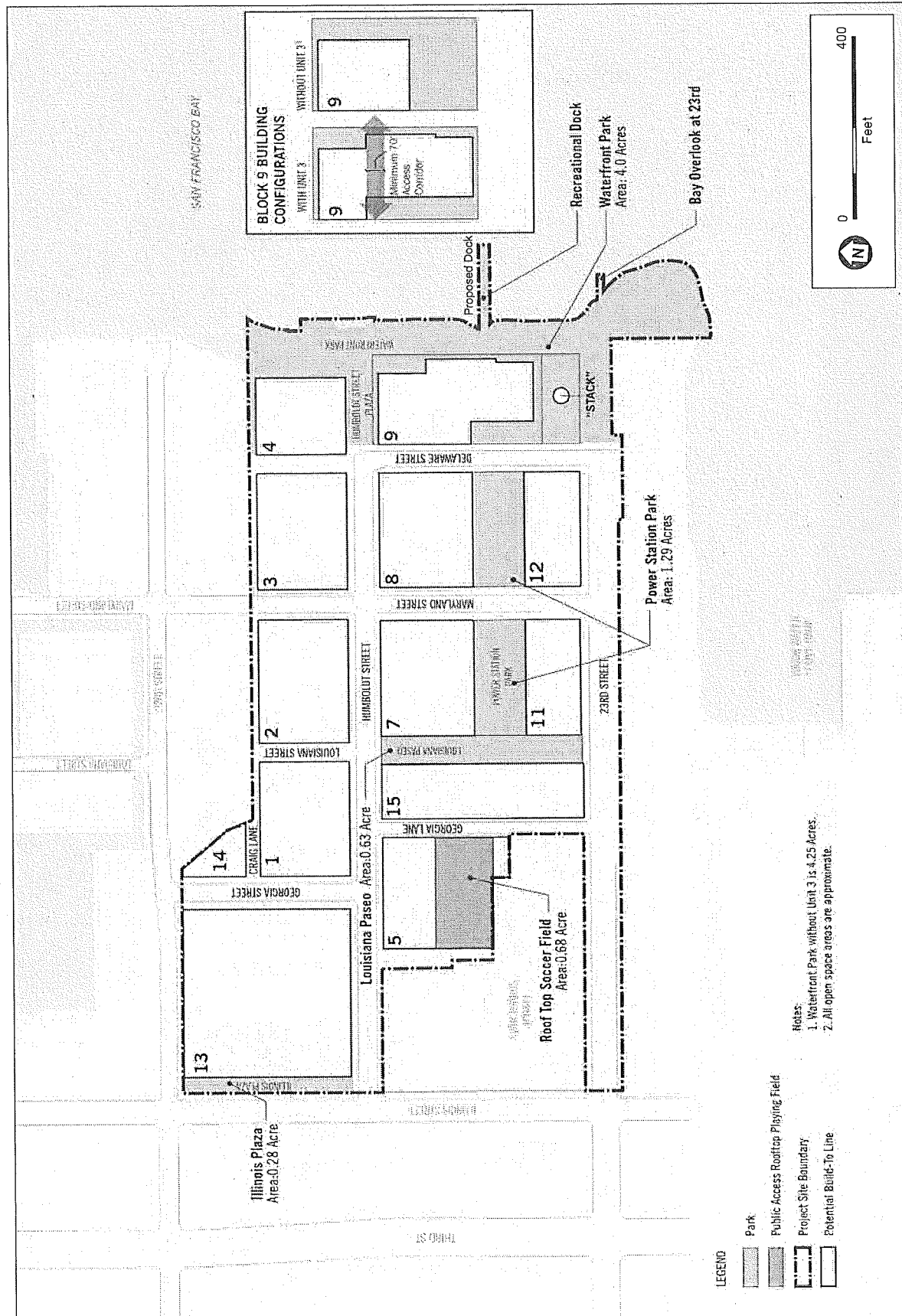


Potrero Power Station Mixed-Use Development Project

Figure 9-5

Project Variant Building Setbacks

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-6
 Project Variant Park and Open Space Plan

SOURCE: Perkins+Will, 2019

9.C.5 Vehicle Parking and Loading

Parking

Figure 9-7, Potential Off-street Parking Supply, illustrates the proposed locations of off-street parking under the project variant, with the potential number of parking spaces per block. As shown in Table 9-2, the project variant would provide a total of approximately 2,686 off-street vehicle parking spaces, compared to 2,622 for the proposed project. The main changes would be as follows: Block 7 would have 203 rather than 92 spaces; Block 13 would have 506 rather than 420 spaces; and Block 15 would have 70 spaces rather than 203 spaces on Blocks 6 and 10. A centralized parking facility would be located at the intersection of Humboldt Street and Georgia Street and would contain approximately 819 parking spaces, same as for the proposed project. The remaining 1,867 off-street parking spaces would be dispersed in below-grade or podium-level parking structures on other development blocks. The project variant would have a total of 52 on street parking spaces, including 10 on-street Americans with Disabilities Act (ADA) accessible vehicle parking spaces, compared to 55 on street parking spaces for the proposed project, including 11 on-street ADA accessible vehicle parking spaces.

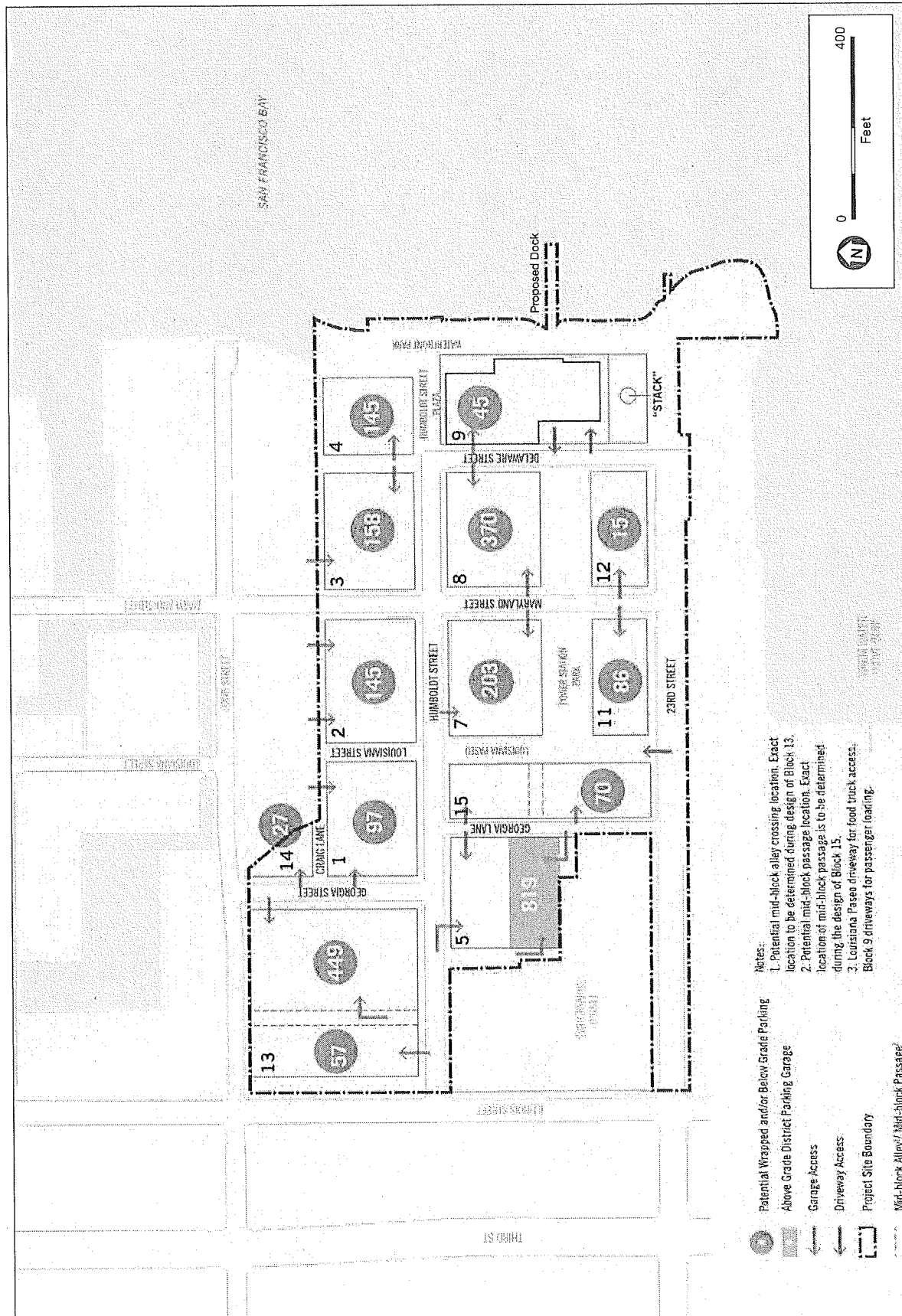
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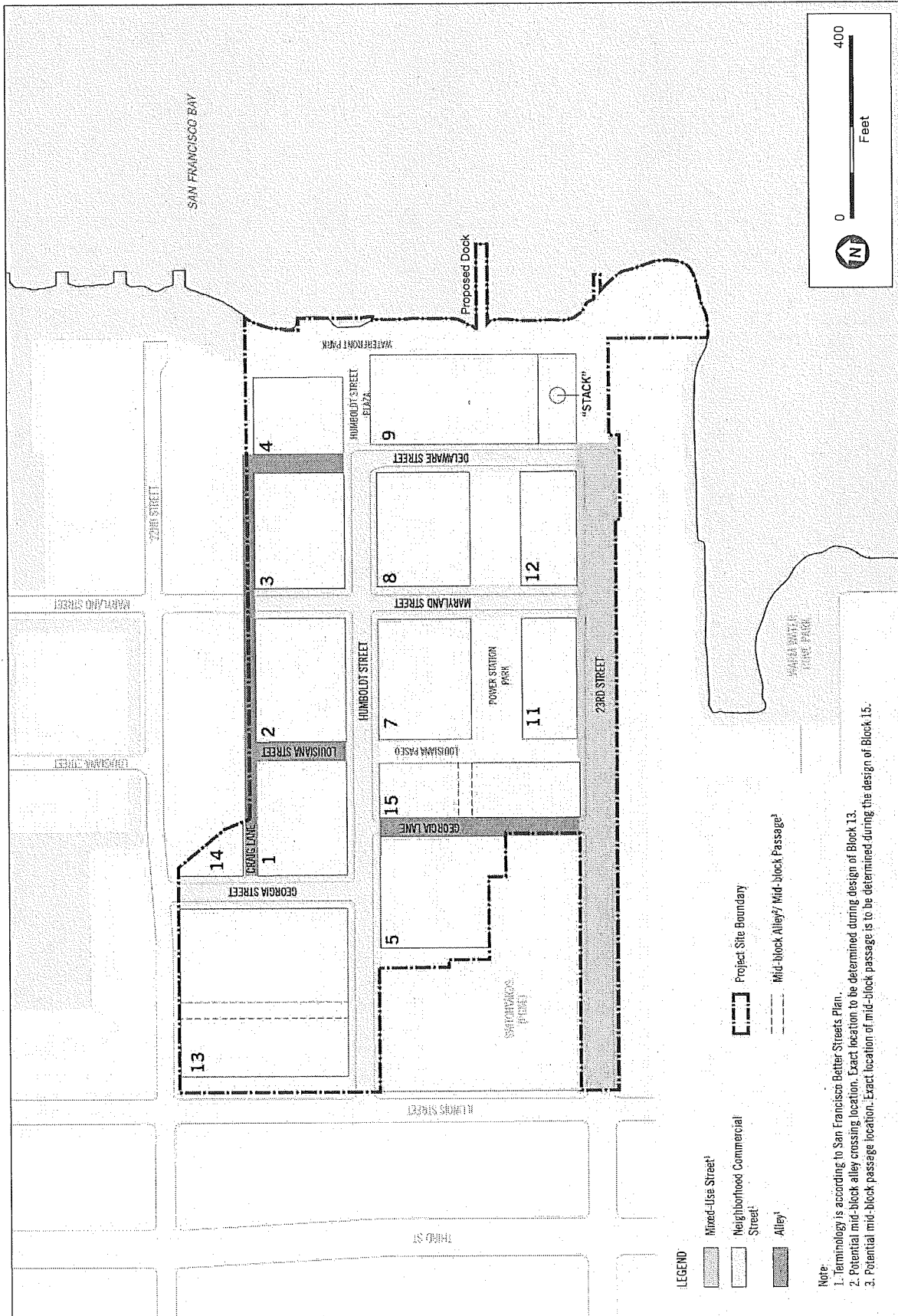
The project variant would provide 22 on-street passenger loading/unloading spaces (15 standard and seven universal spaces) along the internal streets, compared to 25 for the proposed project (18 standard and seven universal). As with the proposed project, the project variant would provide 34 on-street commercial vehicle loading spaces along the internal streets, and approximately 20 off-street commercial loading spaces through in-building loading docks. Additionally, project variant would provide four additional driveways that were not included in the proposed project: one driveway on 23rd Street at the paseo between Blocks 10 and 11 to allow for food truck access to the paseo, two driveways on Delaware Street for passenger loading at the hotel and waterfront and one driveway on Maryland Street for access to Block 8.

9.C.6 Transportation and Circulation Plans

Figure 9-8, Project Variant Street Type Plan, shows the proposed street plan, which is essentially unchanged from that of the proposed project, with Georgia Lane abutting the new Block 15 under the project instead of the discrete Blocks 6 and 10 under the proposed project. In addition, Delaware Street and Louisiana Street north of Humboldt street are designated as "Alley" rather than as "Shared Street (curb-less)."

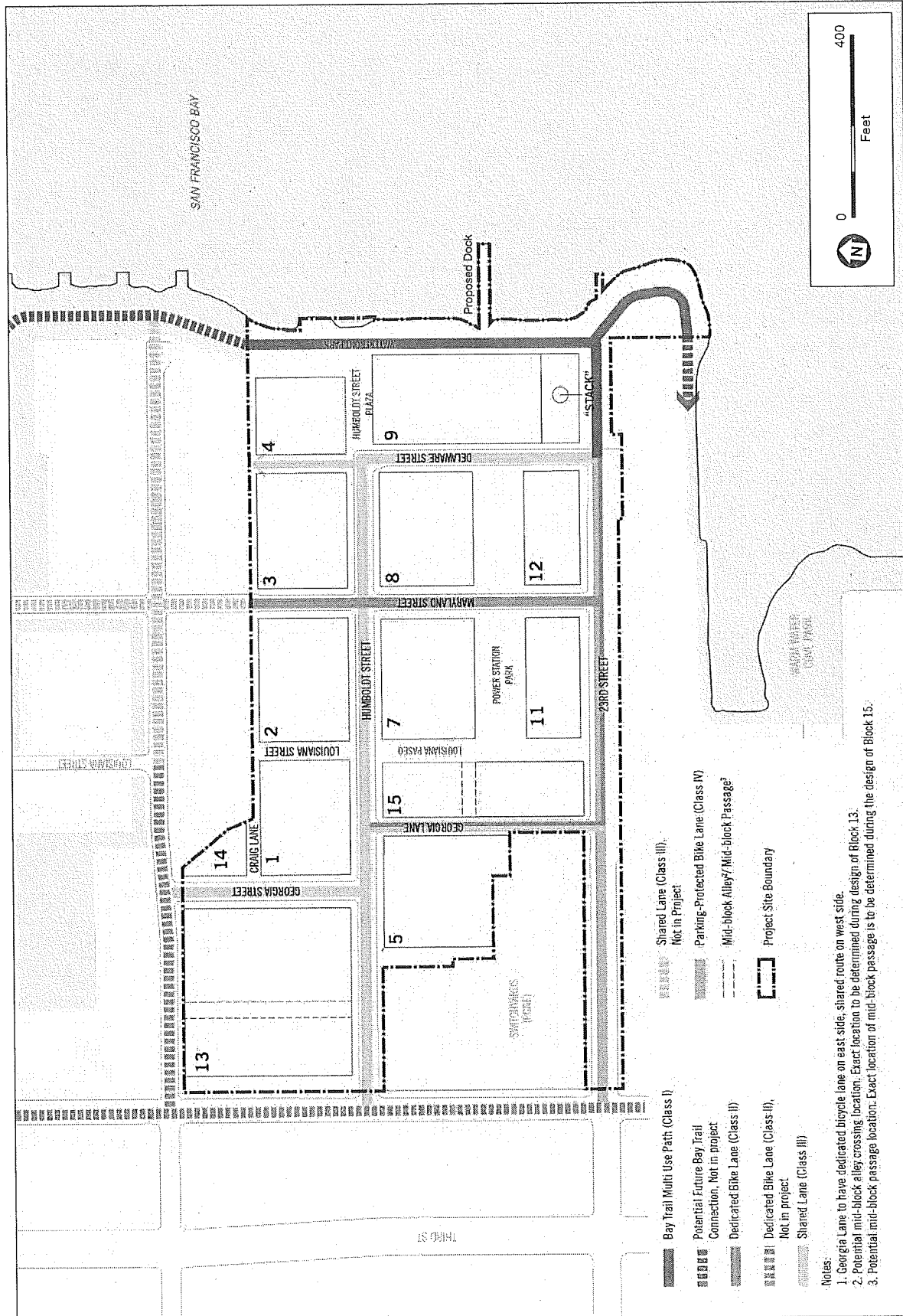
Figure 9-9, Project Variant Bicycle Facilities Plan, shows the proposed bicycle circulation plan and **Figure 9-10, Project Variant Pedestrian Network**, illustrates the proposed pedestrian network. Both of these plans are the same as that of the proposed project but for the combining of Blocks 6 and 10 into a new Block 15, which does not affect bicycle or pedestrian circulation.





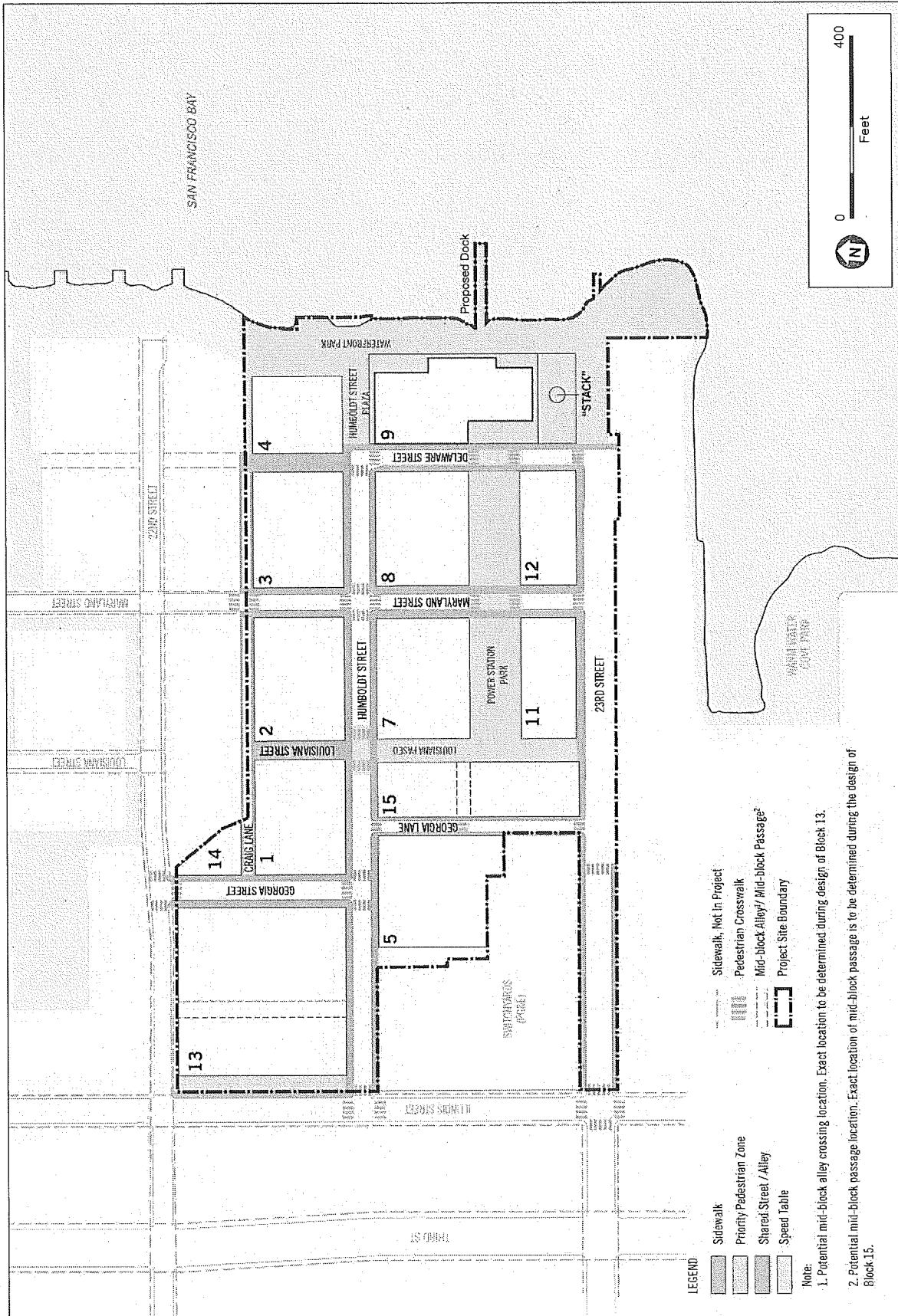
Potrero Power Station Mixed-Use Development Project
Figure 9-8
 Project Variant Street Type Plan

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-9
 Project Variant Bicycle Facilities Plan

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-10
 Project Variant Pedestrian Network

SOURCE: Perkins+Will, 2019

Figure 9-11, Preliminarily Proposed Project Variant Transit Bus Plan, depicts the proposed plan to accommodate the potential expansion of a bus route into the project site, and **Figure 9-12, Project Variant Transit Shuttle Plan**, presents the proposed shuttle route on and near the project site. The transit route is the same as under the proposed project; however, under the project variant an interim shuttle stop would be located on 23rd Street. The interim shuttle stop would be used until the Muni 55 Dogpatch service begins; at that time, the shuttle stop would be relocated to Delaware Street.

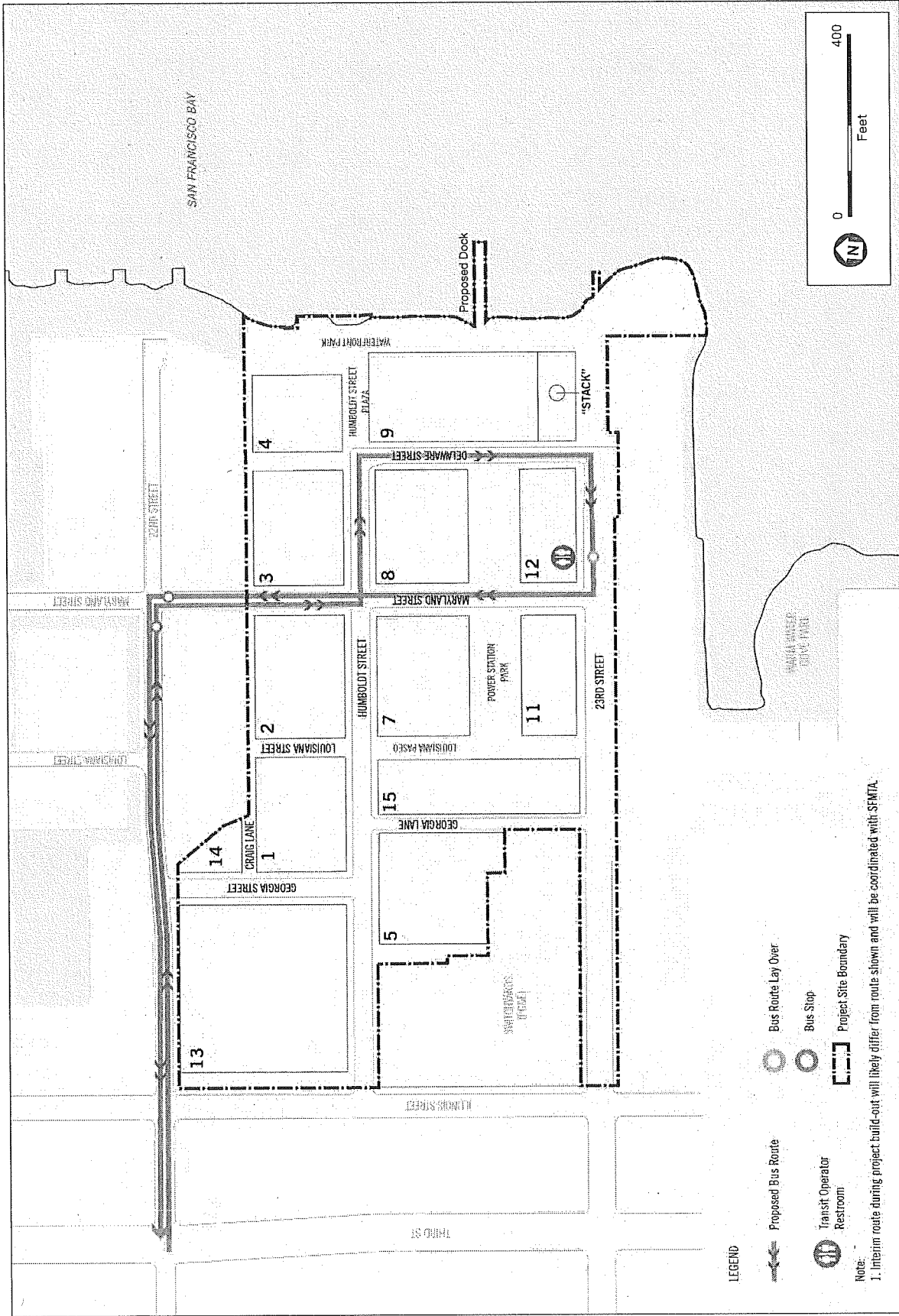
Figure 9-13, Project Variant Street Tree Plan, illustrates that the proposed street tree plan under the variant is unchanged but for the combining of Blocks 6 and 10 into a new Block 15.

9.C.7 Infrastructure and Utilities

Infrastructure and utilities for the project variant would be essentially identical to that described for the proposed project, with the major differences being the change from Blocks 6 and 10 under the proposed project to a single larger Block 15 under the variant and a few refinements of additional details and specifications for non-potable water system. The following figures present the utilities for the project variant: **Figure 9-14, Project Variant Potable Water Plan**; **Figure 9-15, Project Variant Non-Potable Water Plan**; **Figure 9-16, Project Variant Auxiliary Water Supply System Plan**; **Figure 9-17, Project Variant Dual System (Combined Sewer/Separated Sewer) Option (Preferred Project)**; **Figure 9-18, Project Variant-Wide Combined Sewer System Option**; and **Figure 9-19, Project Variant Thermal Energy Plan**.

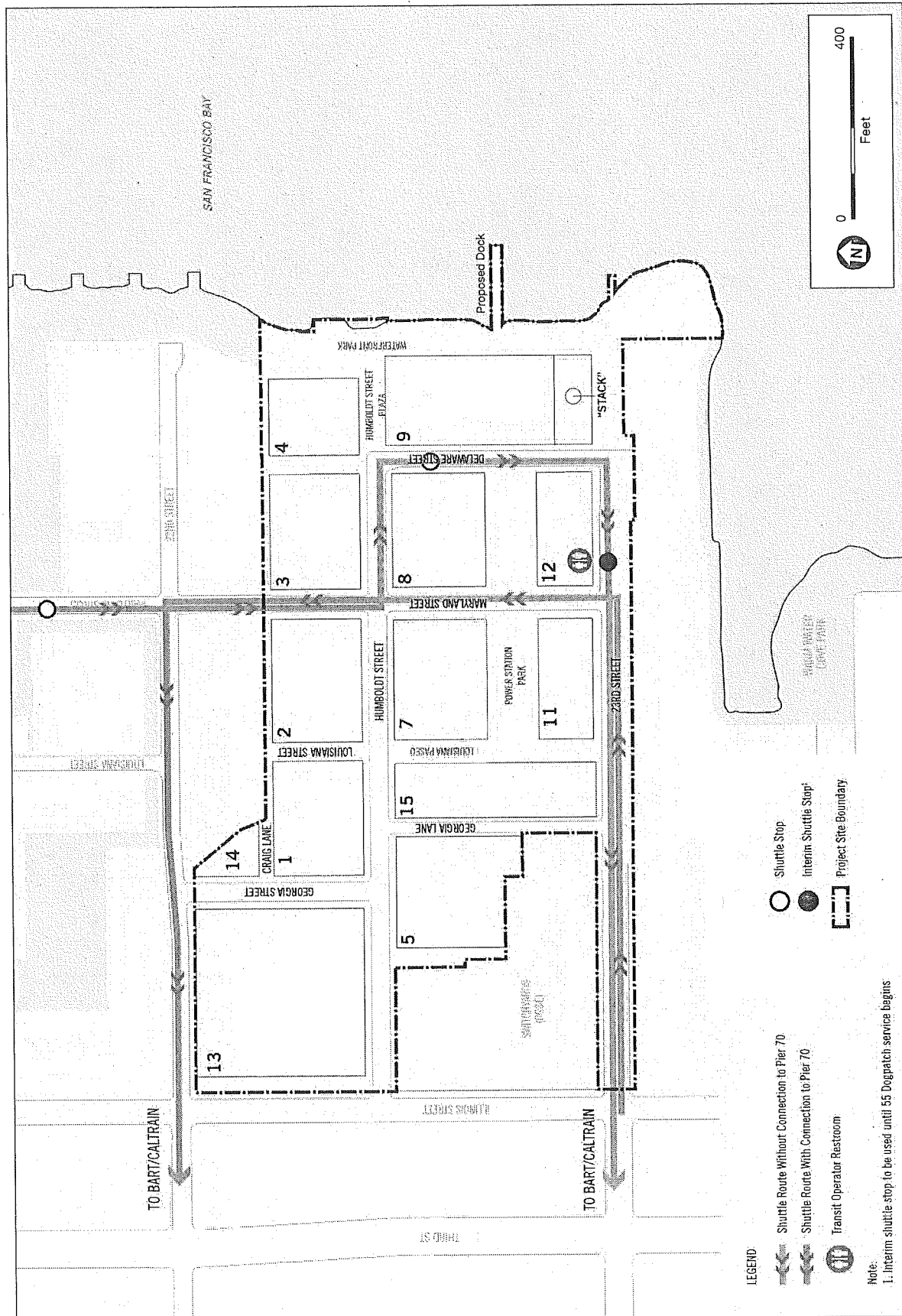
As shown in Figure 9-15, the non-potable water plan for the project variant includes as one option a graywater diversion, treatment, and reuse system, similar to that for the proposed project, except with an expanded network of treatment plants. Blocks 1, 4, 5, 7, 8, 9, and 13 (compared to Blocks 1, 5, 6, 7, and 8 under the proposed project) would include localized graywater collection (e.g., from showers and washing machines), storage and treatment facilities that would distribute the treated graywater via pressurized non-potable water distribution lines to all project site buildings for toilet and urinal flushing, irrigation in landscaped areas, and potentially cooling towers and other non-potable uses. In addition to the two options for complying with the City's Non-Potable Water Ordinance identified in EIR Chapter 2 for the proposed project (one option is the graywater collection and treatment plants described above, and the other option is to connect to a regional non-potable water facility if the City were to construct it), the project variant would pursue one additional option, which is a centralized wastewater treatment plant likely located in Block 8. The centralized treatment plant would receive and treat wastewater from the sanitary sewer system. The non-potable water would be delivered to development parcels through a new private non-potable water distribution system within the public right-of-way. In this case, the project variant would not construct a separate graywater diversion, treatment, and reuse systems on the other private parcels, as described above.

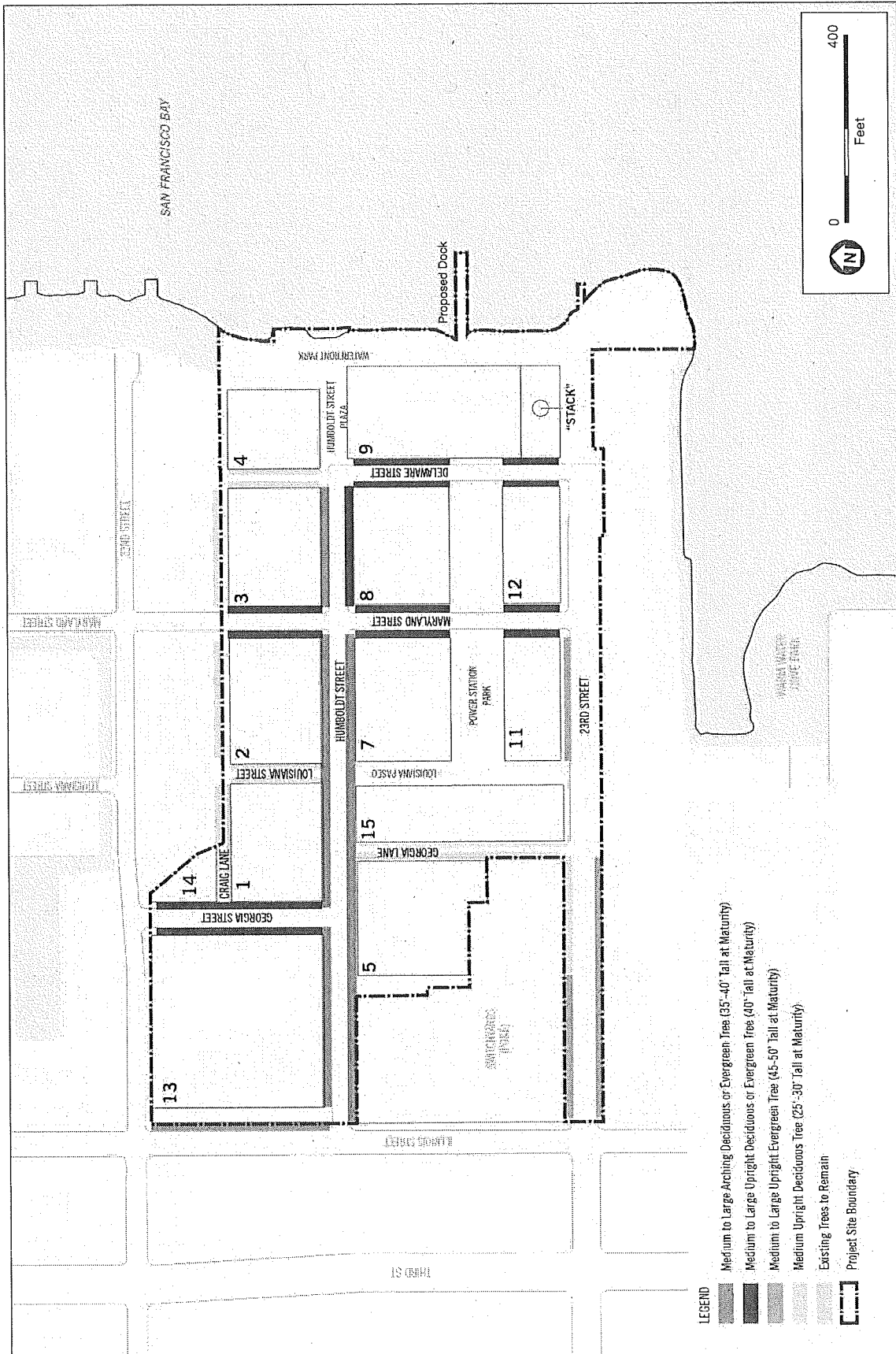
The thermal energy system for the project variant would be the same as that for the proposed project on Blocks 2, 3, 11, and 12, but the proposed plant on Block 10 would be eliminated, as shown in Figure 9-19.

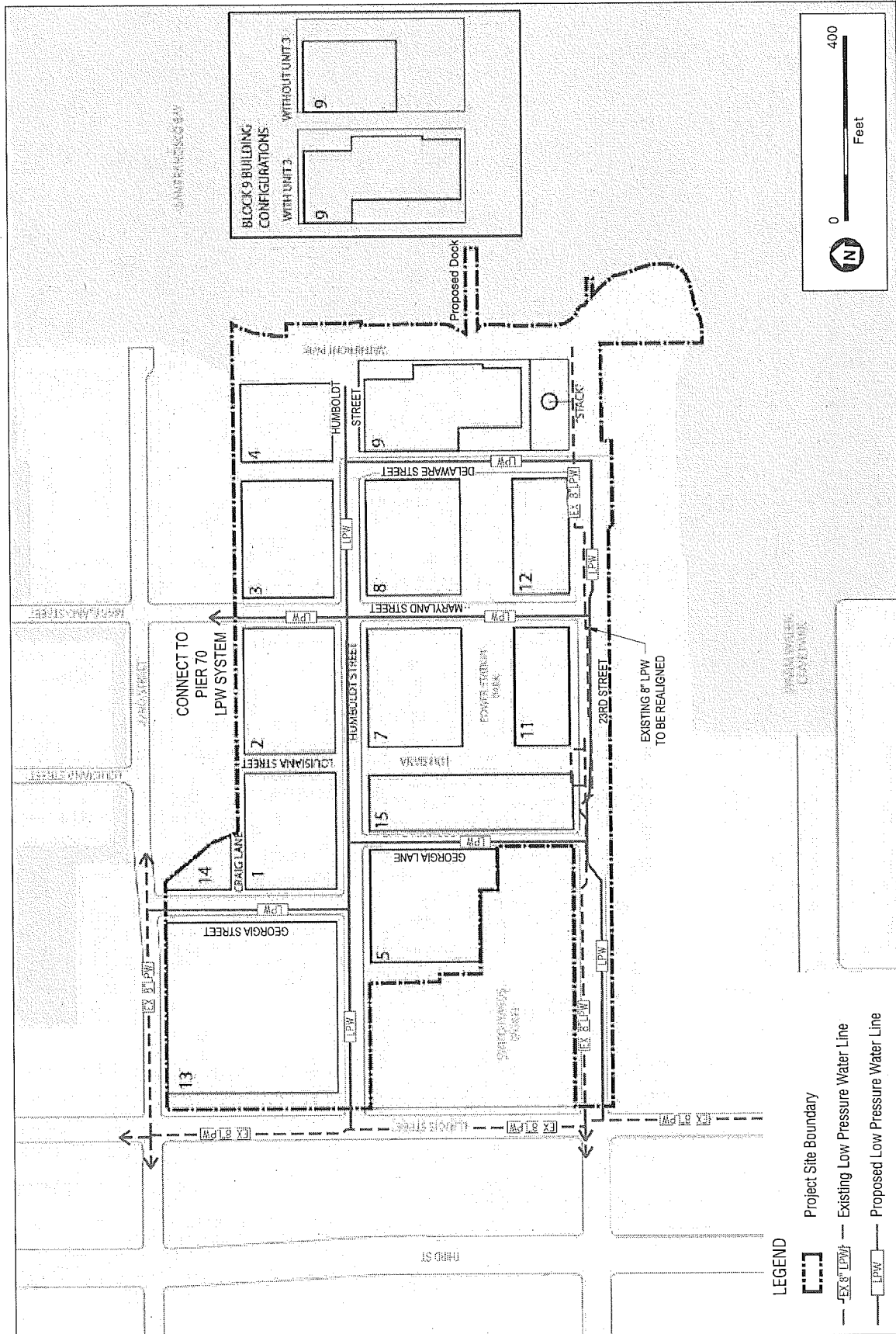


Potrero Power Station Mixed-Use Development Project
Figure 9-11
 Preliminarily Proposed Project Variant Transit Bus Plan

SOURCE: Perkins+Will, 2019

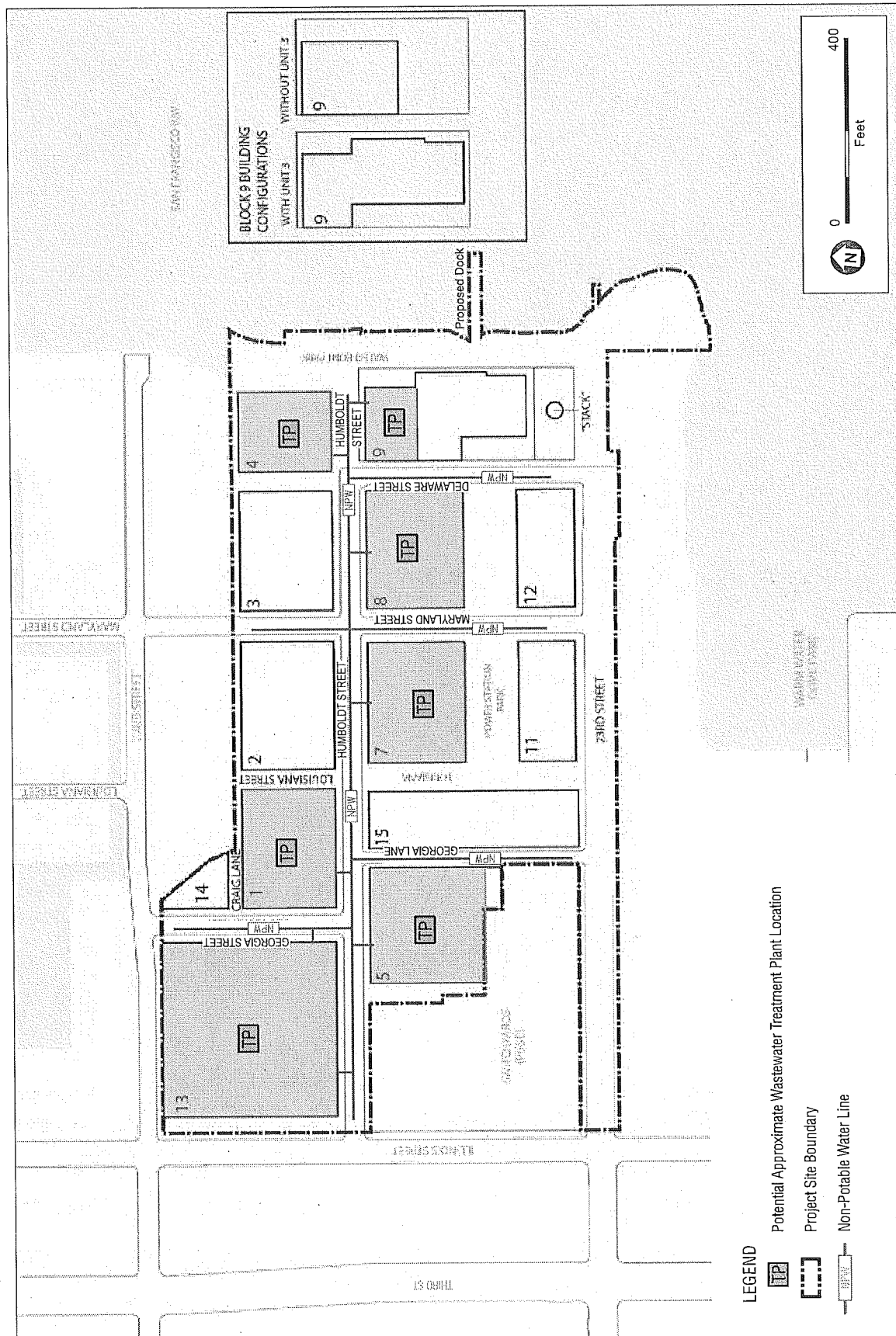


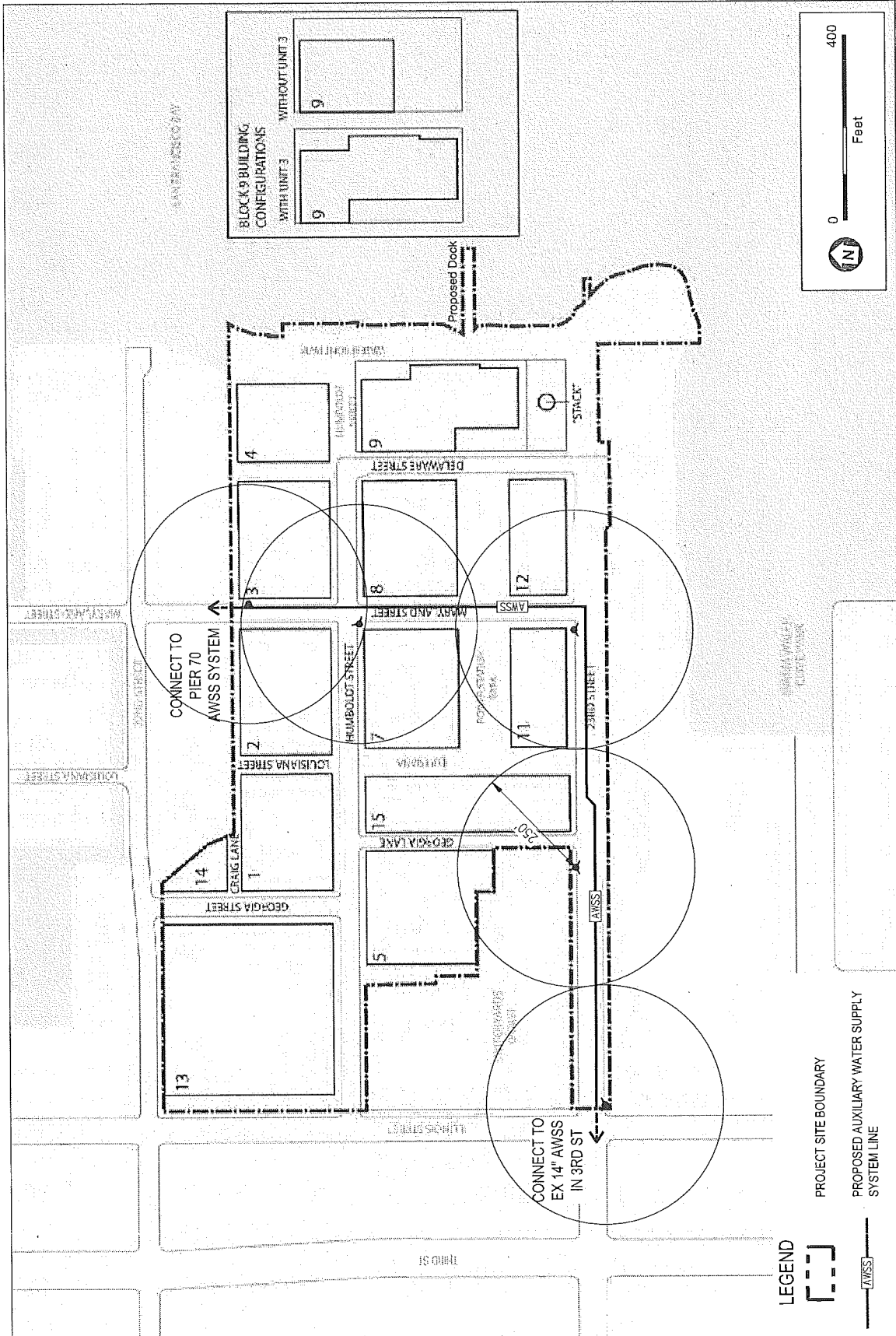




Potrero Power Station Mixed-Use Development Project
Figure 9-14
 Project Variant Potable Water Plan

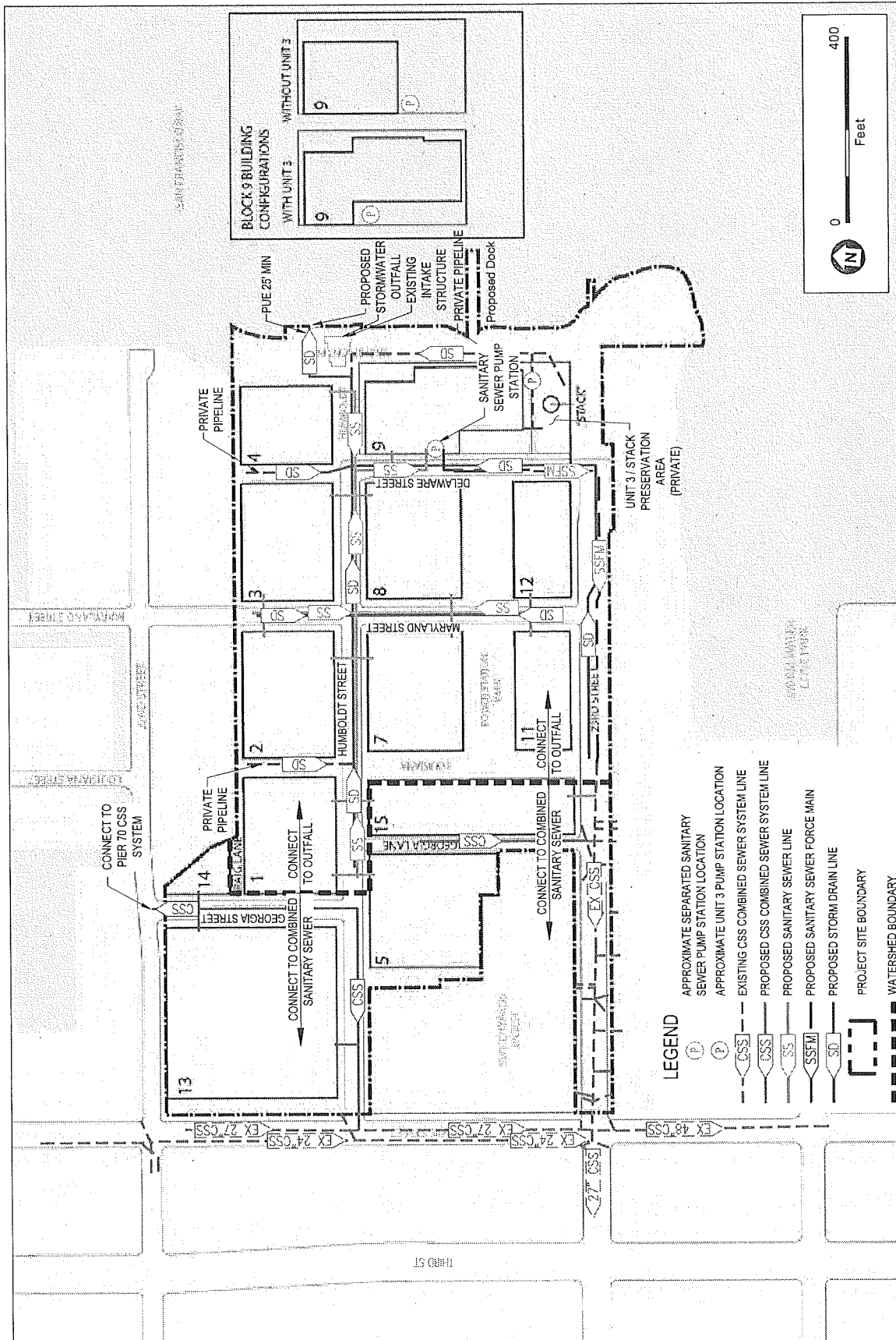
SOURCE: Perkins+Will, 2019





Potrero Power Station Mixed-Use Development Project
Figure 9-16
 Project Variant Auxiliary Water Supply System Plan

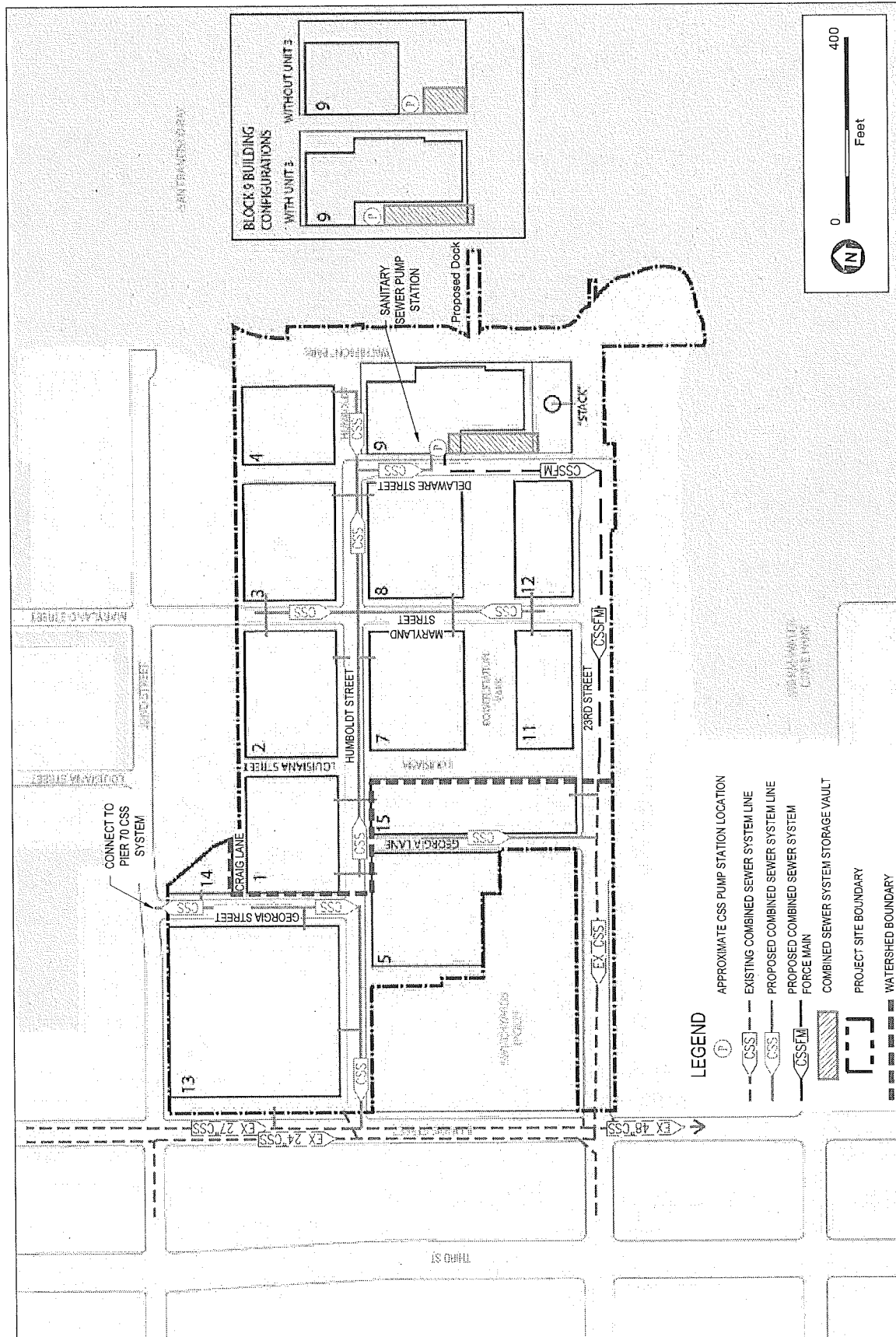
SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project

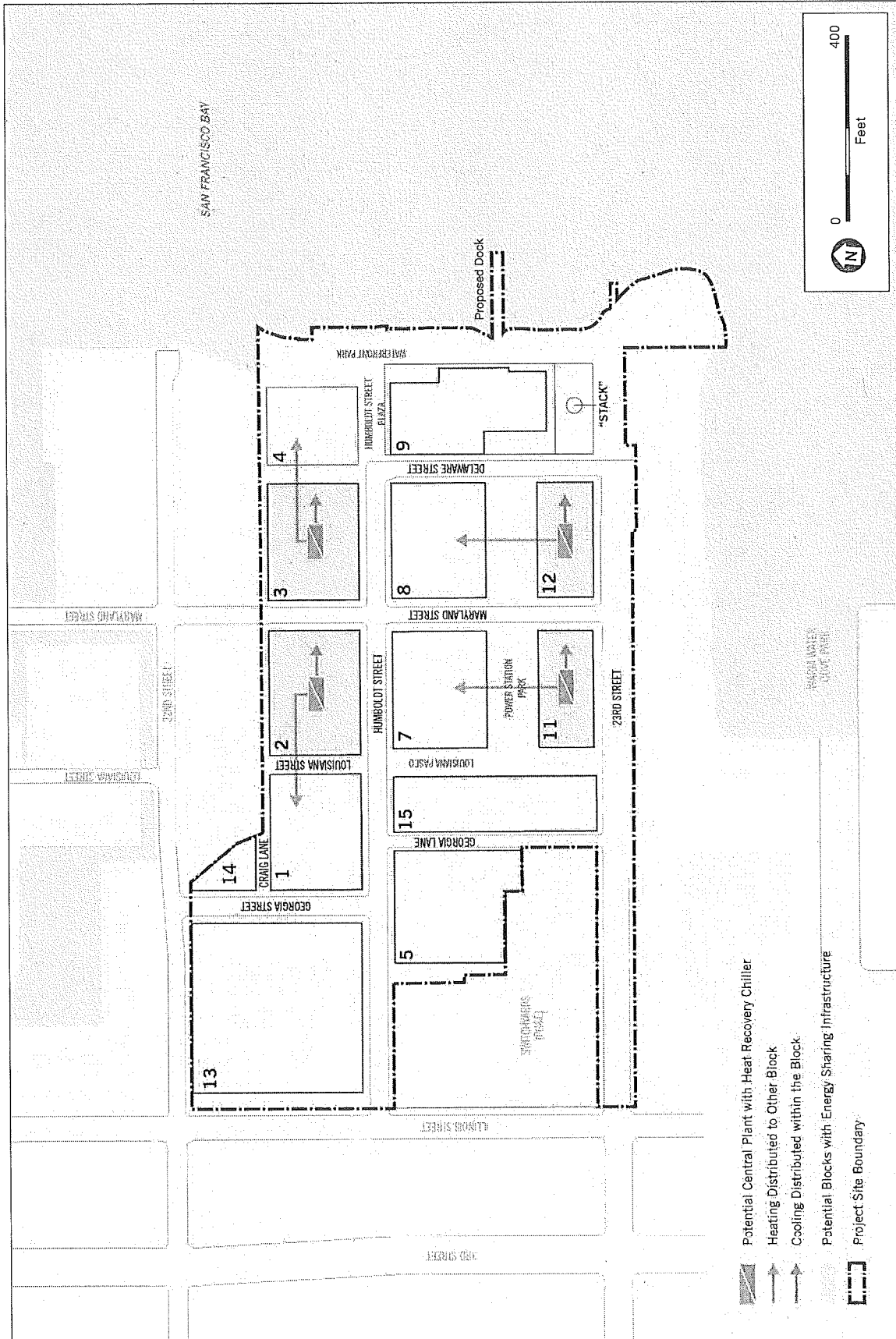
Figure 9-17

Project Variant Dual System (Combined Sewer/Separated Sewer) Option (Preferred Project)



Potrero Power Station Mixed-Use Development Project
Figure 9-18
 Project Variant-Wide Combined Sewer System Option

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-19
 Project Variant Thermal Energy Plan

SOURCE: Perkins+Will, 2019

9.C.8 Proposed Dock Facility and Other Shoreline Features

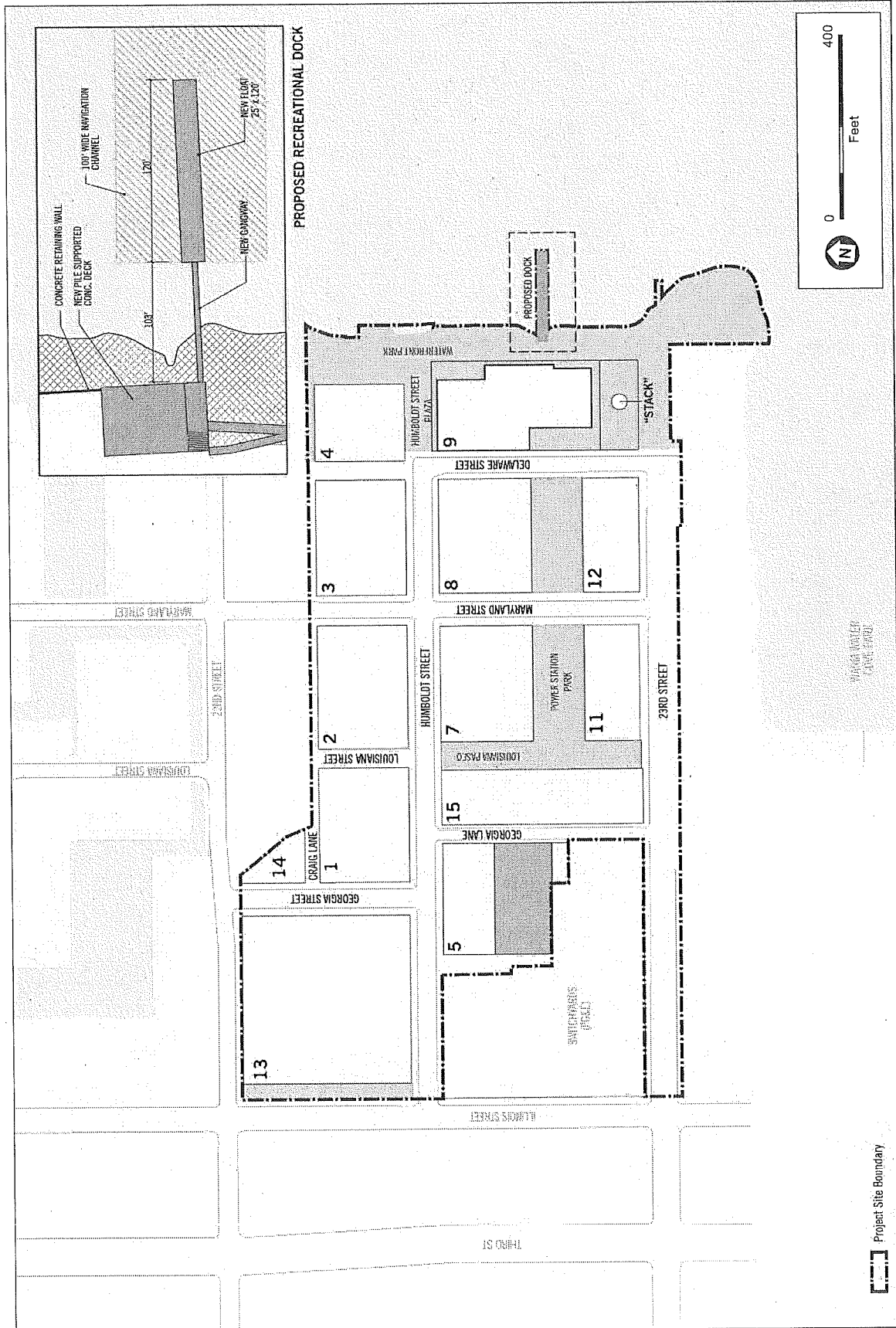
Proposed Dock

Like the proposed project, the project variant would include construction of a dock facility, consisting of a fixed wharf structure, gangway, and floating dock that would be located along the bay shoreline just south of the existing Unit 3 Power Block outfall, at the south end of an existing seawall, as shown in **Figure 9-20, Project Variant Recreational Dock**. However, under the project variant, the wharf deck design would be slightly larger than the proposed project's design, and it would include two wharf decks at different elevations instead of only one deck, which would require more intensive construction.

Under the proposed project, the single wharf deck would be approximately 65 feet in length (parallel to the shoreline) and 35 feet in width, supported on nine 24-inch concrete piles. In comparison, under the project variant, the wharf's upper deck would be constructed at elevation 17.5 feet NAVD88 (North American Vertical Datum of 1988) and would measure approximately 63 feet in length (parallel to the shoreline) by 42 feet in width. The wharf's upper deck would be supported on sixteen 24-inch steel or concrete piles driven into the soil and resting on the underlying bedrock at approximately -75 feet NAVD88. Ten of the 16 piles would be driven in water, and the remaining six piles would be installed on land above the mean high water (MHW) elevation. The wharf's lower deck would be constructed at an elevation of 11.5 feet NAVD88 and connected to the shoreline by both stairs and a universally accessible path, and would measure approximately 23 feet in length (parallel to the shoreline) by 43 feet in width. The wharf's lower deck would be supported on eight 24-inch steel or concrete piles, similarly driven to the top of the underlying bedrock. Four of the eight piles would be driven in water, while the other four piles would be installed on land above MHW elevation.

Pile installation would initially be conducted using a vibratory hammer, which is anticipated to be adequate to penetrate the first 54 feet, and then an impact hammer would be used to drive the piles an estimated additional 20 feet to the top of the bedrock. Similar to the proposed project, the project variant would incorporate standard best management practices for in-water construction. Accordingly, the project would observe the National Marine Fisheries Service approved in-water work windows and cushion blocks would be used during impact pile driving to reduce noise and bioacoustic impacts. Both vibratory and impact pile driving would implement the "soft-start" method to allow wildlife the opportunity to move away from the construction area before piles are driven at full impact. For construction of the wharf, approximately three to four piles would be installed per day.

Under the proposed project, the aluminum gangway would measure approximately 80 feet in length by 3 feet in width, but under the project variant, the gangway design would be slightly larger, at 100 feet in length by 5 feet in width (passage width is 5 feet, but overall width of the gangway including guard rails and structure would be about 6 to 6.5 feet). The proposed gangway would span from the proposed wharf's lower deck to the floating dock. The proposed project's design of the floating dock would be constructed of reinforced concrete boxes with foam infill, and measure approximately 120 feet in length and 15 feet in width, while under the project variant, the floating



Potrero Power Station Mixed-Use Development Project
Figure 9-20
 Project Variant Recreational Dock

SOURCE: Perkins+Will, 2019

dock design would be constructed of similar materials, and be the same length, although 9 feet wider at 24 feet in width. As with the proposed project, the project variant floating dock design would be held in place by four 42-inch diameter steel guide piles. Each pile would be driven into the underlying bedrock, first using a vibratory hammer through the top 40 to 50 feet and then an impact hammer to the top of the bedrock. As with the installation for the wharf piles, a pile driving cushion would be used for installation of the floating dock piles to reduce bioacoustic disturbance.

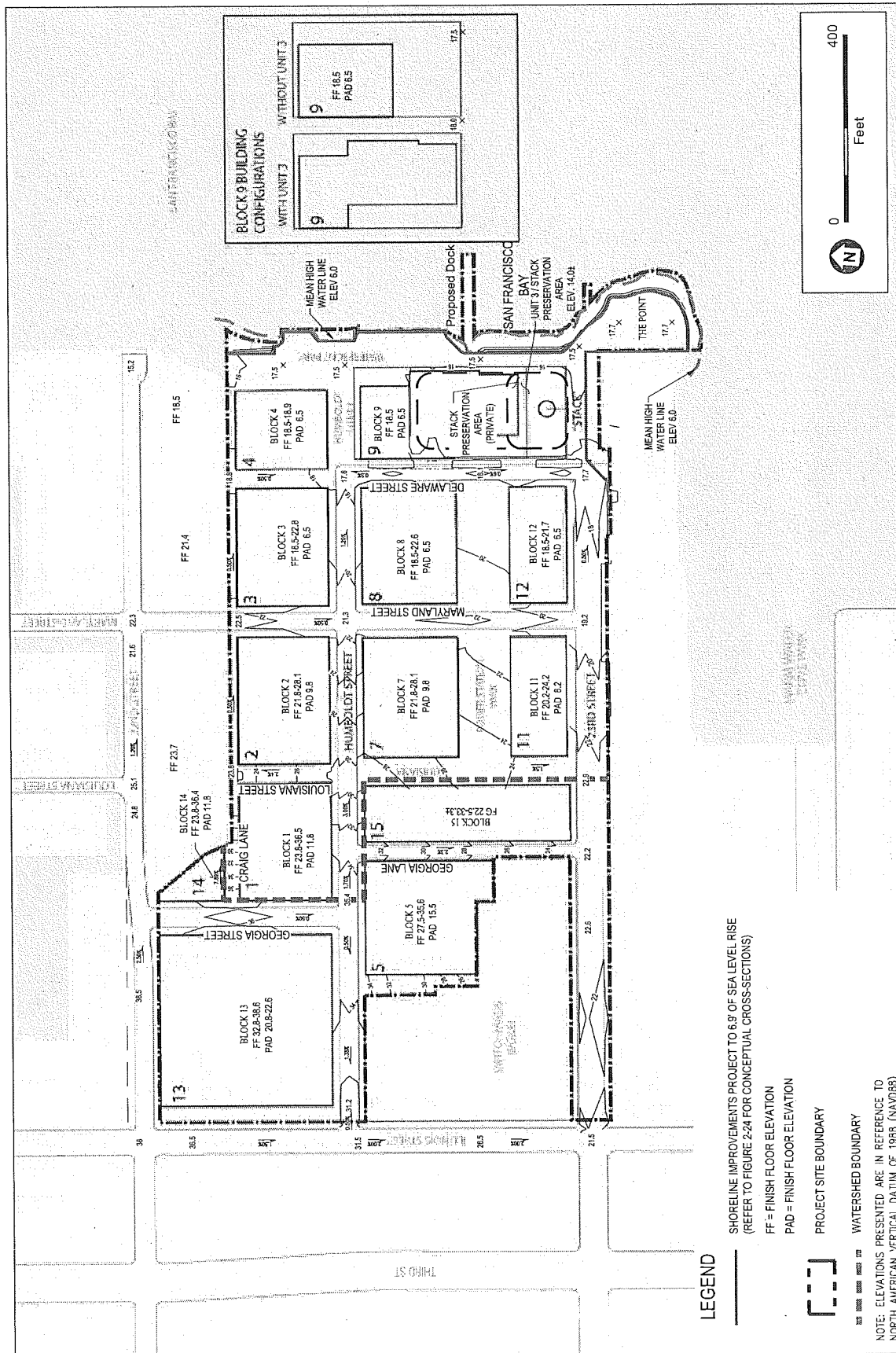
It should be noted that in the event that future sea level rise were to affect operation of the lower wharf deck, some minor modifications would be made, such as potentially removing or raising the lower deck, and/or relocating the gangway to the upper wharf deck. Similar to the proposed project, preliminary evaluation by the project sponsor indicates that the existing water depth at this location, even at extremely low tides, is sufficient to accommodate safe navigation and berthing of vessels of up to 45 feet in length at the proposed dock, without the need for initial dredging. The dock would have a 100-foot wide navigation corridor. The northernmost boundary of the navigation corridor would be located a minimum of 10 feet to the south of the nearest offshore remediation cell (PG&E Sediment Remediation Zone Cell 16, see EIR Figure 4.K-1, p. 4.K-5) so as to avoid disturbance of the natural sediment cover in that cell. The minimum water depth at the berth and navigation corridor is 6 feet at the mean lower low water (MLLW) elevation.

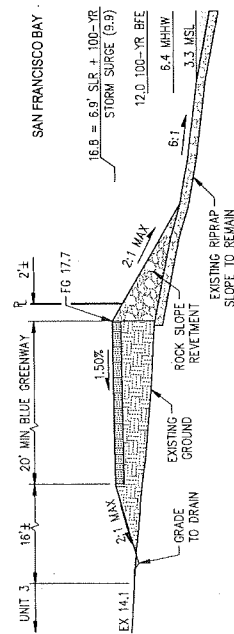
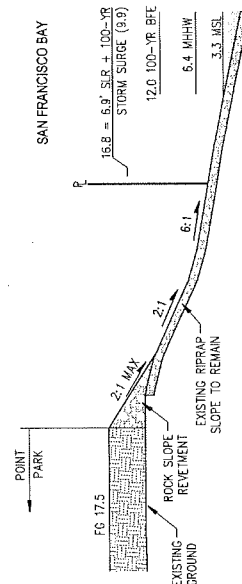
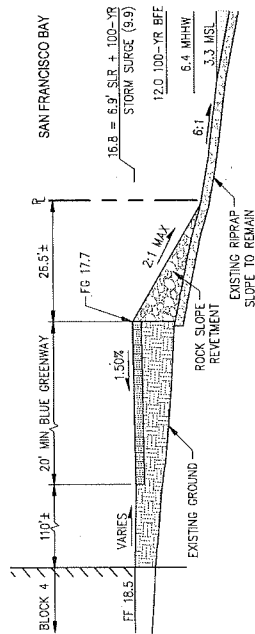
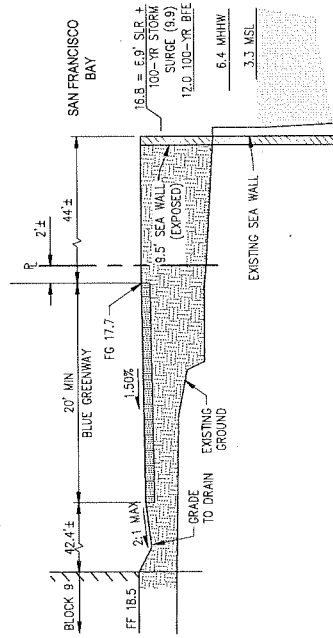
However, as under the proposed project, occasional future maintenance dredging is anticipated to be needed to maintain the minimum water depth required for vessel access during project operation. Maintenance dredging is not expected to be required until 2050. As with the proposed project, construction of the dock and future maintenance dredging operations would take place during the approved work windows set forth by the appropriate regulatory agencies (see EIR Section 2.F.3, pp. 2-57 to 2-58).

Shoreline Improvements to Address Sea Level Rise

Like the proposed project, the project variant would address potential future flooding through a number of physical shoreline improvements, including rock slope revetments, berms and bulkheads, as well as grade elevation inland (as described in EIR Chapter 2, pp. 2-47 through 2-49). **Figure 9-21, Project Variant Grading Plan and Location of Shoreline Improvements**, presents the proposed grading plan and location of shoreline improvements, which, with the exception of the seawall design described below, would be the same under the proposed project and the project variant. The conceptual waterfront cross-sections for the shoreline improvements shown in EIR Figure 2-24 (page 2-49), Conceptual Shoreline Improvements Cross-sections, also apply to the project variant at Block 4, Unit 3 Power Block, and Waterfront Park, but the cross-section for Block 9 is revised as shown in **Figure 9-22, Proposed Seawall Retrofit Cross-section**.

Under the project variant, the project sponsor has revised the design of the seawall to reduce the amount of new bay fill that would occur compared to what was described in the Draft EIR for the proposed project. The proposed project would retain the existing approximate 185-foot-long brick seawall that currently extends along the shoreline between the Unit 3 intake and outfall structures and install a new concrete seawall section immediately adjacent to and west (inland) of the existing seawall. The project variant has refined this design. To construct the seawall, the project variant





SOURCE: CBG, 2019

Potrero Power Station Mixed-Use Development Project
Figure 9-22
 Proposed Seawall Retrofit Cross-section

proposes to first remove soil backfill adjacent to and inland of the existing seawall. The new seawall section would then be constructed parallel to, but approximately 3 feet west of, the alignment that was designed for the proposed project (approximately 5 feet west of alignment of the existing seawall), as shown in Figure 9-21. As with the proposed project, the seawall under the project variant would consist of a reinforced concrete wall, supported on 20 steel or concrete piles, installed above the MHW elevation. The existing seawall section would then be removed, and existing rip-rap along this section of the shoreline would be replaced with new rip rap.

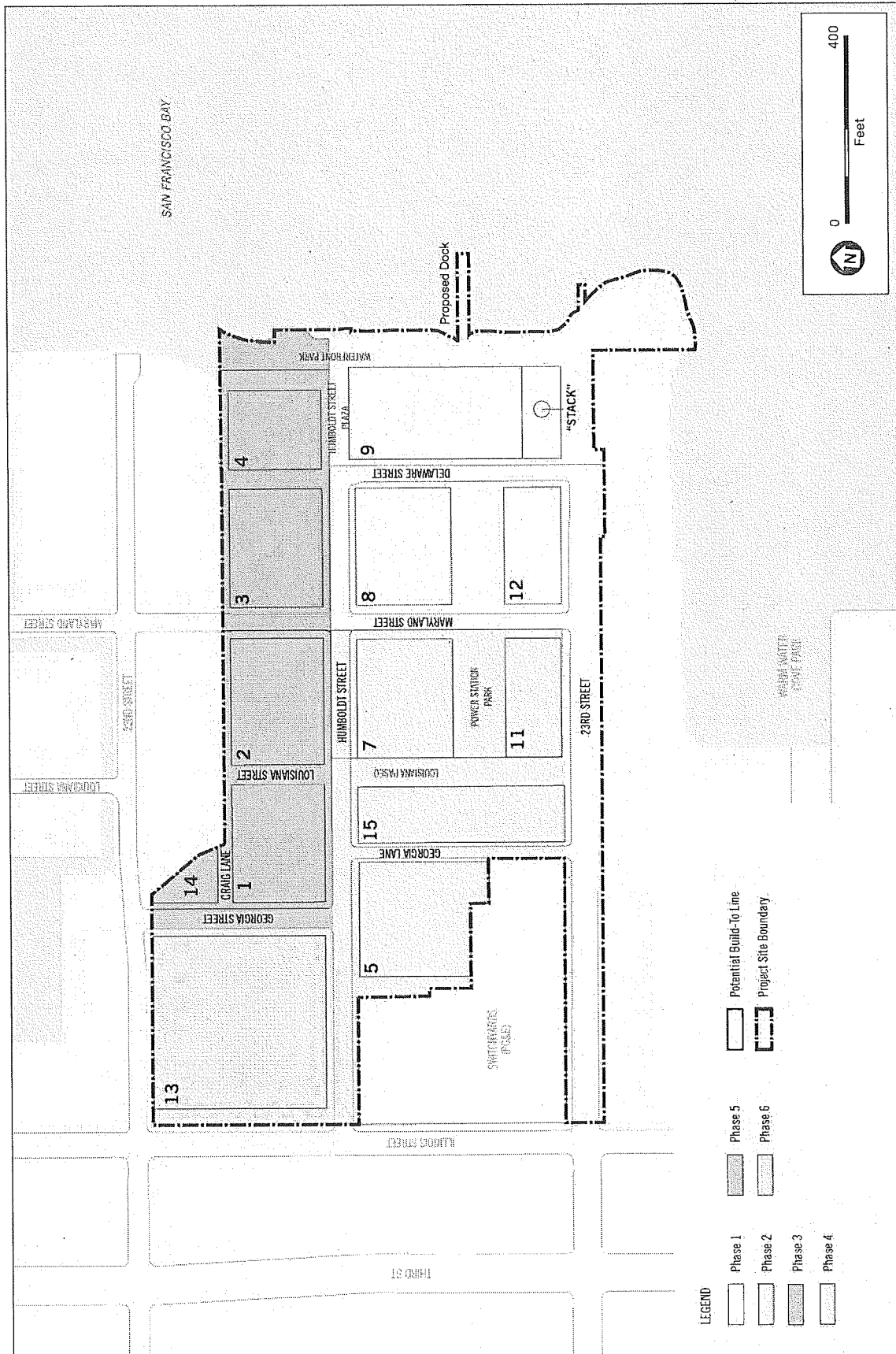
Bay Overlook

As shown on Figure 9-6, the project variant would include the construction of a bay overlook on top of the existing Station A intake structure that would provide public access over the bay directly from the Blue Greenway; this project element was not called out specifically as part of the proposed project. The existing Station A intake structure is a concrete box culvert that extends into the bay and is partially submerged (top of culvert is at an elevation of 6 feet NAVD88). The proposed bay overlook platform would be attached to the top of the concrete culvert by way of a 10-foot-high steel brace and concrete frame, with the platform deck at an elevation of 17.5 feet NAVD88. The approximately 12-foot-wide platform would extend over the length of the culvert (approximately 85 feet). The bay overlook platform would be constructed of concrete or wood and would include safety guardrails.

9.C.9 Construction Phasing and Schedule

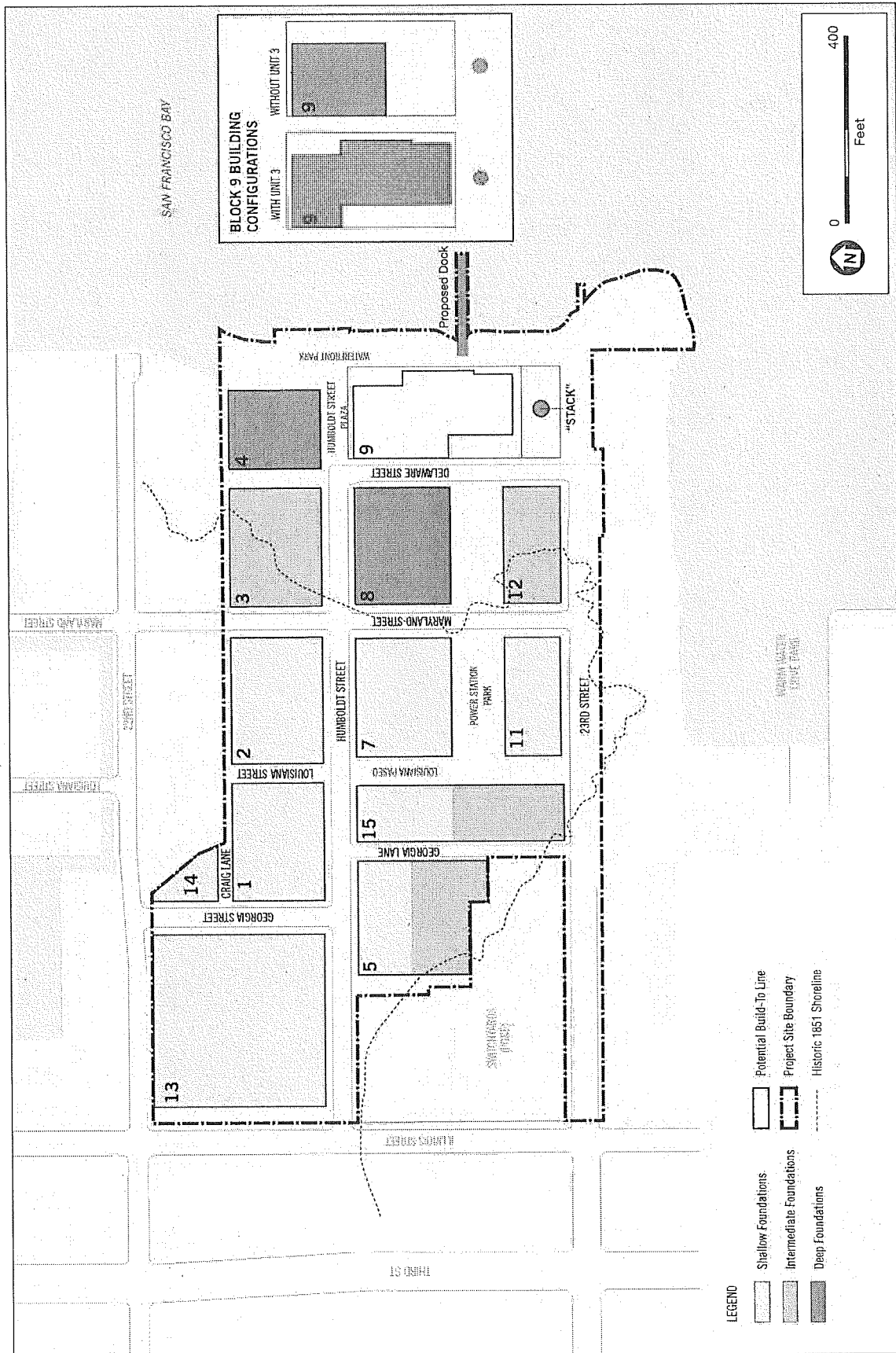
Like the proposed project, the project variant would be constructed in several phases with generally the same phasing plan for the development blocks, but with certain street segments of Humboldt Street and Georgia Street shifted to different phases, as shown in **Figure 9-23, Project Variant Construction Phasing Plan**.

The construction schedule for the project variant would vary slightly from that of the proposed project (as presented in Table 2-2 in the Draft EIR Project Description). As shown in **Table 9-3, Project Variant Construction Schedule**, Phase 0 (horizontal construction phase, such as demolition, site stabilization, site preparation and rough grading, including interim surface parking improvements for construction vehicles) would be extended by one additional year to 2023, for a total duration of four years (2020 through 2023, instead of 2020 through 2022 for the proposed project). Consequently, Phases 1 through 6 (vertical construction phases) for the project variant would now shift ahead one year, occurring over 13 years from 2023 through 2035. Therefore, the overall construction duration would be extended by one year to a total of 16 years, compared to the anticipated 15-year construction schedule for the proposed project. **Figure 9-24, Project Variant Foundation Type Plan**, shows the proposed foundation type plan for the project site, including the foundation plan for the new Block 15, which is very similar to the foundation plan for the proposed project.



Potrero Power Station Mixed-Use Development Project
Figure 9-23
 Project Variant Construction Phasing Plan

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-24
 Project Variant Foundation Type Plan

SOURCE: Perkins+Will, 2019

TABLE 9-3
PROJECT VARIANT CONSTRUCTION SCHEDULE, BY PHASE^a

Construction Phase	Start	Finish	Duration
Phase 0 ^b	2020	2023	4 years
Phase 1	2023	2026	4 years
Phase 2	2025	2027	3 years
Phase 3	2026	2029	4 years
Phase 4	2028	2032	5 years
Phase 5	2031	2033	3 years
Phase 6	2031	2035	5 years

^a All start/finish dates in Table 9-3 are approximate and could be affected by market conditions, PG&E's remediation process (as may be required by applicable laws and regulations), the City's permitting process, among other factors.

^b Phase 0 includes a subphase (Phase 0.1) that involves site preparation activities in the future PG&E remediation area (the "Tank Farm Area"). The schedule for Phase 0.1 is likely to extend beyond 2023, depending on the PG&E remediation schedule (as may be required by applicable laws and regulations).

SOURCE: California Barrel Company, 2019

9.C.10 Graphic Exhibits of the Project Variant

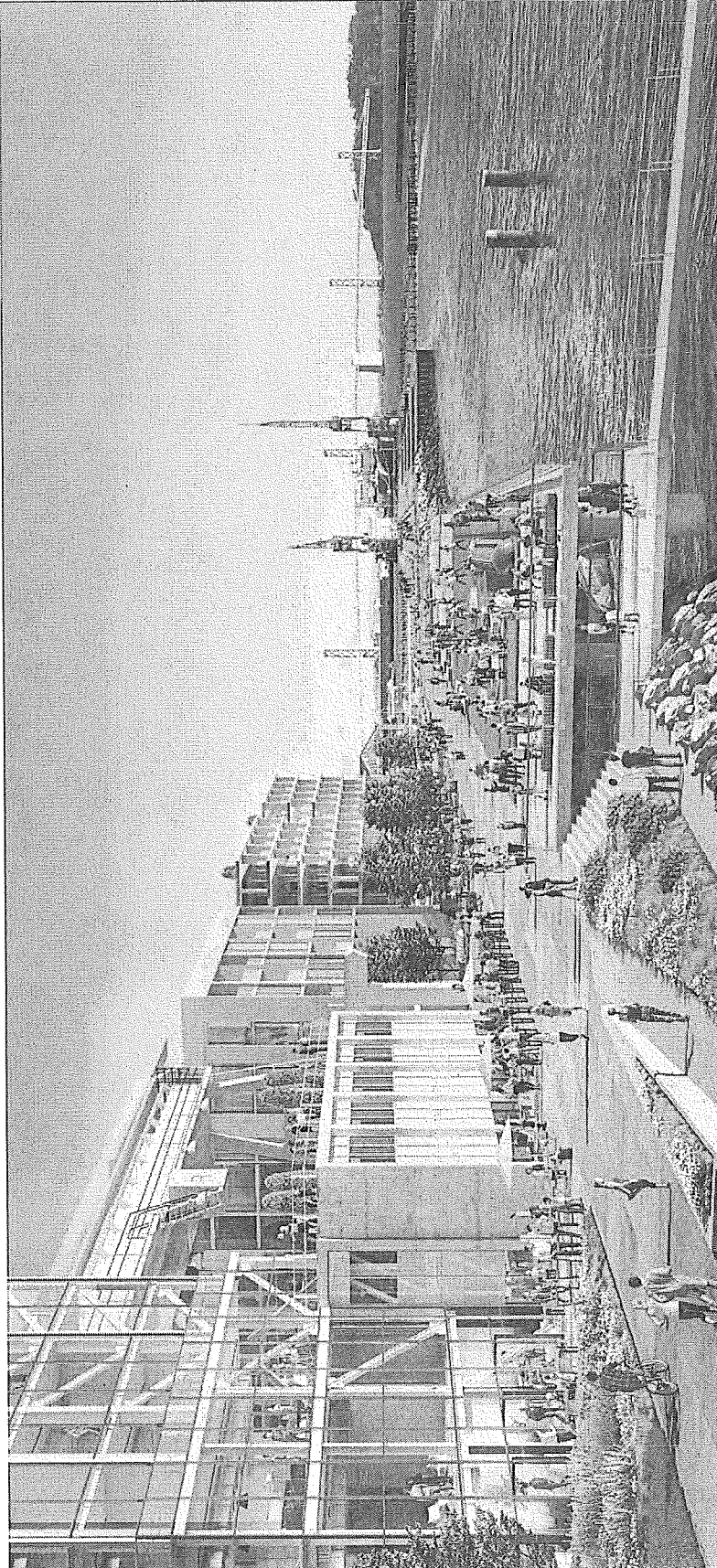
A number of graphic exhibits depicting the project variant are presented in **Figures 9-25 to 9-28** at the end of this section for informational purposes. Figure 2-31 (p. 2-66) from Chapter 2 is a rendering of the project looking north along 23rd Street, and this rendering also applies to the project variant as there would be no visual difference between the project and variant at this location.

9.C.11 Overall Comparison of Project Variant and the Proposed Project

Sections 9.C.2 through 9.C.10 above focus on the aspects of the project variant that differ from the proposed project. Unless explicitly indicated, all other aspects of the project variant would be the same as the proposed project as described in Chapter 2 of the Draft EIR.

9.C.12 Maximum Residential Scenario of the Project Variant

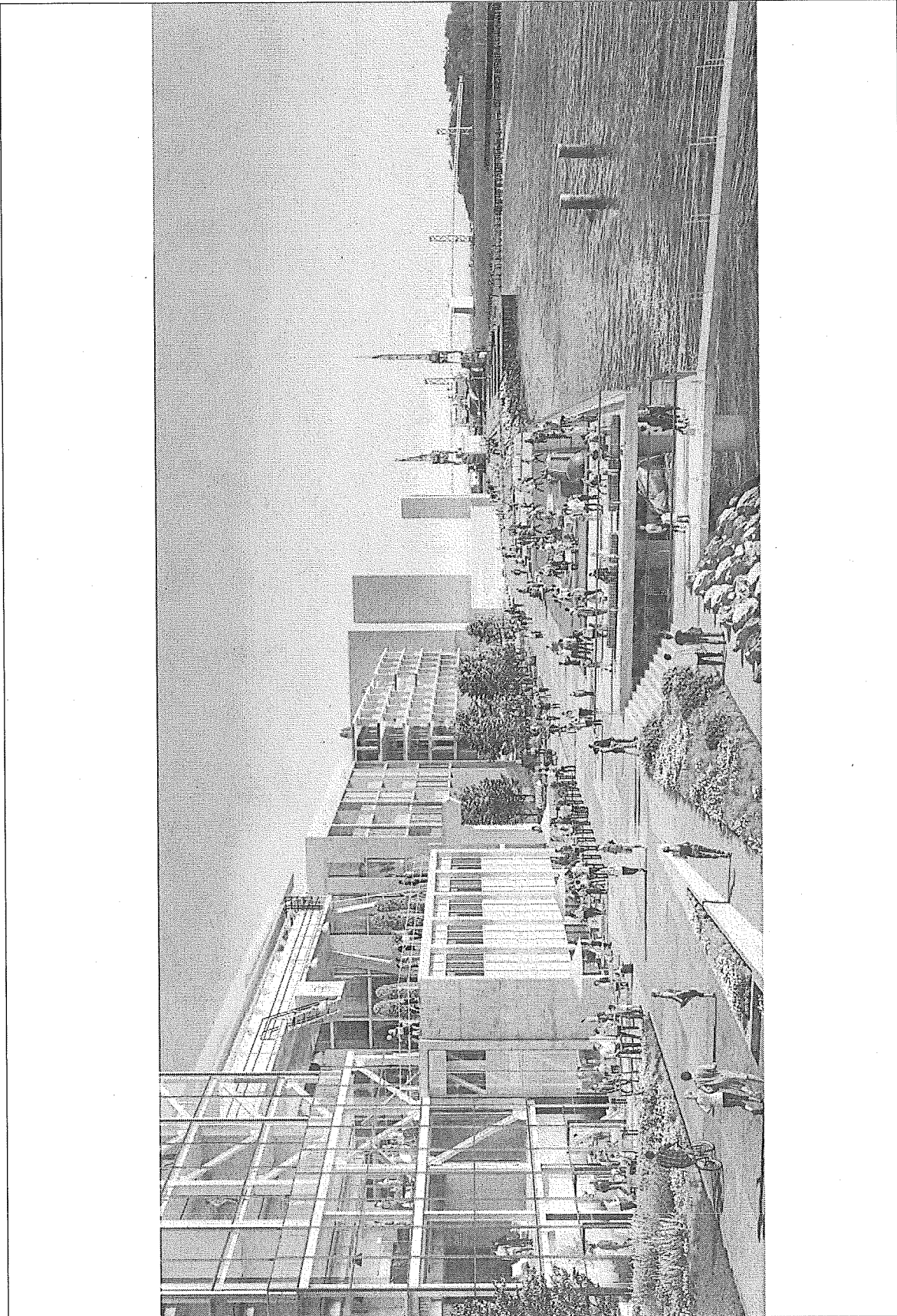
As described in EIR Chapter 4, Impact Overview (pp. 4.A-7 to 4.A-10), the impact analysis of the proposed project provides for the reasonable worst-case analysis by considering the full range of uses that could be implemented under the proposed flexible land use program designated for specific development blocks. The same is true for the project variant. Therefore, because the project variant includes flexible land uses for Block 9—either hotel or residential—and because the preferred option is hotel uses (as described above in Tables 9-1 and 9-2), an additional scenario is presented in **Table 9-4, Project Variant and Potential Residential and Employment Population**, to describe the maximum residential scenario. The project variant represents the maximum office scenario. These scenarios are used where appropriate in Section 9.D, below, in analyzing the impacts of the project variant in order to disclose the reasonable worst-case analysis.



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 9-25
Rendering Looking North Along Proposed Waterfront Park – Variant

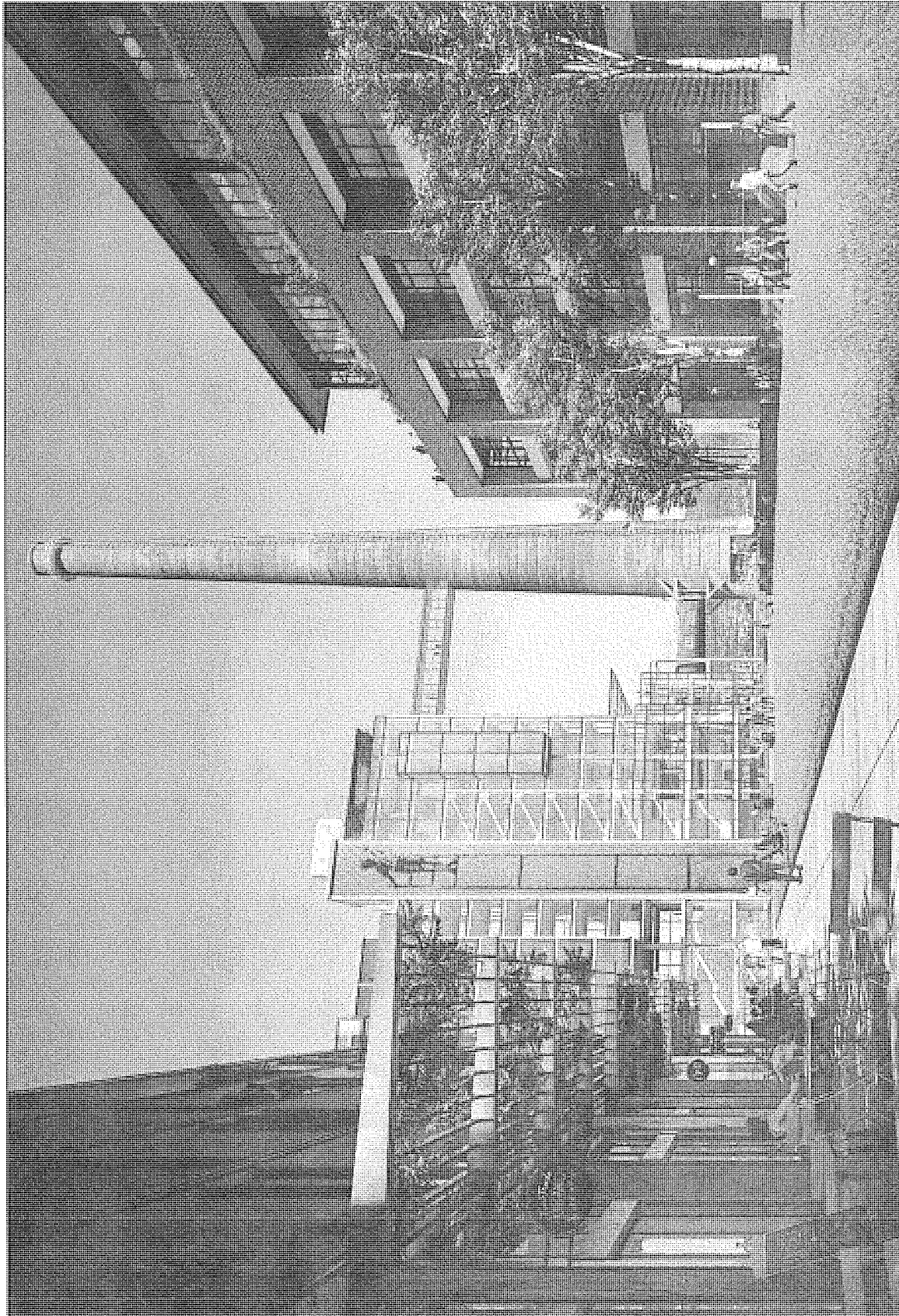


SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 9-26

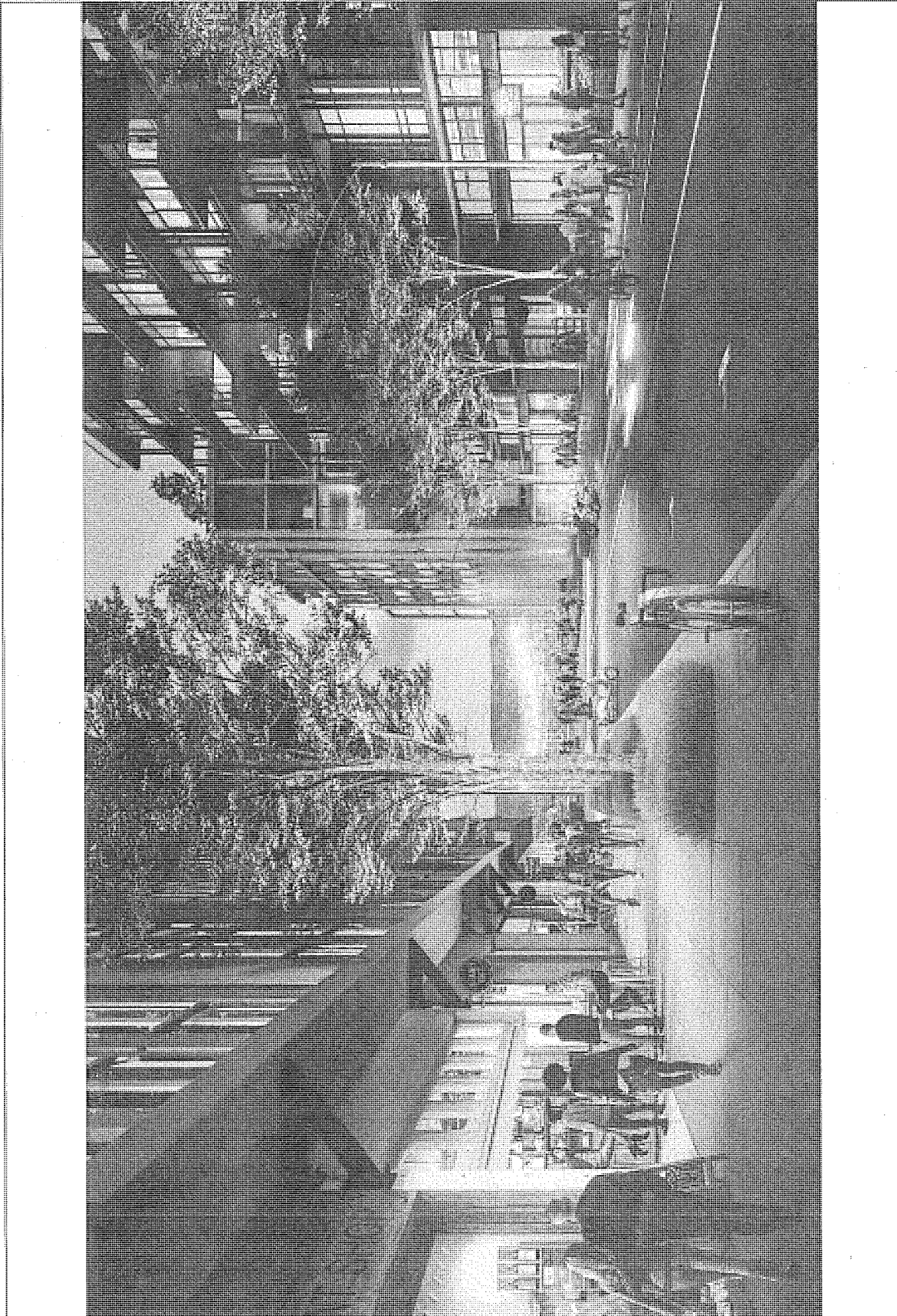
Rendering Looking North Along Proposed Waterfront Park
With Pier 70 Mixed-Use District Project (under construction), as Massing in Distance – Variant



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 9-27
Rendering Looking East Along Proposed Power Station Park
Towards Unit 3 Power Block, the Boiler Stack, and the Bay – Variant



SOURCE: Steelblue LLC

Potrero Power Station Mixed-Use Development Project

Figure 9-28
Rendering Looking East Along Proposed Humboldt Street Extension
Towards Proposed Humboldt Street Plaza and the Bay – Variant

**TABLE 9-4
PROJECT VARIANT AND POTENTIAL RESIDENTIAL AND EMPLOYMENT POPULATION**

Land Use Type	Population Generation Rate	Proposed Project		Project Variant		Variant, Maximum Residential	
		Metric	Population	Metric	Population	Metric	Population
Residential Population							
Residential (units)	2.27 resident/unit ^a	2,682	6,088	2,601	5,904	2,748	5,541
Total Residents		6,088		5,904		6,238	
Employee Population							
Residential (units)	1 employee/32 units ^b	2,682	84	2,601	81	2,748	86
Hotel (rooms)	0.9 employee/ room ^c	220	198	250	225	0	0
General Office (sf)	276 sf/employee ^c	597,723	2,166	814,240	2,950	814,240	2,950
Research & Development (sf)	405 sf/employee ^d	645,738	1,594	645,738	1,594	645,738	1,594
PDR (sf)	276 sf/employee ^e	45,040	163	35,000	127	35,000	127
General Retail (sf)	350 sf/employee ^c	10,744	31	10,744	31	10,744	31
Supermarket (sf)	350 sf/employee ^c	42,975	123	35,000	100	35,000	100
Sit-down Restaurant (sf)	350 sf/employee ^c	16,116	46	16,116	46	16,116	46
Quick Service Restaurant (sf)	350 sf/employee ^c	37,604	107	37,604	107	37,604	107
Childcare (sf)	345 sf/employee ^d	15,000	43	15,000	43	15,000	43
Library (sf)	850 sf/employee ^d	10,000	12	10,000	12	10,000	12
Other Community Facilities (sf)	780 sf/employee ^d	75,938	97	25,000	32	25,000	32
Entertainment (sf)	350 sf/employee ^f	25,000	71	25,000	71	25,000	71
Public Open Space (acres)	3.9 acre/employee ^g	6.2	2	6.9	2	7.15	2
Parking (space)	270 spaces/employee ^h	2,622	10	2,686	10	2,759	10
Total Employees		4,747		5,431		5,211	

NOTES:

^a Residential population generation rate is based off of the U.S. Census 2012-2016 ACS data for San Francisco.

^b "Residential" employee rate is based off Seawall Lot 337 and Pier 48 Mixed-Use Project Draft EIR Table 4.9-C.

^c Table C-1 of the Transportation Impact Guidelines provided the generation rates for "Hotel," "General Office," "General Retail," "Supermarket," "Sit-down," and "Composite Rate." Note, the composite rate is used over the fast food rate, as the nature of the project would not lend itself to a typical drive-through fast food establishment.

^d "Research and Development," "Childcare," "Library," and "Other Community Facilities," employee generation rates are based on Advant Consulting, April 30, 2018, Estimation of Project Travel Demand -- Appendix F, they were determined using Trip ITE estimates from the Mission Bay EIR, and are comparable to Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR rates.

^e PDR employee generation rates assume the more conservative rate of 276 square feet per employee, consistent with "General Office," as opposed to "Research and Development," consistent with the Pier 70 Mixed-Use District EIR.

^f "Entertainment" assumes "Eating/Drinking" generation rate of 350 square feet per employee based on Table C-1 of the Transportation Impact Guidelines.

^g "Public Open Space" was calculated using the Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR considered 0.26 employees per acre, equivalent to approximately 3.9 acres per employee, this is more conservative than 0.1 employees per acre considered in the Pier 70 Mixed-Use District EIR.

^h "Public Open Space" and "Parking" employee generation rate was calculated using 270 spaces per employee based on Table III.C-7 from the Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR, consistent with Pier 70 Mixed-Use District EIR.

SOURCE: California Barrel Company, Potrero Power Station – SF Allocation by Block, October 14, 2017 and June 2019.

Table 9-4 includes the same information on the proposed project for comparison, reproducing information from Table 4.A-1 in the Draft EIR (page 4.A-10). Table 4.A-1 presents similar information for the proposed project and includes the total residents and total employees for a maximum residential and maximum office scenario when considering the flex block land uses under the proposed project. **Table 9-5, Comparison of Proposed Project and Project Variant Maximum Residential and Employment Population**, summarizes the two tables and shows that under the project variant, both the maximum residential and employment populations would be less than the population assumptions used in the Draft EIR impact analysis for the proposed project.

**TABLE 9-5
COMPARISON OF PROPOSED PROJECT AND PROJECT VARIANT
MAXIMUM RESIDENTIAL AND EMPLOYMENT POPULATION**

Population Metric	Proposed Project, Flex Block Scenario		Project Variant, Flex Block Scenario	
	Maximum Residential	Maximum Office	Maximum Residential	Maximum Office
Total residents	6,842	5,541	6,238	5,904
Total employees	3,923	5,524	5,211	5,431

9.C.13 No PG&E Scenario of the Project Variant

As described in Section 9.A above, the no PG&E scenario is the same as the project variant except without the 4.8-acre PG&E subarea in the northwest corner of the project site. This scenario represents what could occur if the PG&E subarea is excluded from the proposed development. Under this scenario, the overall site layout and land uses would be the same as for the project variant, except that without the PG&E subarea, Blocks 13 and 14 would not be developed and Block 1 would be diminished in size. Table 9-1 above lists the characteristics of the no PG&E scenario and compares them to the proposed project and variant.

As indicated in Table 9-1, the no PG&E scenario would be smaller than both the project and variant in nearly all respects. Total site acreage would be reduced from 29 to 24.2 acres. Total potential building area would be about 25 percent smaller than the proposed project or variant. The gross square footage for residential uses would be 47 percent less than the project (44 percent less than the variant), with 1,216 fewer dwelling units than the project, and 1,135 fewer than the variant. The hotel, office, R&D, retail, community facilities, and entertainment/assembly uses would have the same gross square footage as the variant, but PDR space would be 67 percent less than the project (and 57 percent less than the variant). Parking area and the number of parking spaces would be about 20 percent less than the project (and about 24 percent less than the variant). The number of bicycle parking spaces would be 34 percent less than the project. Open space under the no PG&E scenario would increase from 6.2 to 6.6 acres compared to the project, over a 6 percent increase, which is slightly less than the increase from 6.2 to 6.9 acres (over an 11 percent increase) under the project variant.

Building heights, treatment of historical resources, proposed dock facilities, and recreation features would all be the same under the no PG&E scenario as under the variant. However, with the reduced size of the development, construction duration would be reduced by one year compared to the project and would have one less construction phase.

Figure 9-29, Land Use Plan, No PG&E Scenario, shows the reduced program under this scenario. With the removal of the PG&E subarea, Blocks 13 and 14 would not be developed nor would the northeast corner of Block 1. Humboldt Street would not connect to Illinois Street, and instead, there would be a turnaround at the west end of Humboldt Street north of Block 5. In addition, Georgia Street would not connect to 22nd Street, and the western end of Craig Lane would terminate at Louisiana Street. All the remaining portions of the site would have the same land use plan as that of the variant.

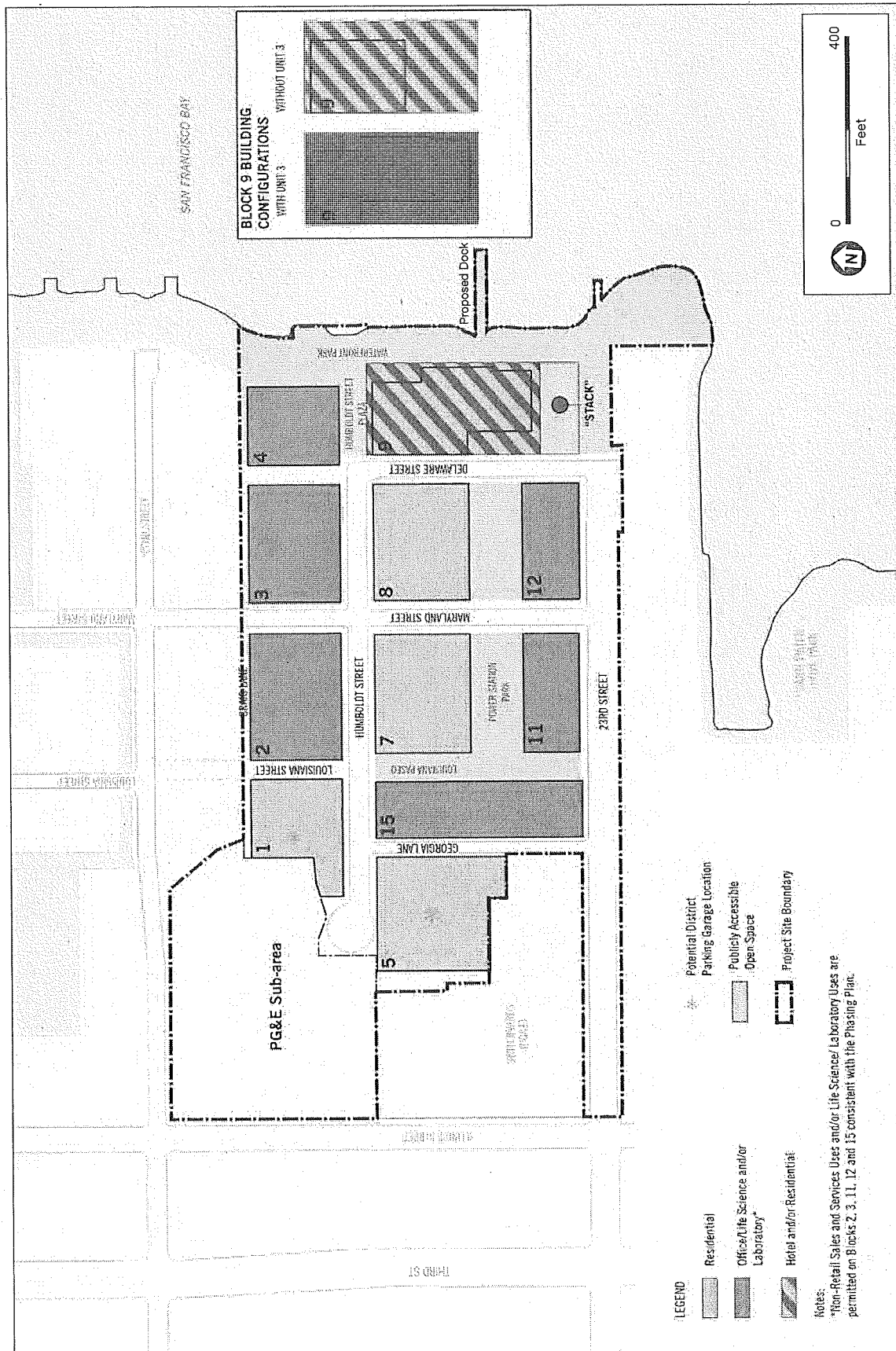
Under the no PG&E scenario, the ground floor land use plan would be the same as shown for variant in Figure 9-3, with the removal of the PG&E subarea, including the removal of ground floor uses on the west side of Block 1. Similarly, the height district plan and building setbacks would be same as shown in Figures 9-4 and 9-5, with the removal of the PG&E subarea. The park and open space plan would be the same as the variant (Figure 9-6) except that the approximately 0.3 acre Illinois Plaza would not be included since it would be located in the PG&E subarea. As a result, the total open space would be 6.6 acres instead of 6.9 acres with the removal of the PG&E subarea.

As indicated in Table 9-1, total off-street parking spaces would be 2,056, which would be distributed as shown in Figure 9-7 for the variant, except all parking spaces on Blocks 1, 13, and 14 would be removed. The street type plan would also be the same as for the variant (Figure 9-8), however the western end of Humboldt Street would end north of Block 5 and would not connect to Illinois Street, Georgia Street would not be developed, and the western end of Craig Lane would end at Louisiana Street (see **Figure 9-30, Street Classification, No PG&E Scenario**).

The bicycle facilities plan would be similar to the variant (Figure 9-9), however, the shared bicycle lane on Humboldt Street would not connect to Illinois Street, and there would be no connection from Georgia Street to 22nd Street.

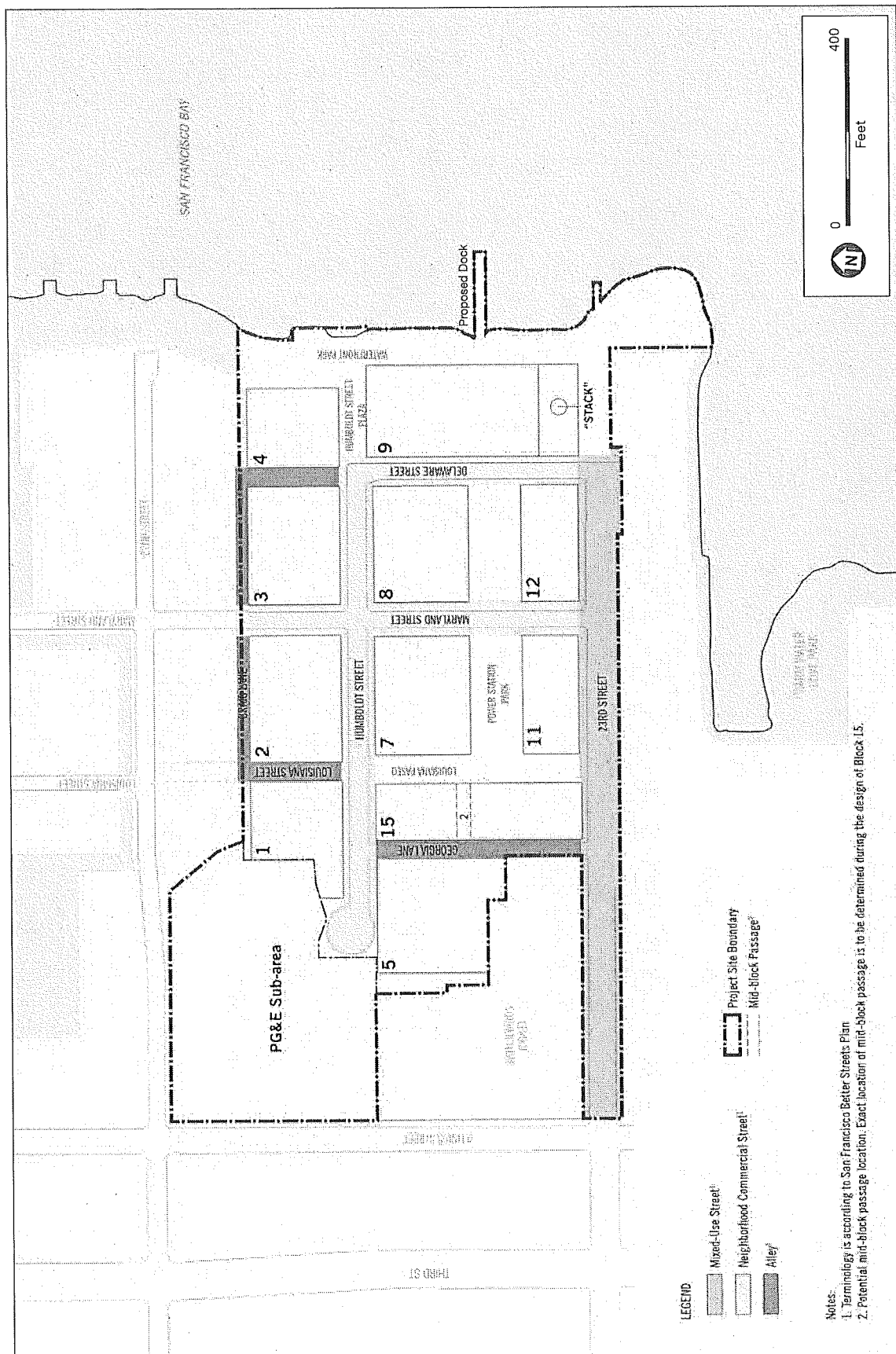
Figure 9-31, Pedestrian Network, No PG&E Scenario, shows that the pedestrian network for this scenario would vary slightly from that of the variant. Under the no PG&E scenario, the project sponsor would construct continuous sidewalk improvements along Illinois Street from 22nd to 23rd streets, adding a segment of improvements between Humboldt and 23rd streets.

With respect to utilities that would extend through the PG&E subarea under the project variant, under the no PG&E scenario, the majority of the infrastructure within the PG&E subarea would not be constructed. The western extent of Humboldt Street and utilities (except low pressure, potable water pipelines), would be terminated at the western boundary of the Power Station subarea (north of Block 5), and Humboldt Street would include a San Francisco Fire Department Fire Code compliant turnaround (see Figure 9-29). The width of the sidewalk adjacent to the turnaround would be reduced to 6 feet. The western extent of Craig Lane would terminate at the intersection with Louisiana Street. A private driveway would be provided from this intersection to the loading dock planned on the north side of Block 1. The low pressure potable water pipelines may be extended through the PG&E subarea during Phase 1 in order to provide a redundant point of connection. This pipeline would be installed within the existing water line easement that extends along Humboldt Street from the Power Station subarea west to Illinois Street.



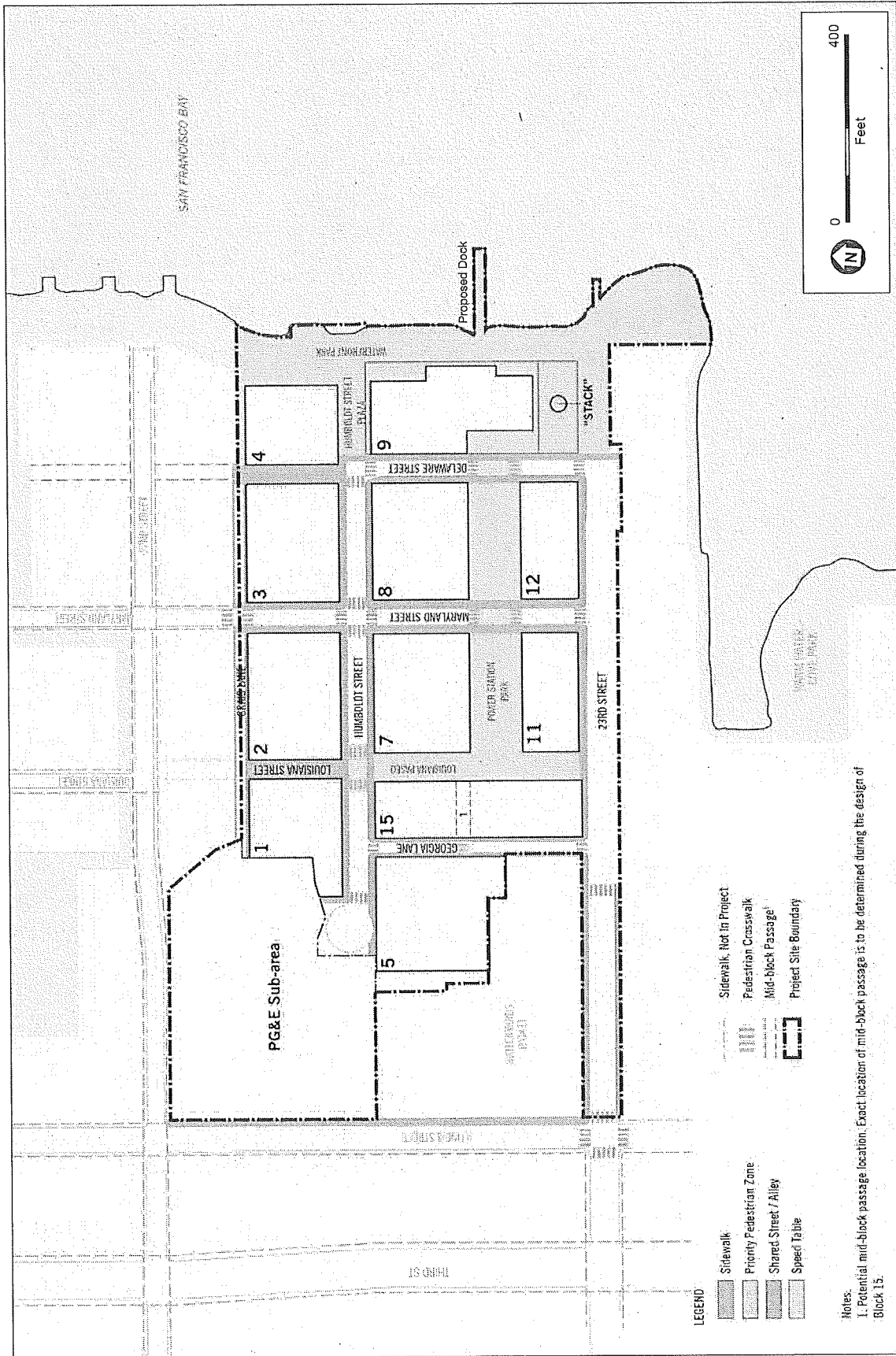
Potrero Power Station Mixed-Use Development Project
Figure 9-29
 Land Use Plan, No PG&E Scenario

SOURCE: Perkins+Will, 2019



Potrero Power Station Mixed-Use Development Project
Figure 9-30
 Street Classification, No PG&E Scenario

SOURCE: Perkins+Will, 2019

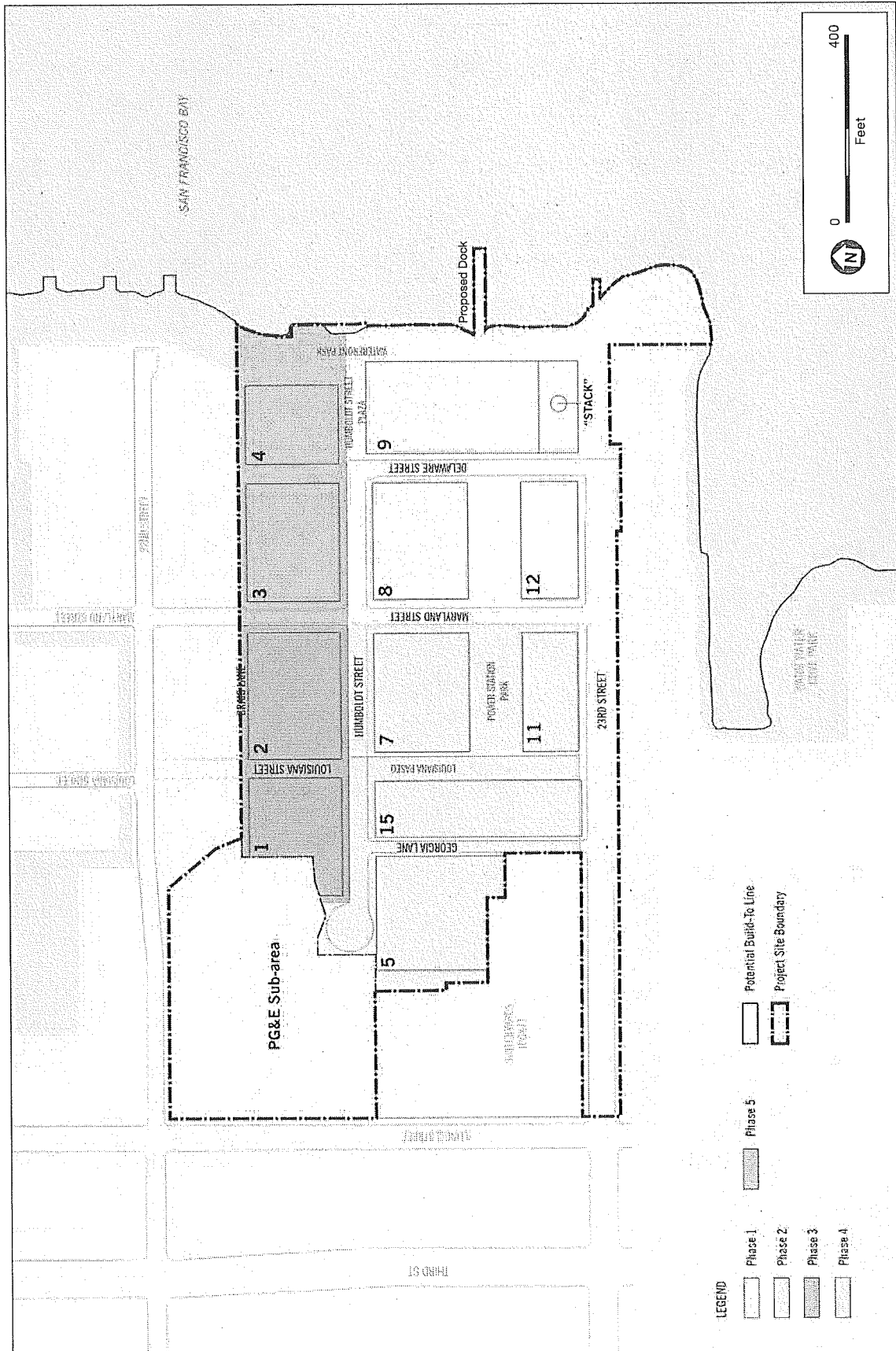


Potrero Power Station Mixed-Use Development Project
Figure 9-31
 Pedestrian Network, No PG&E Scenario

SOURCE: Perkins+Will, 2019

All other aspects of the no PG&E scenario would be the same as under the variant except for the removal of the PG&E subarea, including the following: the preliminarily proposed transit bus plan (Figure 9-11), transit shuttle plan (Figure 9-12), street tree plan (Figure 9-13), potable water plan (Figure 9-14), non-potable water plan (Figure 9-15), auxiliary water supply system plan (Figure 9-16), combined sewer/separated sewer options (Figure 9-17 and 9-18), thermal energy plan (Figure 9-19), recreational dock (Figure 9-20), grading plan and shoreline improvements (Figure 9-21), seawall retrofit cross-section (Figure 9-22), and foundation type plan (Figure 9-24).

Figure 9-32, Construction Phasing Plan, No PG&E Scenario, shows a reduced construction plan compared to the project or variant. Under this scenario, construction duration would be 14 years (2020 to 2033), compared to 15 years (2020 to 2034) for the project and 16 years (2020 to 2035) for the variant. Construction phasing would be similar to that described for the variant in Table 9-3 above, except it would only include five phases, the sixth phase would be omitted.



SOURCE: Perkins+Will; 2019

Potrero Power Station Mixed-Use Development Project

Figure 9-32

Construction Phasing Plan, No PG&E Scenario

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9.D Environmental Impacts and Mitigation Measures

The impact analysis below presents the impact analysis of the project variant, including consideration of the maximum residential and the no PG&E scenarios as appropriate, at an equal level of detail as that presented in the Draft EIR for the proposed project. For all impact topics, the reader is referred to EIR Chapter 4 and EIR Appendix B, Initial Study, for the environmental setting, regulatory framework, significance criteria, and approach to analysis, since the identical information applies to both the proposed project and project variant. For the cumulative impact analyses using the list-based approach, the same list of projects identified in EIR Section 4.A is used for the project variant. Where the impacts and mitigation measures are substantially the same as those for the proposed project, the discussion below summarizes the impacts analysis, and the reader is referred to Chapters 4, 5, and 6 of the Draft EIR for the detailed analysis. The full text of all impact statements, significance determinations, and mitigation measures are included in the impact summary table in Section 9.E, below.

In summary, the evaluation below concludes that the project variant, with or without the PG&E subarea, would not result in any new or more severe impacts than those identified in the Draft EIR, and all the same mitigation measures (with minor refinements to four of the mitigation measures) and improvement measures would apply to the project variant. The most notable difference between the impacts of the project variant and those of the proposed project is that the project variant would substantially lessen two historic architectural resources impacts related to the Third Street Industrial District that were identified in the Draft EIR for the proposed project. Under the project variant, there would be two fewer significant and unavoidable impacts: the severity of the impact on the Third Street Industrial District at both a project-specific and cumulative level would be reduced from significant and unavoidable to less than significant with mitigation.

9.D.1 Land Use

Physically Divide an Established Community

Like the proposed project, the project variant (including the maximum residential and no PG&E scenarios) would not physically divide an established community. As described in EIR Chapter 4, Section 4.B, **Impacts LU-1 and C-LU-1** (EIR pp. 4.B-10, 4.B-15), the project site is isolated from the Central Waterfront area, and any development on the project site, such as those described for either the proposed project or project variant, would reconnect the site to the established surrounding community, both through the proposed street network and publicly accessible open spaces and shoreline access. Similarly, the project variant would enhance circulation options and connections to cumulative projects in the area, including the approved Pier 70 and Mission Rock projects. Therefore, like the proposed project, this impact related to physical division of a community, both at a project level and at a cumulative level, would be *less than significant* for the project variant, with or without the PG&E subarea.

Conflict with Applicable Land Use Plans

Like the proposed project, the project variant would not conflict with applicable land use plans or policies adopted for purposes of avoiding or reducing environmental impacts, such that a substantial

adverse physical change in the environment related to land use would result. The maximum residential and maximum office development scenarios under the project variant are not substantially different from the proposed project with respect to **Impacts LU-2 and C-LU-2** (EIR pp. 4.B-12, 4.B-15). If the San Francisco Board of Supervisors finds that amendments to the San Francisco General Plan and Planning Code are warranted to allow for implementation of the project variant, conflicts between the general plan and planning code, and the project variant would be resolved through legislative amendment to the general plan and planning code. If approved by the planning commission and board of supervisors, the SUD would establish land use controls for the project site and incorporate design standards and guidelines in a new Potrero Power Station D for D document, while the new height and bulk map within the Zoning Map would change the existing height limits of 40 and 65 feet to height limits ranging from 65 to 240 feet. To the extent that physical environmental impacts may result from such conflicts for the project variant, this section discloses and analyzes these physical impacts under the relevant environmental topic sections, below. Therefore, like the proposed project, this impact related to conflicts with applicable land use plans, both at a project level and a cumulative level, would be *less than significant* for the project variant, with or without the PG&E subarea.

9.D.2 Aesthetics

Like the proposed project, the project variant would be located on an infill site, within a transit priority area, and would include an employment center, and would meet the definition of a mixed-use residential project under CEQA section 21099.¹ Therefore, as described under EIR Section 4.A, Impact Overview, aesthetics are not to be considered in determining significant environmental effects of the project variant.

9.D.3 Population and Housing

Population Growth due to Construction

As described in EIR Chapter 4, Section 4.C under **Impact PH-1** (EIR p. 4.C-15), the proposed project would not induce substantial population growth related to construction, because construction workers would likely be drawn from the local and regional construction work force. The magnitude and duration of construction for the project variant would be similar to that of the proposed project, and would be less for the no PG&E scenario given that the reduced size of the development would eliminate one phase of construction. For the same reasons described in Chapter 4, Section 4.C, construction workers for the project variant would also likely be drawn from the local and regional construction work force such that the project variant would not induce population growth by attracting a substantial number of construction workers from outside of the region. Therefore, like the proposed project, project variant construction would not create demand for additional housing or other facilities and services associated with growth, and the growth-inducing impact of construction of all scenarios under the project variant would be *less than significant*.

¹ San Francisco Planning Department, Eligibility Checklist: CEQA Section 21099—Modernization of Transportation Analysis for the Potrero Power Station Mixed-Use Development Project Variant, August 29, 2019.

Population Growth due to Operations

Similar to the proposed project, the operation of the project variant would not induce substantial population growth beyond growth planned for San Francisco or the region. In all scenarios, the project variant development plan would be similar to or smaller than that of the proposed project, such that residential population growth and employment growth generated by the project variant would be the same as or less than that of the proposed project (see Tables 9-1 and 9-5 above). This growth would be consistent with the City's and regional plans for growth in the area. Therefore, as described in **Impacts PH-2 and C-PH-1** (EIR pp. 4.C-16 to 4.C-17), like the proposed project, the operational growth-inducing impacts of all scenarios under the project variant, at both a project and cumulative level, would be *less than significant*.

As described in Chapter 4, Section 4.C, like the proposed project, the project variant would not displace existing housing or substantial numbers of people because the project site is currently a mostly vacant industrial site, which does not include residential uses. Therefore, like the proposed project, there would be *no impact* on housing or population displacement for the project variant.

9.D.4 Cultural Resources

The impacts of the proposed project related to cultural resources are described in EIR Chapter 4, Section 4.D (historic architectural resources), and the initial study (archeological and tribal cultural resources, and human remains) in EIR Appendix B (EIR pp. B-5 to B-14). As described below, cultural resources impacts of the project variant would be similar to those of the proposed project, and impacts of the no PG&E scenario would be the same as those for the variant, since none of the changes under this scenario would affect impacts related to cultural resources. See EIR Section 4.D and the initial study (EIR Appendix B) for a more detailed description of the proposed project impacts.

Archeological Resources, Human Remains, and Tribal Cultural Resources

As described in the initial study in Appendix B under **Impacts CR-1, CR-2, and CR-3** (EIR pp. B-5 to B-13), any ground-disturbing activities during project construction—particularly excavation, grading, and foundation work—could have the potential to uncover terrestrial prehistoric archeological resources, submerged prehistoric archeological resources, historic archeological resources, tribal cultural resources, and/or human remains. The same would be true for the project variant, since ground-disturbing activities, including excavation, would be required for construction. However, implementation of **Mitigation Measures M-CR-1, Archeological Testing, and M-CR-3, Tribal Cultural Resources Interpretive Program**, would (1) require the development of an archeological testing program to determine presence or absence of such resources; (2) ensure that work would halt if sensitive resources are inadvertently discovered during project implementation; and (3) require that proper procedures are followed to ensure appropriate treatment of significant resources, including tribal cultural resources. Therefore, by implementing the same project mitigation measures, project variant impacts on archeological resources, human remains, and tribal cultural resources would be *less than significant with mitigation*. As described for the proposed project in **Impact C-CR-1** (EIR p. B-13), there are no cumulative projects that would affect the same archeological resources as the project variant, and this impact would be *less than significant*.

Historic Architectural Resources

Impacts on Individual Historical Resources

Like the proposed project, the project variant would demolish the Meter House and the Compressor House, two individually eligible resources, a significant unavoidable impact. Additionally, while the project variant would retain portions of Station A, including restoring the south and east walls and portions of the north and west walls, the proposed retention of these portions of Station A would not necessarily meet the Secretary of Interior's Standards, and thus the project variant's treatment of Station A would also potentially be significant and unavoidable.² Similar to the proposed project, the project variant would retain the Boiler Stack, and potentially retain the Unit 3 Power Block (although Unit 3 could be demolished, as with the project). Therefore, under **Impact CR-4**, (EIR pp. 4.D-27 to 4.D-28) the project variant's impacts on individually eligible historical resources would be *significant and unavoidable with mitigation*, although the effects would be less substantial than those of the proposed project due to the partial retention and reuse of Station A.

Demolition and Alteration Impacts on the Third Street Industrial District

The project variant would retain substantial portions of Station A, including south and east walls and portions of the north and west walls and would incorporate those walls into a new building up to 160 feet tall on Block 15. Because Station A is the largest and one of the most visually prominent buildings on the project site, and one of the oldest buildings in the district, it represents a relatively rare typology of large industrial brick building within the district and is associated with the site's long history of power generation. Under **Impact CR-5** (EIR pp. 4.D-28 to 4.D-33) for the project variant, retention and reuse of major portions of this building, along with retention and rehabilitation of the Boiler Stack and, potentially, the Unit 3 Power Block, would lessen effects on the Third Street Industrial District, compared to those of the proposed project, which would demolish Station A. Character-defining features of Station A that would be retained under the variant include portions of the Turbine Hall, the lot line-to-lot line footprint between 23rd and Humboldt streets, massive brick masonry construction, classical decorative brick quoin patterning, multi-lite, deeply recessed steel sash windows at the south façade, symmetrical window pattern at the north and south facades, and irregular window pattern at the east façade. Lost would be full expression of Station A's rectangular plan (because of partial demolition of the north and west walls), the slightly pitched gable roof with steel trusses, the corrugated metal roof material on the northern portion of the building, and the high volume and industrial character of the interior. The Machine Shop and the Machine Shop Office would also be removed, although like the proposed project, the Greek Revival façade of the Machine Shop Office may be salvaged and reused. Additionally, the attached switching station would be retained, along with its concrete construction with brick cladding, multi-lite steel-sash windows, corbelled brick detailing at the parapet, decorative quoin patterning, and engraved signage reading "Station A" and "Pacific Gas and Electric Company." Removed would be the full expression of the rectangular plan, four-story height and flat

² The portions of the north and west walls of Station A that would be removed constitute the Machine Shop and Machine Shop Office, both of which are attached to the Boiler Hall, which is the largest portion of Station A. The Switching Center, adjacent to the southern portion of the Boiler Hall, would be retained.

roof. Importantly, from major public viewpoints such as Illinois Street to the west and 23rd Street to the south, the bulk and exterior walls of Station A would remain largely intact.

Under the project variant, treatment of the Gate House, Meter House, Compressor House, Unit 3 Power Block, and the Boiler Stack would be the same as described for the proposed project in Impact CR-5 (pp. 4.D-28 to 4.D-33), so **Mitigation Measures M-CR-5a, 5b, 5c, and 5d** regarding documentation, video recordation, public interpretation/salvage, and rehabilitation of the Boiler Stack would be required to reduce the severity of this impact to the extent feasible. **Mitigation Measure M-CR-5e**, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack would also be required under the project variant but would be modified as shown below to be applicable to the portions of Station A to be retained (new text shown in double underline). In addition, **Mitigation Measures M-NO-4a, 4b, and 4c** regarding vibration monitoring and vibration controls would be required to ensure that these historic resources would be protected during construction of the rest of the development. Therefore, because it would retain much of the visually prominent and architecturally distinctive features of Station A and thus would retain a link to the project site's history of electrical generation, effects of the project variant on the Third Street Industrial District, unlike the proposed project, would be *less than significant with mitigation*.

Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack

Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting portions of Station A and the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish measures to protect the retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with Station A and the Boiler Stack, to minimize construction-related damage to Station A and the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of Station A and the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment would occur in proximity to Station A and the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff.

Infill Construction Impacts on the Third Street Industrial District

As with the proposed project, under **Impact CR-6** (EIR pp 4.D-33 to 4.D-28), new construction under the project variant could be of a size, scale, and density and/or could use exterior materials that would be incompatible with the Third Street Industrial District. This would adversely affect the integrity of the Third Street Industrial District's setting and feeling. However, in and of itself and apart from the demolition and/or adverse alteration of several district contributors, evaluated above, the density and height of new construction would not necessarily affect the historic district's overall integrity such that the district would no longer be able to convey its historic significance. As with the proposed project, new construction under the project variant could be incompatible with the Third Street Industrial District, a significant impact. However, implementation of **Mitigation Measure M-CR-6, Design Controls for New Construction**, future new construction would be compatible with the character-defining features of the Third Street Historic District. Therefore, like the proposed project, this impact of the project variant would be *less than significant with mitigation*.

Impacts on the Union Iron Works Historic District

Like the proposed project, under **Impact CR-7** (EIR pp 4.D-38 to 4.D-39), the project variant could have an indirect visual impact on the Union Iron Works Historic District located directly north of the project site. However, the Pier 70 Mixed-Use District project to the north includes planned infill construction between the closest contributing properties in this historic district and the project site. The planned infill construction on the Pier 70 site will introduce a new roadway and new construction with heights up to 90 feet along the southern edge of the Union Iron Works Historic District. As with the proposed project, new construction under the project variant would be more than 200 feet away from contributing properties in this historic district. Additionally, new construction under the variant would be contemporary in design and materials such that the character-defining features and form of the Union Iron Works Historic District would be clearly differentiated from new development on the project site. For these reasons, the indirect visual impacts of the variant, like those of the proposed project, would be *less than significant*.

Cumulative Impacts on Third Street Industrial District

As described above, retention of the majority of Station A under the project variant would avoid the proposed project's significant impact on the Third Street Industrial District. Because of this, although cumulative projects will result in the loss of seven contributing resources to the district, the project variant, unlike the proposed project, would not contribute considerably to this impact. Under **Impact C-CR-2** (EIR pp 4.D-40 to 4.D-42), with implementation of **Mitigation Measures M-CR-5a, 5b, 5c, 5d, and 5e (Variant) and M-NO-4a, 4b, and 4c**, the cumulative effects of the project variant on the Third Street Industrial District would be *less than significant with mitigation*.

9.D.5 Transportation and Circulation

Transportation impacts of the proposed project are described in EIR Chapter 4, Section 4.E, and as described below, transportation impacts of the project variant, including the no PG&E scenario, would be similar. See Section 4.E for a more detailed description of the proposed project impacts.

Project Variant Travel Demand

As described above and shown in Table 9-2, the project variant would provide an additional 216,517 square feet of office space to the 597,723 square feet included as part of the proposed project and an additional 30 hotel rooms to the 220 rooms included as part of the proposed project. The project variant would also provide 81 fewer residential units than the proposed project, 10,040 fewer square feet of PDR uses, 7,975 fewer square feet of supermarket uses, and 50,938 fewer square feet of community center uses. Based on the same methodology used for the proposed project, the project variant travel demand was calculated to reflect the change in person and vehicle trips from that of the proposed project due to the differences in project variant land uses. **Table 9-6, Proposed Project and Project Variant Trip Generation by Mode and Time Period – External Trips Only**, presents the comparison of person and vehicle trips for the proposed project as presented in Table 4.E-12 (EIR p. 4.E-47) and trip generation with those of the project variant. The travel demand calculations for the project variant are included in Appendix C-1.

TABLE 9-6
PROPOSED PROJECT AND PROJECT VARIANT TRIP GENERATION
BY MODE AND TIME PERIOD – EXTERNAL TRIPS ONLY^{a,b}

Time Period/Proposed Project/ Project Variant/No PG&E Scenario	Person Trips by Travel Mode				Vehicle Trips
	Auto	Transit	Other ^c	Total	
Daily					
Proposed Project	33,495	15,969	18,351	67,814	19,522
Project Variant	32, 510	15, 706	17, 515	65, 731	19, 113
% Change compared to the Proposed Project	-2.9%	-1. 6%	-4.6%	-3.1%	-2.1%
Project Variant No PG&E Subarea Scenario	32,022	14,178	18,439	64,639	17,812
% Change compared to the Proposed Project	-4.4%	-11.2%	0.5%	-4.7%	-8.8%
a.m. Peak Hour					
Proposed Project	2,472	1,796	871	5,139	1,862
Project Variant	2,498	1,822	833	5, 154	1,897
% Change compared to the Proposed Project	1.1%	1.4%	-4. 3%	0.3%	1.9%
Project Variant No PG&E Subarea Scenario	2,139	1,444	712	4,295	1,543
% Change compared to the Proposed Project	-13.5%	-19.6%	-18.2%	-16.4%	-17.1%
p.m. Peak Hour					
Proposed Project	3,835	2,223	1,764	7,823	2,540
Project Variant	3,681	2,165	1,628	7, 474	2, 483
% Change compared to the Proposed Project	-4.0%	-2.6%	-7.7%	-4.5%	-2. 2%
Project Variant No PG&E Subarea Scenario	3,508	1,836	1,675	7,020	2,213
% Change compared to the Proposed Project	-8.5%	-17.4%	-5.0%	-10.3%	-12.9%

NOTES

^a Numbers may not sum to total due to rounding.

^b External trips are those whose origin or destination is outside the project site.

^c Other modes include walk, bicycle, motorcycle, and additional modes such as taxis.

SOURCE: Estimation of Project Variant Travel Demand, September 2019. See Appendix C-1.

As shown on Table 9-6, compared to the proposed project the project variant would result in fewer daily and p.m. peak hour person trips, while during the a.m. peak hour the number of person trips would increase minimally. As shown on Table 9-6, the number of external (trips traveling to and from the project site, not including trips internal to the site) daily person trips would decrease by 2,083 trips (a decrease of 3.1 percent), while daily vehicle trips would decrease by 409 vehicle trips (a decrease of 2.1 percent). Peak hour person trips would increase by 15 person trips during the a.m. peak hour and would decrease by 349 person trips during the p.m. peak hour, while vehicle trips would increase by 35 vehicle trips during the a.m. peak hour and decrease by 57 vehicle trips during the p.m. peak hour. The change from the proposed project in person trips by all modes represents a minimal increase of 0.3 percent during the a.m. peak hour, and a decrease of 4.5 percent during the p.m. peak hour.

Under the project variant's no PG&E subarea scenario, the overall land use plan would be similar to, the project variant, but reduced in scale with 1,200 fewer residential units and about 20,000 gsf less PDR use. As shown in Table 9-6, the number of external trips traveling to and from the project site by all travel modes would be less for the no PG&E scenario than for the proposed project (e.g., on a daily basis there would be a decrease in the number of total person trips of about 4.7 percent from the proposed project, and a decrease in the number of vehicle trips of about 8.8 percent from the proposed project). Further, Humboldt Street would not connect to Illinois Street, and instead, there would be a turnaround at the west end of Humboldt Street north of Block 5. In addition, Georgia Street would not connect to 22nd Street, and the western end of Craig Lane would terminate at Louisiana Street.

Similar to the proposed project, the project variant would include development controls for the site that would allow for flexibility of uses on certain blocks, depending on future market conditions. The travel demand analysis developed a proposed project combined scenario which selected the maximum number of inbound and outbound vehicle and transit trips among the proposed project and flex block analysis scenarios, and the quantitative analysis for the proposed project's transit, air quality, and noise impacts assumed the maximum number of trips under the proposed project combined scenario. Under the project variant, Blocks 4, 12, and 14 are no longer "flex blocks" (i.e., residential or commercial) and have been designated for single uses only (residential, office or R&D, and residential, respectively). Block 9 would still be designated as a flex block for either hotel use or residential use. Therefore, similar to the analysis for the proposed project described on EIR p. 4.E-49, to account for the potential differences in uses on the Block 9, the travel demand analysis was conducted for an additional land use program scenario for the project variant to determine whether the possible changes in the flex block would generate more travel demand than used in the quantitative analysis for the proposed project. As with the proposed project, a project variant combined scenario was developed which consists of the maximum inbound and outbound vehicle and transit trips during each peak hour of analysis. This analysis is presented on **Table 9-7, Proposed Project and Project Variant Vehicle and Transit Trip Generation Used in Quantitative Analysis**. As shown on Table 9-7, the number of vehicle and transit trips for the project variant's combined scenario are slightly less than those used in the proposed project combined scenario (i.e., 86 fewer vehicle trips and 80 fewer transit trips during the a.m. peak hour, and 145 fewer vehicle trips and 150 fewer transit trips during the p.m. peak hour.) Because the project variant combined scenario would generate fewer vehicle and transit trips than the proposed project combined scenario, the

quantitative operational analyses results for the proposed project would also be applicable to the quantitative operational analyses for the project variant with or without the PG&E subarea.

TABLE 9-7
PROPOSED PROJECT AND PROJECT VARIANT
VEHICLE AND TRANSIT TRIP GENERATION USED IN QUANTITATIVE ANALYSIS^{a,b}

Trip Type/Proposed Project/ Project Variant	a.m. Peak Hour			p.m. Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Vehicle Trips						
Proposed Project	1,015	848	1,862	1,230	1,310	2,540
Project Variant	1,073	825	1,897	1,167	1,315	2,483
Proposed Project Combined Scenario	1,103	904	2,006	1,245	1,399	2,644
Project Variant Combined Scenario	1,073	848	1,920	1,184	1,315	2,491
Transit Trips						
Proposed Project	921	875	1,796	1,134	1,089	2,223
Project Variant	968	853	1,822	1,075	1,090	2,165
Proposed Project Combined Scenario	994	932	1,926	1,170	1,164	2,335
Project Variant Combined Scenario	969	878	1,846	1,096	1,090	2,185

NOTE:

^a Numbers may not sum to total due to rounding. Includes only external trips with origins or destinations outside of the project site.

^b As shown on Table 9-6, the no PG&E subarea scenario would also generate fewer vehicle and transit trips (i.e., 319 fewer a.m. peak hour and 827 p.m. peak hour vehicle trips, and 352 fewer a.m. peak hour and 387 p.m. peak hour transit trips).

SOURCE: Estimation of Project Variant Travel Demand, September 2019. See Appendix C-1.

Construction-related Transportation Impacts

The project variant would include similar construction activities as the proposed project presented in **Impact TR-1** (EIR pp. 4.E-58 to 4.E-62) because the project variant would involve construction of a similar number of buildings and buildout of the internal street network as the proposed project. The construction duration of the project variant would be one year longer (16 years) than the proposed project (15 years). The peak number of construction trips (equipment and materials deliveries and haul trips) would occur in 2023 and 2025 (instead of in 2022 and 2024 for the proposed project as presented on EIR p. 4.E-59). The peak number of construction trucks per day would remain similar (with about 112 trucks per day six months in 2023, and with about 201 trucks per day for four months in 2025). Under the no PG&E subarea scenario, fewer buildings would be constructed and thus the construction duration would be one year shorter (14 years) than the proposed project (15 years). However, the number of construction trips per day would be similar to the proposed project.

Improvement Measure I-TR-A, Construction Management Plan and Public Updates, identified for the proposed project, would be applicable the project variant. Therefore, like the proposed project, the construction-related transportation impacts of the project variant, with or without the PG&E subarea, would be *less than significant* both individually (**Impact TR-1**) and cumulatively (**Impact C-TR-1**).

VMT Impacts

As described for the proposed project in **Impact TR-2** (EIR pp. 4.E-62 – 4.E-63), the project variant would be located in an area of the city where the existing vehicle miles traveled (VMT) is more than 15 percent below the existing regional average for residential and non-residential uses. In addition, the project site meets the “Proximity to Transit” screening criterion, which also indicates that the proposed uses under the project variant would not result in substantial additional VMT. As presented in Table 9-6 above, the project variant would generate between 2.1 and 8.8 percent fewer daily vehicle trips than the proposed project and therefore would generate less daily VMT than the proposed project. The project variant would include a transportation demand management (TDM) plan that would be the same as for the proposed project. In addition, similar to the proposed project, the project variant’s features that would alter the transportation network (e.g., buildout of the internal street network, reconstruction of the sidewalk on the north side of 23rd Street, and restriping of 23rd Street east of Illinois Street to provide bicycle lanes in both directions and new traffic signals) would fit within the general types of projects that would not substantially induce automobile travel. Therefore, similar to the proposed project, the impacts of the project variant, with or without the PG&E subarea, related to VMT would be *less than significant* both individually (**Impact TR-2**) and cumulatively (**Impact C-TR-2**).

Traffic Hazard Impacts

Traffic hazard impacts associated with the project variant would be similar to the proposed project, as described in **Impact TR-3** (EIR pp. 4.E-63 to 4.E-66), and like the proposed project, these impacts would be less than significant. As with the proposed project, street network designs would be required to undergo more detailed design and review to ensure that they are designed to meet City design standards. The street designs of the project variant would be subject to approval by the SFMTA, Public Works, and the San Francisco Fire Department, along with other City agencies, so that the streets are designed consistent with City policies and design standards and do not result in traffic hazards. Under the project variant, the proposed district parking garage would be located on Block 5 and would have the same number of vehicle parking spaces (i.e., 819 vehicle parking spaces) as the proposed project. In addition, the project variant would have the same alternate locations for the district parking garage on Blocks 1 and 13 as the proposed project. Under the no PG&E subarea scenario, the alternate location on Block 13 would not occur, and access to the garage on Blocks 1 and 5 would be modified. However, similar to the proposed project, the district parking garage under the project variant with or without the PG&E subarea would accommodate vehicle queuing onsite without spilling back into the adjacent travel lanes or blocking sidewalks. **Improvement Measure I-TR-B, Monitoring and Abatement of Queues**, identified for the proposed project, would also be applicable to the project variant with or without the PG&E subarea.

Under the project variant, the street network within the project site would be similar to the proposed project. The project variant would include four additional driveways than the proposed project, however, these additional driveways would not substantially change on-site circulation from that described for the proposed project. The driveway on the north side of 23rd Street was added to provide vehicular access for food trucks to the paseo. Two driveways were added on Delaware Street for passenger loading at the hotel and waterfront. The driveway on Maryland Street was added to support development on Block 8 and would reduce the potential for vehicles to double park within

the northbound bicycle lane on Maryland Street or to interfere with the private shuttle operations on Maryland Street. In addition, similar to the proposed project, the project variant would include new traffic signals at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street. Under the no PG&E scenario, the westernmost portion of Humboldt Street would not connect to Illinois and instead, there would be a turnaround at the west end of Humboldt Street north of Block 5. In addition, Georgia Street would not connect to 22nd Street, and the western end of Craig Lane would terminate at Louisiana Street. In addition, under the no PG&E scenario, the intersection of Illinois Street/Humboldt Street would not be signalized. Under the project variant, with or without the PG&E subarea, the street network would be designed consistent with the Better Streets Plan to prioritize safe bicycle and pedestrian travel within the site, limit curb cuts into garages and loading facilities, and provide adequate turning radii and sight distances at intersections and driveways.

The project variant would generate between 2.1 and 8.8 percent fewer daily vehicle trips than the proposed project (19,113 daily vehicle trips for the project variant and 17,812 daily vehicle trips for the no PG&E scenario, compared to 19,522 vehicle trips for the proposed project), and similar to what was described for the proposed project, this increase in traffic volumes on the surrounding roadways would not be considered a traffic hazard. Therefore, similar to the proposed project, the impacts of the project variant, with or without the PG&E subarea, related to traffic hazards would be *less than significant* both individually (**Impact TR-3**) and cumulatively (**Impact C-TR-3**).

Transit Impacts

Transit impacts for the project variant would be similar to those described for the proposed project in **Impacts TR-4 through TR-6** (EIR pp. 4.E-66 to 4.E-76).³ As discussed in Chapter 12, **Impact TR-4** regarding transit ridership and capacity utilization for local transit and the portion of **Impact TR-6** regarding transit ridership and capacity utilization for regional transit are no longer applicable to either the proposed project or the project variant.

Similar to the proposed project, the project variant would include transit shuttle service between the project site and Caltrain's 22nd Street station, and BART's 16th Street station and a shuttle stop/bus layover facility would be provided within the project site. On a daily basis, the project variant would generate about 1.6 percent fewer transit trips than the proposed project. During the weekday a.m. peak hour, the project variant would generate 1,822 transit trips compared to 1,796 transit trips for the proposed project (i.e., 26 more transit trips), and during the weekday p.m. peak hour the project variant would generate 2,165 transit trips compared to 2,223 transit trips for the proposed project (i.e., 58 fewer transit trips). Under the no PG&E scenario, fewer transit trips would be generated than for the proposed project (i.e., 1,791 fewer daily transit trips, 352 fewer a.m. peak hour and 387 fewer p.m. peak hour transit trips than the proposed project).

Although the project variant, with or without the PG&E subarea, would generate fewer vehicle trips than the proposed project, similar to **Impact TR-5** for the proposed project, the project variant,

³ Per the 2019 Transportation Impact Analysis Guidelines, transit capacity is no longer considered in assessing the environmental impacts of a project on public local or regional transit operations to be consistent with state guidance regarding not treating addition of new users as an adverse impact and to reflect funding sources and policies that encourage additional ridership. Therefore, discussion of transit ridership and capacity utilization for local and regional transit in Impacts TR-4, TR-6, C-TR-4 and C-TR-6 of the proposed project in the Draft EIR, Section 4.E, are no longer applicable, and are therefore not discussed for the project variant.

with or without the PG&E subarea, would still result in significant impacts on Muni transit operations on the 22 Fillmore and 48 Quintara/24th Street bus routes due to increases in transit travel times. Therefore, **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay**, would be applicable to the project variant with or without the PG&E subarea. Similar to the proposed project, because it is not certain that implementation of this mitigation measure would reduce project-generated vehicles to mitigate significant impacts of the project variant to less-than-significant levels, the impact of the project variant, with or without the PG&E subarea, on Muni transit operations would be *significant and unavoidable with mitigation* both individually (**Impact TR-5**) and cumulatively (**Impact C-TR-5**). Mitigation Measure M-TR-5 has been modified (new text shown in double underline) for the project variant to reflect the change in the number of weekday p.m. peak hour vehicle trips by phase, as follows:

“Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay

Performance Standard. The project sponsor shall be responsible for implementing transportation demand management (TDM) measures to limit the number of project-generated vehicle trips during the p.m. peak hour to a maximum of 89 percent of the EIR-estimated values of each of the phases of project development (performance standard), as shown in the table below. The number of vehicle trips by phase to meet the above stated performance standard shall be included in the approved TDM Plan.

Project Development Phase	Maximum P.M. Peak Hour Vehicle Trips			
	<u>Project Variant</u>		<u>No PG&E Subarea Scenario</u>	
	Phase Total	Running Total	Phase Total	Running Total
Phase 1	<u>370</u>	<u>370</u>	<u>370</u>	<u>370</u>
Phase 2	<u>440</u>	<u>810</u>	<u>440</u>	<u>810</u>
Phase 3	<u>250</u>	<u>1,060</u>	<u>250</u>	<u>1,060</u>
Phase 4	<u>630</u>	<u>1,690</u>	<u>670</u>	<u>1,730</u>
Phase 5	<u>240</u>	<u>1,930</u>	<u>240</u>	<u>1,970</u>
Phase 6	<u>280</u>	<u>2,210</u>	<u>NA</u>	<u>NA</u>

Monitoring and Reporting. Within one year of issuance of the project’s first certificate of occupancy, the project sponsor shall retain a qualified transportation consultant approved by the SFMTA to begin monitoring daily and p.m. peak period (4 p.m. to 7 p.m.) vehicle trips in accordance with an SFMTA and San Francisco Planning Department agreed upon monitoring and reporting plan, which shall be included as a part of the approved TDM Plan. The vehicle data collection shall include counts of the number of vehicles entering and exiting the project site on internal streets at the site boundaries on 22nd, Illinois, and 23rd streets for three weekdays. The data for the three weekdays (Tuesday, Wednesday or Thursday) shall be averaged, and surveys shall be conducted within the same month annually. A document with the results of the annual vehicle counts shall be submitted to the Environmental Review Officer and the SFMTA for review within 30 days of the data collection, or with the project’s annual TDM monitoring report as required by the TDM Plan (if the latter is preferable to Environmental Review Officer in consultation with the SFMTA).

The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring

reports shall be submitted (referred to as “reporting periods”) until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project’s development agreement, whichever is earlier.

If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project’s proposed TDM Plan (e.g., providing additional project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City’s TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project’s approved TDM Plan, or, at the project sponsor’s discretion, other measures not included in the City’s TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.

For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project’s development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City’s TDM Program shall continue to be required.

If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making.

The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.”

The project variant, with or without the PG&E subarea, would not affect regional transit operations. Therefore, similar to the proposed project, the impact of the project variant with or without the PG&E subarea on regional transit operations would be *less than significant*, both individually (**Impact TR-6**) and cumulatively (**Impact C-TR-6**).

Walking/Accessibility Impacts

Walking/accessibility impacts for the project variant would be similar to those described for the proposed project in **Impact TR-7** (EIR pp. 4.E-76 to 4.E-78). The project variant would include similar street network changes within the project site and offsite improvements as under the proposed project (e.g., signalization of the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street, sidewalk reconstruction on the east side of Illinois Street between Humboldt and 23rd streets) to accommodate pedestrian travel within and adjacent to the project site. If Unit 3 is repurposed as a hotel on Block 9, there would be a minimum 70-foot wide access through the building for public access to waterfront park. As shown on **Figure 9-10**, the project variant street network would be the same as the proposed project, but for combining of Blocks 6 and 10 into a new Block 15. Under the no PG&E scenario, the street network would not include a connection between the project site at Illinois Street via Humboldt Street, and would not include Georgia Street between Humboldt and 22nd streets. However, the no PG&E scenario would include sidewalk reconstruction on the east side of Illinois Street between 22nd and 23rd streets, in addition to the portion between Humboldt and 22nd streets under the proposed project and variant.

The project variant would generate a similar number of person trips to the proposed project and fewer person trips would be generated under the no PG&E scenario (see Table 9-6). Similar to the proposed project, it is anticipated that the existing and proposed pedestrian-related features would accommodate people walking within the site and would not result in hazardous conditions or present barriers to people walking to and from the project site. However, similar to the proposed project, the combination of existing conditions at the intersection of Illinois Street/22nd Street, project-generated increases in vehicular travel on Illinois Street, and the large number of people who may be walking between the project site and destinations to the north and west, would result in significant impacts related to pedestrian safety and accessibility. **Mitigation Measure M-TR-7, Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street**, would be applicable to the project variant, and with implementation of this measure, the impacts of the project variant, with or without the PG&E subarea, on people walking, similar to the proposed project, would be *less than significant with mitigation*. Similar to the proposed project, the project variant, with or without the PG&E subarea, would result in *less-than-significant* cumulative impacts related to people walking (**Impact C-TR-7**).

Bicycle Impacts

Bicycle impacts for the project variant would be similar to those described for the proposed project in **Impact TR-8** (EIR pp. 4.E-78 to 4.E-80). The project variant would provide a similar street network including bicycle facilities (e.g., class 1 and class 2 bicycle parking spaces, bicycle lanes) within the project site and would result in about 4.6 percent fewer daily bicycle trips. Under the no PG&E scenario, the number of daily bicycle trips would remain similar to the proposed project, with fewer trips in the p.m. peak hour. The no PG&E scenario would also not include a connection of Georgia Street between Humboldt Street within the project site and 22nd Street, however, alternate connections similar to the proposed project would be provided (e.g., Maryland Street).

Under the project variant with or without the PG&E subarea, similar to the proposed project, it is anticipated that the existing, planned, and proposed bicycle facilities in the project vicinity would be well utilized, and the increase in the number of vehicle trips would not be substantial enough to create potentially hazardous conditions for bicyclists, or interfere with bicycle accessibility. Therefore, similar to the proposed project, the impacts of the project variant, with or without the PG&E subarea, on bicyclists would be *less than significant* both individually (**Impact TR-8**) and cumulatively (**Impact C-TR-8**).

Loading Impacts

Loading impacts for the project variant would be similar to those described for the proposed project in **Impact TR-9** (EIR pp. 4.E-80 to 4.E-83). Similar to the proposed project, the project variant would include on- and off-street commercial loading spaces and on-street passenger loading/unloading zones to accommodate the projected demand for loading spaces. The project variant would provide 20 onsite and 34 on-street commercial loading spaces the same as the proposed project. The project variant would provide 22 on-street passenger loading/unloading zones throughout the project site, compared to 25 for the proposed project.

The project variant would include similar land uses as the proposed project and would therefore generate a similar number of delivery/service vehicle trips (710 daily delivery/service vehicle trips for the project variant, compared to 686 for the proposed project, a 3 percent increase). These delivery/service vehicle trips would result in a peak loading space demand of 43 spaces, which would be accommodated within the 54 onsite and on-street loading spaces.

Under the no PG&E scenario, 16 onsite and 30 on-street commercial loading spaces and 15 on-street passenger loading spaces would be provided. This scenario would generate 673 daily delivery/service vehicle trips, which would result in a peak commercial loading demand of 40 spaces. This peak loading demand would be accommodated within the 46 onsite and on-street commercial loading spaces.

Since the proposed supply of commercial loading spaces under the project variant with or without the PG&E subarea would exceed the commercial loading space demand during the peak hour of loading operations, the commercial loading demand would be accommodated without resulting in double-parking of trucks within travel lanes or bicycle lanes, or affect transit, vehicle, bicycle or pedestrian circulation. Therefore, similar to the proposed project, the project variant would accommodate the commercial and passenger loading demand, and the impacts of the project variant, with or without the PG&E subarea, related to loading would be *less than significant* both individually (**Impact TR-9**) and cumulatively (**Impact C-TR-9**).

Parking Impacts

Parking impacts for the project variant would be similar to those described for the proposed project in **Impact TR-10** (EIR pp. 4.E-83 to 4.E-86). The project variant would provide 64 more onsite off-street vehicle parking spaces than the proposed project (2,686 vehicle parking spaces for the project variant, compared to 2,622 vehicle parking spaces for the proposed project), and, similar to the proposed project, the project variant would include a district parking garage. The vehicle parking

demand generated by the project variant would be about 4,415 spaces during the midday period and 2,967 spaces during the evening period (210 more spaces than the proposed project during the midday period, and 42 fewer spaces during the evening period). Under the no PG&E scenario, 2,056 off-street vehicle parking spaces would be provided, and there would be a parking demand of about 3,839 spaces during the midday period and 2,168 spaces during the evening period (366 fewer than the proposed project during the midday period and 841 fewer during the evening period).

Similar to the proposed project, the parking demand for the project variant with or without the PG&E subarea would not be accommodated onsite, and drivers may seek parking elsewhere or change travel modes to transit, walking, bicycling, or other modes. However, this would not create hazardous conditions affecting transit, traffic, bicycling, or people walking, or significantly delay transit.

On-street parking within the project site would be limited, and 52 on-street vehicle parking spaces (42 standard and 10 ADA spaces) would be provided under the project variant, compared to 55 spaces under the proposed project (44 standard and 11 ADA spaces). Under the no PG&E subarea scenario, 31 on-street vehicle parking spaces would be provided (25 standard and 6 ADA spaces). These minor reductions in on-street vehicle parking from the proposed project would not substantially change the parking analysis and the project variant's secondary parking impacts would be *less than significant*. Therefore, similar to the proposed project, the impacts of the project variant, with or without the PG&E subarea, related to parking would be *less than significant* both individually (**Impact TR-10**) and cumulatively (**Impact C-TR-10**).

Emergency Access Impacts

Emergency access impacts for the project variant would be similar to those described for the proposed project in **Impact TR-11** (EIR pp. 4.E-86 to 4.E-87). The internal street network for the project variant would be the same as for the proposed project, except that the midblock alley between Humboldt and 23rd streets would be removed due to the combining of Blocks 6 and 10 into a new Block 15. The project variant would include new traffic signals at the intersections of Illinois Street/23rd Street and Illinois Street/Humboldt Street. Under the no PG&E scenario, the western end of Humboldt Street would end north of Block 5 and would not connect to Illinois Street, Georgia Street would not be developed, the western end of Craig Lane would end at Louisiana Street and only one new traffic signal would only be provided, at the intersection of Illinois Street/23rd Street. However, as under the proposed project, the streets would be designed to accommodate fire department vehicles and new traffic signals would not impede emergency vehicle access.

The project variant with or without the PG&E subarea would generate fewer daily vehicle trips than the proposed project (19,113 daily vehicle trips for the project variant and 17,812 daily vehicle trips for the no PG&E scenario, compared to 19,522 vehicle trips for the proposed project), and, similar to the proposed project, this increase in traffic volumes on the surrounding roadways would also not impede or hinder emergency vehicles. Therefore, similar to the proposed project, the impact of the project variant, with or without the PG&E subarea, on emergency access would be *less than significant* both individually (**Impact TR-11**) and cumulatively (**Impact C-TR-11**).

9.D.6 Noise and Vibration

Noise impacts of the proposed project are described in EIR Chapter 4, Section 4.F, and as described below, the noise and vibration impacts of the project variant would be similar. Impacts of the no PG&E scenario would be the same as or less than those for the variant and for the proposed project, since this scenario would have reduced construction (both in magnitude and duration) and reduced overall development (no development on Blocks 13 and 14 and reduced development on Block 1) compared to both the variant and the proposed project. See Section 4.F for a more detailed description of the proposed project impacts, and mitigation and improvement measures.

Chapter 12, Draft EIR Revisions, adds two noise-related improvement measures, which apply to both the proposed project and project variant, and they are discussed below in the impact analysis of the project variant. The primary changes associated with the project variant that could alter construction-related noise impacts are proposed changes to the dock and shoreline improvements as well as proposed changes in phasing and the construction schedule. With respect to operational noise, the variant's proposed changes to the land use plan, reduction of the building setback along Craig Lane, and relocation of off-street parking spaces could alter estimated noise increases along local streets and noise exposure at future sensitive receptors.

Construction Impacts: Exposure to Noise Levels in Excess of Standards

Given that the project variant would use the same types of construction equipment as the proposed project, impacts for the project variant would be similar to those described for the proposed project in **Impact NO-1** (EIR pp. 4.F-28 to 4.F-32). As indicated in Impact NO-1, project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies. Like the proposed project, operation of some types of construction equipment under the project variant would also be expected to exceed the City's noise ordinance limit for equipment (86 dBA at 50 feet) and implementation of **Mitigation Measure M-NO-1, Construction Noise Control Measures** (EIR p. 4.F-30), would be required.

Similar to the proposed project, nighttime construction activities would also occur during Phase 1 under the project variant and would be limited to the construction of utilities and street improvements along 23rd Street. Noise generated by these activities could also exceed the City's noise ordinance criteria for nighttime construction (a 5 dBA increase in noise above ambient noise levels). Like the proposed project, if nighttime noise levels exceed this nighttime noise limit, section 2908 would require that a special permit be obtained from the City to ensure that section 2908 ordinance requirements are met (EIR p. 4.F-28).

Construction Phasing and Schedule. The project variant would extend the construction period by one year and proposed phasing changes and durations would only alter the timing of noise increases and not their extent. Thus, proposed phasing changes would not alter the potential for compliance with Noise Ordinance standards during project construction.

Therefore, like the proposed project the impact related to construction-related noise levels in excess of the noise ordinance limit would be *less than significant with mitigation* for the project variant, with or without the PG&E subarea (Impact NO-1, EIR p. 4.F-28).

Construction Impacts: Increase in Ambient Noise Levels at Sensitive Receptors

Overall noise impacts at sensitive receptors resulting from construction-related noise increases during the daytime and nighttime hours under the project variant would be similar to the proposed project as described in EIR Chapter 4, Section 4.F under **Impact NO-2** (EIR pp. 4.F-32 to 4.F-45).

Proposed Dock and Other Shoreline Features. The project variant's changes in the design of some shoreline improvements would result in the following minor differences in associated noise impacts:

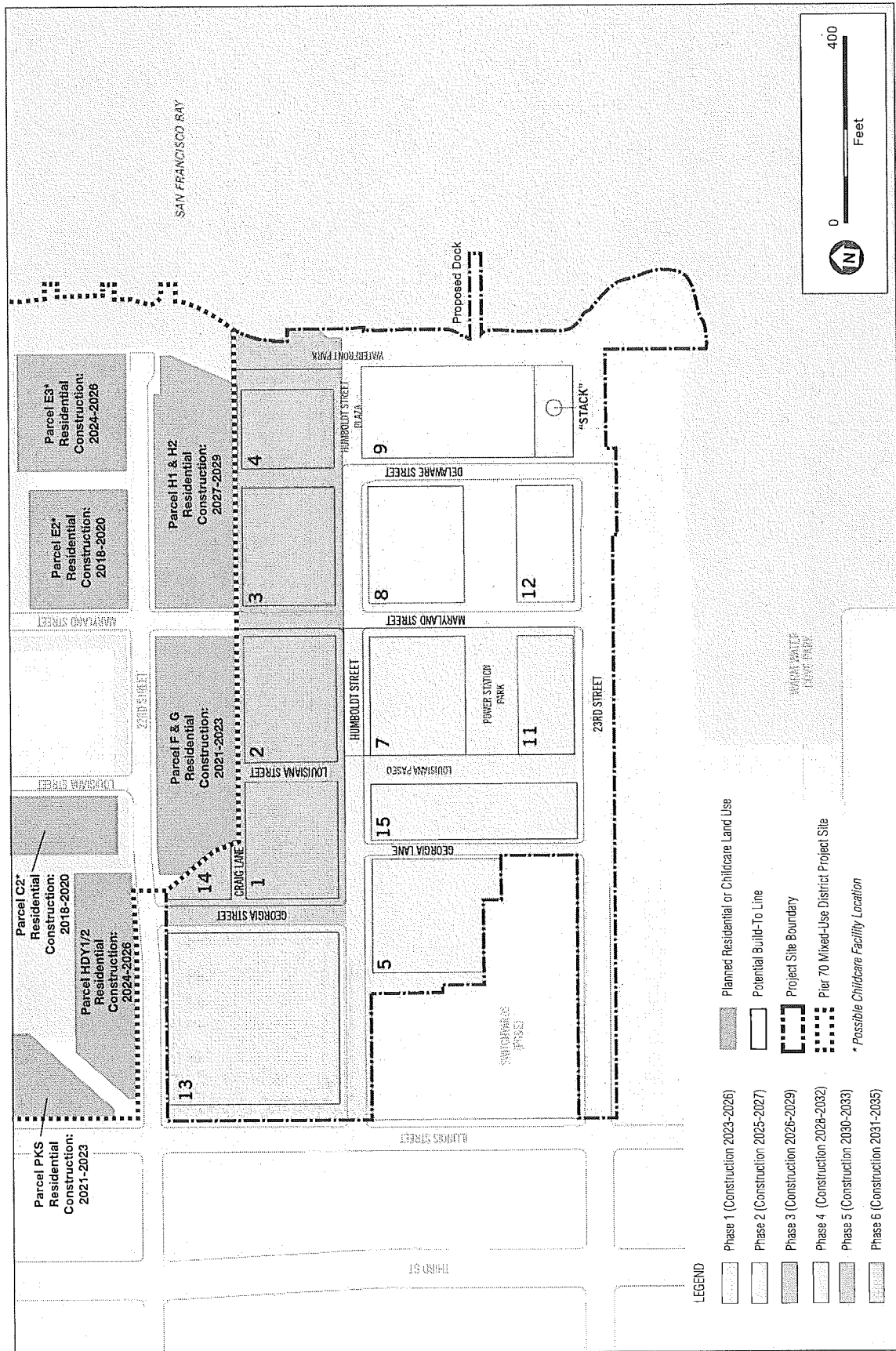
- The project variant's recreational dock would be slightly larger than the proposed project's design and would require 13 additional piles (nine in-water and four on land) but would not increase the proximity of proposed construction activities to existing and future sensitive receptors along the shoreline from what was assumed in the Draft EIR. Furthermore, the increase in the number of piles represents about a two percent increase in the total number of piles proposed to be driven at the site adding up to as many as three to five days of pile driving activities (if pile driving is done in sequence), which is not a substantial increase from what was assumed in the Draft EIR.
- The project variant floating dock design would increase the size of the four steel guide piles supporting this dock (increasing from 36 inches to 42 inches). Although the piles would be larger, the same pile installation methods would be used, a vibratory hammer would be used through the top 40 to 50 feet and then an impact hammer would be used for the final 20 feet or so to the top of the bedrock to reduce bioacoustic disturbance. As with the installation for the wharf piles, a pile driving cushion would be used for installation of the floating dock piles, and a bubble curtain would be installed, if necessary. With implementation of these bioacoustic protection measures (see Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving), the increase in the size of the steel guide piles associated with the project variant would not substantially increase the duration of pile driving activities or their associated noise levels.
- The project variant would have the same shoreline improvements to address sea level rise as the proposed project except the seawall design would be modified such that construction activities would move approximately 3 feet to the west. This small increase in proximity to sensitive receptors to the west would not substantially alter estimated construction-related noise levels at the closest existing offsite sensitive receptors.
- The project variant would also include a bay overlook along the shoreline and no additional pile driving would be required for this facility. Since the Draft EIR already assumed that construction activities would occur in this area, construction-related noise at the closest receptors would be approximately the same as that identified for the proposed project.

Construction Phasing and Schedule. The project variant would alter construction phasing for the northern Waterfront area, Georgia Lane, and Humboldt Street, which could increase the number of future onsite or planned offsite sensitive receptors that could be exposed to construction noise as follows:

- Construction of the northernmost portion of the Waterfront area during Phase 3 instead of Phase 1 would not substantially alter noise increases identified in the Draft EIR. The Draft EIR assumed that planned offsite noise-sensitive uses on Pier 70's Parcels H1, H2, and E3 (the closest adjacent parcels to the northern Waterfront construction area) would not be occupied until 2028 or 2029 (see **Figure 9-33, Proposed Construction Phasing on the Project Site for Project Variant and Planned Future Sensitive Receptors on Pier 70 Site**). With proposed Phase 3 construction ending in 2028, it is unlikely these offsite sensitive receptors would be exposed to construction noise from Phase 3 activities, but if there is any overlap it would be for a limited duration and therefore, these receptors are not expected to be significantly more affected by this proposed change in phasing. Although future onsite Phase 1 sensitive receptors occupying Block 9 would be subject to construction noise in the northern Waterfront area, the Draft EIR already determined that these receptors would be subject to significant construction-related noise impacts from construction during Phases 2 through 6 even with mitigation (Impact NO-2, EIR p. 4.F-39).
- Construction of Georgia Lane and the section of Humboldt Street adjacent to Blocks 5 and 15 during Phase 4 instead of Phase 1 would not alter the Draft EIR significance determination for Impact NO-2 (EIR p. 4.F-39). Proposed residential and possible childcare uses on adjacent Blocks 1, 13, and 14 would not be developed until Phases 5 and 6, and therefore, would not be adversely affected by noise from road construction activities during Phase 4.
- Construction of Humboldt Street adjacent to Block 7 during Phase 2 instead of Phase 1 would not alter the Draft EIR significance determination for Impact NO-2. Phase 1 residential receptors on Block 8 would be subject to noise from road construction activities, construction activities associated with Humboldt Street would not be any closer to Block 8 than concurrent Phase 2 construction activities on Block 7. Therefore, construction noise levels estimated in the Draft EIR for Phase 1 onsite receptors (EIR p. 4.F-39) would remain the same under the project variant.

The project variant's 16-year construction period would be one year longer than the proposed project's 15-year construction period; Phase 0 being extended by one year, from 2020 through 2023 instead of 2020 through 2022. One additional year of Phase 0 (demolition, site preparation, and rough grading) activities would not increase noise impacts on future onsite sensitive receptors since they would not yet be present on the project site during this phase. The future planned offsite noise-sensitive uses on Pier 70's Parcels F and G (the closest adjacent parcels with the earliest completion dates) would be occupied sometime during 2023 (see Figure 4.F-5 on EIR p. 4.F-24), and therefore, there could be some overlap with the completion of Phase 0 work in 2023. The Draft EIR (EIR p. 4.F-43) acknowledged the possibility that Phase 0 work could be extended and noted that "if Phase 0 construction activities were delayed or extended and the Pier 70 buildings adjacent to the project site's northern boundary became occupied before Phase 0 was completed, the project's construction noise would exceed the Federal Transit Administration's standard of 90 dBA and would also exceed the "Ambient + 10 dBA" standard at the closest planned offsite sensitive receptor locations, and planned residential receptors on the Pier 70 site could be significantly affected by project-related construction activities during Phase 0, resulting in a significant noise impact."

Delaying Phases 1 through 6 (vertical construction phases) by one year under the project variant would not alter the potential for exposure of future onsite sensitive receptors to construction noise as described in Impact NO-2 (EIR p. 4.F-39). Since all construction phases would be delayed by one year (but the duration would remain the same), occupation of future onsite residences and exposure of



SOURCE: Perkins+Will, 2019

Potrero Power Station Mixed-Use Development Project

Figure 9-33
Proposed Construction Phasing on the Project Site for Project Variant
and Planned Future Sensitive Receptors on Pier 70 Site

these future residents to construction noise from later phases would be the same, but one year later. The delay in vertical construction also would not increase the number of future planned offsite sensitive receptors that could be exposed to construction noise (Impact NO-2, EIR p. 4.F-43). The duration of this impact would be the same, but it would occur one year later. The Draft EIR identified the potential for significant noise impacts on the closest planned offsite receptors on the adjacent Pier 70 site, and this would still occur with the proposed delay in vertical construction under the project variant. Therefore, the project variant, with or without the PG&E subarea, would have the same *significant and unavoidable with mitigation* significance determination for Impact NO-2 (EIR p. 4.F-42), and all of the same noise mitigation and improvement measures identified in Chapter 4, Section 4.F (**Mitigation Measure M-NO-1, Construction Noise Control Measures**, and **Improvement Measure I-NO-A, Nighttime Construction Noise Control Measures**, as modified in Chapter 12) would also apply to the project variant.

Construction Impacts: Offsite Haul Truck Traffic Noise

Average construction-related haul and vendor truck traffic increases on local access streets under the project variant would be approximately the same as the proposed project. Phasing changes and durations under the project variant would only alter the timing of truck traffic noise increases (including peak number of overlapping construction vehicle trips) but not their extent. Under the variant and no PG&E scenario, the peak number of construction vehicle trips (equipment and materials deliveries, and haul trips) would be delayed about one year, with peak overlapping volumes of about 112 trucks per day occurring during the latter half of 2023 (instead of 100 to 150 trucks per day occurring over all of 2022 under the proposed project) and about 200 trucks per day for four months in 2025 (instead of 2024 under the proposed project). Therefore, under **Impact NO-3** (EIR p. 4.F-45) for the project variant, the minor differences in the number of offsite construction-related trucks would not substantially increase the associated traffic noise impacts. Like the proposed project, this impact would be *less than significant* for the project variant, with or without the PG&E subarea. Further, **Improvement Measure I-NO-A, Nighttime Construction Noise Control Measures**, **Improvement Measure I-NO-B, Avoidance of Residential Streets** (as modified in Chapter 12), and **Improvement Measure I-TR-A, Construction Management Plan and Public Updates** (EIR p. 4.E-61), would be implemented under the project variant in order to minimize potential disturbance of residents in the Dogpatch neighborhood from the construction-related truck noise increases and the combined truck noise increases resulting from the overlapping construction schedules of the project variant and Pier 70.

Construction Impacts: Vibration

Construction of the project variant would require similar equipment and activities as the proposed project, and therefore would result in similar construction-related vibration impacts. However, there would be two areas where the project variant's vibration impacts would vary slightly from the proposed project and they are described as follows.

Proposed Dock and Other Shoreline Features. The project variant's recreational dock would require 13 additional piles (nine in-water and four on land). Additional pile driving under the variant would generate the same vibration levels on land and in water as the proposed project, but the variant would extend the duration by three to five more days than under the proposed project. Such a small

extension of the duration of pile driving activities would not significantly increase the degree of impact on sensitive receptors on land or in water. As indicated above under construction-related noise, implementation of bioacoustic protection measures such as use of a pile driving cushion and a bubble curtain as necessary would reduce vibration impacts on sensitive marine receptors (see Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving).

Construction Phasing and Schedule. Extending the construction duration by one year and changing the phases when the northern Waterfront shoreline improvements, Georgia Lane, and Humboldt Street would be constructed would result in vibration impacts similar to the proposed project with one exception. Construction activities in the northern Waterfront area during Phase 3 instead of Phase 1 would increase the potential for construction-related vibration impacts if any adjacent planned offsite buildings on Pier 70 Parcels H1, H2, or E3 or future onsite buildings on Block 4 are constructed prior to any shoreline pile driving activities occurring in the northern Waterfront area. As with the proposed project the exact location of vibration-generating activities (pile driving and controlled rock fragmentation) is unknown. Therefore, implementation of the same mitigation measures specified in the EIR for Impact NO-4 (**Mitigation Measures M-NO-4a, Construction Vibration Monitoring, M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving, M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment** [EIR pp. 4.F-48 to 4.F-51], and **Mitigation Measure M-CR-5e, Historic Preservation Plan and Review Process for Alteration of the Boiler Stack** [see EIR Chapter 4, Section 4.D, Impact CR-5, EIR p. 4.D-32]) would also be required for the project variant. With inclusion of these mitigation measures, like the proposed project, construction-related vibration impacts would be *less than significant with mitigation* for the project variant, with or without the PG&E subarea.

Operational Impacts: Exposure to Noise Levels in Excess of Standards

Operation of the variant, with or without the PG&E subarea, like the proposed project, would similarly increase ambient noise levels on and near the project site from the onsite use of stationary equipment (i.e., heating/ventilation/air conditioning systems and emergency generators), as identified in Chapter 4, Section 4.F, **Impact NO-5** (EIR p. 4.F-56). Like the proposed project, this impact would be *less than significant with mitigation* specified in **Mitigation Measure M-NO-5, Stationary Equipment Noise Controls** (EIR p. 4.F-59).

Operational Impacts: Exposure to Noise Levels from Events that include Outdoor Amplified Sound

The project variant would include slightly more open space area (6.9 acres instead of 6.2), but open space uses would be similar to the proposed project. Similar increases in ambient noise levels in public open spaces on the project site, therefore, would occur under the project variant, with or without the PG&E subarea, as those identified in **Impact NO-6** (EIR p. 4.F-60). Like the proposed project, compliance with noise limits established under the police and health codes (which limits residential interior noise levels to 45 dBA or less between 10 p.m. and 7 a.m.), time restrictions (i.e., amplified sound cannot be audible at 50 feet from the property line after 10 p.m.), and other permit requirements specified in sections 49 and 1060 of the police code would ensure that periodic and temporary noise increases from amplified sound associated with such events would be *less than significant* under the project variant, with or without the PG&E subarea.

Operational Impacts: Exposure to Noise Levels from Rooftop Bars and Restaurants

Like the proposed project, rooftops of any non-residential buildings under the project variant could be developed with bars and restaurants and these uses could include playing of amplified music in outdoor areas during the evening/nighttime hours, as described in **Impact NO-7** (EIR p. 4.F-62). The project variant would eliminate flexible land uses on Blocks 4 and 14 and designate residential uses on these blocks. This change in land use designations would reduce the number of blocks where rooftop bars and restaurants could be developed from seven to five blocks. Like the proposed project, compliance with noise limits established under the police and health codes (which limits residential interior noise levels to 45 dBA or less between 10 p.m. and 7 a.m.), time restrictions (i.e., amplified sound cannot be audible at 50 feet from the property line after 10 p.m.), and other permit requirements specified in sections 49 and 1060 of the police code would ensure that periodic and temporary noise increases from amplified sound at rooftop bars and restaurants would be *less than significant* under the project variant, with or without the PG&E subarea.

Operational Impacts: Offsite and Onsite Traffic Noise Increases

The project variant would generate slightly fewer daily vehicle trips than the proposed project (3.4 percent less), which would not measurably reduce project-related traffic noise increases along roadway segments that were described for the proposed project in **Impact NO-8** (EIR p. 4.F-63). The project variant, similar to the proposed project, would still result in significant traffic noise increases (increases would be more than 5 dBA) along three street segments (22nd Street, Humboldt Street, and 23rd Street) east of Illinois Street and on the western portion of the project site as well as the segments of 22nd Street and 23rd Street between Third and Illinois streets, west of the project site. The traffic noise impacts of the variant, with or without the PG&E subarea, on existing and planned offsite receptors under Impact NO-8 would be *significant and unavoidable with mitigation*, the same as the proposed project (see EIR p. 4.F-66). Like the proposed project, **Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay** (EIR p. 4.E-93), would also be required under the project variant.

Land Use Designations

As stated above, the project variant would generate slightly fewer daily vehicle trips than the proposed project. However, the reduction in vehicle trips would be too small to measurably reduce project-related traffic noise. The project variant would also eliminate flexible land uses on Blocks 4, 12, and 14 and designate residential uses only on Blocks 4 and 14 and office uses on Block 12. The Draft EIR assumed that all three blocks would be developed with noise-sensitive residential uses to reflect the maximum impact. Under the project variant residential noise compatibility would be same as the proposed project at Blocks 4 and 14, since they would be residential uses. At Block 12, the noise compatibility would be the same under the project variant as described for the proposed project, assuming childcare uses could occur as part of office or R&D uses. For these reasons, traffic noise impacts on future onsite receptors due to the variant's changes in land uses would be *less than significant with mitigation* for **Impact NO-8**, similar to that described for the proposed project (EIR p. 4.F-67), and implementation of the same **Mitigation Measure M-NO-8**,

Design of Future Noise-Sensitive Uses (EIR p. 4.F-67), would also be required under the variant, with or without the PG&E subarea.

Building Setbacks

The project variant would reduce the building setback along Craig Lane by 5 feet (from 15 to 10 feet). This reduction would not substantially change noise exposure of project residences fronting on this street because this street is designated as an alley where traffic noise levels would be low. When the variant's building setbacks (shown in Figure 9-5, Project Variant Building Setbacks) are added to distances indicated in cross-sections for Illinois, 22nd, and 23rd, the building setbacks from the roadway centerlines would be 50 feet or more. Noise levels for the proposed project were calculated at 50 feet from the roadway centerline (see Table 4.F-14, EIR p. 4.F-64 and Table 4.F-15, EIR p. 4.F-75); therefore, the change in building setbacks would not change the expected noise levels along Illinois, 22nd, and 23rd streets.

The setback would be 45 feet along the Humboldt Street frontages of Blocks 1, 5, 7, and 8 (where residential uses are proposed), increasing estimated noise levels at residential receptors by 0.7 dBA. Future noise levels on Humboldt Street would be 61.1 dBA (L_{dn}/CNEL) at 45 feet with the project variant (recalculated from Table 4.F-14, EIR p. 4.F-64) and 60.5 dBA (L_{dn}/CNEL) at 45 feet under cumulative conditions (recalculated from Table 4.F-15 (EIR p. 4.F-75). Like the proposed project, future noise levels would be Conditionally Acceptable for residential use along Illinois, 22nd, 23rd and Humboldt streets.

Implementation of **Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses** (EIR p. 4.F-67), would ensure that acceptable interior noise levels are achieved at any adjacent residential, childcare, and hotel uses located along project streets. Therefore, similar to the proposed project, Impact NO-8 for the project variant, with or without the PG&E subarea, would be *less than significant with mitigation*. Mitigation Measure M-NO-8 has been modified (modified text shown in double underline) for the project variant to reflect the 1-dB noise increase on Humboldt Street due to the reduced building setback along sections of this street, as follows:

"Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses

Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 61 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses."

Parking

While about half of the off-street parking spaces would be provided on the project site's westernmost blocks (Blocks 5 and 13) under the proposed project, the project variant increases the total number of off-street parking spaces by 64 and redistributes off-street spaces so that approximately half of the off-street parking spaces would be provided on these westernmost blocks.⁴ Under the variant, the number of vehicles traveling on internal streets would be approximately the same as the proposed project, since additional parking spaces would be provided at the west end of the project site. Therefore, the variant would not alter the estimated future noise levels on the sections of 22nd, Humboldt, and 23rd streets east of Illinois Street (listed in Table 4.F-14 on EIR p. 4.F-64).

Cumulative Impacts: Construction

Similar to the proposed project as described in **Impact C-NO-1** (EIR p. 4.F-70), concurrent construction of the project variant, the adjacent Pier 70 Mixed-Use District project, and other cumulative development in the area would result in cumulative construction-related noise and vibration impacts on certain future planned offsite and proposed onsite receptors. These cumulative noise increases might not be reduced to less-than-significant levels even with implementation of **Mitigation Measure M-NO-1, Construction Noise Control Measures**. Therefore, like the proposed project, this cumulative impact would be *significant and unavoidable with mitigation* under the project variant, with or without the PG&E subarea. The project's contribution to cumulative vibration impacts could be reduced to less than significant with implementation of **Mitigation Measure M-NO-4a, Vibration Control Measures during Controlled Blasting and Pile Driving**, because this measure would establish a performance standard that would ensure this threshold is not exceeded at identified historic structures regardless of the vibration sources. Therefore, this cumulative vibration impact under the project variant, with or without the PG&E subarea, would be the same as the proposed project, *less than significant with mitigation*.

Construction Phasing and Schedule

Under the proposed project and the project variant, construction on Blocks 1, 2, 3, 4 and 14 would be completed after the residential development on Pier 70's Parcels F, G, H1, H2 and E3 are occupied, resulting in significant construction-related noise impacts on future Pier 70 sensitive receptors. Therefore, the variant's contribution to this cumulative impact would be the same as the proposed project, *significant and unavoidable with mitigation*. Even though Block 14 would not be constructed under the no PG&E scenario, the impacts associated with Blocks 1, 2, 3, and 4 would still occur, so the same impact conclusion applies.

The project variant's proposed 16-year construction period (2020 to 2035) would not alter the potential for overlap with offsite haul truck traffic generated by the Pier 70 Mixed-Use District project during its proposed 11-year construction duration (2018 to 2029). There would still be a potential for overlap between 2020 and 2029; the variant's two peak truck traffic increases in 2023 and 2025 would

⁴ Of the 2,686 spaces proposed under the project variant, 1,325 spaces would be located on Blocks 5 and 13 with 819 spaces proposed on Block 5 and 506 spaces proposed on Block 13. Under the variant, the number of spaces would be the same on Block 5 as for the proposed project and would increase by 86 spaces on Block 13.

overlap with Pier 70 construction one year later than under the proposed project. Given that the variant's peak truck trips would occur for a limited time (six months in 2023 and four months in 2025), the low likelihood that peak truck traffic increases from both projects would overlap, and limited potential cumulative noise increase (a maximum 4.0 dBA increase on Illinois Street and 1.4 dBA increase on Third Street was estimated under the proposed project on EIR p. 4.F-72 and this increase would also occur under the variant because the number peak truck trips for the variant would be the same as the proposed project), cumulative haul truck traffic noise increases from both projects is considered to be *less than significant* for the variant, just as it would be for the proposed project. Since these less-than-significant cumulative noise increases would still increase ambient noise levels along truck routes as a result of these two projects' overlapping construction schedules and could result in disturbance of residents in the Dogpatch neighborhood, the same improvement measures that are included for the proposed project (**Improvement Measure I-NO-A, Avoidance of Residential Streets**, as modified in Chapter 12 and **Improvement Measure I-TR-A, Construction Management Plan and Public Updates**) are also included for the project variant.

Cumulative Impacts: Operation

As noted above, the project variant would generate slightly fewer daily vehicle trips than would be generated by the proposed project (3.4 percent less), which would not measurably reduce the project's contribution to cumulative traffic noise increases along some roadway segments that are described in **Impact C-NO-2** (EIR p. 4.F-73). Traffic noise increases related to cumulative development in the area (including the project variant and Pier 70 project) would result in significant traffic noise increases (increases would be more than 5 dBA) on 26 street segments (listed in Chapter 4, Section 4.F, EIR p. 4.F-74), which would be a cumulatively significant impact. The significance of this impact and requirement of **Mitigation Measure M-NO-8, Design of Future Noise-Sensitive Uses (Variant)** and **Mitigation Measure M-TR-5 (Variant), Implement Measures to Reduce Transit Delay** (EIR p. 4.E-93), under the variant, with or without the PG&E subarea, would be the same as the proposed project, and would be *significant and unavoidable with mitigation*.

9.D.7 Air Quality

Air quality impacts of the proposed project are described in EIR Chapter 4, Section 4.G, and as described below, air quality impacts of the project variant would be similar. Impacts of the no PG&E scenario would be the same as or less than those for the variant and for the proposed project, since this scenario would have reduced construction, since this scenario would have reduced construction (both in magnitude and duration) and reduced overall development (no development on Blocks 13 and 14 and reduced development on Block 1) compared to both the variant and the proposed project. See Section 4.G for a more detailed description of the proposed project impacts.

Construction Impacts: Fugitive Dust Emissions

Similar to the proposed project, fugitive dust emissions during construction of the project variant would be substantially the same as qualitatively described for the proposed project in **Impact AQ-1** (EIR pp. 4.G-32 to 34). The nature and the extent of construction activities would be substantially the same, and the project variant would be subject to the same dust control regulations and requirements as those described for the proposed project. Compliance with the regulations and

procedures set forth by the Construction Dust Control Ordinance would ensure that impacts related to fugitive dust emissions under the project variant, with or without the PG&E subarea, would be *less than significant*.

Construction and Overlapping Operational Impacts: Criteria Air Pollutant Emissions

As described in Chapter 4, Section 4.G, Air Quality, **Impact AQ-2** (EIR pp. 4.G-34 to 4.G-47), criteria air pollutant emissions during project construction and overlapping operations would be significant and unavoidable even with implementation of **Mitigation Measures M-AQ-2a** (Construction Emissions Minimization), **M-AQ-2b** (Diesel Backup Generator Specifications), **M-AQ-2c** (Promote Use of Green Consumer Products), **M-AQ-2d** (Electrification of Loading Docks), **M-TR-5** (Implement Measures to Reduce Transit Delay), **M-AQ-2e** (Additional Mobile Source Control Measures), and **M-AQ-2f** (Offset Construction and Operational Emissions). Specifically, emissions of ozone precursors (reactive organic gases, ROG, and oxides of nitrogen, NOx) would exceed significance thresholds, even with mitigation. As shown in Section 4.G, Tables 4.G-7A and 4.G-7B (EIR pp. 4.G-41 to 4.G-42), the highest mitigated construction-related emissions of ROG was estimated to be 94 pounds per day (lb/day) for the proposed project, which would occur during the Phase 6 construction and concurrent operation of Phases 1 through 5, which are conservatively assumed to be occupied at that time. As shown in Table 4.G-7A, mitigated emissions of NOx for the proposed project reached a maximum of 88 lb/day during the construction of Phases 4, 5, and 6 and concurrent operation of Phases 1 through 3.

Emissions from construction activities and operations associated with the project variant were calculated using the same assumptions presented in the Draft EIR. Construction activity data (i.e., construction equipment quantities and usage data) specific to the construction activities and construction schedule that would occur under the project variant are used to calculate construction emissions using the California Emissions Estimator Model (CalEEMod). A full explanation of the methodology is provided in Appendix E-1.

Mitigated construction criteria air pollutant (CAP) emissions from construction and operation of the project variant by phase are presented in **Table 9-8A** for average daily emissions and in **Table 9-8B** for maximum annual emissions. Project variant emissions in these tables are compared to those from the proposed project. As shown in these tables, the significance of mass emissions for the project variant would be the same as those presented for the proposed project in the Draft EIR. The offset payment predicted under **Mitigation Measure M-AQ-2e** under the project variant would increase to 14 tons per year of ozone precursors above the 10 ton per year threshold, as estimated for the proposed project. The significance of this impact and requirement of **Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5** under the variant, with or without the PG&E subarea, would be the same as the proposed project except that the offset amount under Mitigation Measure M-AQ-2f should be 14 tons of ozone precursors per year, and the impact would be *significant and unavoidable with mitigation*.

TABLE 9-8A
MITIGATED AVERAGE DAILY EMISSIONS FOR THE PROPOSED PROJECT AND PROJECT VARIANT DURING
CONSTRUCTION, INCLUDING OVERLAPPING CONSTRUCTION AND OPERATION IN LB/DAY

	Average Daily Emissions (lb/day)* Project/Variant			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Thresholds	54	54	82	54
Phase 0 Construction	2.6/2.2	19/16	0.52/0.43	0.51/0.43
Above Threshold?	No/No	No/No	No/No	No/No
Phases 0 and 1 Construction	19/18	43/41	0.88/0.84	0.87/0.84
Above Threshold?	No/No	No/No	No/No	No/No
Phases 1 and 2 Construction	31/31	36/37	0.50/0.55	0.49/0.55
Above Threshold?	No/No	No/No	No/No	No/No
Phases 0.1, 1 and 2 Construction	32/32	47/48	0.59/0.65	0.59/0.64
Above Threshold?	No/No	No/No	No/No	No/No
Phases 1, 2 and 3 Construction	39/38	48/49	0.67/0.72	0.67/0.72
Above Threshold?	No/No	No/No	No/No	No/No
Phases 2 and 3 Construction + Phase 1 Operation	46/45	55/54	12/12	4.3/4.4
Above Threshold?	No	Yes	No/No	No/No
Phase 3 Construction + Phases 1 and 2 Operation	48/49	54/55	17/18	6.1/6.4
Above Threshold?	No/No	Yes/Yes	No/No	No/No
Phases 3 and 4 Construction + Phases 1 and 2 Operation	60/59	71/70	17/18	6.3/6.6
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phase 4 Construction + Phases 1 through 3 Operation	60/60	67/64	20/20	7.2/7.4
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phases 4, 5 and 6 Construction + Phases 1 through 3 Operation	85/86	88/86	20/20	7.4/7.6
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phases 5 and 6 Construction + Phases 1 through 4 Operation	94/93	86/86	28/27	10/10
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phase 6 Construction + Phases 1 through 5 Operation	94/93	84/81	32/31	12/12
Above Threshold?	Yes	Yes	No/No	No/No
Phases 1 through 6 Operation**	101/102	85/83	37/36	14/14
Above Threshold?	Yes	Yes	No/No	No/No

NOTES: **Bolded** numerical values are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a **bolded "Yes"** response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2019. See Appendix E-1.

TABLE 9-8B
MITIGATED MAXIMUM ANNUAL EMISSIONS FOR THE PROPOSED PROJECT AND PROJECT VARIANT DURING
CONSTRUCTION, INCLUDING OVERLAPPING CONSTRUCTION AND OPERATION IN TON/YEAR

	Maximum Annual Emissions (tons/year) Project/Variant			
	ROG	NOx	PM ₁₀	PM _{2.5}
Significance Threshold	10	10	15	10
Phase 0 Construction	0.34/0.29	2.5/2.0	0.067/0.055	0.067/0.055
Above Threshold?	No/No	No/No	No/No	No/No
Phases 0 and 1 Construction	2.5/2.4	5.6/5.3	0.11/0.11	0.11/0.11
Above Threshold?	No/No	No/No	No/No	No/No
Phases 1 and 2 Construction	4.1/4.0	4.7/4.8	0.064/0.072	0.064/0.071
Above Threshold?	No/No	No/No	No/No	No/No
Phases 0, 1, and 2 Construction	4.1/4.0	5.2/5.2	0.069/0.076	0.068/0.075
Above Threshold?	No/No	No/No	No/No	No/No
Phases 1, 2 and 3 Construction	5.1/5.0	6.3/6.4	0.087/0.094	0.087/0.094
Above Threshold?	No/No	No/No	No/No	No/No
Phases 2 and 3 Construction + Phase 1 Operation	7.2/7.1	8.7/8.6	2.2/2.2	0.78/0.78
Above Threshold?	No/No	No/No	No/No	No/No
Phase 3 Construction + Phases 1 and 2 Operation	8.3/8.6	9.2/9.4	3.1/3.2	1.1/1.2
Above Threshold?	No/No	No/No	No/No	No/No
Phases 3 and 4 Construction + Phases 1 and 2 Operation	9.9/9.9	11/11	3.1/3.2	1.1/1.2
Above Threshold?	No/No	Yes/Yes	No/No	No/No
Phase 4 Construction + Phases 1 through 3 Operation	10/10	11/11	3.6/3.7	1.3/1.3
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phases 4, 5 and 6 Construction + Phases 1 through 3 Operation	14/14	14/14	3.6/3.7	1.3/1.4
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phases 5 and 6 Construction + Phases 1 through 4 Operation	16/16	15/15	5.0/5.0	1.8/1.8
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phase 6 Construction + Phases 1 through 5 Operation	17/17	15/15	5.9/5.7	2.2/2.1
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No
Phases 1 through 6 Operation**	18/19	15/15	6.7/6.7	2.5/2.5
Above Threshold?	Yes/Yes	Yes/Yes	No/No	No/No

NOTES: **Bolded** numerical values are totals during construction of a given phase with the addition of operational emissions from previous phases. If the total exceeds a threshold, then the exceedance is identified by shading and a **bolded "Yes"** response.

For each construction phase, annual emissions are divided over the number of construction days for the given phase, to determine the average daily emissions.

* Average daily construction emissions in lb/day are calculated by taking the total construction emissions for a phase and dividing by the number of working days (260 construction working days in a year).

** Detailed construction and operational emissions by Phase can be found in Appendix E-1.

*** Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2019. See Appendix E-1.

Mitigation Measure M-AQ-2f parts (1) and (2) have been modified for the project variant to reflect the 1 ton per year increase of ozone precursor, with 14 tons per year instead of 13 tons per year (modified text shown in double underline).

Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions

Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the ERO, shall either:

- (1) *Directly fund or implement a specific offset project within San Francisco* to achieve the equivalent to a one-time reduction of 14 tons per year of ozone precursors. To qualify under this mitigation measure, the specific emissions offset project must result in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsor shall notify the ERO within six months of completion of the offset project for verification; or
- (2) *Pay mitigation offset fees* to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than 5 percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor, and the air district, and be based on the type of projects available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions of 14 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.

The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted 14 tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.

The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NO_x (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NO_x emissions offsets required.

Operational Impacts: Criteria Air Pollutant Emissions

As described in Chapter 4, Section 4.G, Air Quality, **Impact AQ-3** (EIR pp. 4.G-47 to 4.G-51), criteria air pollutant emissions during project operations would be significant and unavoidable even with implementation of Mitigation Measures, M-AQ-2b (Diesel Backup Generator Specifications), M-AQ-2c (Promote Use of Green Consumer Products), M-AQ-2d (Electrification of Loading Docks),

M-TR-5 (Implement Measures to Reduce Transit Delay), M-AQ-2e (Additional Mobile Source Control Measures), and M-AQ-2f (Offset Construction and Operational Emissions). Specifically, emissions of ROG and NOx would exceed significance thresholds, even with mitigation. As shown in Section 4.G, Table 4.G-9 (EIR p. 4.G-50), the highest mitigated operational emissions of ROG were estimated to be 101 lb/day and mitigated emissions of NOx for the proposed project were 85 lb/day.

Emissions from operations associated with the project variant were calculated using the same assumptions presented in the Draft EIR for the proposed project. Land use data specific to the project variant were used to calculate construction emissions using CalEEMod. A full presentation of the modeling is provided in Appendix E-1.

Mitigated operational criteria air pollutant emissions from full-buildout operation of the project variant are presented in **Table 9-9** for average daily emissions and for maximum annual emissions. Project variant emissions in these tables are compared to those from the proposed project. As shown in these tables, the significance of mass emissions for the project variant would be the same as those presented for the proposed project in the Draft EIR. There would be a marginal increase in ROG emissions due to increased consumer product emissions associated with land use changes under the project variant. The significance of this impact and requirement of **Mitigation Measures M-AQ-2b through M-AQ-2f and M-TR-5** under the variant, with or without the PG&E subarea, would be the same as the proposed project except that the offset amount under Mitigation Measure M-AQ2f should be 14 tons of ozone precursors per year, and the residual impact would be *significant and unavoidable with mitigation*.

Toxic Air Contaminants, Construction and Operation

Like the proposed project, the analysis of toxic air contaminants (TAC) impacts for the project variant focuses on increased cancer risk. Localized concentrations of fine particulate matter (PM_{2.5}) were well below localized concentration thresholds without mitigation for the proposed project and it is reasonable to assume that they would also be well below thresholds for the project variant. The analysis of TAC impacts also conservatively focuses on cumulative impacts to demonstrate whether the project variant would result in any new or more severe impacts than the proposed project. Cumulative health risks were assessed based on cumulative emissions sources within 1,000 feet of the project site, inclusive of the planned Pier 70 Mixed-Use District project.

The analysis below focuses on the cumulative (year 2040) health risk scenario because this scenario had the highest cumulative health risks. This is primarily because the cumulative scenario considers the additional risk contributions of construction activities at the adjacent Pier 70 development project site. The cumulative scenario also considers the presence of future receptors at the adjacent Pier 70 project site. By demonstrating that the resultant health risks of the project variant would be below the air pollutant exposure zone criteria under the cumulative scenario, it can reasonably be expected that the existing plus variant scenario would also be below the air pollutant exposure zone criteria.

As described in Chapter 4, Section 4.G, Air Quality, **Impact AQ-4** (EIR pp. 4.G-51 to 4.G-57), TAC exposures during project construction and operations would be less than significant with implementation of Mitigation Measures M-AQ-2a (Construction Emissions Minimization), M-AQ-2b

TABLE 9-9
MITIGATED AVERAGE DAILY AND MAXIMUM ANNUAL OPERATIONAL EMISSIONS
AT PROJECT BUILDOUT FOR THE MAXIMUM OFFICE SCENARIO^a

	Average Daily Emissions (lb/day) Project/Variant			
	ROG	NOx	PM ₁₀	PM _{2.5}
Area Source	87/90	1.8/1.8	2.1/2.3	2.1/2.3
Natural Gas Combustion	2.2/2.2	19/19	1.5/1.5	1.5/1.5
Mobile	12/11	54/55	33/33	10/10
Stationary Source (generators)	0.27/0.27	8.7/8.7	0.066/0.066	0.066/0.066
Transportation Refrigeration Units	0.050/0.050	0.38/0.38	0.0023/0.0023	0.0021/0.0020
Total	101/102	85/85	37	14/14
Significance Threshold	54	54	82	54
Above Threshold?	Yes	Yes	No	No

Maximum Annual Emissions (ton/year)				
Area Source	16/17	0.32/0.33	0.39/0.42	0.39/0.42
Natural Gas Combustion	0.40/0.40	3.5/3.5	0.27/0.27	0.27/0.27
Mobile	2.1/2.0	9.9/10	6.1/6.0	1.8/1.8
Stationary Source (generators)	0.049/0.049	1.6/1.6	0.012/0.012	0.012/0.012
Transportation Refrigeration Units	0.0091/0.0091	0.068/0.068	0.00041/0.0004	0.00038/0.00037
Total	18/19	15/15	6.7/6.7	2.5/2.5
Significance Threshold	10	10	15	10
Above Threshold?	Yes	Yes	No	No

NOTE: **Bolded** numerical values are totals during operation. If the total exceeds a threshold, then the exceedance is identified by a **bolded** "Yes" response.

^a The Maximum Office Scenario reflects the worst-case emissions of possible development options because vehicle trip generation would be the greatest under this option. However, ROG emissions reflect the maximum residential development scenario which would result in the greatest area source emissions.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2019. Appendix E-1).

(Diesel Back-up Generator Specifications), and M-AQ-4 (Siting of Uses that Emit Toxic Air Contaminants). Specifically, while increased cancer risks at both on-site and offsite receptors would be significant without mitigation, implementation of Mitigation Measure M-AQ-2a alone would be sufficient to reduce the impact of the proposed project to a less than significant level, and the excess cancer risk impact to both onsite and offsite receptors for the proposed project was determined to be less than significant with mitigation. The Draft EIR also determined that the potential for future health risk impacts from laboratory emissions is less than significant with implementation of Mitigation Measure M-AQ-4, Siting of Uses that Emit Toxic Air Contaminants.

The health risk assessment (HRA) for the project variant was performed using the same methods used in the Draft EIR. The AERMOD dispersion model was used to calculate dispersion factors from the modified construction areas (Phases 1, 2, 3, 4 and 6). Dispersion factors for other sources that would be the same under the variant and the proposed project (e.g., construction Phases 0, 0.1

and 5, construction staging areas, marine construction and haul routes) and operational emergency generators were taken from calculations performed for the Draft EIR.

Intake factors were re-calculated to reflect the changes in construction phase start dates and durations. Default exposure parameters recommended by the Office of Environmental Health Hazard Assessment (OEHHA) and BAAQMD were used as presented in the Draft EIR. On-site residents were assumed to move into each completed phase at the conclusion of construction and to be exposed to all subsequent phases of construction and operational emissions. Exposure at off-site receptors was assumed to begin in 2020 for school and off-site resident receptors, while Pier 70 receptors were assumed to begin exposure in 2024; this hypothetical scenario resulted in the most conservative risk estimate. Though operational traffic volumes are expected to decrease in the project variant relative to the proposed project analyzed in the Draft EIR, the same risk impacts from operational traffic as those presented in the Draft EIR were assumed in order to be conservative. Other assumptions for cumulative impacts from Pier 70 construction and the San Francisco Community Risk Reduction Program (CRRP) background modeling are the same as those presented in the DEIR.

Table 9-10 shows the cumulative cancer risk estimates at the off-site maximally exposed individual receptors for both the proposed project and the project variant, while **Table 9-11** shows cumulative cancer risk estimates at the on-site maximally exposed individual receptor for both the proposed project and the project variant. The cancer risk estimates are compared to the cumulative cancer risk criteria of 100 per one million. The locations of the maximally exposed individual receptors for each population shown in the table remained the same as presented in the Draft EIR. As shown in **Table 9-10**, while the excess cancer risk for the offsite receptor at Pier 70 would be increased by one in one million under the project variant compared to the proposed project, the resultant cumulative risk would still be well below the air pollutant exposure zone criteria of a cancer risk of 100 in one million. Risks for all other offsite receptors under the project variant would be the same as under the proposed project.

As shown in **Table 9-11**, the project variant would result in a marginal reduction of excess cancer risk for the onsite receptor by one in one million compared to the proposed project. The resultant cumulative risks would still be well below the air pollutant exposure zone criteria of a cancer risk of 100 in one million.

Similar to the proposed project, the health risk assessment for the project variant determined that impacts associated with excess cancer risk at both offsite and onsite receptors would exceed significance thresholds without mitigation, but implementation of **Mitigation Measures M-AQ-2a (Construction Emissions Minimization)** and **M-AQ-2b (Diesel Back-up Generator Specifications)** would reduce this impact to less than significant. Also, like the proposed project, future land uses under the project variant could include science laboratories and PDR activities, which have the potential for TAC emissions. However, implementation of **Mitigation Measure M-AQ-4 (Siting of Uses that Emit Toxic Air Contaminants)** would reduce this impact to less than significant. Therefore, like the proposed project, the impact related to exposure of sensitive receptors to substantial pollutant concentrations for the project variant, with or without the PG&E subarea, would be *less than significant with mitigation*.

TABLE 9-10
CUMULATIVE MITIGATED CANCER RISK OFFSITE RECEPTORS FOR THE
PROPOSED PROJECT AND THE PROJECT VARIANT

Source	Lifetime Excess Cancer Risk (in one million)	
	Proposed Project	Project Variant
Residential and Daycare Receptors (Pier 70)^a		
Background 2040	30	30
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^b	4.7	4.7
Project Construction – Off-road Emissions	32	33
Project Construction – Vehicle Traffic	0.0057	0.0047
Project Operation – Emergency Generators	0.38	0.39
Project Operation – Vehicle Traffic	0.49	0.49
Cumulative Total	68	69
APEZ Criteria	100	100
Significant?	No	No
Residential Receptor (non-Pier 70)^d		
Background 2040	56	56
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^e	6.9	6.9
Project Construction – Off-road Emissions	4.2	4.0
Project Construction – Vehicle Traffic	0.012	0.010
Project Operation – Emergency Generators	0.053	0.046
Project Operation – Vehicle Traffic	4.4	4.4
Cumulative Total	71	71
APEZ Criteria	100	100
Significant?	No	No
School Receptor^{c,e}		
Background 2040	46	46
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^d	1.8	1.8
Project Construction – Off-road Emissions	1.0	1.0
Project Construction – Vehicle Traffic	0.0022	0.0020
Project Operation – Emergency Generators	0.0051	0.0038
Project Operation – Vehicle Traffic	1.5	1.5
Cumulative Total	51	51
APEZ Criteria	100	100
Significant?	No	No

NOTES:

- ^a Assumes Pier 70 resident will move in while construction of the proposed project is ongoing. The cancer risk contribution from project emissions for the Pier 70 resident assumes exposure to project emissions begins in 2024.
- ^b For the purpose of the cumulative analysis for the Pier 70 resident, the Pier 70 construction schedule was modified to represent a reasonable worst case exposure scenario for potential future Pier 70 receptors. It was assumed Phase 2-5 construction emissions from Pier 70 are mitigated using Tier 4 equipment consistent with the Pier 70 EIR mitigation requirements.
- ^c The cancer risk associated with project emissions for non-Pier 70 populations assumes exposure to project emissions begins in 2020.
- ^d For the purpose of the cumulative analysis for non-Pier 70 populations, the original Pier 70 construction schedule and mitigation scenarios as presented in the Pier 70 Project EIR is used as this resulted in the maximum cancer risks.
- ^e This analysis assumes the school receptor MEI is exposed to the project and Pier 70 emissions concurrently.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2019.

TABLE 9-11
CUMULATIVE MITIGATED CANCER RISK AT ONSITE RECEPTORS^a UNDER THE
PROPOSED PROJECT AND PROJECT VARIANT

Source	Lifetime Excess Cancer Risk (in one million)	
	Proposed Project	Project Variant
Background (2040)	38	38
Pier 70 Construction + Operation, Maximum Office Scenario (Mitigated) ^b	11	10.9
Construction – Off-road Emissions	36	35
Construction – Vehicle Traffic	0.023	0.021
Operation – Emergency Generators	0.78	0.83
Operation – Vehicle Traffic	3.2	3.2
Total	89	88
APEZ Criteria	100	100
Significant?	No	No

NOTES:

^a Onsite receptors include residences and potential daycare centers.

^b For the purpose of the cumulative analysis, the original Pier 70 Mixed-Use District project construction schedule and mitigation scenarios as presented in the EIR is used as this resulted in the maximum (worst-case) cancer risks.

* Note that totals may not match sums of intermediate values presented in this table or Air Quality Appendix tables due to rounding.

SOURCE: Ramboll, Tables, Figures and CalEEMod Output, 2019.

Consistency with Clean Air Plan

As described for the proposed project under **Impact AQ-5** (EIR pp. 4.G-57 to 4.G-65), the project variant could conflict with implementation of the Bay Area 2017 Clean Air Plan. Table 4.G-12 (EIR pp. 4.G-59 to 4.G-63) lists the proposed project's consistency with applicable control measures of the 2017 Clean Air Plan, and the same information is applicable to the project variant, with or without the PG&E subarea. Without certain mitigation measures incorporated into the project variant, the project variant would not include applicable control measures from the 2017 Clean Air Plan. Because the project variant would result in significant and unavoidable criteria air pollutant emissions, similar to the proposed project (see Impact AQ-2 and AQ-3) and because the project variant would not include all applicable control measures from the 2017 Clean Air Plan, this impact would be significant. However, as with the proposed project, with implementation of **Mitigation Measure M-AQ-5, Include Spare the Air Telecommuting Information in Transportation Welcome Packets** (EIR p. 4.G-58), plus the other mitigation measures identified in the EIR, as shown in Table 4.G-12, the project variant would include applicable control strategies contained in the 2017 Clean Air Plan for the basin, and the impact would be *less than significant with mitigation*.

Odors

Like the proposed project and for the same reasons described in **Impact AQ-6** (EIR p. 4.G-65), the project variant, with or without the PG&E subarea, would not create objectionable odors that would affect a substantial number of people, and this impact would be *less than significant*.

Cumulative Impacts: Regional Air Quality

As described in the Approach to Analysis on page 4.G-31 of the Draft EIR, the project-level thresholds for criteria air pollutants are based on levels below which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. Therefore, because the project variant's emissions exceed the project-level thresholds as explained above, like the proposed project, the project variant, with or without the PG&E subarea, would also result in a considerable contribution to cumulative regional air quality impacts, and **Impact C-AQ-1** (EIR p. 4.G-66) would be a significant impact. As discussed above, implementation of **Mitigation Measures M-AQ-2a through M-AQ-2f and M-TR-5** would reduce the severity of this impact, however, due to uncertainties in the implementation of these measures (particularly Mitigation Measure M-AQ-2f (Variant), Offset Construction and Operational Emissions), these measures would not reduce the project variant's contribution to the cumulative impact to a less-than-significant level for the same reasons described above. Therefore, similar to the proposed project, the project variant's emissions of criteria air pollutants would be cumulatively considerable, and this cumulative impact for the variant, with or without the PG&E subarea, would be *significant and unavoidable with mitigation*.

Cumulative Impacts: Health Risk

The above analysis regarding the health risk impacts of the project variant conservatively focuses on cumulative 2040 impacts to demonstrate whether the project variant would result in any new or more severe impacts than the proposed project. As discussed above, the project variant would result in a marginal reduction of excess cancer risk for the onsite receptor by one in one million compared to the proposed project, while the project variant would result in a marginal increase of excess cancer risk for the offsite receptor by one in one million compared to the proposed project. The resultant cumulative risks would still be well below the air pollutant exposure zone criteria of 100 in one million with mitigation. Increased cancer risks of the project variant, with or without the PG&E subarea, at both on-site and offset receptors would be significant without mitigation due to the contribution of construction activities but like the proposed project, implementation of **Mitigation Measure M-AQ-2a** alone would be sufficient to reduce the impact of the project variant to a less than significant level, and the excess cancer risk impact to both onsite and offsite receptors under **Impact C-AQ-2** (EIR pp. 4.G-67 to 4.G-72) would be *less than significant with mitigation*.

9.D.8 Greenhouse Gas Emissions

Impacts related to greenhouse gas emission (GHG) for the project variant would be essentially the same as those described in the initial study in Appendix B for the proposed project under **Impact C-GG-1** (EIR pp. B-18 to B-20), since the nature and magnitude of the development of the project variant are so similar to the proposed project. GHG emissions of the no PG&E scenario would be less than those for the variant or project, since this scenario would have reduced construction and reduced overall development. As with the proposed project, construction and operation of the project variant, with or without the PG&E subarea, would be subject to and comply with GHG reduction measures,⁵ and this impact would be *less than significant*.

⁵ San Francisco Planning Department. Greenhouse Gas Analysis Compliance Checklist for the Potrero Power Station Project Variant, dated August 29, 2019.

9.D.9 Wind and Shadow

Wind and shadow impacts of the proposed project are described in EIR Chapter 4, Section 4.H, and as described below, the wind and shadow impacts of the project variant would be similar. Impacts of the no PG&E scenario would be the same as or less than those for the variant and the proposed project, since this scenario would have reduced overall development (no development on Blocks 13 and 14 and reduced development on Block 1) compared to both the variant and the proposed project. See Section 4.H for a more detailed description of the proposed project impacts.

Wind

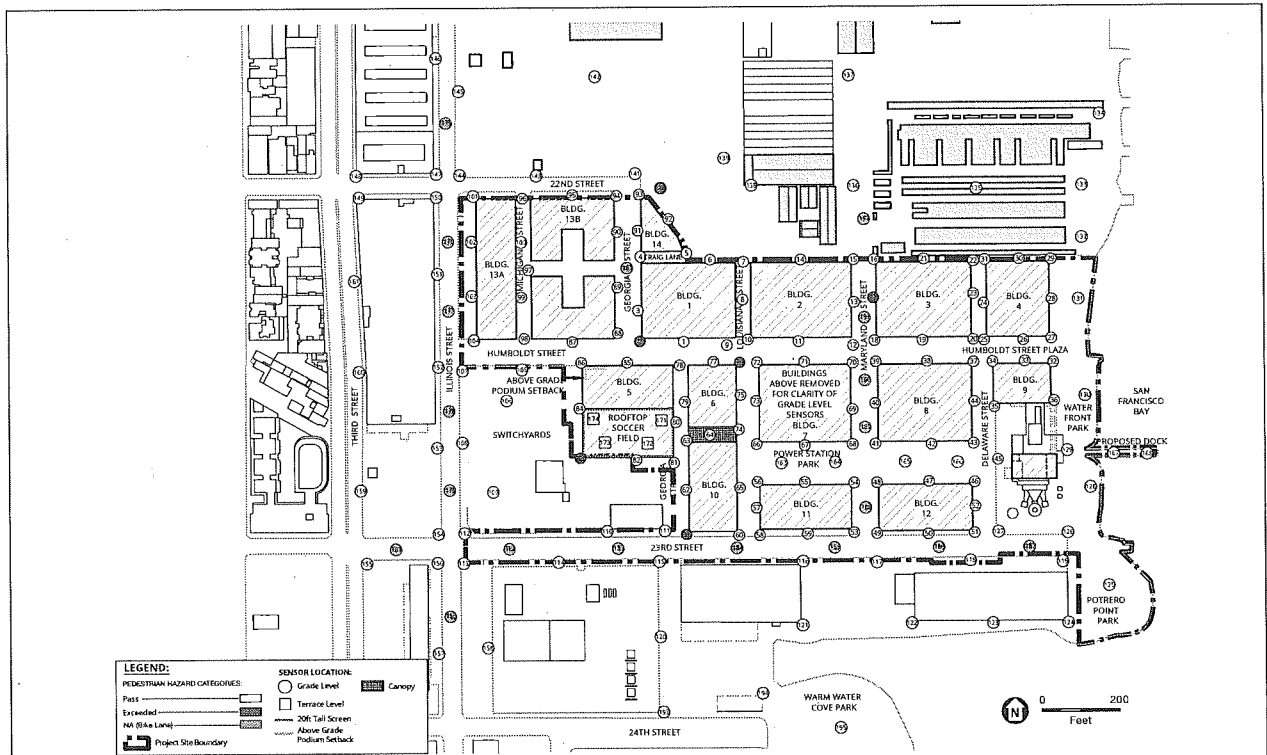
Wind tunnel testing was conducted for the project variant using a physical model of the variant and following the same procedures as were undertaken for wind analysis of the proposed project and evaluating the same pedestrian test points, except that one test point (test point 64) was not included because it would be covered by a portion of the Block 15 building under the project variant. Therefore, a total of 169 pedestrian test points were evaluated (see Appendix F-1).⁶ The results of the wind tunnel testing indicate that wind conditions would be improved with the project variant, compared to conditions with the proposed project. **Figure 9-34** compares the wind hazard test results of the project variant with those of the proposed project.

Under existing conditions, there are nine pedestrian hazard exceedances over 38 hours per year. The proposed project would reduce this to six hazard exceedances over 28 hours per year. The project variant would further reduce wind impacts to three pedestrian wind hazard exceedances, over a total of 23 hours per year. The average wind speed exceeded one hour per year with the project variant would be 23 mph, slightly less than the 25 mph under the proposed project (both less than the existing 28 mph).

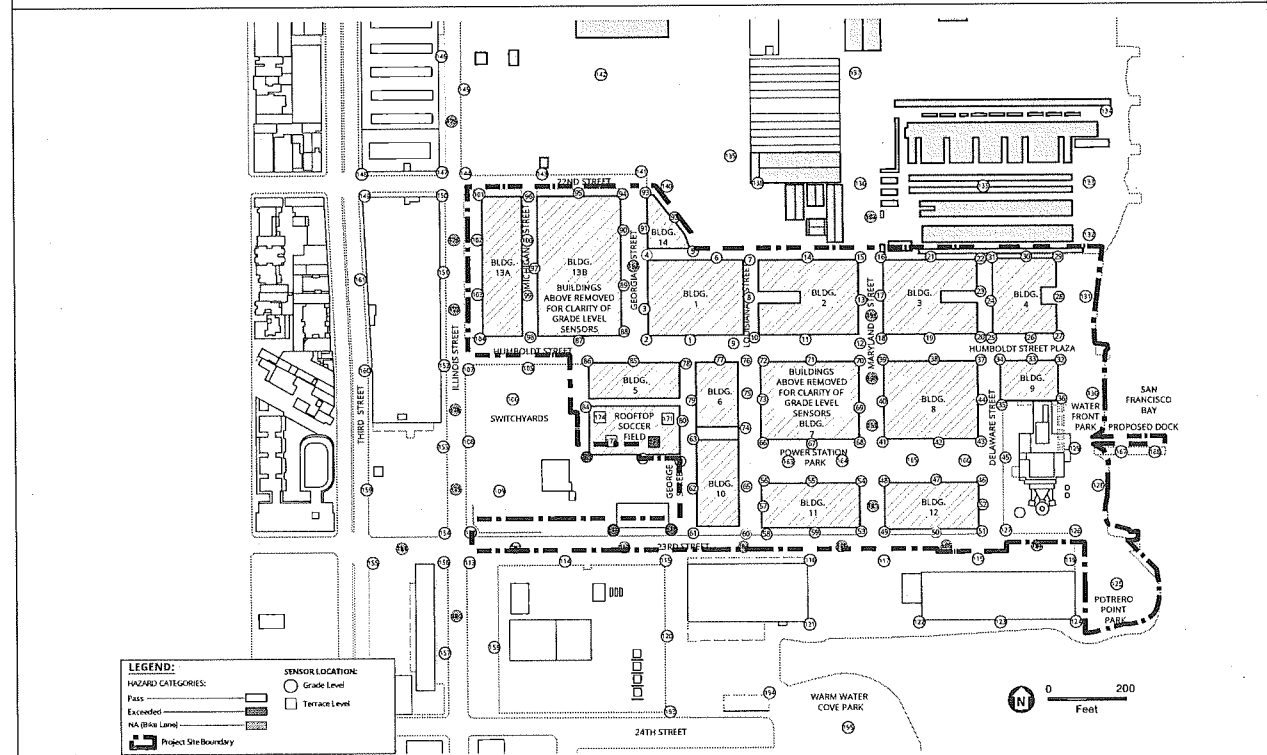
Of the three hazard exceedances with the project variant, one would be at the same location as a project exceedance—test point 83, at the southwest corner of Block 5. This would be consistent with wind tunnel results elsewhere in San Francisco's environment of prevailing westerly, northwesterly, and southwesterly winds, which often reveal that the locations most affected by a project are the southwestern and northwestern building corners. At this location, the wind hazard speed would be exceeded 14 hours per year with the project variant, compared to four hours per year with the proposed project. The wind speed would be exceeded one hour per year would be 41 mph with the project variant, compared to 39 mph with the proposed project. This increase is likely the result of the building on the north side of Block 5 being proposed at a height of up to 220 feet under the project variant, compared to 180 feet under the proposed project.

Just to the south, the project variant would result in two wind hazard exceedances at the project site's southwest corner along 23rd Street at Georgia Lane, where wind speeds at test point 110 would exceed the hazard criterion for two hours per year, and at test point 111, for seven hours per year. This would likely be the result of both the taller building on Block 5 and the taller building

⁶ RWDI, Potrero Power Station Plan Project, San Francisco, CA: Updated Pedestrian Wind Study, September 9, 2019. (Appendix F-1)



Proposed Project Pedestrian Wind Hazards (EIR Figure 4.H-4)



Project Variant Pedestrian Wind Hazards

SOURCE: RWDI

Potrero Power Station Mixed-Use Development Project

Figure 9-34
Comparison of Pedestrian Wind Hazards,
Proposed Project and Project Variant

on new Block 15 (formerly Blocks 6 and 10), at the Station A location.⁷ The increase in the wind speed exceeded one hour per year, compared to that under the project, would be 3 mph at test point 110, from 35 mph to 38 mph. The increase at test point 111 would be 11 mph, from 29 mph to 40 mph, as this point would be proximate to the 160-foot-tall portion of the proposed building on Block 15.⁸

Conversely, the project variant would not result in wind hazard exceedances at three locations on the project site (test points 2 and 76, on Humboldt Street, and test point 17, on Maryland Street) where exceedances would occur with the proposed project. At these three test points, the wind speeds exceeded one hour per year would decrease by 14 mph, 14 mph, and 5 mph, respectively, compared to wind speeds with the proposed project; the resulting wind speeds exceeded one hour per year would be 28 mph, 22 mph, and 33 mph, respectively. The project variant would also avoid the wind hazard exceedance at test point 140 (located just north of the project site and within the approved Pier 70 Mixed-Use District project site) that would occur with the proposed project. Here, the wind speed exceeded one hour per year would decrease by 12 mph, compared to that with the project, to 24 mph. The relatively large decrease in one-hour-exceeded wind speeds at test points 2 and 76 compared to the proposed project would likely be the result of the elimination of the proposed 300-foot tower on Block 6 (now the northern portion of Block 15).

Like the proposed project, under **Impact WS-1** (EIR pp. 4.H-10 to 4.H-14), the wind impacts of the variant, with or without the PG&E subarea, would be *less than significant*, and implementation of **Improvement Measure I-WS-1, Wind Reduction Features for Block 1**, would minimize pedestrian-level winds created by development on Block 1. However, also like the proposed project, the project variant's phased construction could potentially result in localized wind conditions that could be worse than those reported for the project at full buildout during the interim phases of development, and thus the effects of phased buildout under **Impact WS-2** (EIR pp. 4.H-14 to 4.H-16) would be *significant and unavoidable with mitigation* and the same **Mitigation Measure M-WS-2, Identification and Mitigation of Interim Hazardous Wind Impacts**, would be required.

Under the variant plus cumulative conditions, there would be three exceedances of the pedestrian wind hazard criterion, the same as under existing plus variant conditions, five fewer than under existing conditions, and one fewer than the four hazard exceedances under project plus cumulative conditions. The three hazard exceedances would occur at the same three locations as under existing plus variant conditions (test points 83, 110 and 111).⁹ The total number of hours during which the hazard criterion would be exceeded would be 19 hours per year, four fewer hours than with the variant alone, half of the 38 hours of wind hazard exceedance under existing conditions, and the

⁷ An additional, non-pedestrian, hazard exceedance would occur with the project variant on the project's proposed rooftop soccer field on Block 5, for two hours per year.

⁸ An additional, non-pedestrian, hazard exceedance would occur with the project variant on the project's proposed rooftop soccer field on Block 5, for seven hours per year. This exceedance could likely be avoided by installation of a combination of both porous and solid screening, with porous screens along the west and south edges of the field and solid screens along the north and east edges (Frank Kriksic, RWDI, e-mail correspondence, July 3, 2019).

⁹ As with the variant plus existing conditions, an additional, non-pedestrian, hazard exceedance would occur with the project variant on the project's proposed rooftop soccer field on Block 5, for six hours per year. This exceedance could likely be avoided by installation of a combination of both porous and solid screening, with porous screens along the west and south edges of the field and solid screens along the north and east edges (Frank Kriksic, RWDI, e-mail correspondence, July 3, 2019).

same as the number of hours of hazard exceedances under project plus cumulative conditions. The average wind speed exceeded one hour per year with the project variant plus cumulative conditions would be 25 mph, 2 mph more than the 23 mph under both existing plus variant conditions and project plus cumulative conditions (all less than the existing 28 mph). Therefore, like the project, under **Impact C-WS-1** (EIR p. 4.H-17), the project variant, with or without the PG&E subarea, would have a *less-than-significant* cumulative wind impact.

Shadow

As with the proposed project, shadow effects of the project variant were evaluated through the use of a digital 3D model (see Appendix F-1).¹⁰ The analysis shows that shadow cast by the project variant would generally be similar to that cast by the proposed project, although in most instances shadow from the proposed variant would have a maximum extent that would cover slightly less ground than would shadow from the proposed project. That is because the tallest new element under the project variant—a 240-foot-tall tower on Block 7—would be shorter and farther east than the tallest new element under the proposed project (a 300-foot tower on Block 6). One substantive result of this shorter and relocated tallest tower is that the project variant would not cast any new shadow on Woods Yard Park, a publicly accessible open space at 22nd and Minnesota streets, in front of the San Francisco Municipal Transit Agency Woods Division motor coach yard and maintenance facility. Although the project variant would also include a 220-foot-tall tower on Block 5 (40 feet taller than the proposed project's 180-foot tower at that location), Woods Yard Park is west-northwest of the project site and not subject to the longest shadows emanating from the project site, which fall to the southwest and northwest. For the same reasons, the project variant would cast considerably less shadow on Angel Alley (along Tennessee Street between 22nd and 23rd streets) and the 1201 Tennessee mid-block alley than would the proposed project. Shadow effects of the project variant on the San Francisco Bay Trail and on streets and sidewalks near the project site would be very similar to that cast by the proposed project. Like the proposed project, the project variant would not add net new shadow to Esprit Park or any other parks under the jurisdiction of the Recreation and Park Commission and subject to San Francisco Planning Code section 295, nor would the project variant add net new shadow to the non-section 295 open spaces Warm Water Cove Park, Progress Park, or Minnesota Grove.

The project variant would develop buildings other than the 240-foot and 220-foot towers that in most instances would range from 5 feet to 35 feet taller than buildings on the same blocks under the proposed project. The variant would not increase heights on Block 13, at 22nd and Illinois streets; on Block 4, at the northeast corner of the project site; Block 1, at Humboldt and Georgia streets and Block 14 immediately to the north; on Block 8, adjacent to the Unit 3 Power Block; and on the northern and eastern portions of Block 13. The most pronounced effect of the taller buildings under the project variant would be to increase shadow to the southwest of the site in the early morning around the summer solstice, although the effect would mainly be seen on an existing surface parking lot at a truck rental facility. Elsewhere, the added height would incrementally increase shadow on the

¹⁰ PreVision Design, Shadow Analysis Report for the Proposed Potrero Power Plant Project Variant, June 24, 2019 (included in Appendix F-1). The building designs for the project variant are more fully developed than was the case when the shadow analysis of the proposed project was undertaken. Therefore, unlike the 3D model used in the project's shadow analysis, the 3D model of the project variant includes upper-story setbacks and building articulation and therefore more precisely portrays shadow effects of the proposed variant.

proposed variant's open spaces, compared to that cast by the proposed project. This would affect Power Station Park, for example, during times when the project would partially shade the park (for example, during the midday period around the spring and fall equinoxes) and the added 5 feet of height on Blocks 11 and 12 would increase the length of project variant shadows.

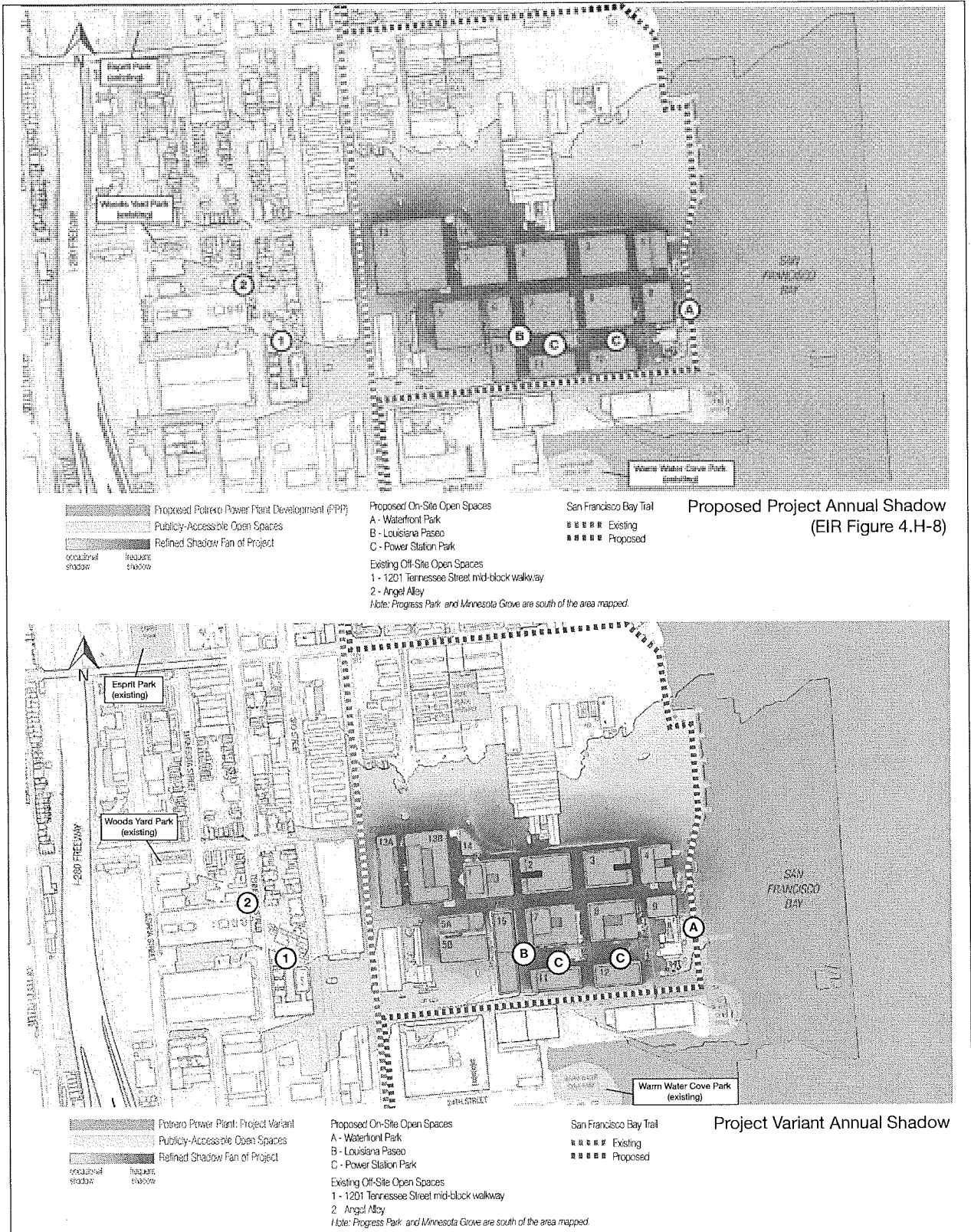
In addition, under cumulative conditions, the increased height under the project variant along the western portion of Block 13 would cast a small amount of shadow on the potential rooftop open space of the Pier 70 Mixed-Use Project building at 22nd and Louisiana streets; this shadow would reach this open space only in the late afternoon around the winter solstice. The project variant would not add shadow to any other open spaces at the Pier 70 Mixed-Use Project or the Historic Core Project at Pier 70 that would not be shaded by the proposed project, and its shading of open spaces that the proposed project would also shade would be similar to the effects of the project.

Figure 9-35, Comparison of Annual Net New Shadow, Proposed Project and Project Variant, illustrates the similarity in annual shadow.

In general, shadow effects of the proposed variant would be similar to, but slightly less substantial than, those of the proposed project, and shadow impacts of the no PG&E scenario would be even less. For **Impacts WS-3 and C-WS-2**, the project variant, like the proposed project, would cast new shadow on existing open spaces, including San Francisco Bay Trail, and sidewalks near the project site, the extent and duration of the increased shadow coverage would be limited and would not be expected to adversely affect the use of these areas. Therefore, as with the proposed project, shadow impacts of the project variant, with or without the PG&E subarea, at both a project and cumulative level would be *less than significant*.

9.D.10 Recreation

Similar to the proposed project, as described under **Impacts RE-1 and C-RE-1** in the initial study in EIR Appendix B (EIR pp. B-25 to B-28), the project variant would increase the use of existing neighborhood parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated, or such that the construction of new or expanded facilities would be required. The initial study (see Appendix B) concluded that this would be a less-than-significant impact for the proposed project because the proposed development of 6.3 acres of open space and recreational facilities would offset the increased demand for open space and recreation by future residents at the project site, and therefore any increase in use of existing public facilities would not be expected to result in substantial physical deterioration of public parks or recreational facilities. The project variant would provide approximately 6.9 acres of open space and recreational facilities, and the residential demand for the project variant under the maximum residential scenario would be of similar magnitude or slightly less than the proposed project (see Table 9-5, above); therefore, this impact would also be less than significant. Impacts of the no PG&E scenario would be less than that of the project and variant because fewer residential units would result in reduced demand and almost the same amount of open space (6.6 acres) would be provided. Therefore, like the proposed project, impacts of the project variant, with or without the PG&E subarea, on recreational resources at both a project- and cumulative level, would be *less than significant*.



SOURCE: PreVision Design

Potrero Power Station Mixed-Use Development Project

Figure 9-35
Comparison of Annual Net New Shadow,
Proposed Project and Project Variant

9.D.11 Utilities and Service Systems

Water Supply

Impact UT-1 in Draft EIR Appendix B, Initial Study (EIR pp. B-29 to B-31), determined that the proposed project would not require expansion of the city's water supply system and would not adversely affect the city's water supply, and that this would be a less than significant impact. Subsequent to the publication of the Draft EIR, actions by the San Francisco Public Utilities Commission (SFPUC) and the California State Water Resources Control Board have altered the water supply projections in the 2015 Urban Water Management Plan, and the SFPUC prepared and approved a revised Water Supply Assessment for the proposed project.¹¹ The two actions affecting the water supply projects are: (1) SFPUC amended its 2009 Water Supply Agreement between the SFPUC and its wholesale customers in December 2018; and (2) the State Water Resources Control Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, referred to as the Bay Delta Plan Amendment, also in December 2018.

Chapter 12 of this Responses to Comments document includes the revised water supply impact analysis presented in Impact UT-1, which describes the City's updated water supply conditions and analyzes the proposed project's impacts on water supply in light of the 2018 amendments to the 2009 Water Supply Agreement and the Bay-Delta Plan. In summary, the analysis determined that sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development in normal, dry, and multiple dry years unless the Bay-Delta Plan Amendment is implemented. If the Bay-Delta Plan Amendment is implemented, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time, so the analysis conservatively assumes that the construction and/or operation of such facilities could result in a significant cumulative impact.

However, the proposed project would represent 0.36 percent of the total water demand in San Francisco in 2040, and new or expanded water supplies would be needed to address dry-year supply shortfalls resulting from the Bay-Delta Plan Amendment with or without the proposed project. Therefore, the proposed project would not have a considerable contribution to any significant cumulative impacts that could result from the construction and/or operation of new or expanded water supply facilities that would be required if the Bay-Delta Plan Amendment is implemented.

The analysis also acknowledges that given the long lead times associated with developing additional water supplies, the SFPUC would likely address any supply shortfalls through increased rationing for the next 10 to 30 years (or more) rather than the construction of new facilities. The higher levels of rationing on a citywide basis could also result in significant cumulative effects (such as loss of vegetation), but the project would also not make a considerable contribution to impacts from increased rationing. Therefore, under the revised impact analysis for

¹¹ San Francisco Public Utilities Commission, 2019. Resolution No. 19-0161 approving the Revised Water Supply Assessment for the proposed Potrero Power Station Project dated August 13, 2019.

Impact UT-1, the impact conclusion remains unchanged from the Draft EIR, and this impact would be less than significant. See Chapter 12 for the detailed analysis of the revised water supply impact.

Under the project variant, the maximum residential scenario would have nine percent fewer residential units (2,748 compared to 3,014) and nine percent fewer residents (6,238 compared to 6,842) than the maximum residential scenario under the proposed project. The no PG&E scenario would have 1,216 fewer dwelling units than the variant. Consequently, water demands of the project variant, with or without development of the PG&E subarea, would be less than that of the proposed project, as shown in **Table 9-12, Water Demands of the Proposed Project and Project Variant**, below for buildout conditions in 2035. Therefore, for the reasons summarized above and described in detail in the revised Impact UT-1 in Chapter 12 of this document, **Impacts UT-1 and C-UT-1** (with respect to water supply) for the project variant, with or without the PG&E subarea, would be *less than significant*.

TABLE 9-12
WATER DEMANDS OF THE PROPOSED PROJECT AND PROJECT VARIANT
(million gallons per day, or mgd)

Scenario	Average Daily Potable Water Demand, 2035	Average Daily Non-Potable Water Demand, 2035
Proposed Project	0.22	0.079
Maximum Residential	0.25	0.074
Maximum Commercial	0.20	0.079
Project Variant	0.21	0.079
Maximum Residential	0.22	0.077

SOURCE: CBG, March 2018 and updated May 2019

Wastewater

Like the proposed project, as described in the initial study (see Appendix B, EIR pp. B-31 to B-33, B-37) under **Impacts UT-2, UT-3 and C-UT-1** (with respect to wastewater), the project variant would not exceed wastewater treatment requirements of the Southeast Water Pollution Control Plant, and it would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. Wastewater demand is related to water demand,¹² which as described above in Impact UT-1, would be less for the project variant than for the proposed project, and even less for the no PG&E scenario. Therefore, like the proposed project, the project variant's impact on wastewater, with or without the PG&E subarea, both at a project-specific and cumulative level, would be *less than significant*.

¹² For the purposes of environmental review the sewer demand is estimated to be 95 percent of the indoor potable water demand and 100 percent of the indoor non-potable water demand. See DEIR Appendix B, Initial Study, p. B-32.

Stormwater

Like the proposed project, as described in the initial study (see Appendix B, EIR pp. B-33, B-37) under **Impacts UT-4 and C-UT-1** (with respect to stormwater), the project variant would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The proposed stormwater improvements would accommodate stormwater runoff in compliance with applicable regulations and no new or expanded stormwater drainage facilities beyond those included as part of the project variant would be required. Therefore, like the proposed project, impacts of the variant, with or without the PG&E subarea, related to stormwater drainage, both at a project-specific and cumulative level, would be *less than significant*.

Solid Waste

As described in the initial study (see Appendix B, EIR pp. B-34 to B-37) for the proposed project under **Impacts UT-5, UT-6, and C-UT-1** (with respect to solid waste), the project variant would result in increased generation of solid waste, but the increases would be served by a landfill with sufficient capacity. The project variant would comply with all applicable statutes and regulations related to solid waste, which would minimize the amount of solid waste generated during construction and operations. Because the magnitude of development under the project variant would be similar to or less than that of the proposed project, the estimated solid waste generated by the project variant would be similar to or less than that of the project; solid waste generated by the no PG&E scenario would be less than both the project and the variant due to the reduced size of the development. Therefore, like the project, existing landfill capacity would accommodate solid waste disposal needs. Therefore, like the proposed project, construction and operation of the project variant would not exceed available permitted landfill capacity, and the project variant would comply with all applicable statutes and regulations related to solid waste. Therefore, like the proposed project, impacts of the project variant, with or without the PG&E subarea, related to solid waste, both at a project-specific and cumulative level would be *less than significant*.

9.D.12 Public Services

Like the project, as described in the initial study (see Appendix B, EIR p. B-39 to B-48) under **Impacts PS-1, PS-2, and C-PS-1**, neither construction nor operation of the project variant would result in an increase in demand for police protection, fire protection, schools, libraries, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities and emergency medical services. The nature and magnitude of construction and operation of the project variant would be similar to or of lesser magnitude than that of the proposed project, which would be even less under the no PG&E scenario due to the reduced size of the development. Therefore, for the same reasons described in the initial study for the proposed project, these impacts under the project variant, with or without the PG&E subarea, both at a project-specific and cumulative level would also be *less than significant*.

9.D.13 Biological Resources

Special Status and Migratory Birds

As described for the proposed project in EIR Chapter 4, Section 4.I (EIR pp. 4.I-36, 4.I-60) under **Impact BI-1 and C-BI-1** (as it relates to nesting birds), construction of the project variant could have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Because the project variant would require substantially the same nature and magnitude of construction activities, the same mitigation measure as identified for the proposed project, **Mitigation Measure M-BI-1, Nesting Bird Protection Measures** (EIR p. 4.I-38), would reduce this potential impact to less than significant. Therefore, as with the proposed project, Impact BI-1 for the project variant, with or without the PG&E subarea, both at a project-specific and cumulative level would be *less than significant with mitigation*.

Also like the proposed project, under **Impact BI-2** (EIR p. 4.I-39), operation of the project variant, with or without the PG&E subarea, would have a *less than significant* impact on special status and migratory bird species because compliance with the *Standards for Bird-Safe Buildings*, as administered by the San Francisco Planning Department, would avoid or minimize the adverse effects of avian collisions during project operation.

Special Status and Otherwise Protected Bats

As described for the proposed project in EIR Chapter 4, Section 4.I (EIR pp. 4.I-40, 4.I-60) under **Impact BI-3 and C-BI-1** (as it relates to protected bats), construction of the project variant, with or without the PG&E subarea, could have a substantial adverse effect either directly or through habitat modification on bats identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U. S. Fish and Wildlife Service. Because the project variant would require substantially the same nature and magnitude of construction activities, the same mitigation measure as identified for the proposed project, **Mitigation Measure M-BI-3, Avoidance and Minimization Measures for Bats** (EIR p. 4.I-41), would reduce this potential impact to less than significant. Therefore, as with the proposed project, Impact BI-3 for the project variant, with or without the PG&E subarea, both at a project-specific and cumulative level would be *less than significant with mitigation*.

Special Status Marine Species

As described for the proposed project in EIR Chapter 4, Section 4.I (EIR pp. 4.I-43 to 4.I-49, 4.I-60) under **Impact BI-4 and C-BI-1** (as it relates to marine species), construction of the project variant could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration. Although the nature of near shore and in-water construction activities would be substantially the same as for the proposed project, the magnitude of construction activities associated with the project variant—specifically the pile

driving activities required for construction of the larger design of the wharf and floating dock—would be greater than what was anticipated for the proposed project and could result in more severe bioacoustic effects on fish and marine mammals. Both the number and size of piles would be increased for project variant construction. Instead of nine 24-inch concrete piles required for the wharf under the proposed project, the project variant would require sixteen 24-inch steel or concrete piles and eight 24-inch steel or concrete piles. Similarly, instead of four 36-inch steel piles for the proposed project's floating dock, the project variant would require four 42-inch diameter steel guide piles.

However, although the increased number and larger size piles have the potential to result in higher underwater sound levels that could travel longer distances, use of bubble curtains for sound attenuation has been shown to effectively and substantially reduce underwater sound levels and the distance the sound travels, including for impact driving of the larger 42-inch steel piles.¹³ Furthermore, as described in Impact BI-4 for the proposed project, the project variant would incorporate standard in-water work best management practices. These practices would include the observance of the National Marine Fisheries Service approved in-water work windows, which were developed for San Francisco Bay as part of section 7 consultations with resource agencies (National Marine Fisheries Service and U.S. Fish and Wildlife Service) for the Long Term Management Strategy Management Program for managing sediment within San Francisco Bay. These regionally-specific windows are designed based on the life history of special-status fish species to reduce the likelihood that these fish species might occur within the area in which in-water work is proposed. Additionally, the project sponsor has indicated that the project variant would employ best management practices related specifically to the in-water installation of piles, when feasible, including the use of vibratory hammers in place of impact hammers, the use of cushion blocks, and the implementation of a “soft start” technique. The soft start technique gives any fish or marine mammals present a chance to leave the immediate area before piles are driven at full impact.

Nevertheless, as identified for the proposed project, there remain uncertainties regarding the exact pile configuration and installation methods to be used for proposed in-water construction, and consequently, there remains a potential that construction of the project variant could have an adverse effect on protected fish or marine mammals, a significant impact. However, implementation of the proposed in-water construction best management practices together with **Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving** (EIR p. 4.I-48), would ensure that any potential for increased severity of potential impacts from pile installation under the project variant would be effectively mitigated to less-than-significant levels for both fish and marine mammals.

With respect to the refined seawall design, construction of the seawall under the project variant would use the same number and size of piles as described for the proposed project in the Draft EIR, but the additional in-water construction associated with removal of the existing seawall and rip-rap along this section of the shoreline and replacement with new rip-rap would incrementally

¹³ Steel piles represent a conservative assumption as they are known to generate larger sound profiles than concrete piles of a similar size. Caltrans, *Technical Guidance for Assessment and Mitigation of the Hydroacoustic Effects of Pile Driving on Fish*, Final Report, prepared for California Department of Transportation by ICF Jones & Stokes and Illingworth & Rodkin, Inc., 2015.

increase the construction disturbance to marine species compared to what was assumed for the proposed project. This additional disturbance, however, would result in similar effects on marine species that are described in the Draft EIR, and the same mitigation measures would effectively reduce these impacts to less-than-significant. Therefore, construction impacts on special-status marine species for the project variant, with or without the PG&E subarea, both at a project-specific and cumulative level would be *less than significant with mitigation*.

As described for the proposed project in EIR Chapter 4, Section 4.I under **Impact BI-5** (EIR p. 4.I-50), operation of the project variant would not have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service. Potential impacts associated with increased vessel traffic and operation of the proposed stormwater outfall would be the same for the project variant as described in the EIR for the proposed project, since these aspects are identical for the variant and the proposed project. However, with the project variant, the refined dock design would increase the area of overwater shading by about 1,600 square feet in the vicinity of the area that is substantially shaded by the Unit 3 Power Block. As described in the Draft EIR, the existing benthic habitat in this area is of poor quality given its extended history adjacent to heavy industrial land uses, and the long term effects of the refined dock would result in a negligible change from the existing conditions and would have a very limited impact on listed marine species. Therefore, like the proposed project, operational effects on special-status marine would be *less than significant* under the project variant, with or without the PG&E subarea.

Sensitive Natural Communities

As described for the proposed project in EIR Chapter 4, Section 4.I under **Impact BI-6** (EIR p. 4.I-52), the project variant would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service. This is because the project variant is located at the same project site. Therefore, like the proposed project, impacts of the project variant, with or without the PG&E subarea, on sensitive natural communities would be *less than significant*.

Jurisdictional Waters

As described for the proposed project in EIR Chapter 4, Section 4.I (EIR pp. 4.I-53, 4.I-60) under **Impact BI-7** and **C-BI-1** (as it relates to jurisdictional waters), construction of the project variant could have an adverse effect on federally protected waters as defined by section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. Construction of physical shoreline improvements to protect against future sea level rise and/or for a new stormwater outfall for discharging stormwater could result in placement of fill within the jurisdictional waters of the San Francisco Bay. In addition, construction of a floating dock would also result in placement of fill within jurisdictional waters, and the design under the project variant would be about 60 percent larger than under the proposed project. However, under the project variant, the revised design of the seawall would reduce the amount of new bay fill compared to the proposed project.

Nevertheless, any activities resulting in the placement of fill in the bay or other disturbances to jurisdictional water would require permit approval from the U.S. Army Corps of Engineers and a water quality certification from the Regional Water Quality Control Board. As part of the permit conditions, the project sponsor would be required to avoid or minimize to the maximum extent practicable placement of fill in jurisdictional waters. In addition, permanent placement of new fill resulting in the loss of jurisdictional waters may trigger a requirement for compensatory mitigation aimed at restoring or enhancing similar ecological functions and services as those displaced. Implementation of **Mitigation Measure M-BI-7, Compensation for Fill of Jurisdictional Waters** (EIR p. 4.I-54), like the proposed project, would reduce this impact to a less-than-significant level. Therefore, like the proposed project, the construction impacts of the project variant, with or without the PG&E subarea, on jurisdictional waters both at a project-specific and cumulative level would be *less than significant with mitigation*.

Similarly, like the proposed project under **Impact BI-8** (EIR pp. 4.I-55 to 4.I-58), operation of the project variant would not be expected to have a substantial adverse effect on jurisdictional waters. Potential effects associated with maintenance dredging for vessel access, resuspension of sediments during dredging, and mobilization of chemicals of concern associated with the recreational dock would be minimized through required compliance with the long-term management strategy for dredging in San Francisco Bay and with any applicable regional-board approved risk management plans. Therefore, like the proposed project, impacts on jurisdictional waters associated with operation of the project variant, with or without the PG&E subarea, would be *less than significant*.

Wildlife Movement

As described for the proposed project in EIR Chapter 4, Section 4.I under **Impact BI-9** (EIR p. 4.I-58), the project variant could interfere substantially with the movement of wildlife species. Similar to the proposed project, construction of the project variant, with or without the PG&E subarea, could affect nesting birds and construction of the dock could generate high levels of underwater noise that is harmful to the movement of fish and marine mammals. However, implementation of **Mitigation Measure M-BI-1, Nesting Bird Protection Measures**, and **Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving**, would reduce this impact to *less than significant with mitigation*.

Plans and Policies Related to Biological Resources

As described in EIR Chapter 4, Section 4.I under **Impact BI-10** (EIR p. 4.I-60), there are no adopted habitat conservation or natural community conservation plans that apply to the terrestrial or marine areas on or adjacent to the project site, and there are no protected significant or landmark trees on the project site. Therefore, like the proposed project, the project variant would not conflict with any local policies or ordinances protecting biological resources or the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, like the proposed project, the impacts of the project variant, with or without the PG&E subarea, related to plans and policies related to biological resources would be *less than significant*.

9.D.14 Geology, Soils, and Paleontological Resources

Geologic Hazards, Soils, Topography

Impacts related to geologic hazards, soil erosion/loss of topsoil, unstable geologic unit, expansive or corrosive soils, and topography for the project variant would be the same as those of the proposed project, as described in the initial study (see Appendix B, EIR p. B-50 to B-64). This is because the project variant would be located on the same project site and would involve substantially the same nature and magnitude of construction activities. The foundation requirements could be somewhat reduced under the project variant because the maximum building height would be 240 feet instead of 300 feet. Therefore, as described in the initial study in EIR Appendix B, like the proposed project, **Impacts GE-1 through GE-5, and C-GE-1** for the project variant, with or without the PG&E subarea, would all be *less than significant*, at both a project and cumulative level.

Paleontological Resources

As described for the proposed project in the initial study (see Appendix B, EIR p. B-62) under **Impact GE-6**, the project variant could directly or indirectly destroy a unique paleontological resource because some of the geologic materials underlying the site have the potential to contain significant fossils, which could be encountered during construction. However, like the proposed project, implementation of **Mitigation Measure M-GE-6, Paleontological Resources Monitoring and Mitigation Program** (EIR p. B-63), would ensure that the project variant would not cause a substantial adverse change to the scientific significance of a paleontological resource and would reduce this impact to a less-than-significant level. Therefore, like the proposed project, potential impacts of the variant, with or without the PG&E subarea, on paleontological resources, both at a project-specific and cumulative level, would be *less than significant with mitigation*, with implementation of the same mitigation measure identified for the proposed project.

9.D.15 Hydrology and Water Quality

Hydrology and water quality impacts of the proposed project are described in EIR Chapter 4, Section 4.J, and as described below, the hydrology and water quality impacts of the project variant would be similar. Impacts of the no PG&E scenario would be the same as or less than those for the variant, since this scenario would have reduced construction (both in magnitude and duration) and reduced overall development (no development on Blocks 13 and 14 and reduced development on Block 1) compared to both the variant and the proposed project.

See Section 4.J for a more detailed description of the proposed project impacts.

Construction Impacts

As described for the proposed project in EIR Chapter 4, Section 4.J under **Impacts HY-1** (EIR pp. 4.J-37 to 4.J-46) and **C-HY-1** (as it relates to construction impacts, EIR p. 4.J-58), construction of the project variant could violate water quality standards or otherwise degrade water quality, but water quality impacts to the bay from both on-land and in-water construction activities would be minimized through implementation of control measures and best management practices specified under state and local regulations. These include the construction general stormwater permit, the City's construction site runoff control permit, erosion and sediment control plan, stormwater pollution

prevention plan, permit requirements, and water quality certification. Even though the project variant would involve more intensive in-water construction associated with the larger dock design, the removal of the existing seawall, and construction of a new seawall, compliance with applicable regulations would ensure water quality protection to acceptable standards. Therefore, like the proposed project, this impact for the project variant, with or without the PG&E subarea, at both a project-specific and cumulative level would be *less than significant*.

Operational Impacts

As described for the proposed project in EIR Chapter 4, Section 4.J under **Impacts HY-2** (EIR pp. 4.J-46 to 4.J-54) and **C-HY-1** (as it relates to operational impacts, EIR p. 4.J-59), operation of the project variant would not violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality, and runoff would not exceed the capacity of a storm drain system or provide a substantial source of stormwater pollutants. Like the proposed project, the project variant would be required to comply with comprehensive regulations and to implement required measures designed to reduce pollutant loading and protect water quality, thereby avoiding or minimizing water quality effects from potential sources of water pollutants associated with project operations. Therefore, operational water quality impacts of the project variant, with or without the PG&E subarea, at both a project-specific and cumulative level would be *less than significant*.

Alteration of Drainage Patterns

As described for the proposed project in EIR Chapter 4, Section 4.J under **Impacts HY-3** (EIR p. 4.J-55) and **C-HY-1** (as it relates to drainage patterns, EIR p. 4.J-60), the project variant, with or without the PG&E subarea, would not substantially alter the existing drainage pattern at the site. The existing grading at the site is relatively flat, and proposed changes to grading would be similar to that for the proposed project and would be designed to address sea level rise but not to otherwise substantially alter the existing drainage pattern. Furthermore, neither alteration of existing drainage patterns at the project site nor changes in stormwater runoff volumes would result in substantial erosion, siltation, or flooding onsite or offsite. Like the proposed project, this impact would be *less than significant*, both at a project-specific and cumulative level.

Flooding

As described for the proposed project in EIR Chapter 4, Section 4.J under **Impacts HY-4, HY-5** (EIR pp. 4.J-55 to 4.J-57), and **C-HY-1** (as it relates to flooding, EIR p. 4.J-60), the project variant would not place housing within a 100-year flood zone or place structures within an existing or future 100-year flood zone that would impede or redirect flood flows. Although the shoreline portions of the project site are located within a 100-year flood zone identified on the City's 2008 Interim Flood Hazard Maps, the project variant would include construction of shoreline protection improvements to protect the waterfront from the damaging effects of wave action, as well. In addition, to address sea level rise, the project variant would raise the elevation of the entire waterfront portion of the project site above the existing 100-year flood elevation and above the projected worst-case future flood elevation in 2100 estimated by the National Research Council in combination with storm surge [i.e., an elevation 15.4 feet North American Vertical Datum of 1988 (NAVD88)]. The only

difference between the proposed project and the project variant is that under the variant, a portion of the wharf deck is lowered to meet ADA requirements and would be constructed at an elevation of 11.5 feet NAVD88, which is below the 15.4 feet NAVD88 scenario described above. In the future, the project sponsor would modify or remove this lower portion of the wharf deck as necessary to provide protection against sea level rise. Regardless, the final slope and shape of the shoreline along the waterfront portion of the project site would be substantially the same as under the existing conditions, and the patterns of flood flows at the project site or in the vicinity would not be substantially affected, and like the project, the variant would not exacerbate future flood hazards related to sea level rise. Therefore, like the proposed project, flooding impacts under the project variant, with or without the PG&E subarea, at both a project-specific and cumulative level would be *less than significant*.

Risk of Inundation by Seiche, Tsunami, or Mudflow

The majority of the project site is located in an area identified for potential inundation in the event of a tsunami or seiche based on existing site grades. However, as described for the proposed project in EIR Chapter 4, Section 4.J under **Impacts HY-6** (EIR pp. 4.J-57 to 4.J-58) and **C-HY-1** (as it relates to risk of inundation by seiche or tsunami, EIR p. 4.J-60), the project variant, with or without the PG&E subarea, would raise the elevation of the entire waterfront portion of the project site above the existing 100-year flood elevation and above the projected worst-case future flood elevation to address sea level rise, which is above the maximum tsunami elevation. Like the proposed project, this impact would be *less than significant*, both at a project-specific and cumulative level.

9.D.16 Hazards and Hazardous Materials

Impacts related to hazards and hazardous materials for the project variant would be the same as those described in EIR Chapter 4, Section 4.K (EIR pp. 4.K-43 to 4.K-56). All of the same assumptions used in the analysis of these impacts would be identical for the project variant as those described in EIR Chapter 4, Section 4.K.4. For both construction and operational impacts, the project variant would involve the same nature and magnitude of hazardous materials exposure, handling, and usage, and the same regulatory requirements pertaining to hazardous materials management apply. Therefore, for the same reasons as described for the proposed project, the impact conclusions for **Impacts HZ-1 through HZ-6** and **C-HZ-1** for the project variant, with or without the PG&E subarea, would all be *less than significant*.

9.D.17 Mineral and Energy Resources

As described for the proposed project (see initial study, Appendix B, EIR pp. B-66 to B-70), the project variant would not result in the use of large amounts of fuel, water, or energy, or use of these materials in a wasteful manner, either at a project or cumulative level, because the nature and magnitude of usage of these resources would be substantially the same. Given compliance with applicable regulations, including the Non-potable Water Program (which requires onsite non-potable water systems to minimize wasteful use of potable water), and the Green Building Code (which requires energy efficiency measures), **Impacts ME-1** and **C-ME-1** for the project variant, with or without the PG&E subarea, would be *less than significant*.

9.D.18 Agricultural and Forest Resources

As described for the proposed project (see initial study, Appendix B, EIR p. B-71), the project site does not contain agricultural or forest resources, nor is the site zoned or designated for agricultural, forest, or timberland uses; therefore this topic is not applicable to the proposed project or the variant.

9.D.19 Alternatives Analysis

EIR Chapter 6, Alternatives, satisfies all CEQA requirements for alternatives analysis with respect to the project variant as well as the proposed project, and no additional alternatives analysis is warranted. As described above, when compared to the proposed project, the project variant would result in no new significant impacts nor would it substantially increase the severity of any impacts. All significant impacts identified for the project variant are addressed in EIR Chapter 6. In fact, the project variant is similar to Alternative E (Partial Preservation of Station A), and similar to Alternative E, implementation of the project variant would result in all of the same impacts and require essentially the same mitigation measures as the proposed project, with one exception. The one exception is that as with Alternative E, the project variant would reduce the severity of impacts related to the effects on the physical characteristics of the Third Street Industrial District at both a project-specific and cumulative level from a significant and unavoidable impact to less than significant with mitigation.

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9.E Summary of Impacts of the Project Variant Compared to the Proposed Project

Table 9-13 summarizes all of the impacts of the project variant, identifies the significance of each impact, presents the full text of the recommended mitigation measures and improvement measures.¹ In nearly all cases, the impacts and mitigation measures are identical for the proposed project and project variant, but where there are differences, the modified text for the project variant is shown in double underline compared to the text for the proposed project. Similar to the format of Table S-2 in the Summary chapter, the summary table includes all impacts and mitigation/improvement measures applicable to the proposed project variant, with the EIR sections presented first, followed by the initial study sections.

As indicated on Table 9-13, this EIR determined that the project variant would result in two fewer significant and unavoidable impacts than the proposed project, and both impacts are related to historic architectural resources, as follows:

- **Historic architectural resources:** impacts on the integrity of a historic district at a project-specific and cumulative level (Impact CR-5, and Impact C-CR-2) would be less than significant with mitigation, and the same mitigation measures identified for the proposed project would still apply, although modified as appropriate for the variant.

Otherwise, the project variant would result in significant and unavoidable impacts in the same resource areas as the proposed project, even with implementation of feasible mitigation measures, as follows:

- **Historic architectural resources:** impacts on individually significant buildings (Impact CR-4)
- **Transportation and circulation:** transit capacity and transit operations, both at a project-specific and cumulative level (Impact TR-4, Impact TR-5, Impact C-TR-4, and Impact C-TR-5)
- **Noise:** construction noise levels at noise-sensitive receptors, cumulative construction noise, operational noise increases along roadways, and cumulative traffic noise increases (Impact NO-2, Impact NO-8, Impact C-NO-1, and Impact C-NO-2)
- **Air quality:** criteria air pollutant emissions during construction and overlapping operations, criteria air pollutant emissions during operations, and cumulative regional air quality impacts (Impact AQ-2, Impact AQ-3, and Impact C-AQ-1)
- **Wind:** potential for hazardous wind conditions during interim periods during phased construction and/or due to changes in the building layout and/or massing. (Impact WS-2)

¹ Mitigation measures are feasible measures that would avoid, lessen, or reduce significant impacts, and would be required to be implemented if the project is approved. Improvement measures would also lessen or reduce impacts, but unlike mitigation measures, implementation of improvement measures is not required under CEQA because they apply only to impacts determined to be less than significant. However, all improvement measures identified in this EIR would be incorporated into conditions of approval and therefore would also be required to be implemented if the project is approved.

The significance determinations for all other impacts would be the same for the project variant as those for the proposed project, and with the exceptions noted below, all of the exact same mitigation measures identified for the proposed project apply to the project variant, with or without the PG&E subarea. The changes in the mitigation measures are attributed to minor differences in the results of the project variant impact analyses.

- **Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack.** The change for the project variant reflects the retention and preservation of portions of Station A.
- **Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay.** The change for the project variant reflects the change in the number of weekday p.m. peak hour vehicle trips by phase specific to the variant and the no PG&E scenario.
- **Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses.** The change for the project variant reflects the 1-dB noise increase on Humboldt Street (61 dB instead of 60 dB) due to the reduced building setback along sections of this street.
- **Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions.** The change for the project variant reflects the 1 ton per year increase of ozone precursor, with 14 tons per year instead of 13 tons per year.

TABLE 9-13
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.B Land Use and Land Use Planning				
Impact LU-1: The proposed project would not physically divide an established community.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact LU-2: The proposed project would not conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-LU-1: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to physical division of an established community.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-LU-2: The proposed project, in combination with past, present, or reasonably foreseeable future projects, would not contribute considerably to significant cumulative land use impacts related to conflicts with applicable land use plans, policies, and/or regulations adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	NA	Same as the project (LTS)
EIR Section 4.C Population and Housing				
Impact PH-1: Construction of the proposed project would not induce substantial population growth in an area.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact PH-2: Operation of the proposed project would not induce substantial population growth in an area.	LTS	No mitigation required.	NA	Same as or less than the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.C Population and Housing (cont.)				
Impact C-PH-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to significant cumulative population and housing impacts.	LTS	No mitigation required.	NA	Same as or less than the project (LTS)
EIR Section 4.D Historic Architectural Resources				
Impact CR-4: The proposed demolition of individually significant buildings would materially alter, in an adverse manner, the physical characteristics that justify their inclusion in the California Register of Historical Resources.	S	<p>Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, below)</p> <p>Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, below)</p> <p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, below)</p>	SUM	Same as or less than the project (SUM)
Impact CR-5: The proposed demolition, substantial alteration, and rehabilitation of contributing buildings would materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.	S	<p>Mitigation Measure M-CR-5a: Documentation</p> <p>Before any demolition or rehabilitation activities within the project site, the project sponsor shall retain a professional who meets the Secretary of the Interior's Professional Qualification Standards for Architectural History to prepare written and photographic documentation of Station A, the Compressor House, the Meter House, the Gate House, the Boiler Stack, and Unit 3. The documentation shall be prepared based on the National Park Service's Historic American Building Survey (HABS)/Historic American Engineering Record (HAER) Historical Report Guidelines. The HABS/HAER package shall jointly document the Third Street Industrial District contributors and individually eligible resources to be demolished or otherwise adversely affected. This type of documentation is based on a combination of both HABS/HAER standards and National Park Service's policy for photographic documentation, as outlined in the National Register and National Historic Landmarks Survey Photo Policy Expansion.</p> <p>The documentation shall be scoped and approved by Planning Department Preservation staff and will include the following:</p> <ul style="list-style-type: none"> Measured Drawings: A set of measured drawings that depict the existing size, scale, and dimension of Station A, the Compressor House, the Meter House, the Gate House, and the Unit 3 Power Block. Planning Department Preservation staff will accept the original architectural drawings or an as-built set of architectural drawings (plan, section, elevation, etc.). Planning Department Preservation staff will assist the consultant in determining the appropriate level of measured drawings. HABS-Level Photography: Either HABS standard large-format or digital photography shall be used. The scope of the photographs shall be reviewed by Planning Department Preservation staff for concurrence. All digital photography shall be conducted according to the latest National Park Service standards. The photography shall be undertaken by a qualified professional with demonstrated experience in HABS 	LSM	Less than the project (LSM instead of SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-5 (cont.)		<p>photography. Photograph views for the dataset shall include (a) contextual views; (b) views of each side of each building and interior views; (c) oblique views of the buildings; and (d) detail views of character-defining features, including features on the interior. All views shall be referenced on a photographic key. This photographic key shall be on a map of the property and shall show the photograph number with an arrow to indicate the direction of the view. Historical photographs shall also be collected, reproduced, and included in the dataset; and</p> <ul style="list-style-type: none"> • <i>HABS Historical Report</i>: A written historical narrative and report, per HABS Historical Report Guidelines. • <i>Print-On-Demand Book</i>: A Print On Demand softcover book will be produced that includes the content of the HABS historical report, historical photographs, HABS-level photography, measured drawings and field notes. <p>The project sponsor shall transmit such documentation to the San Francisco Planning Department, the Port of San Francisco, and to repositories including the History Room of the San Francisco Public Library, San Francisco Heritage, Internet Archive, the California Historical Society, the Portero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. All documentation will be reviewed and approved by the San Francisco Planning Department's Preservation staff prior to granting any demolition or site permit.</p> <p>Mitigation Measure M-CR-5b: Video Recordation</p> <p>Prior to any demolition or substantial alteration of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall retain a qualified professional to undertake video documentation of the affected historical resource and its setting. The documentation shall be conducted by a professional videographer with experience recording architectural resources. The professional videographer shall provide a storyboard of the proposed video recordation for review and approval by Planning Department preservation staff. The documentation shall be narrated by a qualified professional who meets the standards for history, architectural history, or architecture (as appropriate), as set forth by the Secretary of the Interior's Professional Qualification Standards (36 Code of Federal Regulations, Part 61). The documentation shall include as much information as possible—using visuals in combination with narration—about the materials, construction methods, current condition, historical use, and historic context of the historic resources.</p> <p>Archival copies of the video documentation shall be submitted to the Planning Department, and to repositories including: the San Francisco Planning Department, the Port of San Francisco, the San Francisco Public Library, San Francisco Heritage, Prelinger Archives, the California Historical Society, the Portero Hill Archives Project, and the Northwest Information Center of the California Historical Information Resource System. This mitigation measure would supplement the traditional HABS documentation, and would enhance the collection of reference materials that would be available to the public and inform future research.</p> <p>The video documentation shall be reviewed and approved by the San Francisco Planning Department's preservation staff prior to issuance of a demolition permit or site permit or issuance of any Building Permits for the project.</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-5 (cont.)		<p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage</p> <p>Prior to any demolition or rehabilitation activities that would remove character-defining features of an individual historical resource or contributor to a historic district on the project site, the project sponsor shall consult with planning department preservation staff as to whether any such features may be salvaged, in whole or in part, during demolition/alteration. The project sponsor shall make a good faith effort to salvage materials of historical interest to be utilized as part of the interpretative program. This could include reuse of the Greek Revival facade of the Machine Shop Office, Gate House or a portion of the Unit 3 Power Block. Following any demolition or rehabilitation activities within the project site, the project sponsor shall provide within publicly accessible areas of the project site a permanent display(s) of interpretive materials concerning the history and architectural features of the individual historical resources and Third Street Industrial District. The content of the interpretive display(s) shall be coordinated and consistent with the site-wide interpretive plan prepared in coordination with planning department preservation staff, and may include the display of salvaged features recovered through the process described above. The specific location, media, and other characteristics of such interpretive display(s) shall be presented to planning department preservation staff for review prior to any demolition or removal activities. The historic interpretation plan shall be prepared in coordination with an architectural historian or historian who meets the Secretary of the Interior's Professional Qualification Standards and an exhibit designer or landscape architect with historical interpretation design experience. As feasible, coordination with local artists should occur. Interpretive display(s) shall document both the Third Street Industrial District and individually eligible resources to be demolished or rehabilitated. The interpretative program should also coordinate with other interpretative displays currently proposed along the Bay, specifically at Pier 70, those along the Blue Greenway, and others in the general vicinity. The interpretative plan should also explore contributing to digital platforms that are publicly accessible. A proposal describing the general parameters of the interpretative program shall be approved by planning department preservation staff prior to issuance of a site permit. The substance, media and other elements of such interpretive display shall be approved by planning department preservation staff prior to issuance of a Temporary Certificate of Occupancy.</p> <p>Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack</p> <p>Prior to the issuing of building permits associated with modifications to the exterior of the Boiler Stack, planning department preservation staff shall review the proposed design and confirm that it conforms to the Secretary of the Interior's Standards for Rehabilitation and the Design for Development standards and guidelines.</p> <p>Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack</p> <p>Prior to the approval of the first building permit for construction of Phase 1, a historic preservation plan establishing protective measures shall be prepared and implemented to aid in preserving and protecting portions of Station A and the Boiler Stack, which would be retained as part of the project. The historic preservation plan shall be prepared by a qualified architectural historian who meets the Secretary of Interior's Professional Qualification Standards (36 Code of Federal Regulations Part 61). The plan shall establish</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-5 (cont.)		measures to protect the retained character-defining features during construction of the project, such as avoiding construction equipment inadvertently coming in contact with <u>Station A</u> and the Boiler Stack, to minimize construction-related damage to <u>Station A</u> and the Boiler Stack, and to ensure that any such damage is documented and repaired. If deemed necessary upon further condition assessment of the resource, the plan shall include stabilization of <u>Station A</u> and the Boiler Stack prior to construction to prevent deterioration or damage. Where pile driving and other construction activities involving the use of heavy equipment would occur in proximity to <u>Station A</u> and the Boiler Stack, the project sponsor shall undertake a vibration monitoring program as described in Mitigation Measure M-NO-4a, including establishing a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions, and anticipated construction practices in use at the time. The project sponsor shall ensure that the contractor follows these plans. The preservation and protection plan, specifications, monitoring schedule, and other supporting documents shall be incorporated into the building or site permit application plan sets. The documentation shall be reviewed and approved by Planning Department Preservation staff. Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4) Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4) Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4) Mitigation Measure M-CR-6: Design Controls for New Construction The SUD and Design for Development (D for D) shall contain design standards and guidelines that ensure that new construction and site development within the SUD shall be compatible with the character of the Third Street Industrial District. Beyond the site-wide standards and guidelines developed for open space, buildings, and streetscapes in the D for D, the D for D shall contain design controls for the Third Street Industrial District, as outlined below (see site-wide design controls below). Additional design standards shall apply to the western façades of new buildings fronting Illinois Street, the southern façades of new buildings fronting 23rd Street, and the eastern and/or southern façades of new Figure M-CR-6, Site Frontages Subject to Design Controls . These façades would all face contributors to the Third Street Industrial District. The additional design standards that shall apply specifically to those frontages are included below. These design controls in the D for D shall be compatible with the Secretary of the Interior Standards for Rehabilitation, Standard 9. Standard 9 states that new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the integrity of the historic district and its environment.	LSM	Same as the project (LSW)
Impact CR-6: The proposed infill construction could materially alter, in an adverse manner, the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources.	S			

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

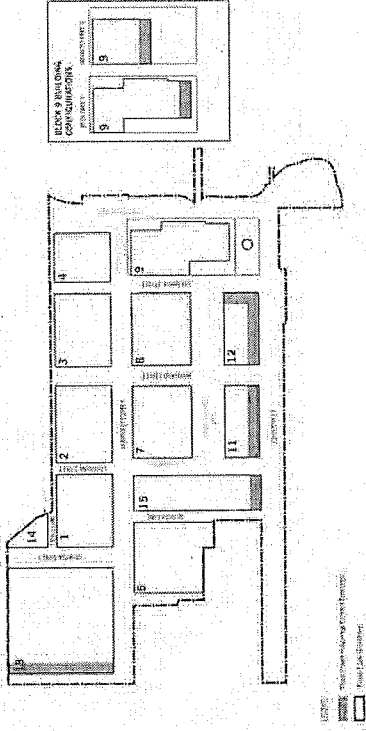
Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-6 (cont.)		 <p align="center">SOURCE: Perkins+Will 2018</p> <p align="center">Figure M-CR-6 Site Frontages Subject to Design Controls</p> <p>Review Process</p> <p>New construction in the Special Use District will be subject to administrative design review prior to the issuing of building permits. Planning staff along with Preservation staff will review new projects to ensure compatibility with the Third Street Industrial District as determined in the above standards and guidelines and identified in the D for D.</p> <p>The D for D shall contain the following Third Street Industrial District Frontage Design Controls:</p> <ul style="list-style-type: none"> Block and Frontage-Specific Design Controls Ground Floor Height for Blocks 11, 12, and 13: For Ground Floor of Blocks 11 and 12 facing 23rd Street Sugar Warehouses and Block 13 facing American Industrial Center all ground floor spaces shall have a minimum floor-to-floor height of 15 feet as measured from grade. Height + Massing along 23rd and Illinois street frontages. In order for 23rd and Illinois streets to appear balanced on either side, new construction shall respect existing heights of contributors to the Third Street Industrial District by referencing their heights with an upper level 10-foot setback at approximately 65 feet. Awnings on Blocks 10, 11, 12, and 13. An awning shall be provided on the southern facades of Blocks 10, 11, and 12 that face 23rd Street at a height of 15 to 25 feet above sidewalk grade to reference the industrial awning at the westernmost Sugar Refinery Warehouse. Awnings at this location may project up to 15 feet into the public realm. Should the southern facade of Station A be retained, an awning on Block 10 would not be required. For Block 13 frontages facing Illinois Street, canopies and awnings should only be located at the retail land use at the corner of Illinois and 22nd Streets. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-6 (cont.)		<p>The character, design and materials used for such awnings shall be industrial in character and design, suggestions are the following:</p> <ul style="list-style-type: none"> - They should be flat or pitched, and should not be arched. The functional supporting structure and/or tieback rods should be clearly read [i.e., remain apparent to the observer]. - Materials used for canopies and awnings should be utilitarian. Suggested materials include wood, standing seam or louvered metal panels, and corrugated metal. <ul style="list-style-type: none"> • <i>Openings along 23rd and Illinois street frontages.</i> To the extent allowed by the Department of Public Health, large doors, such as sliding or roll-up doors that facilitate the movement of people, equipment, and goods in and out of the ground floor of new construction on Blocks 10-13 shall be incorporated along 23rd Street and Illinois Street. • <i>Special Corners on Block 12.</i> To frame the view of the iconic Boiler Stack, the northeast corner of Block 12 should include the use of high quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include: <ul style="list-style-type: none"> - Volumetric shaping of the area of a building within 15-feet of the northeastern corner of Block 12 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • <i>Special Corners Block 9 without Unit 3.</i> To create an open and inviting entrance to Waterfront Park and Stack Plaza from Delaware Street and Power Station Park, the southwest corner of Block 9 without Unit 3 should use high-quality materials, such as brick, concrete, copper, steel, glass, and wood, and in addition shall include: <ul style="list-style-type: none"> - Volumetric shaping of any building in the area within 15-feet of the southwest corner of Block 9 with architectural treatments including but not limited to chamfers, round edges, setbacks, and/or protrusions to highlight views or relate to the shape of the Boiler Stack from the public realm. • <i>Block 9 without Unit 3.</i> For reference to the historic Stack, and to create more physical space between the Stack and new construction, the building of Block 9 without Unit 3 shall be designed such that the overall bulk is reduced by at least 10 percent from the maximum permitted floor area, with a focus along the southern facade of the new building, facing the Stack. A potential distribution of bulk reduction, for example, could result in an 8 percent reduction along the southern facade with a 2 percent reduction elsewhere. The building should interact meaningfully with the Boiler Stack, such as referencing the existing relationship between it and Unit 3 (i.e., the simple, iconic form of the Boiler Stack in contrast to the highly complex, detailed form of the Unit 3 Power Block). Retain the existing exhaust infrastructure connecting the Unit 3 Power Block with the Boiler Stack and incorporating it into the new structure as feasible. Consider preserving other elements of the Unit 3 Power Block, such as portions of the steel gridded frame structure, in new construction. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-6 (cont.)		<ul style="list-style-type: none"> Architectural Features on Blocks 10, 11, 12, and 13. Regularly-spaced structural bays should be expressed on the exterior of the lower massing through the use of rectangular columns or pilasters, which reference the rhythm of loading docks on the Western Sugar Refinery Warehouses and American Industrial Center. Bay widths shall be no larger than 30 feet on center. Architectural features such as cornice lines, belt courses, architectural trim, or change in materiality or color should be incorporated into the building design to reference heights and massing of the Western Sugar Refinery Warehouses on 23rd Street and American Industrial Center on Illinois Street at areas of the façade that are not required to be set back. Third Street District Fenestration. Operable windows shall be single or double hung wood sash, or awning, pivot, or other industrial style steel or aluminum fenestration. Casement windows shall be avoided at lower building massing. Divided lite windows are appropriate. Ground level glazing shall incorporate transom windows if not utilizing roll up or full height sliding doors. Upper level glazing shall consist of regular repeated punched openings with divided lites. Punched openings shall be rectangular in proportion; an exception is the use of segmentally arched openings if the building material is brick. Third Street District Building Rooftops. Rooftops shall reflect the historic industrial character of the district and include flat, monitor, or shallow shed roofs. Gable or hipped roofs shall be avoided as primary features. <p>The D for D shall contain the following Site Wide Design Controls:</p> <ul style="list-style-type: none"> Recommended Materials. Recommended materials should be incorporated into building design. Recommended materials include brick, concrete, copper, steel, glass, smooth stucco and wood. Avoid using veneer masonry panels except as described in the Depth of Façade, below. Avoid using smooth, flat, or minimally detailed glass curtain walls; highly reflective glass; coarse-sand finished stucco as a primary siding material; bamboo wood siding as a primary siding material; laminated timber panels; or black and dark materials should not be used as a predominate material. Where metal is used, selection should favor metals with naturally occurring patina such as copper, steel, or zinc. Metals should be matte in finish. Where shiny materials are used, they should be accent elements rather than dominant materials, and are generally not encouraged. Depth of Façade. The façade should be designed to create a sense of durability and substantiality, and to avoid a thin or veneer-like appearance. Full brick or masonry is a preferred material. If thin brick or masonry or panel systems are used, these materials should read as having a volumetric legibility that is appropriate to their thickness. For example, masonry should turn the corner at a depth that is consistent with the typical depth of a brick. Windows and other openings are an opportunity to reinforce the volumetric legibility of the façade, with an appropriate depth that relates to the material selected. For example, the depth of the building frame to the glazing should be sufficiently deep to convey a substantial exterior wall, and materials should turn the corner into a window reveal. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-6 (cont.)		<ul style="list-style-type: none"> <i>Quality and Durability.</i> Exterior finishes should have the qualities of permanence and durability found in similar contextual building materials used on neighboring sites and in the Central Waterfront. Materials should be low-maintenance, well suited to the specific maritime microclimate of the neighborhood, and able to naturally weather over time without extensive maintenance and upkeep. Materials characteristic of the surrounding context, such as brick, concrete, stone, wood, and glass, and, are envisioned on site and are good candidates to meet durability needs. <p><i>The D for D shall contain the following Street and Open Spaces Design Controls:</i></p> <ul style="list-style-type: none"> <i>Stack Plaza.</i> No more than one-third of the area within 45 feet of the Boiler Stack shall be planted. Paving and hardscape elements shall incorporate industrial elements and materials into the design. Design elements should use simple geometric forms, regular or repeating paving patterns and utilitarian materials such as simple masonry pavers or salvaged masonry units if feasible and safe for public use. Stack Plaza design elements, such as planters and native planting, should be kept low to the ground to complement and not distract from the Boiler Stack. Surfaces should not be designed with elaborately applied patterns. Any patterning should be the pragmatic result of the use of unit pavers or concrete score joints. <i>23rd Street Streetscape.</i> The streetscape design of 23rd Street should balance the historic utilitarian character of the Third Street Industrial District with welcoming design gestures for this important entrance to the Potrero Power Station development. To that end, the following guidelines shall be followed: <ul style="list-style-type: none"> Landscape elements should feel additive to the industrial streetscape. Examples include potted or otherwise designed raised beds of plants and trees that are placed onto paved surfaces; small tree wells within paved surfaces; green walls; and raised or lowered beds edged with industrial materials such as brick, low granite curbs, or steel. Tree planting locations should be irregularly spaced or placed in small groupings along the street, in contrast with standard Better Street Plan requirements, in order to provide better compatibility with the historic district. A tree and vegetation palette should be used that does not detract from the industrial character. Green walls, planter boxes, and vegetation should be considered rather than trees for storm water management. Public art installations, such as murals, are encouraged. <i>Transit Bus Shelter.</i> The bus shelter should be utilitarian in materiality and design to reflect the industrial nature of the nearby Western Sugar Refinery Warehouse buildings. The bus shelter shall be coordinated with the building design on Block 12. <i>23rd Street and Illinois Paving.</i> Sidewalk paving at 23rd Street and Illinois Street should be more industrial in character compared to sidewalk paving at other portions of the site. Consider varying sidewalk concrete score joint patterns or pavers from block to block. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.D Historic Architectural Resources (cont.)				
Impact CR-6 (cont.)		<ul style="list-style-type: none"> 23rd Street Transit Island Paving. Pavement at the transit boarding island should incorporate concrete or stone pavers or enhanced cast-in-place concrete with smaller scale joint patterns for a more refined appearance. Integral color and decorative aggregates may be selected for aesthetic quality and shall meet accessible design requirements for slip-resistance. Design must be reviewed and approved by San Francisco Public Works and San Francisco Municipal Transportation Agency as part of the Street Improvement Plans. Signage. Tenant signage facing contributing buildings to the Third Street Industrial District should be utilitarian in design and materiality to reflect the adjacent historic resources and strengthen the 23rd Street streetscape. Backlit signage should be avoided. 		
Impact CR-7: The proposed project would not materially alter, in an adverse manner, the physical characteristics of the adjacent Union Iron Works Historic District that justify its inclusion in the California Register of Historical Resources.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-CR-2: The impacts of the proposed project, in combination with those of past, present, and reasonably foreseeable future projects, would materially alter, in an adverse manner, some of the physical characteristics of the Third Street Industrial District that justify its inclusion in the California Register of Historical Resources, resulting in a cumulative impact.	S	<p>Mitigation Measure M-CR-5a: Documentation (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5b: Video Recordation (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5c: Public Interpretation and Salvage (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5d: Rehabilitation of the Boiler Stack (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack (see Impact CR-5, above)</p> <p>Mitigation Measure M-CR-6: Design Controls for New Construction (see Impact CR-6, above)</p> <p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring (see Section 4.F, Noise and Vibration, Impact NO-4)</p> <p>Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving (see Section 4.F, Noise and Vibration, Impact NO-4)</p> <p>Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment (see Section 4.F, Noise and Vibration, Impact NO-4)</p>	LSM	Less than the project (LSM instead of SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation				
Impact TR-1: Construction of the proposed project would not result in substantial interference with pedestrian, bicycle, or vehicle circulation and accessibility to adjoining areas, and would not result in potentially hazardous conditions.	LTS	<p>Improvement Measure I-TR-A: Construction Management Plan and Public Updates</p> <ul style="list-style-type: none"> Construction Management Plan—The project sponsor will develop and, upon review and approval by the San Francisco Municipal Transportation Agency (SFMTA) and San Francisco Public Works, implement a Construction Management Plan, addressing transportation-related circulation, access, staging and hours of delivery. The Construction Management Plan would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruption and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring transit, pedestrian, and bicycle connectivity. The Construction Management Plan would supplement and expand, rather than modify or supersede, the regulations, or provisions set forth by the SFMTA, Public Works, or other City departments and agencies, and the California Department of Transportation. Management practices could include: best practices for accommodating pedestrians and bicyclists, identifying routes for construction trucks to utilize, actively managing construction truck traffic, and minimizing delivery and haul truck trips during the morning (7 a.m. to 9 a.m.) and evening (4 p.m. to 6 p.m.) peak periods (or other times, as determined by the SFMTA). <p>If construction of the proposed project is determined to overlap with nearby adjacent project(s) using the same truck access routes in the project vicinity, the project sponsor or its contractor(s) will consult with various City departments, as deemed necessary by the SFMTA, Public Works, and the Planning Department, to develop a Coordinated Construction Truck Routing Plan to minimize the severity of any disruption of access to land uses and transportation facilities. The plan will identify optimal truck routes between the regional facilities and the project sites, taking into consideration truck routes of other development and infrastructure projects and any construction activities affecting the roadway network.</p> <ul style="list-style-type: none"> Carpool, Bicycle, Walk, and Transit Access for Construction Workers—To minimize parking demand and vehicle trips associated with construction workers, the construction contractor will include as part of the Construction Management Plan methods to encourage carpooling, bicycle, walk and transit access to the project site by construction workers. These methods could include providing secure bicycle parking spaces, participating in free-to-employee and employer ride matching program from www.511.org, participating in the emergency ride home program through the City of San Francisco (www.sferh.org), and providing transit information to construction workers. Project Construction Updates for Nearby Businesses and Residents—To minimize construction impacts on access to nearby residences and businesses, the project sponsor will provide nearby residences and adjacent businesses with regularly-updated information regarding project construction, including construction activities, peak construction vehicle activities, travel lane closures, and parking lane and sidewalk closures (e.g., via the project's website). A regular email notice will be distributed by the project sponsor that would provide current construction information of interest to neighbors, as well as contact information for specific construction inquiries or concerns. 	NA	Similar to the project (LTS)
Impact TR-2: The proposed project would not cause substantial additional VMT or induced automobile travel.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact TR-3: The proposed project would not create major traffic hazards.	LTS	<p>Improvement Measure I-TR-B: Monitoring and Abatement of Queues</p> <p>As an improvement measure to reduce the potential for queuing of vehicles accessing the project garages, it will be the responsibility of the project sponsor to ensure that recurring vehicle queues or vehicle conflicts do not occur adjacent to garage entries. A vehicle queue is defined as one or more vehicles blocking any portion of adjacent sidewalks, bicycle lanes, or travel lanes for a consecutive period of three minutes or longer on a daily and/or weekly basis.</p> <p>If recurring queuing occurs, the owner/operator of the facility will employ abatement methods as needed to abate the queue. Appropriate abatement methods will vary depending on the characteristics and causes of the recurring queue, as well as the characteristics of the parking facility, the street(s) to which the facility connects, and the associated land uses (if applicable).</p> <p>Suggested abatement methods include, but are not limited to the following: redesign of facility to improve vehicle circulation and/or onsite queue capacity; employment of parking attendants; installation of "GARAGE FULL" signs with active management by parking attendants; use of valet parking or other space-efficient parking techniques; use of other garages on the project site; use of parking occupancy sensors and signage directing drivers to available spaces; travel demand management strategies; and/or parking demand management strategies such as parking time limits, paid parking, time-of-day parking surcharge, or validated parking.</p> <p>If the planning director, or his or her designee, determines that a recurring queue or conflict may be present, the planning department will notify the project sponsor in writing. Upon request, the owner/operator will hire a qualified transportation consultant to evaluate the conditions at the site for no less than seven days. The consultant will prepare a monitoring report to be submitted to the planning department for review. If the planning department determines that a recurring queue or conflict does exist, the project sponsor will have 90 days from the date of the written determination to abate the recurring queue or conflict.</p>	NA	Similar to the project (LTS)
Impact IR-4: The proposed project would result in a substantial increase in transit demand that could not be accommodated by nearby Muni transit capacity.	S	<p>Mitigation Measure M-IR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/Street Routes</p> <p>The project sponsor shall provide capital costs to the San Francisco Municipal Transportation Agency (SFMTA) that allow for increased capacity on each affected route to be provided in a manner deemed acceptable by SFMTA through the following means:</p> <ul style="list-style-type: none"> The project sponsor shall pay the capital costs, adjusted for inflation, for the additional buses that would be necessary to accommodate the projected travel demand within the 95 percent capacity utilization standard. The additional capacity required to reduce the capacity utilization to below the 95 percent standard would be one additional bus on the 48 Quintara/24th Street route when the proposed project is 35 percent built out (i.e., prior to construction of Phase 3 of the project) and one additional bus on the 22 Fillmore route when the project is 65 percent built out (i.e., prior to construction of Phase 5 of the project). While the project sponsor will provide funding for procurement of the two buses, the SFMTA would need to identify funding to pay for the added operating cost associated with operating increased service made possible by the increased vehicle fleet. The source of that funding has not been established. 	SUM	No longer applicable to the proposed project or variant (NA)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact TR-4 (cont.)				
		<p>Alternatively, if the SFMTA determines that the options described below increase capacity along the route would more effectively address the impacts of the project on affected routes at 35 or 65 percent buildout, the project sponsor shall pay an amount equivalent to the cost of two buses toward completion of one or more of the following options, as determined by the SFMTA:</p> <ul style="list-style-type: none"> Convert to using higher capacity vehicles on the 22 Fillmore (or alternative route) and 48 Quintara/24th Street routes. In this case, the project sponsor funding shall be used to pay a portion of the capital costs to convert the route from standard buses (with a capacity of 63 passengers) to articulated buses (with a capacity of 94 passengers). Some bus stops along the routes may not currently be configured to accommodate the longer articulated buses. Some bus zones could likely be extended by removing one or more parking spaces; in some locations, appropriate space may not be available. The project sponsor's contribution may not be adequate to facilitate the full conversion of the route to articulated buses. The source of funding needed to complete the remainder, including improvements to bus stop capacity at all of the bus stops along the route that do not currently accommodate articulated buses, has not yet been established. Increase bus travel speeds along the route. In this case, the project sponsor's funding would be used to fund a study to identify appropriate and feasible improvements and/or implement a portion of the improvements that would increase bus travel speeds sufficiently to increase capacity along the affected route(s) such that the project's impacts along the route(s) would be determined to be less than significant. Increased speeds could be accomplished by funding a portion of the current 16th Street Improvement Project along 16th Street between Church and Kansas streets. Adding a traffic signal with transit signal priority at the intersection of Pennsylvania Avenue/ Street may increase travel speeds on this relatively short segment of the 48 Quintara/24th Street bus route. The project sponsor's funding may not be adequate to fully achieve the capacity increases needed to reduce the project's impacts and SFMTA may need to secure additional sources of funding. Another option to increase capacity in the vicinity of the project site is to add a new Muni service route in this area. By providing an additional service route, a percentage of the current transit riders on the 22 Fillmore and 48 Quintara/ Street would likely shift to the new route, lowering the capacity utilization below the 85 percent utilization standard for the 22 Fillmore (or the alternative route) and 48 Quintara/24th Street. The SFMTA may need to secure funding to pay for operating the new route. 		
Impact TR-5: The proposed project would result in a substantial increase in delays or operating costs such that significant adverse impacts to Vuni would occur.	S	<p>Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay Performance Standard. The project sponsor shall be responsible for implementing transportation demand management (TDM) measures to limit the number of project-generated vehicle trips during the p.m. peak hour to a maximum of 89 percent of the EIR-estimated values of each of the phases of project development (performance standard), as shown in the table below. The number of vehicle trips by phase to meet the above stated performance standard shall be included in the approved TDM Plan.</p>	SUM	Similar to the project (SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project		
EIR Section 4.E Transportation and Circulation (cont.)						
Impact TR-5 (cont.)		Maximum P.M. Peak Hour Vehicle Trips				
		Project Development Phase	<u>Project Variant</u>		<u>No PG&E Subarea Scenario</u>	
			Phase Total	Running Total	Phase Total	Running Total
			Phase 1	<u>370</u>	<u>370</u>	<u>370</u>
			Phase 2	<u>440</u>	<u>810</u>	<u>440</u>
		Phase 3	<u>250</u>	<u>1,060</u>	<u>250</u>	<u>1,060</u>
		Phase 4	<u>630</u>	<u>1,690</u>	<u>670</u>	<u>1,730</u>
		Phase 5	<u>240</u>	<u>1,930</u>	<u>240</u>	<u>1,970</u>
		Phase 6	<u>280</u>	<u>2,210</u>	<u>NA</u>	<u>NA</u>
		<p>Monitoring and Reporting. Within one year of issuance of the project's first certificate of occupancy, the project sponsor shall retain a qualified transportation consultant approved by the SFMTA to begin monitoring daily and p.m. peak period (4 p.m. to 7 p.m.) vehicle trips in accordance with an SFMTA and San Francisco Planning Department agreed upon monitoring and reporting plan, which shall be included as a part of the approved TDM Plan. The vehicle data collection shall include counts of the number of vehicles entering and exiting the project site on internal streets at the site boundaries on 22nd, Illinois, and 23rd streets for three weekdays. The data for the three weekdays (Tuesday, Wednesday or Thursday) shall be averaged, and surveys shall be conducted within the same month annually. A document with the results of the annual vehicle counts shall be submitted to the Environmental Review Officer and the SFMTA for review within 30 days of the data collection, or with the project's annual TDM monitoring report as required by the TDM Plan (if the latter is preferable to Environmental Review Officer in consultation with the SFMTA).</p> <p>The project sponsor shall begin submitting monitoring reports to the Planning Department 18 months following 75 percent occupancy of the first phase. Thereafter, annual monitoring reports shall be submitted (referred to as "reporting periods") until eight consecutive reporting periods show that the fully built project has met the performance standard, or until expiration of the project's development agreement, whichever is earlier.</p> <p>If the City finds that the project exceeds the stated performance standard for any development phase, the project sponsor shall select and implement additional TDM measures in order to reduce the number of project-generated vehicle trips to meet the performance standard for that development phase. These measures could include expansion of measures already included in the project's proposed TDM Plan (e.g., providing additional</p>				

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact TR-5 (cont.)		<p>project shuttle routes to alternative destinations, increases in tailored transportation marketing services, etc.), other measures identified in the City's TDM Program Standards Appendix A (as such appendix may be amended by the Planning Department from time to time) that have not yet been included in the project's approved TDM Plan, or, at the project sponsor's discretion, other measures not included in the City's TDM Program Standards Appendix A that the City and the project sponsor agree are likely to reduce peak period driving trips.</p> <p>For any development phase where additional TDM measures are required, the project sponsor shall have 30 months to demonstrate a reduction in vehicle trips to meet the performance standard. If the performance standard is not met within 30 months, the project sponsor shall submit to the Environmental Review Officer and the SFMTA a memorandum documenting proposed methods of enhancing the effectiveness of the TDM measures and/or additional feasible TDM measures that would be implemented by the project sponsor, along with annual monitoring of the project-generated vehicle trips to demonstrate their effectiveness in meeting the performance standard. The comprehensive monitoring and reporting program shall be terminated upon the earlier of (i) expiration of the project's development agreement, or (ii) eight consecutive reporting periods showing that the fully built project has met the performance standard. However, compliance reporting for the City's TDM Program shall continue to be required.</p> <p>If the additional TDM measures do not achieve the performance standard, then the City shall impose additional measures to reduce vehicle trips as prescribed under the development agreement, which may include on-site or off-site capital improvements intended to reduce vehicle trips from the project. Capital measures may include, but are not limited to, peak period or all-day transit-only lanes (e.g., along 22nd Street), turn pockets, bus bulbs, queue jumps, turn restrictions, pre-paid boarding pass machines, and/or boarding islands, or other measures that support sustainable trip making.</p> <p>The monitoring and reporting plan described above may be modified by the Environmental Review Officer in coordination with the SFMTA to account for transit route or transportation network changes, or major changes to the development program. The modification of the monitoring and reporting plan, however, shall not change the performance standard set forth in this mitigation measure.</p>		
Impact TR-6: The proposed project would not result in a substantial increase in regional transit demand that could not be accommodated by regional transit capacity and would not result in a substantial increase in delays or operating costs such that significant adverse impacts to regional transit would occur.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact TR-7: The proposed project would not create hazardous conditions for people walking, or otherwise interfere with accessibility for people walking to the site or adjoining areas, but existing pedestrian facilities could present barriers to accessible pedestrian travel.	S	Mitigation Measure M-TR-7: Improve Pedestrian Facilities at the Intersection of Illinois Street/22nd Street In the event that the Pier 70 Mixed-Use District project does not implement improvements at the intersection of Illinois Street/22nd Street, as part of the proposed project's sidewalk improvements on the east side of Illinois Street between 22nd and 23rd streets, the project sponsor shall work with SFMTA to implement the following improvements: <ul style="list-style-type: none"> • Install a traffic signal, including pedestrian countdown signal heads at the intersection of Illinois Street/22nd Street. • Stripe marked crosswalks in the continental design. • Construct/reconstruct ADA compliant curb ramps at the four corners, as necessary. In the event that the Pier 70 Mixed-Use District project does not implement these improvements, the project sponsor shall be responsible for costs associated with design and implementation of these improvements. The SFMTA shall determine whether the SFMTA or the project sponsor would implement these improvements.	LSM	Similar to the project (LSM)
Impact TR-8: The proposed project would not result in potentially hazardous conditions for bicyclists, or otherwise interfere with bicycle accessibility to the project site or adjacent areas.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact TR-9: The proposed project would accommodate its commercial vehicle and passenger loading demand, and proposed project loading operations would not create potentially hazardous conditions or significant delays for transit, bicyclists, or people walking.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact TR-10: The proposed project would not result in a substantial parking deficit and thus the project's parking supply would not create potentially hazardous conditions or significant delays affecting transit, bicyclists, or people walking.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact TR-11: The proposed project would not result in inadequate emergency vehicle access.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact C-TR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in cumulative construction-related transportation impacts.	LTS	No mitigation required. Improvement Measure I-TR-A: Construction Management Plan and Public Updates (see Impact TR-1, above)	NA	Similar to the project (LTS)
Impact C-TR-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative impacts related to VMT.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-TR-3: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts related to traffic hazards.	LTS	No mitigation required. Improvement Measure I-TR-B: Monitoring and Abatement of Queues (see Impact TR-3, above)	NA	Similar to the project (LTS)
Impact C-TR-4: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to transit capacity utilization on Muni routes.	S	Mitigation M-TR-4: Increase Capacity on Muni 22 Fillmore and 48 Quintara/Street Routes (see Impact TR-4, above).	SUM	No longer applicable to the proposed project or variant (NA)
Impact C-TR-5: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to significant cumulative transit impacts related to travel delay or operating costs on Muni.	S	Mitigation: Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay (see Impact TR-5, above)	SUM	Similar to the project (SUM)
Impact C-TR-6: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not contribute considerably to significant cumulative transit impacts on regional transit providers.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.E Transportation and Circulation (cont.)				
Impact C-TR-7: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative pedestrian impacts.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-TR-8: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative bicycle impacts.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-TR-9: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative loading impacts.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-TR-10: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative parking impacts.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-TR-11: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative emergency access impacts.	LTS	No mitigation required.	NA	Similar to the project (LTS)
EIR Section 4.F Noise and Vibration				
Impact NO-1: Project construction could expose people to or generate noise levels in excess of standards in the Noise Ordinance (Article 29 of the San Francisco Police Code) or applicable standards of other agencies.	S	Mitigation Measure M-NO-1: Construction Noise Control Measures The project sponsor shall implement construction noise controls as necessary to ensure compliance with the Noise Ordinance limits and to reduce construction noise levels at sensitive receptor locations to the degree feasible. Noise reduction strategies that could be implemented include, but are not limited to, the following: <ul style="list-style-type: none"> Require the general contractor to ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically-attenuating shields or shrouds). 	LSM	Same as the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.F Noise and Vibration (cont.)				
Impact NO-1 (cont.)		<ul style="list-style-type: none"> Require the general contractor to locate stationary noise sources (such as the rock/concrete crusher, or compressors) as far from adjacent or nearby sensitive receptors as possible; to muffle such noise sources, and/or to construct barriers around such sources and/or the construction site, which could reduce construction noise by as much as 5 dBA. To further reduce noise, the contractor shall locate stationary equipment in pit areas or excavated areas, to the maximum extent practicable. Require the general contractor to use impact tools (e.g., Jack hammers, pavement breakers, and rock drills) that are hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used, along with external noise jackets on the tools, which would reduce noise levels by as much as 10 dBA. Include noise control requirements for construction equipment and tools, including specifically concrete saws, in specifications provided to construction contractors. Such requirements could include, but are not limited to, erecting temporary plywood noise barriers around a construction site, particularly where a site adjoins noise-sensitive uses; utilizing noise control blankets on a building structure as the building is erected to reduce noise levels emanating from the construction site; performing all work in a manner that minimizes noise; using equipment with effective mufflers; undertaking the most noisy activities during times of least disturbance to surrounding residents and occupants; and selecting haul routes that avoid residential uses. Prior to the issuance of each building permit, along with the submission of construction documents, submit to the Planning Department and Department of Building Inspection or the Port, as appropriate, a plan to track and respond to complaints pertaining to construction noise. The plan shall include the following measures: (1) a procedure and phone numbers for notifying the San Francisco Department of Building Inspection or the Port, the Department of Public Health, and the Police Department (during regular construction hours and off-hours); (2) a sign posted onsite describing permitted construction days and hours, noise complaint procedures, and a complaint hotline number that shall be answered at all times during construction; (3) designation of an onsite construction compliance and enforcement manager for the project; and (4) notification of neighboring residents and non residential building managers within 300 feet of the project construction area at least 30 days in advance of extreme noise-generating activities (such as pile driving and blasting) about the estimated duration of the activity. Wherever pile driving or controlled rock fragmentation/rock drilling is proposed to occur, the construction noise controls shall include as many of the following control strategies as feasible: <ul style="list-style-type: none"> Implement "quiet" pile-driving technology such as pre-drilling piles where feasible to reduce construction-related noise and vibration. Use pile-driving equipment with state-of-the-art noise shielding and muffling devices. Use pre-drilled or sonic or vibratory drivers, rather than impact drivers, wherever feasible (including slipways) and where vibration-induced liquefaction would not occur. Schedule pile-driving activity for times of the day that minimize disturbance to residents as well as commercial uses located onsite and nearby. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.F Noise and Vibration (cont.)				
Impact NO-1 (cont.)		<ul style="list-style-type: none"> Erect temporary plywood or similar solid noise barriers along the boundaries of each project block as necessary to shield affected sensitive receptors. Implement other equivalent technologies that emerge over time. If controlled rock fragmentation (including rock drills) were to occur at the same time as pile driving activities in the same area and in proximity to noise-sensitive receptors, pile drivers should be set back at least 100 feet while rock drills should be set back at least 50 feet (or vice-versa) from any given sensitive receptor. If blasting is done as part of controlled rock fragmentation, use of blasting mats and reducing blast size shall be implemented to the extent feasible in order to minimize noise impacts on nearby sensitive receptors. 		
Impact NO-2: Project construction would cause a substantial temporary or periodic increase in ambient noise levels at noise-sensitive receptors, above levels existing without the project.	S	<p>Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1, above)</p> <p>Improvement Measure I-NO-A, Nighttime Construction Noise Control Measures</p> <p>The following shall occur to reduce potential conflicts between nighttime construction activities on the project site and residents of the Pier 70 project:</p> <ul style="list-style-type: none"> Nighttime construction noise shall be limited to 10 dBA above ambient levels at 25 feet from the edge of the Power Station project boundary. Temporary noise barriers installed in the line-of-sight between the location of construction and any occupied residential uses. Construction contractor(s) shall be requested to make best efforts to complete the loudest construction activities before 8 p.m. and after 7 a.m. Further, notices shall be provided to be mailed or, if possible, emailed to residents of the Pier 70 project at least 10 days prior to the date any nighttime construction activities are scheduled to occur and again within three days of commencing such work. Such notice shall include: <ol style="list-style-type: none"> a description of the work to be performed; two 24-7 emergency contact names and cell phone numbers; the exact dates and times when the night work will be performed; the name(s) of the contractor(s); and the measures that the contractor will perform to reduce or mitigate night noise. In addition to the foregoing, the Developer shall work with building managers of occupied residential buildings in the Pier 70 project to post a notification with the aforementioned information in the lobby and other public meeting areas in the building. 	SUM	Same as the project (SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.F Noise and Vibration (cont.)				
Impact NO-3: Construction truck traffic would not cause a substantial temporary or periodic increase in ambient noise levels along access streets in the project vicinity	LTS	<p>Improvement Measure I-NO-A, Nighttime Construction Noise Control Measures</p> <p>Improvement Measure I-NO-B: Avoidance of Residential Streets</p> <p>Trucks should be required to use routes and queuing and loading areas that avoid existing and planned residential uses to the maximum extent feasible, including existing residential development on Third Street (north of 23rd Street), existing residential development on Illinois Street (north of 20th Street), and planned Pier 70 residential development (north of 22nd Street).</p> <p>Improvement Measure I-TR-A, Construction Management Plan and Public Updates (see Section 4.E, Transportation and Circulation, Impact TR-1)</p>	NA	Similar to the project (LTS)
Impact NO-4: Project construction would generate excessive groundborne vibration that could result in building damage.	S	<p>Mitigation Measure M-CR-5e (Variant): Historic Preservation Plan and Review Process for Alteration of Station A and the Boiler Stack (see Impact CR-5)</p> <p>Mitigation Measure M-NO-4a: Construction Vibration Monitoring</p> <p>The project sponsor shall undertake a monitoring program to ensure that construction-related vibration does not exceed 0.5 in/sec PPV at the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses as required pursuant to Mitigation Measures M-NO-4b (Vibration Control Measures During Controlled Blasting and Pile Driving), M-NO-4c (Vibration Control Measures During Use of Vibratory Equipment), and M-CR-5e (Historic Preservation Plan and Review Process for Alteration of the Boiler Stack). The monitoring program shall include the following components:</p> <ul style="list-style-type: none"> Prior to any controlled blasting, pile driving, or use of vibratory construction equipment (vibration-inducing construction), the project sponsor shall engage a historic architect or qualified historic preservation professional and a qualified acoustical/vibration consultant or structural engineer to undertake a pre-construction survey of the Boiler Stack, the American Industrial Center South building, and the Western Sugar Warehouses to document and photograph the buildings' existing conditions. Based on the construction and condition of the resource, a structural engineer or other qualified entity shall establish a maximum vibration level that shall not be exceeded based on existing conditions, character-defining features, soils conditions and anticipated construction practices in use at the time. The qualified consultant shall conduct regular periodic inspections of each historical resource within 80 feet of vibration-inducing construction throughout the duration of vibration-inducing construction. The pre-construction survey and inspections shall be conducted in concert with the Historic Preservation Plan required pursuant to Mitigation Measure M-CR-5e. Historic Preservation Plan and Review Process for Alteration of the Boiler Stack. Prior to the start of any vibration-inducing construction, the qualified acoustical/vibration consultant or structural engineer shall undertake a pre-construction survey of any offsite structures or onsite structures constructed by the project within 80 feet of such vibration inducing construction. The qualified acoustical/vibration consultant or structural engineer shall conduct periodic inspections of all other non-historic structures throughout the duration of vibration inducing construction. The qualified historic and acoustical/structural consultant shall submit monitoring reports to San Francisco Planning documenting vibration levels and findings from regular inspections. 	LSM	Similar to the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.F Noise and Vibration (cont.)				
Impact NO-4 (cont.)		<ul style="list-style-type: none"> Based on planned construction activities for the project and condition of the adjacent structures, an acoustical consultant shall monitor vibration levels at each structure and shall prohibit vibration inducing construction activities that generate vibration levels in excess of 0.5 in/sec PPV. Should vibration levels be observed in excess of 0.5 in/sec PPV or should damage to any structure be observed, construction shall be halted and alternative construction techniques put in practice, to the extent feasible. For example, smaller, lighter equipment might be able to be used or pre-drilled piles could be substituted for driven piles, if soil conditions allow. <p>Mitigation Measure M-NO-4b: Vibration Control Measures During Controlled Blasting and Pile Driving</p> <p>Vibration controls shall be specified to ensure that the vibration limit of 0.5 in/sec PPV can be met at all nearby structures when all potential construction-related vibration sources (onsite and offsite) are considered. These controls could include smaller charge sizes if controlled blasting is used, pre-drilling pile holes, using the pulse plasma fragmentation technique, or using smaller vibratory equipment. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.</p> <p>Mitigation Measure M-NO-4c: Vibration Control Measures During Use of Vibratory Equipment</p> <p>In areas with a "very high" or "high" susceptibility for vibration-induced liquefaction or differential settlement risks, as part of subsequent site-specific geotechnical investigations, the project's geotechnical engineer shall specify an appropriate vibration limit based on proposed construction activities and proximity to liquefaction susceptibility zones. At a minimum, the vibration limit shall not exceed 0.5 in/sec PPV, unless the geotechnical engineer demonstrates, to the satisfaction of the Environmental Review Officer (ERO), that a higher vibration limit would not result in building damage. The geotechnical engineer shall specify construction practices (such as using smaller equipment or pre-drilling pile holes) required to ensure that construction-related vibration does not cause liquefaction hazards at nearby structures. The project sponsor shall ensure that all construction contractors comply with these specified construction practices. This vibration limit shall be coordinated with vibration limits required under Mitigation Measure M-BI-4, Fish and Marine Mammal Protection during Pile Driving, to ensure that the lowest of the specified vibration limits is ultimately implemented.</p>		
Impact NO-5: Operation of the stationary equipment on the project site could result in a substantial permanent increase in ambient noise levels in the immediate project vicinity, and permanently expose noise-sensitive receptors to noise levels in excess of standards in the San Francisco Noise Ordinance.	S	<p>Mitigation Measure M-NO-5: Stationary Equipment Noise Controls</p> <p>For all stationary equipment on the project site, noise attenuation measures shall be incorporated into the design of fixed stationary noise sources to ensure that the noise levels meet section 2909 of the San Francisco Police Code. A qualified acoustical engineer or consultant shall verify the ambient noise level based on noise monitoring and shall design the stationary equipment to ensure that the following requirements of the noise ordinance are met:</p>	LSM	Similar to the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.F Noise and Vibration (cont.)				
Impact NO-5 (cont.)		<ul style="list-style-type: none"> Fixed stationary equipment shall not exceed 5 dBA above the ambient noise level at the property plane at the closest residential uses (Blocks 1, 5 - 8, 13 and possibly Blocks 4, 9, 12, and 14, depending on the use ultimately developed) and 8 dBA on blocks where commercial/industrial uses are developed (Blocks 2, 3, 10, 11, and possibly Blocks 4, 12, and 14, depending on the use ultimately developed); Stationary equipment shall be designed to ensure that the interior noise levels at adjacent or nearby sensitive receptors (residential, hotel, and childcare receptors) do not exceed 45 dBA. <p>Noise attenuation measures could include installation of critical grade silencers, sound traps on radiator exhaust, provision of sound enclosures/barriers, addition of roof parapets to block noise, increasing setback distances from sensitive receptors, provision of intake louvers or lowered vent openings, location of vent openings away from adjacent residential uses, and restriction of generator testing to the daytime hours.</p> <p>The project sponsor shall demonstrate to the satisfaction of the Environmental Review Officer (ERO) that noise attenuation measures have been incorporated into the design of all fixed stationary noise sources to meet these limits prior to approval of a building permit.</p> <p>Improvement Measure I-NO-C: Design of Future Noise-Generating Uses near Residential Uses:</p> <p>The following improvement measures will be implemented to reduce the potential for disturbance of Pier 70 residents from other traffic-related, noise-generating activities located near the northern PPS site boundary:</p> <ol style="list-style-type: none"> <i>Design of Building Loading Docks and Trash Enclosures.</i> To minimize the potential for sleep disturbance at any potential adjacent residential uses, exterior facilities such as loading areas / docks and trash enclosures associated with any non-residential uses along Craig Lane, shall be located on sides of buildings facing away from existing or planned Residential or Child Care uses, if feasible. If infeasible, these types of facilities associated with non-residential uses along Craig Lane shall be enclosed. If residential uses exist or are planned on Craig Lane, on-street loading activities on Craig Lane shall occur between the hours of 7:00 a.m. and 8:00 p.m. on weekdays, and 9:00 a.m. to 8:00 p.m. on Saturdays, Sundays, and federal holidays. Off-street loading outside of these hours shall only be permitted only if such loading occurs entirely within enclosed buildings <i>Design of Above-Ground Parking Structure.</i> Any parking structure shall be designed to shield existing or planned residential uses from noise and light associated with parking cars. <i>Restrict Hours of Operation of Loading Activities on Craig Lane.</i> To reduce potential conflicts between loading activities for commercial uses and potential residential uses, the project sponsor will seek to restrict loading activities on Craig Lane to occur only between the hours of 7 a.m. and 8 p.m. In the event Craig Lane is a private street, such restriction may be included in the Covenants, Conditions, and Restrictions applicable to the project site. If San Francisco Public Works accepts Craig Lane, the project sponsor will seek to have SFMTA impose these restrictions. 		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality				
Impact NO-6: Events that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact NO-7: Proposed rooftop bars and restaurants that include outdoor amplified sound would not result in substantial temporary or periodic increases in ambient noise levels.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact NO-8: Project traffic would result in a substantial permanent increase in ambient noise levels.	S	Mitigation Measure M-TR-5: Implement Measures to Reduce Transit Delay (see Impact TR-5) Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses Prior to issuance of a building permit for vertical construction of a residential building or a building with childcare or hotel uses, a qualified acoustical consultant shall conduct a noise study to determine the need to incorporate noise attenuation features into the building design in order to meet a 45-dBA interior noise limit. This evaluation shall be based on noise measurements taken at the time of the building permit application and the future cumulative traffic (year 2040) noise levels expected on roadways located on or adjacent to the project site (i.e., 67 dBA on Illinois Street, 66 dBA on 22nd Street, 60-61 dBA on Humboldt Street, and 64 dBA on 23rd Street at 50 feet from roadway centerlines) to identify the STC ratings required to meet the 45-dBA interior noise level. The noise study and its recommendations and attenuation measures shall be incorporated into the final design of the building and shall be submitted to the San Francisco Department of Building Inspection for review and approval. The project sponsor shall implement recommended noise attenuation measures from the approved noise study as part of final project design for buildings that would include residential, hotel, and childcare uses.	SUM (offsite receptors) p. 4.F-66 and LSM (future onsite receptors) p. 4.F-67	Similar to the project (SUM)
Impact C-NO-1: Cumulative construction of the proposed project combined with construction of other past, present, and reasonably foreseeable future projects would cause a substantial temporary or periodic increase in ambient noise levels.	S	Mitigation Measure M-NO-1: Construction Noise Control Measures (see Impact NO-1) Mitigation Measure M-NO-4a: Vibration Control Measures During Controlled Blasting and Pile Driving (see Impact NO-4) Improvement Measure I-NO-A: Avoidance of Residential Streets (see Impact NO-3) Improvement Measure I-TR-A: Construction Management Plan and Public Updates (see Impact TR-1)	SUM	Same as the project (SUM)
Impact C-NO-2: Cumulative traffic increases would cause a substantial permanent increase in ambient noise levels in the project vicinity.	S	Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay (see Impact TR-5) Mitigation Measure M-NO-8 (Variant): Design of Future Noise-Sensitive Uses (see Impact NO-8)	SUM	Same as the project (SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-1: During construction the proposed project would not generate fugitive dust but would not violate an air quality particulate standard, contribute substantially to an existing or projected particulate violation, or result in a cumulatively considerable net increase in particulate concentrations.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact AQ-2: During construction (including construction phases that overlap with project operations), the proposed project would generate criteria air pollutants which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization The project sponsor or the project sponsor's contractor shall comply with the following:</p> <p>A. Engine Requirements.</p> <ol style="list-style-type: none"> 1. The project sponsor shall also ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the project site (such as haul trucks, water trucks, dump trucks, and concrete trucks) be model year 2010 or newer. 2. All off-road equipment (including water construction equipment used onboard barges) greater than 25 horse power shall have engines that meet Tier 4 Final off-road emission standards. Tugs shall comply with U.S. EPA Tier 3 Marine standards for Marine Diesel Engine Emissions. 3. Since grid power will be available, portable diesel engines shall be prohibited. 4. Renewable diesel shall be used to fuel all diesel engines if it can be demonstrated to the Environmental Review Officer (ERO) that it is compatible with on-road or off-road engines and that emissions of ROG and NOx from the transport of fuel to the project site will not offset its NOx reduction potential. 5. Diesel engines, whether for off-road or on-road equipment, shall not be left idling for more than two minutes, at any location, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment (e.g., traffic conditions, safe operating conditions). The contractor shall post legible and visible signs in English, Spanish, and Chinese, in designated queuing areas and at the construction site to remind operators of the two-minute idling limit. 6. The contractor shall instruct construction workers and equipment operators on the maintenance and tuning of construction equipment, and require that such workers and operators properly maintain and tune equipment in accordance with manufacturer specifications. <p>B. Waivers. The ERO may waive the equipment requirements of Subsection (A)(1) if: a particular piece of off-road equipment is technically not feasible; the equipment would not produce desired emissions reduction due to expected operating modes; installation of the equipment would create a safety hazard or impaired visibility for the operator; or, there is a compelling emergency need to use other off-road equipment. If</p>	SUM	Similar to the project (SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.) Impact AQ-2 (cont.)		<p>the ERO grants the waiver, the contractor must use the next cleanest piece of off-road equipment, according to the table below.</p> <p>The ERO may waive the equipment requirements of Subsection (A)(2) if: a particular piece of off-road equipment with an engine meeting Tier 4 Final emission standards is not regionally available to the satisfaction of the ERO. If seeking a waiver from this requirement, the project sponsor must demonstrate the satisfaction of the ERO that the health risks from existing sources, project construction and operation, and cumulative sources do not exceed a total of 10 µg/m³ or 100 excess cancer risks for any onsite or offsite receptor.</p> <p>The ERO may waive the equipment requirements of Subsection (A)(3) if: an application has been submitted to initiate on-site electrical power, portable diesel engines may be temporarily operated for a period of up to three weeks until on site electrical power can be initiated or, there is a compelling emergency.</p> <p>C. Construction Emissions Minimization Plan. Before starting onsite construction activities, the contractor shall submit a Construction Emissions Minimization Plan to the ERO for review and approval. The plan shall state, in reasonable detail, how the contractor will meet the requirements of Section A, Engine Requirements.</p> <ol style="list-style-type: none"> 1. The Construction Emissions Minimization Plan shall include estimates of the construction timeline by phase, with a description of each piece of off-road equipment required for every construction phase. The description may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For off-road equipment using alternative fuels, the description shall also specify the type of alternative fuel being used. 2. The project sponsor shall ensure that all applicable requirements of the Construction Emissions Minimization Plan have been incorporated into the contract specifications. The plan shall include a certification statement that the contractor agrees to comply fully with the plan. 3. The contractor shall make the Construction Emissions Minimization Plan available to the public for review onsite during working hours. The contractor shall post at the construction site a legible and visible sign summarizing the plan. The sign shall also state that the public may ask to inspect the plan for the project at any time during working hours and shall explain how to request to inspect the plan. The contractor shall post at least one copy of the sign in a visible location on each side of the construction site facing a public right-of-way. <p>D. Monitoring. After start of construction activities, the contractor shall submit quarterly reports to the ERO documenting compliance with the Construction Emissions Minimization Plan. After completion of construction activities and prior to receiving a final certificate of occupancy, the project sponsor shall submit to the ERO a final report summarizing construction activities, including the start and end dates and duration of each construction phase, and the specific information required in the plan.</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-2 (cont.)		<p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications</p> <p>To reduce NOx associated with operation of the proposed project, the project sponsor shall implement the following measures.</p> <p>A. All new diesel backup generators shall:</p> <ol style="list-style-type: none"> 1. Have engines that meet or exceed California Air Resources Board Tier 4 off-road emission standards which have the lowest NOx emissions of commercially available generators; and 2. Be fueled with renewable diesel, if commercially available², which has been demonstrated to reduce NOx emissions by approximately 10 percent. <p>B. All new diesel backup generators shall have an annual maintenance testing limit of 50 hours, subject to any further restrictions as may be imposed by the Bay Area Air Quality Management District in its permitting process.</p> <p>C. For each new diesel backup generator permit submitted to Bay Area Air Quality Management District for the project, the project sponsor shall submit the anticipated location and engine specifications to the San Francisco Planning Department environmental review officer for review and approval prior to issuance of a permit for the generator from the San Francisco Department of Building Inspection. Once operational, all diesel backup generators shall be maintained in good working order for the life of the equipment and any future replacement of the diesel backup generators shall be required to be consistent with these emissions specifications. The operator of the facility at which the generator is located shall be required to maintain records of the testing schedule for each diesel backup generator for the life of that diesel backup generator and to provide this information for review to the planning department within three months of requesting such information.</p> <p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products</p> <p>The project sponsor shall provide educational programs and/or materials for residential and commercial tenants concerning green consumer products. Prior to receipt of any certificate of final occupancy and every five years thereafter, the project sponsor shall work with the San Francisco Department of Environment to develop electronic correspondence to be distributed by email annually to residential and/or commercial tenants of each building on the project site that encourages the purchase of consumer products that generate lower than typical VOC emissions. The correspondence shall encourage environmentally preferable purchasing and shall include contact information and website links to SF Approved (www.sfapproved.org). This website also may be used as an informational resource by businesses and residents.</p>		

² Neste MY renewable Diesel is available in the Bay Area through Western States Oil.

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-2 (cont.)		<p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks The project sponsor shall ensure that loading docks for retail, light industrial, or warehouse uses that will receive deliveries from refrigerated transport trucks incorporate electrification hook-ups for transportation refrigeration units to avoid emissions generated by idling refrigerated transport trucks.</p> <p>Mitigation Measure M-TR-5, Implement Measures to Reduce Transit Delay (see Impact TR-5, above)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures The following Mobile Source Control Measures from the Bay Area Air Quality Management District's 2010 Clean Air Plan shall be implemented:</p> <ul style="list-style-type: none"> Promote use of clean fuel-efficient vehicles through preferential (designated and proximate to entry) parking and/or installation of charging stations beyond the level required by the City's Green Building code, from 8 to 20 percent. Promote zero-emission vehicles by requesting that any car share program operator include electric vehicles within its car share program to reduce the need to have a vehicle or second vehicle as a part of the TDM program that would be required of all new developments. <p>Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions Prior to issuance of the final certificate of occupancy for the final building associated with Phase 1, the project sponsor, with the oversight of the Environmental Review Officer (ERO), shall either:</p> <p>(1) Directly fund or implement a specific offset project within San Francisco to achieve equivalent to a one-time reduction of <u>14</u> tons per year of ozone precursors. This offset is intended to offset the combined emissions from construction and operations remaining above significance levels after implementing the other mitigation measures discussed. To qualify under this mitigation measure, the specific emissions offset project must result in emission reductions within the San Francisco Bay Area Air Basin that would not otherwise be achieved through compliance with existing regulatory requirements. A preferred offset project would be one implemented locally within the City and County of San Francisco. Prior to implementing the offset project, it must be approved by the ERO. The project sponsor shall notify the ERO within six (6) months of completion of the offset project for verification; or</p> <p>(2) Pay mitigation offset fees to the Bay Area Air Quality Management District Bay Area Clean Air Foundation. The mitigation offset fee, currently estimated at approximately \$30,000 per weighted ton, plus an administrative fee of no more than 5 percent of the total offset, shall fund one or more emissions reduction projects within the San Francisco Bay Area Air Basin. The fee will be determined by the planning department, the project sponsor, and the air district, and be based on the type of projects available at the time of the payment. This fee is intended to fund emissions reduction projects to achieve reductions of 14 tons of ozone precursors per year, which is the amount required to reduce emissions below significance levels after implementation of other identified mitigation measures as currently calculated.</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-2 (cont.)		<p>The offset fee shall be made prior to issuance of the final certificate of occupancy for the final building associated with Phase 1 of the project (or an equivalent of approximately 360,000 square feet of residential, 176,000 square feet of office, 16,000 square feet of retail, 15,000 square feet of PDR, 240,000 square feet of hotel, and 25,000 square feet of assembly) when the combination of construction and operational emissions is predicted to first exceed 54 pounds per day. This offset payment shall total the predicted <u>14</u> tons per year of ozone precursors above the 10 ton per year threshold after implementation of Mitigation Measures M-AQ-2a through M-AQ-2e and M-TR-5.</p> <p>The total emission offset amount was calculated by summing the maximum daily construction and operational emissions of ROG and NOX (pounds/day), multiplying by 260 work days per year for construction and 365 days per year for operation, and converting to tons. The amount represents the total estimated operational and construction-related ROG and NOx emissions offsets required.</p> <p>(3) Additional mitigation offset fee. The need for an additional mitigation offset payment shall be determined as part of the performance standard assessment of Mitigation Measure M-TR-5. If at that time, it is determined that implementation of Mitigation Measure M-TR-5 has successfully achieved its targeted trip reduction at project buildout, or the project sponsor demonstrates that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx, then no further installment shall be required. However, if the performance standard assessment determines that the trip reduction goal has not been achieved, and the project sponsor is unable to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx, then an additional offset payment shall be made in an amount reflecting the difference in emissions, in tons per year of ROG and NOx, represented by the shortfall in trip reduction.</p> <p>Documentation of mitigation offset payments, as applicable, shall be provided to the planning department.</p> <p>When paying a mitigation offset fee, the project sponsor shall enter into a memorandum of understanding (MOU) with the Bay Area Air Quality Management District Clean Air Foundation. The MOU shall include details regarding the funds to be paid, the administrative fee, and the timing of the emissions reductions project. Acceptance of this fee by the air district shall serve as acknowledgment and a commitment to (1) implement an emissions reduction project(s) within a time frame to be determined, based on the type of project(s) selected, after receipt of the mitigation fee to achieve the emissions reduction objectives specified above and (2) provide documentation to the planning department and the project sponsor describing the project(s) funded by the mitigation fee, including the amount of emissions of ROG and NOx reduced (tons per year) within the San Francisco Bay Area Air Basin from the emissions reduction project(s). To qualify under this mitigation measure, the specific emissions reduction project must result in emission reductions within the basin that are real, surplus, quantifiable, and enforceable and would not otherwise be achieved through compliance with existing regulatory requirements or any other legal requirement. The requirement to pay such mitigation offset fee shall terminate if the project sponsor is able to demonstrate that the project's emissions upon the earlier of: (a) full build-out or (b) termination of the Development Agreement are less than the 10-ton-per-year thresholds for ROG and NOx.</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-3: During project operations, the proposed project would result in emissions of criteria air pollutants at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants.	S	Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2)	SUM	Similar to the project (SUM)
		Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)		
		Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)		
		Mitigation Measure M-TR-5 (Variant): Implement Measure to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)		
		Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)		
		Mitigation Measure M-AQ-2f (Variant): Offset Construction and Operational Emissions (see Impact AQ-2, above)		
Impact AQ-4: Construction and operation of the proposed project would generate toxic air contaminants, including diesel particulate matter, which could expose sensitive receptors to substantial pollutant concentrations.	S	Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)	LSM	Same as the project (LSM)
		Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)		
		Mitigation Measure AQ-4: Siting of Uses that Emit Toxic Air Contaminants For new development including R&D/life science uses and PDR use or other uses that would be expected to generate toxic air contaminants (TACs) as part of everyday operations, prior to issuance of the certificate of occupancy, the project sponsor shall obtain written verification from the Bay Area Air Quality Management District either that the facility has been issued a permit from the air district, if required by law, or that permit requirements do not apply to the facility. However, since air district could potentially issue multiple separate permits to operate that could cumulatively exceed an increased cancer risk of 10 in one million, the project sponsor shall also submit written verification to the San Francisco Planning Department that increased cancer risk associated with all such uses does not cumulatively exceed 10 in one million at any onsite receptor. This measure shall be applicable, at a minimum, to the following uses and any other potential uses that may emit TACs: gas dispensing facilities; auto body shops; metal plating shops; photographic processing shops; appliance repair shops; mechanical assembly cleaning; printing shops; medical clinics; laboratories, and biotechnology research facilities.		
		Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)		
Impact AQ-5: The proposed project could conflict with implementation of the Bay Area 2017 Clean Air Plan.	S	Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)	LSM	Same as the project (LSM)
		Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)		
		Mitigation Measure M-TR-5 (Variant): Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)		
		Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.G Air Quality (cont.)				
Impact AQ-5 (cont.)		<p>Mitigation Measure M-AQ-4: Siting of Uses that Emit Toxic Air Contaminants (see Impact AQ-4, above)</p> <p>Mitigation Measure AQ-5: Include Spare the Air Telecommuting Information in Transportation Welcome Packets</p> <p>The project sponsor shall include dissemination of information on Spare The Air Days within the San Francisco Bay Area Air Basin as part of transportation welcome packets and ongoing transportation marketing campaigns. This information shall encourage employers and employees, as allowed by their workplaces, to telecommute on Spare The Air Days.</p>		
Impact AQ-6: The proposed project would not create objectionable odors that would affect a substantial number of people.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-AQ-1: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, would contribute to cumulative regional air quality impacts.	S	<p>Mitigation Measure M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2b: Diesel Backup Generator Specifications (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2c: Promote Use of Green Consumer Products (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2d: Electrification of Loading Docks (see Impact AQ-2, above)</p> <p>Mitigation Measure M-TR-5 (Variant), Implement Measures to Reduce Transit Delay (see Section 4.E, Transportation and Circulation)</p> <p>Mitigation Measure M-AQ-2e: Additional Mobile Source Control Measures (see Impact AQ-2, above)</p> <p>Mitigation Measure M-AQ-2f (Variant): Offset Operational Emissions (see Impact AQ-2, above)</p>	SUM	Similar to the project (SUM)
Impact C-AQ-2: The proposed project, in combination with past, present, and reasonably foreseeable future development in the project area, could contribute to cumulative health risk impacts on sensitive receptors.	S	Mitigation Measures M-AQ-2a: Construction Emissions Minimization (see Impact AQ-2, above)	LSM	Same as the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.H Wind and Shadow				
Impact WS-1: Full build out of the proposed project would not alter wind in a manner that substantially affects public areas on or near the project site.	LTS	Improvement Measure I-WS-1: Wind Reduction Features for Block 1 As part of the schematic design of building(s) on Block 1, the project sponsor and the Block 1 architect(s) should consult with a qualified wind consultant regarding design treatments to minimize pedestrian-level winds created by development on Block 1, with a focus on the southwest corner of the block. Design treatments could include, but need not be limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. If recommended by the qualified wind consultant, the project sponsor should subject the building(s) proposed for this block to wind tunnel testing prior to the completion of schematic design. The goal of this measure is to improve pedestrian wind conditions resulting from the development of Block 1. The project sponsor should incorporate into the design of the Block 1 building(s) any wind reduction features recommended by the qualified wind consultant.	NA	Similar to the project (LTS)
Impact WS-2: The phased construction of the proposed project could alter wind in a manner that substantially affects public areas on or near the project site.	S	Mitigation Measure M-WS-2: Identification and Mitigation of Interim Hazardous Wind Impacts Prior to the approval of building plans for construction of any proposed building, or a building within a group of buildings to be constructed simultaneously, at a height of 85 feet or greater, the project sponsor (including any subsequent developer) shall submit to the San Francisco Planning Department for review and approval a wind impact analysis of the proposed building(s). The wind impact analysis shall be conducted by a qualified wind consultant. The wind impact analysis shall consist of a qualitative analysis of whether the building(s) under review could result in winds throughout the wind test area (as identified in the EIR) exceeding the 26-mph wind hazard criterion for more hours or at more locations than identified for full project buildout in the EIR. That is, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. The analysis shall compare the exposure, massing, and orientation of the proposed building(s) to the same building(s) in the representative massing models for the proposed project and shall include any then-existing buildings and those under construction. The wind consultant shall review the proposed building(s) design taking into account feasible wind reduction features including, but not necessarily limited to, inclusion of podium setbacks, terraces, architectural canopies or screens, vertical or horizontal fins, chamfered corners, and other articulations to the building façade. If such building design measures are found not to be effective, landscaping (trees and shrubs), street furniture, and ground-level fences or screens may be considered. Comparable temporary wind reduction features (i.e., those that would be erected on a vacant site and removed when the site is developed) may be considered. The project sponsor shall incorporate into the design of the building(s) any wind reduction features recommended by the qualified wind consultant. If the wind consultant is unable to determine that the building(s) under consideration would not result in a net increase in hazardous wind hours or locations under partial buildout conditions compared to full buildout conditions, the building(s) under review shall undergo wind tunnel testing. The wind tunnel testing shall evaluate the building(s) to determine whether an adverse impact would occur. An adverse wind impact is defined as an aggregate net increase of 1 hour during which, and/or a net increase of 2 locations at which, the wind hazard criterion is exceeded, compared to full buildout conditions identified in the EIR and based on the existing	SUM	Similar to the project (SUM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.H Wind and Shadow (cont.)				
Impact WS-2 (cont.)		<p>conditions at the time of the subsequent wind tunnel test. As used herein, the existing conditions at the time of the subsequent testing shall include any completed or under construction buildings on the project site. As with the qualitative review above, the evaluation shall determine whether partial buildout conditions would worsen wind hazard conditions for the project as a whole. Accordingly, wind tunnel testing, if required, would include the same test area and test points as were evaluated in the EIR.</p> <p>If the building(s) would result in an adverse impact, as defined herein, additional wind tunnel testing of mitigation strategies would be undertaken until no adverse effect is identified, and the resulting mitigation means as determined by the Environmental Review Officer (such as reorienting certain buildings, sculpting buildings to include podiums and terraces or other wind reduction treatments noted above or identified by the qualified wind consultant, or installing landscaping) to eliminate hazardous winds, if predicted, shall be implemented.</p>		
Impact WS-3: The proposed project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-WS-1: The proposed project at full buildout, when combined with other cumulative projects, would not alter wind in a manner that substantially affects public areas.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-WS-2: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the project vicinity, would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.I Biological Resources				
Impact BI-1: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	S	<p>Mitigation Measure M-BI-1: Nesting Bird Protection Measures</p> <p>The project sponsor shall require that all construction contractors implement the following measures for each construction phase to ensure protection of nesting birds and their nests during construction:</p> <ol style="list-style-type: none"> To the extent feasible, conduct initial project activities outside of the nesting season (January 15–August 15). These activities include, but are not limited to: vegetation removal, tree trimming or removal, ground disturbance, building demolition, site grading, and other construction activities that may impact nesting birds or the success of their nests (e.g., controlled rock fragmentation, blasting, or pile driving). For construction activities that occur during the bird nesting season, a qualified wildlife biologist³ shall conduct pre-construction nesting surveys within 14 days prior to the start of construction or demolition at areas that have not been previously disturbed by project activities or after any construction breaks of 14 days or more. Surveys shall be performed for suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 100 feet of the project site to locate any active raptor (birds of prey) nests, waterbird nesting pairs, or colonies. If active nests protected by federal or state law⁴ are located during the preconstruction bird nesting surveys, a qualified biologist shall evaluate if the schedule of construction activities could affect the active nests and if so, the following measures would apply: <ol style="list-style-type: none"> If construction is not likely to affect the active nest, construction may proceed without restriction; however, a qualified biologist shall regularly monitor the nest at a frequency determined appropriate for the surrounding construction activity to confirm there is no adverse effect. The qualified biologist would determine spot-check monitoring frequency on a nest-by-nest basis considering the particular construction activity, duration, proximity to the nest, and physical barriers that may screen activity from the nest. The qualified biologist may revise his/her determination at any time during the nesting season in coordination with the Environmental Review Officer (ERO). If it is determined that construction may affect the active nest, the qualified biologist shall establish a no-disturbance buffer around the nest(s) and all project work shall halt within the buffer until a qualified biologist determines the nest is no longer in use. <p>Given the developed condition of the site, initial buffer distances are 100 to 250 feet for passerines and 100 to 500 feet for raptors; however, the qualified biologist may adjust the buffers based on the nature of proposed activities or site specific conditions.</p> 	LSM	Same as the project (LSM)

³ Typical experience requirements for a "qualified biologist" include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

⁴ These would include species protected by FESA, MBTA, CESA, and California Fish and Game Code and does not apply to rock pigeon, house sparrow, or European starling. USFWS and CDFW are the federal and state agencies, respectively, with regulatory authority over protected birds and are the agencies who would be engaged with if nesting occurs onsite and protective buffer distances and/or construction activities within such a buffer would need to be modified while a nest is still active.

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.J Biological Resources (cont.)				
Impact BI-1 (cont.)		<p>c. Modifying nest buffer distances, allowing certain construction activities within the buffer, and/or modifying construction methods in proximity to active nests shall be done at the discretion of the qualified biologist and in coordination with the ERO, who would notify CDFW.</p> <p>d. Any work that must occur within established no-disturbance buffers around active nests shall be monitored by a qualified biologist. If the qualified biologist observes adverse effects in response to project work within the buffer that could compromise the active nest, work within the no-disturbance buffer(s) shall halt until the nest occupants have fledged.</p> <p>e. With some exceptions, birds that begin nesting within the project area amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels. Exclusion zones around such nests may be reduced or eliminated in these cases as determined by the qualified biologist in coordination with the ERO, who would notify CDFW. Work may proceed around these active nests as long as the nests and their occupants are not directly impacted.</p>		
Impact BI-2: Operation of the proposed project would not have a substantial adverse effect either directly or through habitat modifications on migratory birds and/or on bird species identified as special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact BI-3: Construction of the proposed project could have a substantial adverse effect either directly or through habitat modification on bats identified as special-status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service.	S	<p>Mitigation Measure M-BI-3: Avoidance and Minimization Measures for Bats</p> <p>A qualified biologist⁵ who is experienced with bat surveying techniques (including auditory sampling methods), behavior, roosting habitat, and identification of local bat species shall be consulted prior to demolition or building rehabilitation activities to conduct a pre-construction habitat assessment of the project site (focusing on buildings to be demolished or rehabilitated under the project) to characterize potential bat habitat and identify potentially active roost sites. No further action is required should the pre-construction habitat assessment not identify bat habitat or signs of potentially active bat roosts within the project site (e.g., guano, urine staining, dead bats, etc.).</p> <p>The following measures shall be implemented should potential roosting habitat or potentially active bat roosts be identified during the habitat assessment in buildings to be demolished or rehabilitated under the proposed project:</p>	LSM	Same as the project (LSM)

⁵ Typical experience requirements for a qualified biologist include a minimum of four years of academic training and professional experience in biological sciences and related resource management activities, and a minimum of two years of experience conducting surveys for each species that may be present within the project area.

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.I Biological Resources (cont.)				
Impact BI-3 (cont.)		<p>1. In areas identified as potential roosting habitat during the habitat assessment, initial building demolition or rehabilitation shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, to the extent feasible. These dates avoid the bat maternity roosting season and period of winter <i>torpor</i>.⁶</p> <p>2. Depending on temporal guidance as defined below, the qualified biologist shall conduct pre-construction surveys of potential bat roost sites identified during the initial habitat assessment no more than 14 days prior to building demolition or rehabilitation.</p> <p>3. If active bat roosts or evidence of roosting is identified during pre-construction surveys, the qualified biologist shall determine, if possible, the type of roost and species. A no-disturbance buffer shall be established around roost sites until the qualified biologist determines they are no longer active. The size of the no-disturbance buffer would be determined by the qualified biologist and would depend on the species present, roost type, existing screening around the roost site (such as dense vegetation or a building), as well as the type of construction activity that would occur around the roost site.</p> <p>4. If special-status bat species or maternity or hibernation roosts are detected during these surveys, appropriate species- and roost-specific avoidance and protection measures shall be developed by the qualified biologist in coordination with the California Department of Fish and Wildlife. Such measures may include postponing the removal of buildings or structures, establishing exclusionary work buffers while the roost is active (e.g., 100-foot no-disturbance buffer), or other avoidance measures.</p> <p>5. The qualified biologist shall be present during building demolition or rehabilitation if potential bat roosting habitat or active bat roosts are present. Buildings with active roosts shall be disturbed only under clear weather conditions when precipitation is not forecast for three days and when daytime temperatures are at least 50 degrees Fahrenheit.</p> <p>6. The demolition or rehabilitation of buildings containing or suspected to contain bat roosting habitat or active bat roosts shall be done under the supervision of the qualified biologist. When appropriate, buildings shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost, likely in the evening and after bats have emerged from the roost to forage. Under no circumstances shall active maternity roosts be disturbed until the roost disbands at the completion of the maternity roosting season or otherwise becomes inactive, as determined by the qualified biologist.</p>		

⁶ Torpor refers to a state of decreased physiological activity with reduced body temperature and metabolic rate.

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.1 Biological Resources (cont.)				
Impact BI-4: Construction of the proposed project could have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration.	S	<p>Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving</p> <p>Prior to the start of any in-water construction that would require pile driving, the project sponsor shall prepare a National Marine Fisheries Service-approved sound attenuation monitoring plan to protect fish and marine mammals, and the approved plan shall be implemented during construction. This plan shall provide detail on the sound attenuation system, detail methods used to monitor and verify sound levels during pile driving activities (if required based on projected in-water noise levels), and describe best management practices to reduce impact pile-driving in the aquatic environment to an intensity level less than 183 dB (sound exposure level, SEL) impulse noise level for fish at a distance of 33 feet, and 160 dB (root mean square pressure level, RMS) impulse noise level or 120 dB (RMS) continuous noise level for marine mammals at a distance of 1,640 feet. The plan shall incorporate, but not be limited to, the following best management practices:</p> <ul style="list-style-type: none"> • All in-water construction shall be conducted within the established environmental work window between June 1 and November 30, designed to avoid potential impacts to fish species. • To the extent feasible vibratory pile drivers shall be used for the installation of all support piles. Vibratory pile driving shall be conducted following the U.S. Army Corps of Engineers "Proposed Procedures for Permitting Projects that will Not Adversely Affect Selected Listed Species in California." U. S. Fish and Wildlife Service and National Marine Fisheries Service completed section 7 consultation on this document, which establishes general procedures for minimizing impacts to natural resources associated with projects in or adjacent to jurisdictional waters. • A soft start technique to impact hammer pile driving shall be implemented, at the start of each work day or after a break in impact hammer driving of 30 minutes or more, to give fish and marine mammals an opportunity to vacate the area. • If during the use of an impact hammer, established National Marine Fisheries Service pile driving thresholds are exceeded, a bubble curtain or other sound attenuation method as described in the National Marine Fisheries Service-approved sound attenuation monitoring plan shall be utilized to reduce sound levels below the criteria described above. If National Marine Fisheries Service sound level criteria are still exceeded with the use of attenuation methods, a National Marine Fisheries Service-approved biological monitor shall be available to conduct surveys before and during pile driving to inspect the work zone and adjacent waters for marine mammals. The monitor shall be present as specified by the National Marine Fisheries Service during impact pile driving and ensure that: <ul style="list-style-type: none"> – The safety zones established in the sound monitoring plan for the protection of marine mammals are maintained. – Work activities are halted when a marine mammal enters a safety zone and resumed only after the animal has been gone from the area for a minimum of 15 minutes. <p>This noise level limit shall be coordinated with vibration limits required under Mitigation Measures M-NO-4a, Construction Vibration Monitoring, M-NO-4b, Vibration Control Measures During Controlled Blasting and Pile Driving, and M-NO-4c, Vibration Control Measures During Use of Vibratory Equipment, to ensure that the lowest of the specified vibration limits is ultimately implemented.</p>	LSM	Similar to the project (LSM) Impact would be slightly more severe than the project, but the same mitigation measure would reduce the impact to the LTS

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.1 Biological Resources (cont.)				
Impact BI-5: Operation of the proposed project would not have a substantial adverse effect, either directly or through habitat modification, on marine species identified as a candidate, sensitive, or special-status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Marine Fisheries Service.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact BI-6: Construction and operation of the proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game U.S. Fish and Wildlife Service, or the National Marine Fisheries Service.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact BI-7: Construction of the proposed project could have a substantial adverse effect on San Francisco Bay through direct removal, filling, hydrological interruption, or other means.	S	Mitigation Measure M-BI-7: Compensation for Fill of Jurisdictional Waters The project sponsor shall provide compensatory mitigation for placement of fill associated with maintenance or installation of new structures in the San Francisco Bay as further determined by the regulatory agencies with authority over the bay during the permitting process. Compensation may include onsite or offsite shoreline improvements or intertidal/subtidal habitat enhancements along San Francisco's waterfront through removal of chemically treated wood material (e.g., pilings, decking, etc.) by pulling, cutting, or breaking off piles at least 1 foot below mudline or removal of other unengineered debris (e.g., concrete-filled drums or large pieces of concrete).	LSM	Same as the project (LSM)
Impact BI-8: Operation of the proposed project would not have a substantial adverse effect on state and federal waters through direct removal, filling, hydrological interruption, or other means.	LTS	No mitigation required.	NA	Same as the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.I Biological Resources (cont.)				
Impact BI-9: The proposed project could interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	S	Mitigation Measure M-BI-1: Nesting Bird Protection Measures (see Impact BI-1, above) Mitigation Measure M-BI-4: Fish and Marine Mammal Protection during Pile Driving (see Impact BI-4, above)	LSM	Same as the project (LSM)
Impact BI-10: The proposed project would not conflict with any local policies or ordinances protecting biological resources; and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-BI-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, could result in a cumulatively considerable contribution to significant impacts on biological resources.	S	Mitigation Measure M-BI-1: Nesting Bird Protection Measures (See Impact BI-1, above.) Mitigation Measure M-BI-3, Avoidance and Minimization Measures for Bats (See Impact BI-3, above.) Mitigation Measures M-BI-4, Fish and Marine Mammal Protection during Pile Driving (See Impact BI-4, above.) Mitigation Measure M-BI-7, Compensation for Fill of Jurisdictional Waters (See Impact BI-7, above.)	LSM	Similar to the project (LSM)
EIR Section 4.J Hydrology and Water Quality				
Impact HY-1: Construction of the proposed project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade water quality.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HY-2: Operation of the proposed project would not violate a water quality standard or waste discharge requirement or otherwise substantially degrade water quality, and runoff from the proposed project would not exceed the capacity of a storm drain system or provide a substantial source of stormwater pollutants.	LTS	No mitigation required.	NA	Same as the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.J Hydrology and Water Quality (cont.)				
Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation, or flooding on or off site.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HY-4: Operation of the proposed project would not place housing within a 100-year flood zone or place structures within an existing 100-year flood zone that would impede or redirect flood flows.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HY-5: Operation of the proposed project would not place structures within a future 100-year flood zone that would impede or redirect flood flows.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HY-6: The proposed project would not expose people or structures to substantial risk of loss, injury, or death due to inundation by seiche, tsunami, or mudflow.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-HY-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the site vicinity, would not result in a considerable contribution to cumulative impacts on hydrology and water quality.	LTS	No mitigation required.	NA	Same as the project (LTS)
EIR Section 4.K Hazards and Hazardous Material				
Impact HZ-1: Construction and operation of the proposed project would not create a significant hazard through routine transport, use, or disposal of hazardous materials.	LTS	No mitigation required.	NA	Same as the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.K Hazards and Hazardous Material (cont.)				
Impact HZ-2: Demolition and renovation of buildings during construction would not expose workers or the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, di (2-ethylhexyl) phthalate (DEHP), and mercury, or result in a release of these materials into the environment.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HZ-3: Project development within the Power Station and PG&E sub-areas would be conducted on a site included on a government list of hazardous materials sites, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HZ-4: Construction and operation of developments within the Port, City, and Southern sub-areas could encounter hazardous materials in the soil and groundwater, but would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact HZ-5: The proposed project would not handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Although construction activities would emit diesel particulate matter and naturally occurring asbestos, these emissions would not result in adverse effects on nearby schools.	LTS	No mitigation required.	NA	Same as the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
EIR Section 4.K Hazards and Hazardous Material (cont.)				
Impact HZ-6: The proposed project would not expose people or structures to a significant risk of loss, injury, or death involving fires, nor would it impair implementation of or physically interfere with and adopted emergency response plan or emergency evacuation plan.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-HZ-1: The proposed project, in combination with other past, present or reasonably foreseeable future projects in the project vicinity, would not result in a considerable contribution to significant cumulative impacts related to hazards and hazardous materials.	LTS	No mitigation required.	NA	Same as the project (LTS)
Initial Study E.3 Cultural Resources				
Impact CR-1: The project could cause a substantial adverse change in the significance of an archeological resource.	S	Mitigation Measure M-CR-1: Archeological Testing Based on a reasonable presumption that archeological resources may be present within the project site in locations determined to have moderate or high archeological sensitivity, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried or submerged historical resources. The project sponsor shall retain the services of an archeological consultant from the San Francisco rotational Department Qualified Archeological Consultants List maintained by the San Francisco Planning Department archeologist. The project sponsor shall contact the department archeologist to obtain the names and contact information for the next three archeological consultants on the list. The archeological consultant shall undertake an archeological testing program as specified herein. In addition, the consultant shall be available to conduct an archeological monitoring and/or data recovery program if required pursuant to this measure. The archeological consultant's work shall be conducted in accordance with this measure at the direction of the City's appointed project Environmental Review Officer (ERO). All plans and reports prepared by the consultant as specified herein shall be submitted first and directly to the ERO for review and comment, and and/or data recovery programs required by this measure could suspend construction of the project for up to a maximum of four weeks. At the direction of the review officer, the suspension of construction can be extended beyond four weeks only if such a suspension is the only feasible means to reduce to a less than significant level potential effects on a significant archeological resource as defined in CEQA Guidelines section 15064.5 (a) and (c).	LSM	Same as the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.3 Cultural Resources (cont.)				
Impact CR-1 (cont.)		<p>Consultation with Descendant Communities: On discovery of an <i>archeological site</i>⁷ associated with descendant Native Americans, the Overseas Chinese, or other potentially interested descendant group an <i>appropriate representative</i>⁸ of the descendant group and the review officer shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to offer recommendations to the review officer regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. A copy of the Final Archeological Resources Report shall be provided to the representative of the descendant group.</p> <p>Archeological Testing Program. The archeological consultant shall prepare and submit to the review officer for review and approval an archeological testing plan. The archeological testing program shall be conducted in accordance with the approved archeological testing plan. The archeological testing plan shall identify the property types of the expected archeological resource(s) that potentially could be adversely affected by the proposed project, the testing method to be used, and the locations recommended for testing. The purpose of the archeological testing program will be to determine to the extent possible the presence or absence of archeological resources and to identify and to evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.</p> <p>At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the review officer. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the review officer in consultation with the archeological consultant shall determine if additional measures are warranted. Additional measures that may be undertaken include additional archeological testing, archeological monitoring, and/or an archeological data recovery program. No archeological data recovery shall be undertaken without the prior approval of the review officer or the planning department archeologist. If the review officer determines that a significant archeological resource is present and that the resource could be adversely affected by the proposed project, at the discretion of the project sponsor either:</p> <p>A. The proposed project shall be re-designed so as to avoid any adverse effect on the significant archeological resource; or</p> <p>B. A data recovery program shall be implemented, unless the review officer determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.</p>		

⁷ The term archeological site is intended here to minimally include any archeological deposit, feature, burial, or evidence of burial.

⁸ An appropriate representative of the descendant group is here defined to mean, in the case of Native Americans, any individual listed in the current Native American Contact List for the City and County of San Francisco maintained by the California Native American Heritage Commission and in the case of the Overseas Chinese, the Chinese Historical Society of America. An appropriate representative of other descendant groups should be determined in consultation with the Department archeologist.

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.3 Cultural Resources (cont.)				
Impact CR-1 (cont.)		<p>Archeological Monitoring Program. If the review officer in consultation with the archeological consultant determines that an archeological monitoring program shall be implemented the archeological monitoring program shall minimally include the following provisions:</p> <ul style="list-style-type: none"> The archeological consultant, project sponsor, and review officer shall meet and consult on the scope of the archeological monitoring plan reasonably prior to any project-related soils disturbing activities commencing. The review officer in consultation with the archeological consultant shall determine what project activities shall be archeologically monitored. In most cases, any soils- disturbing activities, such as demolition, foundation removal, excavation, grading, utilities installation, foundation work, driving of piles (foundation, shoring, etc.), site remediation, etc., shall require archeological monitoring because of the risk these activities pose to potential archeological resources and to their depositional context; The archeological consultant shall advise all project contractors to be on the alert for evidence of the presence of the expected resource(s), of how to identify the evidence of the expected resource(s), and of the appropriate protocol in the event of apparent discovery of an archeological resource; The archeological monitor(s) shall be present on the project site according to a schedule agreed upon by the project sponsor, archeological consultant, and the Environmental Review Officer (ERO) until the review officer has, in consultation with project archeological consultant, determined that project construction activities could have no effects on significant archeological deposits; The archeological monitor shall record and be authorized to collect soil samples and artifactual/ecofactual material as warranted for analysis; If an intact archeological deposit is encountered, all soils-disturbing activities in the vicinity of the deposit shall cease. The archeological monitor shall be empowered to temporarily redirect demolition/excavation/pile driving/construction activities and equipment until the deposit is evaluated. If in the case of pile driving or deep foundation activities (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving or deep foundation activities may affect an archeological resource, the pile driving or deep foundation activities shall be terminated until an appropriate evaluation of the resource has been made in consultation with the review officer. The archeological consultant shall immediately notify the review officer of the encountered archeological deposit. The archeological consultant shall make a reasonable effort to assess the identity, integrity, and significance of the encountered archeological deposit, and present the findings of this assessment to the ERO. <p>Whether or not significant archeological resources are encountered, the archeological consultant shall submit a written report of the findings of the monitoring program to the ERO.</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.3 Cultural Resources (cont.) Impact CR-1 (cont.)		<p>Archeological Data Recovery Program. The archeological data recovery program shall be conducted in accord with an archeological data recovery plan. The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the archeological data recovery plan prior to preparation of a draft plan. The archeological consultant shall submit a draft plan to the ERO. The archeological data recovery plan shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the archeological data recovery plan will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical.</p> <p>The scope of the archeological data recovery plan shall include the following elements:</p> <ul style="list-style-type: none"> • <i>Field Methods and Procedures.</i> Descriptions of proposed field strategies, procedures, and operations. • <i>Cataloguing and Laboratory Analysis.</i> Description of selected cataloguing system and artifact analysis procedures. • <i>Discard and Deaccession Policy.</i> Description of and rationale for field and post-field discard and deaccession policies. • <i>Interpretive Program.</i> Consideration of an onsite/offsite public interpretive program during the course of the archeological data recovery program. • <i>Security Measures.</i> Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • <i>Final Report.</i> Description of proposed report format and distribution of results. • <i>Curation.</i> Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation facilities, and a summary of the accession policies of the curation facilities. <p>Human Remains, Associated or Unassociated Funerary Objects. The treatment of human remains and of associated or unassociated funerary objects discovered during any soils disturbing activity shall comply with applicable state and federal laws, including immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco and in the event of the medical examiner's determination that the human remains are Native American remains, notification of the California State Native American Heritage Commission who shall appoint a Most Likely Descendant (Public Resource Code section 5097.98). The ERO shall also be immediately notified upon discovery of human remains. The archeological consultant, project sponsor, ERO, and a most likely descendant shall have up to but not beyond six days after the discovery to make all reasonable efforts to develop an agreement for the treatment of human remains and associated or</p>		

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.3 Cultural Resources (cont.)				
Impact CR-1 (cont.)		<p>unassociated funerary objects with appropriate dignity (CEQA Guidelines section 15064.5(d)). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, curation, possession, and final disposition of the human remains and associated or unassociated funerary objects. Nothing in existing state regulations or in this mitigation measure compels the project sponsor and the ERO to accept recommendations of a most likely descendant. The archeological consultant shall retain the ERO to accept recommendations of a most likely descendant. The archeological consultant shall retain possession of any Native American human remains and associated or unassociated burial objects until completion of any scientific analyses of the human remains or objects as specified in the treatment agreement if such as agreement has been made or, otherwise, as determined by the archeological consultant and the ERO. If no agreement is reached, state regulations shall be followed including the reburial of the human remains and associated burial objects with appropriate dignity on the property in a location not subject to further subsurface disturbance (Public Resource Code section 5097.98).</p> <p>Final Archeological Resources Report. The archeological consultant shall submit a Draft Final Archeological Resources Report to the ERO that evaluates the historical significance of any discovered archeological resource and describes the archeological and historical research methods employed in the archeological testing/recovery program(s) undertaken. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report.</p> <p>Once approved by the ERO, copies of the Final Archeological Resources Report shall be distributed as follows: California Historical Resource Information System Northwest Information Center shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the report to the Northwest Information Center. The San Francisco Planning Department Environmental Planning Division shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the report along with copies of any formal site recordation forms (California Department of Parks and Recreation 523 form) and/or documentation for nomination to the National Register of Historic Places/California Register of Historical Resources. In instances of high public interest in or the high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.</p>		
Impact CR-2: The project could disturb human remains, including those interred outside of dedicated cemeteries.	S	Mitigation Measure M-CR-1: Archeological Testing (see Impact CR-1, above)	LSM	Same as the project (LSM)
Impact CR-3: The project could result in a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code section 21074.	S	<p>Mitigation Measure M-CR-1: Archeological Testing (see Impact CR-1, above)</p> <p>Mitigation Measure M-CR-3: Tribal Cultural Resources Interpretive Program</p> <p>If the ERO determines that a significant archeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the review officer determines that the resource constitutes a tribal cultural resource and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible.</p>	LSM	Same as the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.3 Cultural Resources (cont.)				
Impact CR-3 (cont.)		If the ERO, in consultation with the affiliated Native American tribal representatives, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project sponsor shall implement an interpretive program of the tribal cultural resource in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the ERO and affiliated tribal representatives, at a minimum, and approved by the ERO would be required to implement the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays.		
Impact C-CR-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project site, would not result in cumulative impacts to archeological resources, tribal cultural resources, and human remains.	LTS	No mitigation required	NA	Same as the project (LTS)
Initial Study E.7 Greenhouse Gas Emissions				
Impact C-GG-1: The proposed project, in combination with past, present and future projects would not generate GHG emissions at levels that would result in a significant impact on the environment but may conflict with a policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	No mitigation required.	NA	Same as the project (LTS)
Initial Study E.9 Recreation				
Impact RE-1: The project would increase the use of existing neighborhood parks and other recreational facilities, but not to such an extent such that substantial physical deterioration of the facilities would occur or be accelerated or such that the construction of new or expanded facilities would be required.	LTS	No mitigation required.	NA	Less than and similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.9 Recreation (cont.)				
Impact C-RE-1: The proposed project, in combination with other past, present, and reasonably foreseeable development within approximately 0.5 mile of the project site, would not increase the use of existing neighborhood parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated or such that the construction of new or expanded facilities would be required.	LTS	No mitigation required.	NA	Less than and similar to the project (LTS)
Initial Study E.10 Utilities and Service Systems				
Impact UT-1: The City's water service provider would have sufficient water supply available to serve the proposed project from existing entitlements and resources. The proposed project would not require new or expanded water supply resources or entitlements or the construction of new or expanded water treatment facilities. Sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development in normal dry, and multiple dry years unless the Bay Delta Plan Amendment is implemented. In that event the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term. Instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.10 Utilities and Service Systems (cont.)				
Impact UT-2: The proposed project would not exceed wastewater treatment requirements of the Southeast Water Pollution Control Plant.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact UT-3: The proposed project would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, nor would the project result in a determination by the SFPUC that it has inadequate capacity to serve the project's projected demand in addition to its existing commitments.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact UT-4: The proposed project would not require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact UT-5: Project construction and operation would result in increased generation of solid waste but would be served by a landfill with sufficient capacity to accommodate the proposed project's solid waste disposal needs.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact UT-6: The construction and operation of the proposed project would comply with all applicable statutes and regulations related to solid waste.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-UT-1: The proposed project, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on utilities and service systems.	LTS	No mitigation required.	NA	Similar to the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.11 Public Services				
Impact PS-1: Construction of the project would not result in an increase in demand for police protection, fire protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact PS-2: The operation of the proposed project would not result in an increase in demand for police protection, fire protection, schools, or other services to an extent that would result in substantial adverse physical impacts associated with the construction or alteration of governmental facilities.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Impact C-PS-1: The proposed project, combined with past, present, and reasonably foreseeable future projects in the vicinity, would not have a substantial cumulative impact to public services.	LTS	No mitigation required.	NA	Similar to the project (LTS)
Initial Study E.13 Geology and Soils				
Impact GE-1: The proposed project would not exacerbate the potential for the project to expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, seismic ground shaking, seismically induced ground failure, or seismically induced landslides.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact GE-2: The proposed project would not result in substantial erosion or loss of topsoil.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact GE-3: The project site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the proposed project.	LTS	No mitigation required.	NA	Same as the project (LTS)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.13 Geology and Soils (cont.)				
Impact GE-4: The proposed project would not create substantial risks to life or property as a result of locating buildings or other features on expansive or corrosive soils.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact GE-5: The proposed project would not substantially change the topography or any unique geologic or physical features of the site.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact GE-6: The proposed project could directly or indirectly destroy a unique paleontological resource or site.	S	<p>Mitigation Measure M-GE-6: Paleontological Resources Monitoring and Mitigation Program</p> <p>Prior to issuance of a building permit for construction activities that would disturb the deep fill area, where Pleistocene-aged sediments, which may include Colma Formation, bay mud, bay clay, and older beach deposits (based on the site-specific geotechnical investigation or other available information) may be present, the project sponsor shall retain the services of a qualified paleontological consultant having expertise in California paleontology to design and implement a Paleontological Resources Monitoring and Mitigation Program. The program shall specify the timing and specific locations where construction monitoring would be required; inadvertent discovery procedures; sampling and data recovery procedures; preconstruction coordination procedures; and procedures for reporting the results of the monitoring program. The program shall be consistent with the Society for Vertebrate Paleontology Standard Guidelines for the mitigation of construction-related adverse impacts to paleontological resources and the requirements of the designated repository for any fossils collected.</p> <p>During construction, earth-moving activities that have the potential to disturb previously undisturbed native sediment or sedimentary rocks shall be monitored by a qualified paleontological consultant having expertise in California paleontology. Monitoring need not be conducted when construction activities would encounter artificial fill, Young Bay Mud, or non-sedimentary rocks of the Franciscan Complex.</p> <p>If a paleontological resource is discovered, construction activities in an appropriate buffer around the discovery site shall be suspended for a maximum of 4 weeks. At the direction of the Environmental Review Officer (ERO), the suspension of construction can be extended beyond four (4) weeks if needed to implement appropriate measures in accordance with the program, but only if such a suspension is the only feasible means to prevent an adverse impact on the paleontological resource.</p> <p>The paleontological consultant's work shall be conducted at the direction of the City's environmental review officer. Plans and reports prepared by the consultant shall be submitted first and directly to the ERO for review and comment, and shall be considered draft reports subject to revision until final approval by the ERO.</p>	LSM	Same as the project (LSM)

TABLE 9-13 (CONTINUED)
SUMMARY OF IMPACTS OF THE PROJECT VARIANT AS COMPARED TO THE PROPOSED PROJECT

Environmental Impact	Level of Significance prior to Mitigation	Mitigation and Improvement Measures	Level of Significance after Mitigation	Impact Comparison with Proposed Project
Initial Study E.13 Geology and Soils (cont.)				
Impact C-GE-1: The proposed project, in combination with past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts on geology and soils or paleontological resources.	LTS	No mitigation required.	NA	Same as the project (LTS)
Initial Study E.16 Mineral and Energy Resources				
Impact ME-1: The project would not result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.	LTS	No mitigation required.	NA	Same as the project (LTS)
Impact C-ME-1: The project, in combination with other past, present, and reasonably foreseeable future projects, would not result in significant adverse cumulative impacts on energy resources.	LTS	No mitigation required.	NA	Same as the project (LTS)
Initial Study E.17 Agriculture and Forest Resources				
NA	NA	NA	NA	Same as the project (NA)
NOTES: a Improvement Measure I-NO-A Nighttime Construction Noise Control Measures, is added to both the proposed project and project variant and the previous Improvement Measure A is now labeled "B." Therefore, these do not demarcated as a new measure unique to the variant.				
IMPACT CODES: NA: Not Applicable NI: No impact LTS: Less than significant or negligible impact; no mitigation required LSM: Less than significant mitigation; after mitigation S: Significant SU: Significant and unavoidable adverse impact, no feasible mitigation SUM: Significant and unavoidable adverse impact, after mitigation				

CHAPTER 10

List of Persons Commenting

This Responses to Comments document responds to all substantive comments that the San Francisco Planning Department received on the Draft EIR. This includes written comments submitted by letter or email, as well as written and oral comments presented at the public hearing. This section lists all agencies, organizations, and individuals who submitted comments on the Draft EIR. Commenters are grouped according to whether they commented as individuals or represented a public agency or non-governmental organization. **Table 10-1, Persons Commenting on the Draft EIR**, lists the commenters' names, along with the corresponding commenter codes used in Chapter 11, Comments and Responses, to denote each set of comments, the comment format, and the comment date. The complete set of written and oral comments received on the Draft EIR is provided in Appendix J, Draft EIR Comment Letters, and Appendix K, Draft EIR Hearing Transcript.

In this Responses to Comments document, each comment letter or public hearing speaker is assigned a unique commenter code in the following manner:

- Commenters from agencies are designated by "A-" and the agency's name or acronym thereof. If more than one comment letter is received from the same agency, then following the agency's name or acronym is a number denoting if it is the first or second letter.
- Commenters from organizations are designated by "O-" and the organization's name or acronym thereof. If more than one comment letter is received from the same organization, then following the organization's name or acronym is a number denoting if it is the first or second letter.
- Commenters as individuals are designated by "I-" and the commenter's last name.
- Commenters who spoke at the public hearing are designated by "PH-" and the commenter's last name.

Similarly, each comment is assigned a unique comment code. Within each comment letter or public hearing testimony, individual comments on separate topics are bracketed and numbered sequentially; these numbers follow the commenter code described above, separated by a hyphen. For example, the first comment from the first letter submitted by the California Department of Transportation is designated as A-Caltrans1-1, the second comment as A-Caltrans1-2, and so on; the first comment from the second letter (email) submitted by the California Department of Transportation is designated as A-Caltrans2-1. In this way, the reader can locate a particular comment in a comment letter or the public hearing testimony by referring to the comment's coded designation. Appendices J and K include the bracketing and coding of all substantive comments. These comment codes are used in Chapter 11 to identify which responses apply to which comment.

TABLE 10-1
PERSONS COMMENTING ON THE DRAFT EIR

Comment Code	Name of Person and Agency Submitting Comments	Comment Format	Comment Date
Public Agencies			
A-BCDC	Rebecca Coates-Maldoon, Principal Permit Analyst, San Francisco Bay Conservation & Development Commission	Email	11/19/2018
A-Caltrans1	Jannette Ramirez, Associate Transportation Planner, California Department of Transportation, District 4 Patricia Maurice, District Branch Chief	Email Transmittal (letter attachment)	11/16/2018
A-Caltrans2	Jannette Ramirez, Associate Transportation Planner, California Department of Transportation, District 4 Patricia Maurice, District Branch Chief	Email Transmittal (copy of 11/16 letter attachment)	01/24/2019
A-BayTrail	Maureen Gaffney, Principal Planner, SF Bay & Water Trail Programs, ABAG/MTC	Email	11/19/2018
A-SFHPC	Andrew Wolfram, President, San Francisco Historic Preservation Commission	Letter	11/02/2018
Non-Governmental Organizations			
O-CAN	Rick Hall, Cultural Action Network	Email	11/19/2018
O-GPR1	Alison Heath, Grow Potrero Responsibly	Letter to HPC	10/16/2018
O-GPR2	Sean D. Angles, Grow Potrero Responsibly	Letter	11/19/2018
O-LIUNA	Komalpreet Toor, Laborers International Union of North America, Local Union 261 Michael R. Lozeau, Laborers International Union of North America, Local Union 261	Email transmittal Email letter attachment	11/15/2018
O-PBNA1	J.R. Eppler, Potrero Boosters Neighborhood Association	Letter to HPC	10/17/2018
O-PBNA2	J.R. Eppler, President, and Alison Heath, Secretary, Potrero Boosters Neighborhood Association	Letter (email attachment)	11/19/2018
O-PHAP1	Peter Linenthal, Director, Potrero Hill Archives Project	Letter to HPC	10/17/2018
O-PHAP2	Peter Linenthal, Director, Potrero Hill Archives Project	Email	11/17/2018
O-SFH	Mike Buhler, President and CEO of San Francisco Heritage	Letter (email attachment)	11/19/2018
O-STH	Rodney Minott, Save The Hill	Letter to HPC	10/17/2018
Individuals			
I-Anasovich	Anasovich, Philip	Email to HPC	10/17/2018
I-Carpinelli	Carpinelli, Janet	Letter	11/08/2018
I-Doumani	Doumani, Katherine	Email	11/11/2018
I-Green	Green, Andrew	Email	11/15/2018
I-Hong	Hong, Dennis	Email	11/08/2018
I-Huie	Huie, Bruce	Email	11/19/2018
I-Hutson	Hutson, Richard C.	Email	11/12/2018
I-Minott	Minott, Rodney	Email	11/16/2018
I-Ronsaville	Ronsaville, Rebecca	Email	11/16/2018
I-Sundell	Sundell, Carol	Email	11/16/2018
I-Wellner	Wellner, Pamela	Email	11/18/2018

TABLE 10-1 (CONTINUED)
PERSONS COMMENTING ON THE DRAFT EIR

Comment Code	Name of Person and Agency Submitting Comments	Comment Format	Comment Date
Public Hearing Comments			
PH-Miguel	Ron Miguel	Transcript	11/08/2018
PH-Petrin	Katherine Petrin	Transcript	11/08/2018
PH-Browne	Zach Browne	Transcript	11/08/2018
PH-Eppler	J.R. Eppler - Potrero Boosters Neighborhood Association President	Transcript	11/08/2018
PH-Linenthal	Peter Linenthal - Potrero Hill Archive Project	Transcript	11/08/2018
PH-Aquino	Vanessa Aquino	Transcript	11/08/2018
PH-Pearl	Emily Pearl - Lundberg Design	Transcript	11/08/2018
PH-Doumani	Katherine Doumani	Transcript	11/08/2018
PH-Kline	Scott Kline	Transcript	11/08/2018
PH-Colen	Tim Colen - San Francisco Housing Action Coalition	Transcript	11/08/2018
PH-Hernandez	Ray Hernandez	Transcript	11/08/2018
PH-Hutson	Richard Hutson	Transcript	11/08/2018
PH-Larner	John Larner	Transcript	11/08/2018
PH-Anasovich	Philip Anasovich	Transcript	11/08/2018
PH-Hall	Rick Hall	Transcript	11/08/2018
PH-Carson	Guy Carson	Transcript	11/08/2018
PH-Warshell	Jim Warshell - SF Victorian Alliance	Transcript	11/08/2018
PH-Angles	Sean Angles - Grow Potrero Responsibly	Transcript	11/08/2018
PH-Heath	Alison Heath - Potrero Boosters	Transcript	11/08/2018
PH-Clark	Laura Clark - YIMBY Action	Transcript	11/08/2018
PH-Carpinelli	Janet Carpinelli	Transcript	11/08/2018
PH-Huie	Bruce Huie	Transcript	11/08/2018
PH-Richards	Commissioner Richards	Transcript	11/08/2018
PH-Hills	Planning Commission President Hills	Transcript	11/08/2018
PH-Koppel	Commissioner Koppel	Transcript	11/08/2018
PH-Fong	Commissioner Fong	Transcript	11/08/2018

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CHAPTER 11

Comments and Responses

This section presents the substantive comments received on the Draft EIR and responses to those comments. In order to provide an equal level of detail for the CEQA environmental review of the project variant, the responses to the comments address the project variant as well as the proposed project where appropriate. The comments and responses are organized by subject and are generally in the same order as presented in the Draft EIR, with general comments on the EIR, including comments on the merits of the proposed project, grouped together at the beginning of the chapter. Comments unrelated to a specific impact category are also classified as general comments. Comments on the Summary or specific mitigation measures are included under the comments regarding the relevant topical section of the EIR. The order of the comments and responses in this chapter is shown below, along with the prefix to the topic and response codes (indicated in square brackets):

11.A General Comments [G]	11.I Shadow [SH]
11.B Project Description [PD]	11.J Hydrology [HY]
11.C Plans and Policies [PP]	11.K Alternatives [ALT]
11.D Population and Housing [PH]	11.L Initial Study Topics
11.E Historic Architectural Resources [HR]	Greenhouse Gas Emissions [GHG]
11.F Transportation and Circulation [TR]	Public Services [PS]
11.G Noise and Vibration [NO]	Recreation [RE]
11.H Air Quality [AQ]	Utilities [UT]

Within each section under each topic area, similar comments are grouped together and identified using the topic code prefix and sequential numbering for each subtopic. For example, Project Description comments [PD] are listed as PD-1, PD-2, PD-3, and so on; the responses to each subtopic are similarly coded as Response PD-1, PD-2, PD-3, etc. Each topic code has a corresponding heading that introduces the comment subject; these subsections reproduce the comments verbatim and include the commenter's name and the comment code described in Chapter 10, *List of Persons Commenting*. The reader is referred to Appendices J and K for the full text and context of each comment letter or email, as well as the public hearing transcript. In those appendices, the bracketing of the substantive comments and the associated comment code and response code are provided in the margin of each comment, allowing the reader to locate the response to an individual comment.

Following each comment or group of comments, a comprehensive response is provided to address issues raised in the comment and to clarify or augment information in the Draft EIR, as appropriate. Response numbers correspond to the topic code; for example, the response to comment PD-1 is

presented under Response PD-1. The responses may clarify the Draft EIR text or revise or add text to the EIR. Revisions to the Draft EIR are shown as indented text. New or revised text, including text changes initiated by planning department staff, is double underlined; deleted material is shown in ~~striketrough~~.

Footnotes included in written comments are numbered as in the original letter or email and thus may be non-consecutive. Footnotes to responses are indicated by consecutive letters.

11.A General Comments

The comments and corresponding responses in this section cover a variety of general topics and opinions of commenters relevant to the Draft EIR but not related to any specific topics. The comments in this section include to the following:

- Comment G-1: CEQA Process
- Comment G-2: General Comments on Draft EIR
- Comment G-3: Non-Specific List of Multiple Issues
- Comment G-4: Aesthetics
- Comment G-5: SB743
- Comment G-6: AB 900
- Comment G-7: Opinions Related to the Project
- Comment G-8: Support or Opposition
- Comment G-9: Recommendations for Project Approval

Comment G-1: CEQA Process

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Patricia Maurice, A-Caltrans1-5

J.R. Eppler, PH-Eppler-2

Sean D. Angles, O-GPR2-14, and PH-Angles-2

"Furthermore, since this project meets the criteria to be deemed of statewide, regional, or areawide significance per CEQA Guidelines Section 15206, the DEIR should be submitted to the Metropolitan Transportation Commission, Association of Bay Area Governments and the San Francisco Metropolitan Transportation Agency for review and comment." (*Patricia Maurice, California Department of Transportation, letter attachments, November 16, 2018 [A-Caltrans1-5]*)

"I urge the Planning Department to order a 'time out' halt to this poor proposal and all future projects around Dog Patch and Potrero Hill until the cumulative negative impacts caused by current projects that are already rapidly deteriorating our neighborhood's quality of life are assessed and mitigated." (*Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-14]*)

"I really want to urge the Commission to order a time-out, halt to this proposal and to all future projects along Third Street until these cumulative impacts that are already rapidly deteriorating our neighborhood's quality are assessed and mitigated. Examples are the Warriors Stadium, Pier 70, the Exchange Building, which is imminent to beginning opening for DropBox.

"Today, this Draft EIR, which we're here to talk about, ignores all, right now, the realtime evidence of the impacts that are caused by massive over-development in the Eastern Neighborhoods." (*Sean Angles, public hearing transcript, November 8, 2018 [PH-Angles-2]*)

"I want you to know that they [neighbors] are motivated to ensure the success of this project. They want a project that is successful for itself and one that is successful for the surrounding community. And that motivation will express itself in two different ways. One, of course, is excitement. Excitement because, as with Pier 70, the project to the north, this project will open up the waterfront to our community and our city in exciting ways.

"The other way it will express itself is concern. And that concern is not just about the magnitude of the impacts that we'll be discussing today, great though they be, because as you all well know, in our neck of the wood, we're actually accustomed to working through these massive impacts; we've had a lot of them over the last decade.

"But that concern is actually based on a process that began with the preferred project design and a process that, despite scores of meetings and office hours, remains with the preferred project design, a concern that we've been handed a pre-baked project that does not adequately address neighborhood concern and the impacts of the project.

"Now, I hope that the CEQA process, clumsy as it is, provides a means of addressing our community concerns and results in a project that the community can be truly excited by. And we of course look forward to continuing our work with Associate Capital and American Barrel Company and the City to ensure that these concerns are remedied." (J.R. Eppler, *Potrero Boosters Neighborhood Association, public hearing transcript, November 8, 2018 [PH-Eppler-2]*)

Response G-1: CEQA Process

In response to Comment A-Caltrans-5, the planning department confirms that the Metropolitan Transportation Commission, Association of Bay Area Governments, and the San Francisco Municipal Transportation Agency were all included on the mailing list for distribution of the Draft EIR. A copy of the complete mailing list is available at the San Francisco Planning Department under Case No. 2017-011878ENV and can be accessed through the internet on the planning department's website at <https://sfplanning.org/environmental-review-documents>.

Comments O-GPR2-14 and PH-Angles-2 are from the same commenter, requesting that the planning department and commission to "order a time-out" and to halt future development along Third Street and around Dogpatch and Potrero Hill until the cumulative impacts are assessed and mitigated. The San Francisco Planning Department is the lead agency in San Francisco responsible for implementing CEQA as applicable to all future development along Third Street and around Dogpatch and Potrero Hill, including the proposed project. Consistent with the requirements of CEQA, environmental review of all development projects requires consideration of cumulative impacts. Cumulative impacts, as defined in CEQA Guidelines section 15355, refer to two or more individual effects that, when taken together can compound or increase the severity of one or more environmental impact. Thus, similar to the CEQA environmental review for the other projects identified on the cumulative projects list (see EIR Table 4.A-2, pp. 4.A-13 to 4.A-15), the EIR for the proposed project and project variant includes detailed analysis of cumulative impacts of the proposed project and project variant, which considers impacts of the project or variant in combination with past, present and reasonably foreseeable future projects. This includes, to use the commenter's phrase, consideration of "real time" impacts associated with current projects in the Eastern Neighborhoods. Where cumulative impacts are determined to be significant, the EIR

identifies mitigation measures to reduce those cumulative impacts to less than significant to the extent feasible. For example, the EIR determined in Impact C-AQ-2 that the proposed project and project variant, in combination with past, present, and reasonably foreseeable future development in the project area could contribute to significant cumulative health risk impacts on sensitive receptors, but with implementation of Mitigation Measure M-AQ-2a, Construction Emissions Minimization, the severity of this impact under both the proposed project and the project variant would be reduced to less than significant.

Comment PH-Eppler-1 requests that the CEQA process provide a means of addressing the community concerns and result in a project that the community can be excited by. As described in EIR Chapter 1, the CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The San Francisco Planning Department provides opportunities for the public to present comments and concerns regarding the scope of the EIR as well as to review and comment on the EIR and its appendices, including the initial study (Appendix B). The planning department welcomes public comments, either in writing or in person during advertised public meetings. The planning department then provides written responses to all substantive comments on the Draft EIR as part of preparation of the Final EIR so that decision-makers will consider the full content of the Final EIR prior to taking an approval action on the proposed project or project variant. Please note that in addition to the CEQA process, the City provides other opportunities for public input as part of the overall planning, development, and project approval processes. As described in Chapter 9 of this document, the project sponsor is now proposing a project variant, which incorporates reduced building heights and preservation elements in response to concerns raised by the community.

Comment G-2: General Comments on Draft EIR

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Rick Hall, O-CAN-1

Sean D. Angles, O-GPR2-13

Michael Lozeau, O-LIUNA-1

J.R. Eppler, O-PBNA1-3

Rodney Minott, I-Minott-1

"The scope of the EIR is flawed

"The scoping which includes the speculative PG & E property is too large to allow the public to understand the environmental impacts of the Power Plant Project. This fatal flaw results in the inability to identify the impacts of the project at hand and thus to provide appropriate mitigations." (Rick Hall, Cultural Action Network, email, November 19, 2018 [O-CAN-1])

"I believe the Draft EIR report presents false conclusions." (Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-13])

"After reviewing the DEIR, we conclude that the DEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's impacts. LIUNA requests that the Planning Department address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project. We reserve the right to supplement these comments during review of the Final EIR for the Project and at public hearings concerning the Project. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997)." (Michael R. Lozeau, Laborers International Union of North America, email, November 15, 2018 [O-LIUNA-1])

"[This comment consists of reproductions of the following tables and figures from the Draft EIR.]

"Table 6-6: Comparison of Environmental Impacts of the Project to Impacts of the Alternatives

"Table 6-1: Characteristics of Proposed Project and Alternatives

"Figures 6-1 through 6-8"

(J.R. Eppler, Potrero Boosters Neighborhood Association, letter, October 17, 2018 [O-PBNA1-3])

"I'm writing in regards to Case No. 2017 011878ENV, the Potrero Power Station draft EIR. After reviewing the draft Environmental Impact Report (DEIR) I believe the document is inadequate and flawed and therefore does not fully comply with requirements of the California Environmental Quality Act (CEQA)." (Rodney Minott, email, November 16, 2018 [I-Minott-1])

Response G-2: General Comments on Draft EIR

This group of comments presents general, non-specific statements indicating concerns that the Draft EIR is inadequate, but provides no explanation or specific details as to the nature of their concerns.

Comment O-CAN-1 asserts that the scope of the Draft EIR is flawed due to the inclusion of the large PG&E property. However, by including the large PG&E property as part of the proposed project, the EIR analyzes a reasonable worst case scenario of the maximum development that could feasibly be implemented; if all or part of the PG&E property becomes unavailable for future development, the resultant impacts would likely be less severe than what is identified in the EIR and mitigation measures would likely be the same or more effective than what is identified in the EIR. Thus, the EIR discloses the worst-case environmental impacts of the proposed project. In addition, note that Chapter 9 of this Responses to Comments document describes and analyzes a project variant and a "No PG&E Scenario" that explicitly addresses the project without the development of the PG&E subarea.

Comment O-GPR2-13 states that the commenter believes the Draft EIR presents false conclusions but does not identify specific examples and provides no basis for this conclusion.

Similarly, Comment O-LIUNA-1 states that the Draft EIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the project's impacts. However, the commenter provides no basis for this conclusion and offers no additional "feasible" mitigation measures. The impact analyses in the Draft EIR are based on scientific and professionally accepted methodologies and were conducted by experienced professionals and experts in their respective fields. The planning department has determined that all mitigation measures identified in the EIR are feasible, based on long standing experience in implementing and monitoring effectiveness of mitigation measures in San Francisco.

Comment O-PBNA1-3 accurately reproduces selected tables and figures from the EIR with no comment or discussion. No response is required.

Comment I-Minott-1 states that the Draft EIR is inadequate and flawed and does not comply with CEQA, but does not provide any specifics or basis for this assertion. The Draft EIR has been prepared in full compliance with CEQA, the CEQA Guidelines, and chapter 31 of the San Francisco Administrative Code.

Comment G-3: Non-Specific List of Multiple Issues

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Sean D. Angles, O-GPR2-2
J.R. Eppler, O-PBNA2-1

Pamela Wellner, I-Wellner-4
Katherine Doumani, PH-Doumani-1

"I observed the ignored issues of insufficient prerequisite infrastructure to mitigate (1) flooding by bay water table rise due to global warming which will flood this location, (2) insufficient transportation infrastructure for +140,000 new daily trips to/from the Power Plant area, (3) inadequate parks/recreations open space for new residents, (4) gridlock traffic on streets, (5) delivery vehicle loading impacts, (6) noise and vibration, and (7) permanently deteriorated air quality." (*Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-2]*)

"Thank you for the opportunity to submit comments on the Potrero Power Station Draft Environmental Impact Report ("DEIR"). Our overarching concerns include the lack of reasonable alternatives; inaccurate population growth assumptions; outdated methodology; inconsistencies with the objectives of established land use plans; unmitigated transportation impacts and impacts to historic resources; and shadowing of open space." (*J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-1]*)

"More Traffic, Transit Delay, Dirty Air. The draft Environmental Impact Report (DEIR) for the Potrero Power Station acknowledges: the project will burden the City's public transit system with more demand and delays – impacts that the DEIR admits cannot be mitigated; substantial noise and decline in air quality will occur during many years of construction; and traffic will be so bad

that it will permanently increase air pollution to levels that violate air quality standards.”
(Pamela Wellner, email, November 18, 2018 [I-Wellner-4])

“First, I want to say that we have an open, communicative, and mutually supportive relationship with the developer and the whole Associate team. That said, similar to working with the Pier 70 and Forest City, when you are building a new village from the whole cloth, it takes time to plan within a current community and city to get it right, as you only get one chance.

“Also, just because you can build doesn't mean that you should. And we need to look hard and break out of our set thinking that anything goes when you're adding more housing, and start thinking about livability and quality of life for everyone who is here now and will come as these developments march down the waterfront from Mission Rock to Mission Bay, the Warriors, UCSF, Pier 70, this site, India Basin, and Hunters Point.

“In regards to the DEIR and historic resources and project alternatives, I would like to discuss the current population, the homes, and the -- how it relates to the rec and park and public housing -- sorry -- public resources.” (Katherine Doumani, public hearing transcript, November 8, 2018 [PH-Doumani-1])

Response G-3: Non-Specific List of Multiple Issues

This group of comments presents lists of multiple issues related to environmental impacts of the proposed project; however, these comments are non-specific and provide no explanation or details as to the nature of the issue or to an inadequacy of the EIR. In most cases, the comment serves as an introductory paragraph for a more specific and detailed list of issues that follows (which are bracketed as separate comments and responded to elsewhere in this document under each specific topic). Therefore, this response provides a cross-reference to the sections of the EIR and this Responses to Comments document where the detailed responses to the specific environmental issues are provided.

Topic	Comment Code	Location in Draft EIR with Discussion of Issue	Location in RTC with Detailed Response
Flooding	O-GPR2-2	Section 4.J	Section 11.J
Traffic and Transportation, Loading	O-GPR2-2, O-PBNA2-1, I-Wellner-4, O-GPR2-2	Section 4.E	Section 11.F
Parks/Recreation	O-GPR2-2, PH-Doumani-1	Appendix B, Initial Study	Section 11.L
Noise and Vibration	O-GPR2-2, I-Wellner-4	Section 4.F	Section 11.G
Air Quality	O-GPR2-2, I-Wellner-4	Section 4.G	Section 11.H
Alternatives	O-PBNA2-1, PH-Doumani-1	Chapter 6	Section 11.K
Population and Housing	O-PBNA2-1, PH-Doumani-1	Section 4.C	Section 11.D
Land Use plans	O-PBNA2-1	Chapter 3	Section 11.C
Historic Resources	O-PBNA2-1, PH-Doumani-1	Section 4.D	Section 11.E
Shadow	O-PBNA2-1	Section 4.H	Section 11.I
Public Services	PH-Doumani-1	Appendix B, Initial Study	Section 11.L

Comment G-4: Aesthetics

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Richard C. Hutson, I-Hutson-2, and
PH-Hutson-1

Rodney Minott, I-Minott-3
Pamela Wellner, I-Wellner-2

"The proposed project fails to adequately protect the public view of the Bay from Potrero Hill and will create a wall of buildings along the waterfront blocking the public view of the bay and the hills beyond. It will also diminish, if not hide, the iconic stack which the developer claims as the focal point of the project. This issue can be addressed by significantly reducing overall building heights and with more separation between the taller structures.

"I've heard a lot of criticism of Mission Bay for its lack of variation in building heights and design, but at least, except for the black monstrosity of the Exchange building, it does not totally obliterate the public view of bay. Allowing a block of 150' – 300' buildings on the Power Plant site is irresponsible planning.

"I have included for your reference a photo that was taken at the corner of Pennsylvania Ave and 20th Street showing how the stack relates to the site and the public view from Potrero Hill to provide some context for my comments." (*Richard C. Hutson, email, November 12, 2018 [I-Hutson-2]*)

"I brought this photograph today to speak to one of the concerns I have about the project, which is the obstruction of the public view. This photograph was taken from the corner of Pennsylvania Avenue and 20th Street. And as you can see, if you drew a line across up in the clouds where the 300-foot tower is, a massing of 300-, 200-foot buildings in that area is going to totally block out the bay and the East Bay hills.

"And I think that the project, as one of the earlier speakers said, should be revisited to open up the density of the massing. I'm not against developing the project down there. I think it's wonderful to open the waterfront. But I don't think the waterfront -- or I don't think the bay should be blocked off from public view.

"If any of you take a stroll down the north end of Van Ness Avenue, you'll see a project that came up in the late '50s, early '60s, the Fontana Apartments. And they're only 17 stories high. I think that's probably half of 300 feet. So that will just give you an idea of what, you know, a big, massive block of buildings will do to the public view of the bay." (*Richard Hutson, public hearing transcript, November 8, 2018 [PH-Hutson-1]*)

"- **A Wall of Highrises.** The developer plans to erect one high rise tower that'll reach 300 feet in height, and construct multiple other buildings ranging between 90 to 180 feet in height. Collectively, they will form a huge wall along the public waterfront. The development will be considerably taller and denser than what was approved for the adjacent Pier 70 project." (*Rodney Minott, email, November 16, 2018 [I-Minott-3]*)

"*A Wall of Highrises. The developer plans to erect one high-rise tower that'll reach 300 feet in height, and construct multiple other buildings ranging between 90 to 180 feet in height. Collectively, they will form a huge wall along the public waterfront. The development will be considerably taller and denser than what was approved for the adjacent Pier 70 project."
(Pamela Wellner, email, November 18, 2018 [I-Wellner-2])

Response G-4: Aesthetics

These comments all relate to potential effects of the proposed project on views of the bay along the waterfront. Comments I-Hutson-2 and PH-Hutson-1 assert that the project will block public views of the bay and the East Bay hills. Similarly, Comments I-Minott-3 and I-Wellner-2 assert that the project will form "a huge wall along the public waterfront." While the planning department acknowledges these concerns related to the potential for the project to block certain views, as described in EIR Section 4.A (pp. 4.A-2 to 4.A-3), CEQA section 21099(d) states that "Aesthetic ... impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." The proposed project and project variant meet these criteria, and consequently, this EIR does not consider aesthetics, including effects of the project or variant on views of the bay, in determining the significance of project impacts under CEQA.

However, CEQA section 21099(d)(2)(A) states that a lead agency may consider aesthetic impacts under local design review ordinances or other discretionary powers. The planning department recognizes that the public and decision-makers may be interested in information pertaining to the aesthetic effects of the project and therefore has included visual depictions of the proposed project in EIR Chapter 2 (pp. 2-62 to 2-66) and of the project variant in Chapter 9. This information will be provided to the decision-makers for their consideration in taking any approval actions on the project.

Comment G-5: SB743

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-15

"SB 743 is applied for projects that are located within areas served by transit and where the VMT criteria "promote[s] the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses". (New Public Resources Code Section 21099(b)(1).) Here, the Proposed Project results in acknowledged impacts to transportation networks and increases reliance on cars by substantially increasing automobile trips. It should not have qualified for SB 743." (J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-15])

Response G-5: SB743

In 2013, Governor Jerry Brown signed Senate Bill (SB) 743, which added section 21099 to CEQA regarding analysis of aesthetics and parking impacts for urban infill projects. As described in EIR Section 4.A (pp. 4.A-2 to 4.A-3), CEQA section 21099 states that "... parking impacts of a residential, mixed-use residential, or employment center project on an infill site located within a transit priority area shall not be considered significant impacts on the environment." The proposed project and the project variant meet the *urban infill* criteria under CEQA section 21099 because it would be both a mixed-use residential project and an employment center and would be located on an infill site within a transit priority area. This determination and supporting analysis is documented in "San Francisco Planning Department Eligibility Checklist CEQA Section 21099—Modernization of Transportation Analysis for the Potrero Power Station Mixed-Used Development Project" (September 13, 2018) and in "San Francisco Planning Department Eligibility Checklist CEQA Section 21099—Modernization of Transportation Analysis for the Potrero Power Station Mixed-Used Development Project - Variant" (August 29, 2019), which are available for review at 1650 Mission Street, Suite 400, San Francisco, California as part of Case No. 2017-011878ENV. Therefore, contrary to the commenter's assertion, CEQA section 21099 applies to the proposed project.

Comment G-6: AB 900

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-16

"The Proposed Project also should not have qualified for AB 900 which requires that the project will achieve at least 15% greater transportation efficiency than comparable projects." (J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-16])

Response G-6: AB 900

As described in EIR Section 1.D.3 (p. 1-9), Assembly Bill (AB) 900 is also known as the Jobs and Economic Improvement through Environmental Leadership Act of 2011. This act provides streamlining benefits under CEQA for environmental leadership development projects that meet specified criteria, including the following: the project is residential, retail, commercial, sports, cultural, entertainment, or recreational in nature; the project upon completion will qualify for LEED gold certification or better; the project will achieve at least 15 percent greater transportation efficiency than comparable projects; the project is located on an infill site and in an urbanized area; and the project is consistent with applicable greenhouse gas emission reduction targets. On October 8, 2018, the proposed project was certified by Governor Jerry Brown as an environmental leadership development project under AB 900. Neither AB 900, nor any other portion of CEQA

provides for an EIR to review whether the criteria for certification of an environmental leadership development project have been met; that decision is vested solely with the Governor (with review by the Joint Legislative Budget Committee) via a process separate from the EIR.

Comment G-7: Opinions Related to the Project

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Janet Carpinelli, I-Carpinelli-2,
I-Carpinelli-3, I-Carpinelli-4,
PH-Carpinelli-2, and PH-Carpinelli-3
Carol Sundell, I-Sundell-2, and I-Sundell-3
Rick Hall, PH-Hall-3

Guy Carson, PH-Carson-1
Sean Angles, PH-Angles-6
President Hillis, PH-Hillis-1, and PH-Hillis-3
Commissioner Koppel, PH-Koppel-1
Commissioner Fong, PH-Fong-1

"What is left of the important older historic brick buildings should be preserved. Unit 3 Power Block is not within the important historic time period and is just an unpleasant looking structure which mars the waterfront! That structure should be demolished to make way for more public open space on the waterfront -something this project is short of.

"On the other hand the Unit 3 *Boiler Stack* of the later period, is an icon for our neighborhood and the city and anyone who sails in the Bay. It is a beautiful and simple architectural structure. Retain and restore this icon.

"In general, as far as historic preservation within this site, this developer has given short-shrift to the importance of physical preservation. I attended and spoke at the Alternative -to demolish all of the old, historic brick buildings. The hearing concluded with one commissioner's comment that none, or very little preservation of the older brick buildings is a non-starter. I agree." (*Janet Carpinelli, letter, November 8, 2018 [I-Carpinelli-2]*)

"A few other issues I want to comment on:

"1. The 300 foot tall tower is out of scale in height and bulk and does not belong on this part of the waterfront. It also will detract from and overpower the presence of the important iconic stack which will and should be the architectural element that beckons people to the area. Any new tower needs to have a considerably narrower, shorter and more elegant footprint than what is proposed.

"2. In general the project is over-programmed with too many large buildings and not enough open space. As proposed, the project will not fit in even with the newer height and densities of Pier 70, which this developer likes to say this project is emulating." (*Janet Carpinelli, letter, November 8, 2018 [I-Carpinelli-3]*)

"3. Surrounding Infrastructure and especially transportation issues need to be carefully considered as far as the density of this project. The Central Waterfront is already experiencing gridlock and accompanying air pollution and road safety issues. There have been too many major projects with less than stellar planning in the past several years. Let's not let this project add to those problems." (*Janet Carpinelli, letter, November 8, 2019 [I-Carpinelli-4]*)

"However, I would like to include the demolition of the Unit 3 Power Block. I just don't see the point in preserving that at all, and we can therefore have more open space if we do not need to keep that Power Block.

"On the other hand, I would love to see the -- where am I here?

"I would love to see the Unit 3 Boiler Stack of that later period preserved. It's an icon for our neighborhood in the City and anyone who sails in the bay. It's a beautiful and simple architectural structure. Retain and restore that icon.

"In general, as far as the historic preservation within this site, this development has given short shrift to the importance of the physical preservation.

"I attended and spoke at the -- at the HPC hearing. And at the hearing, it was concluded by one Commissioner that very little preservation or no preservation of the old brick buildings would be a nonstarter, and I agree with that." (*Janet Carpinelli, public hearing transcript, November 8, 2018 [PH-Carpinelli-2]*)

"A few of the other issues I want to comment on: The 300-foot tower is out of scale in height and bulk and does not belong in this part of the waterfront. It will also detract from and overpower the presence of the important iconic Stack, which will be and should be the architectural element that beckons people to the area.

"Any new tower needs to have a considerably narrower, shorter, and more elegant footprint than what's proposed. And I know one of the speakers talked about how it's only showing what could happen there. But as we've seen in other developments, what could happen there does happen there, and we shouldn't have that.

"In general, the project is a bit over-programmed with too many large buildings and not enough open space. As proposed, the project will not fit in even with the newer height and densities of Pier 70, which this developer likes to say this project is emulating.

"Additionally, the surrounding infrastructure and especially transportation issues need to be carefully considered as far the density of this project. The Central Waterfront has already experienced gridlock and accompanying air pollution and road safety issues. There have been too many major projects with less than stellar planning in the past several years. Let's not let this project add to those problems." (*Janet Carpinelli, public hearing transcript, November 8, 2018 [PH-Carpinelli-3]*)

"1. The 300 and 90-180 foot heights near the water front are shocking....blocking sun light, casting shadows, increasing strains on transportation and traffic that the area is not prepared to handle.

Why are the standards that were applied to the pier 70 projects not applied to this project? Please take this into your consideration." (*Carol Sundell, email, November 16, 2018 [I-Sundell-2]*)

"2. The open space is a bare minimum...please increase this." (*Carol Sundell, email, November 16, 2018 [I-Sundell-3]*)

"This project also disrespects the desires of San Francisco people, you know, by scoping a 300-foot luxury tower along the waterfront. I understand they have the right to do that, but you don't have to approve it." (*Rick Hall, public hearing transcript, November 8, 2018 [PH-Hall-3]*)

"I originally was going to come here today and tell you how excited I was about the 20 new restaurants, bars, cafes, and assembly space that this village envisions and how it's one of the first times we've had a good solid, quote, "plan for fun," which we've been railing about for years. It's safe, sane, and sensible. And we're very excited. And we think it would make a perfect complement to Dogpatch to complete it and make it an exciting, vital place to be.

"Rather, though, I'd like to talk a little bit about preservation just because I happen to know the developer. I sold him a business, Swedish American Hall, up on Market Street.

"And I would say he was -- I mean, I can bring up 25 Swedes here to testify to this. But he has been a remarkable partner in preservation. He is -- he brought in almost \$5 million in funding to completely redo the Swedish-American Hall, which became a historic landmark last year -- or two years ago.

"And I would say all of the Swedish society -- as I just attended an awards ceremony earlier this week, and they're absolutely thrilled with the love and devotion that he has for that building, for buildings old and venerable.

"And I've known him now for five or six years. He's been completely consistent with this. And I think he will honor that within this community. I think, you know, preservation's going to be a big issue. And I think we're going to have to also, though, weigh that some of these buildings are basically in ruins. Some of them -- and would be better used in other ways, for community, for housing projects.

"And I spoke with the developer at length on Monday night about the housing that he has planned for homeless mothers, et cetera, et cetera.

"Anyway, he's a upstanding guy. He knows more about preservation than, I think, anyone does -- of any developer I've met, certainly, he cares more about it." (*Guy Carson, public hearing transcript, November 8, 2018 [PH-Carson-1]*)

"I'm seeing 17 percent of the entire building area is for parking of this project, which is ridiculous." (*Sean Angles, public hearing transcript, November 8, 2018 [PH-Angles-6]*)

"I'm going to just echo some of the comments Commissioner Richards made. For one, it's a great – I think there were some members of the public that touched on this. It's a great site for housing and for redevelopment. There's vast areas of this – although we talk about the kind of importance of it historically -- that are nothing, you know, just wide areas of open space that should be redeveloped." (*President Hillis, public hearing transcript, November 8, 2018 [PH-Hillis-1]*)

"And former Commissioner Miguel, I think, raised an interesting issue about passive versus active recreation space.

"We continually see, I think, on Port property, this kind of passive, sit-around open space and not soccer fields and baseball fields. And I think you see this in Mission Bay, where there's some park property, some of it passive, but others where there's temporary soccer fields and things like that. And those are the most active used portions of that open space.

"So I encourage you to look beyond just kind of the rooftop of the garage to get -- because there's a lot of open space here for active fields and recreational uses because they're needed throughout the City." (*President Hillis, public hearing transcript, November 8, 2018 [PH-Hillis-3]*)

"Glad to see the project here today in front of us. It's great to see the east and the southeast sector of the city materializing and soon to be, you know, a nice little community down here. I do see a lot of potential here for this site.

"Some of the buildings are preservable; some of them are not. I also took a tour of the site, and it's amazing to see what the current condition of some of these buildings are actually in, some of them better than others.

"But, again, a lot of potential here. This is the first of many hearings to come for this project, so we're not going to get too far ahead of ourselves here today. But I am, you know, seeing a lot of -- again, a lot of potential here. And I'm in favor of some of the heights that are proposed. And, again, you know, let's try and make the most of this and these parcels while we can." (*Commissioner Koppel, public hearing transcript, November 8, 2018 [PH-Koppel-1]*)

"Yes, just very quickly, 15 years ago, when I was serving on the Port Commission, I took the very first tour -- growing up here as well -- but really got to study the opportunity there and been watching it for the last 15 years go through this whole legal battle and finally, hopefully, prepared to move forward.

"And I actually agree with Laura Clark's comment about the longer it sits there, the further it's eroding. And so I'm excited to get going on it." (*Commissioner Fong, public hearing transcript, November 8, 2018 [PH-Fong-1]*)

Response G-7: Opinions Related to the Project

These comments all represent the opinions of the commenters regarding various aspects of the proposed project. None of the comments raise significant environmental points or identify issues

related to the adequacy or accuracy of the EIR. The opinions of the commenters will be provided to the decision-makers for their consideration prior to taking an approval action on the project. Responses to the specific details of each comment as they relate to environmental issues are presented to below.

Comments I-Sundell-2 and PH-Hall-3 express concern regarding the proposed heights of the structures near the waterfront. EIR Chapter 9 describes the project variant, which would have a 60-foot-lower maximum building height compared to the proposed project. The EIR analyzes potential shadow impacts associated with the proposed project structures in EIR Chapter 4, Section 4.H, and the shadow impacts of the project variant structures in Chapter 9, Section 9.C.9; these sections include numerous figures that depict the extent of shadows that would occur during various times of the year. The EIR analyzes potential project impacts on transportation and traffic in EIR Chapter 4, Section 4E, and variant impacts in Chapter 9, Section 9.C.5. The commenter asks "why the standards that were applied to the pier 70 projects not applied to this project?" Both the proposed project and the Pier 70 Mixed Use District project were subject to the same City processes for development projects, including complying with the requirements of CEQA and approval of any applicable amendments to the San Francisco General Plan, Planning Code, and Zoning Map. Furthermore, both projects engaged in public planning process to establish project-specific design and development standards. The Pier 70 design and development standards were not intended to apply to the Potrero Power Station site. Comment I-Sundell-3 states the commenter's opinion that the open space is at a bare minimum and requests that it be increased; the planning department acknowledges this request. The project variant would have increased open space compared to the proposed project, with 6.9 instead of 6.2 acres. The open space improvements under the proposed project and project variant are described in EIR Chapter 2, Section 2.E.5 (pp. 2-22 to 2-23) and Chapter 9, Section 9.B.5, respectively.

Comment PH-Carson-1 describes the commenter's experience and respect for the developer with respect to preservation; the planning department acknowledges this comment. Preservation aspects of the proposed project and project variant are described in EIR Chapter 2, Section 2.E.1 (pp. 2-17 and 2-22) and Chapter 9, Section 9.B.3, respectively.

Comment PH-Angles-6 states the commenter's opinion that the proposed 17 percent of the building area for parking is "ridiculous." The planning department acknowledges this comment and notes that the project variant would have about the same percentage of building area allocated for parking. EIR Section 4.E, Transportation and Circulation, includes description of existing parking conditions in the project area (pp. 4.E-19 to 4.E-20) and analyzes parking impacts of the project under Impact TR-10 (pp. 4.E-83 to 4.E-86) and impacts of the variant in Chapter 9.

Comment PH-Carpinelli-2 expresses the commenter's opinion that the Unit 3 Power Block be demolished, but the Boiler Stack be preserved; EIR Section 2.E.1 (p. 2-17) describes plans for the Unit 3 Power Block and Boiler Stack under the proposed project, which would be the same under the project variant. The commenter also indicates her opinion regarding the preservation of the old brick buildings; EIR Chapter 6, Alternatives, discusses issues related to the preservation of the existing brick buildings on the project site. EIR Chapter 9 describes the project variant, which would preserve certain features of Station A, including saving and restoring its south and east brick walls.

Comments PH-Carpinelli-3 and I-Carpinelli-2 express concern for the height of the proposed 300-foot tower and its effect on the Stack as well as the commenter's opinion of what the tower should be. EIR Chapter 9 describes the project variant, which would have a maximum building height of 240 feet instead of 300 feet. EIR Section 4.D, Impact CR-6 (pp. 4.D-33 to 4.D-38) analyzes the proposed project with respect to its potential effects on the physical characteristics of the Third Street Industrial District, of which the Boiler Stack is identified as a contributor, and determined that with implementation of Mitigation Measure M-CR-6, Design Controls for New Construction, the proposed new construction would be compatible with the character-defining features of the Third Street Industrial District. Chapter 9, Section 9.C.4 analyzes this same impact regarding the project variant, which would result in the same impact conclusion. The commenter also expresses her opinion that the project is "over-programmed" and there is "not enough open space." Further, in Comments PH-Carpinelli-3 and I-Carpinelli-4, the commenter indicates that the surrounding infrastructure, transportation issues, air pollution, and road safety issues need to be considered. The initial study in Appendix B of the EIR provides an analysis of the project's impacts on recreational facilities and utilities and service systems. EIR Section 4.E analyzes transportation issues associated with the project, and EIR Section 4.G analyzes the project's effects on air quality; Chapter 9 presents the analysis of the variant's impacts on these same resources. For all of these issues, the EIR and initial study analyze the cumulative effects of the project in combination with other reasonably foreseeable future projects in the vicinity.

Comments PH-Hillis-1 and -3 describe the commenter's impressions of the site with regard to the site's suitability for housing, redevelopment, and active recreational uses; the planning department acknowledges this comment.

Comment PH-Koppel-1 states the potential for redevelopment of this portion of the city and support for some of the heights that are proposed. Similarly, Comment PH-Fong-1 expresses excitement for the project moving forward. The planning department acknowledges these comments.

Comment G-8: Support or Opposition

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Sean D. Angles, O-GPR2-1, and PH-Angles-1
Andrew Green, I-Green-1
Dennis Hong, I-Hong-1
Bruce Kin Huie, I-Huie-1, and PH-Huie-1
Rebecca Ronsaville, I-Ronsaville-1
Carol Sundell, I-Sundell-1
Zach Browne, PH-Browne-1
Vanessa Aquino, PH-Aquino-1

Emily Pearl, PH-Pearl-1
Scott Kline, PH-Kline-1
Tim Colen, PH-Colen-1
Ray Hernandez, PH-Hernandez-1
John Lerner, PH-Lerner-1
Philip Anasovich, PH-Anasovich-1
Laura Clark, PH-Clark-1

"I am opposed to the current proposal for Potrero Power Plant, and I disagree with findings of the Draft Environmental Impact Report." (*Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-1]*)

"I'd like express, to begin, that I'm opposed to the current proposal at the Potrero site due to lack of public community benefits and the consequential significant increase of cumulative negative impacts, which we've been talking about a lot over the last couple of years." (*Sean Angles, public hearing transcript, November 8, 2018 [PH-Angles-1]*)

"I am writing to express my opposition to the Potrero Power Station development project (Case No. 2017 011878NEV). The demolition of historic buildings and the excessive height of the proposed buildings make this project inappropriate for this location and disrespectful of the character of San Francisco and the surrounding neighborhood

"Please consider my opposition representative of the feelings of many people who didn't know of the project or take the time or have the time to write to you today." (*Andrew Green, email, November 15, 2018 [I-Green-1]*)

"I fully support item number 13 on your agenda – **DEIR - 2017-011878ENV - POTRERO POWER STATION – Draft Environmental Impact Report**. I'm currently reviewing this DEIR and as noted, I will submit my comments to this DEIR by November 19, 2018. Both the Developer and the San Francisco Planning Department has done a fine job with this Document. Let me rough in my initial comments.

"Your Recommendation; Review and Comments, good or bad - can help in expediting the RTC process and getting a final Certification.

"This Mixed use Project shows great promise. This area has several major, if not many other projects both in the pipeline and under review. All these projects will help this semi blighted area in it's [*sic*] revitalization. This includes Table 2-1 on pages 2-14 of Volume 1 which pretty much says it all – a well thought out Project from the Developer with a good use of retail and office space, 2,682 housing units, hotel, PDR and more. Wow where else can you get so many units to be added to the our City?

"I see this as another ideal project that will bring so much additional housing, retail, office, PDF and other mixed use to this area. Just think per table 2-1 it shows an additional 2,682 housing units from this Project alone.

"I hope we do not loose [*sic*] the opportunity to get this project approved. Only because I feel that these Developers are moving on with their projects some where else, only because so much time passes on with this process, construction costs keep rising and it hurts their bottom line.

"Okay, as usual, said enough, more of my comments will be submitted later. I'm a resident of San Francisco for more than 74 Plus years. Now retired. Can I have everyone's support on this Project too? If you have any question regarding my email, please reach out and let me know what your concerns are.

"Please include this as part of the DEIR Document/file.

"Honorable Commissioners, with all that said, can I have your support and any comments to help expedite this project thru the system, as I believe it will help with the RTC." (*Dennis Hong, email, November 8, 2018 [I-Hong-1]*)

"I live on 23rd Street at Indiana – 3 blocks to the West of the Power Station site. The Power Station is within Dogpatch. I support the addition of housing, recreation and transportation options outlined in the project DEIR to fill in current gaps in complete neighborhood services.

"As many in Dogpatch learned during the Dogpatch Central Waterfront Public Realm Plan – Dogpatch is a neighborhood with gaps in neighborhood serving capabilities – lack of street lights, no sidewalks in many locations including along 23rd St to the West of the site, no community facilities such as a library, athletic center or community center and some but limited green space with urban recreation. Local property owner reaction was the creation of Green Benefit District to maintain current street parks serving new developments and within a few blocks of the Power Station site. One recreation site is Progress Park that opened in 2012 and offers a bocce ball court and a new exercise area underneath the 280-freeway onramp.

"There are 3 priority areas where continued detailed discussions between project sponsor and neighbors continue with the current DEIR:

"ACTIVE RECREATION & OPEN SPACE WITH NEW WATERFRONT ACCESS

"On recreation, neighbors continue discussions with the project sponsor on details to add detail of open space with active recreation for all generations – young children, adolescents, those with families and most important to my generation – active senior services. More is better.

"COMMUNITY SERVICES WITH NEW HOUSING DENSITY

"Public community services that serve multiple generations such as community center, library or active athletic centers do not exist in Dogpatch, but do exist in neighborhoods to the West, to the South and built out to the North of Dogpatch with new development. All are missing in Dogpatch and needed with the population bump up over the next 10-15 years.

"There is good news to report – those new and long term neighbors in Dogpatch and adjacent neighborhoods continue the process of community meetings and ongoing discussions using the Draft EIR and Design for Development documents to guide conversations. Key benefits to current and future Dogpatch locals – more housing options, addition of community serving facilities and new recreation uses not seen in Dogpatch is the proposed addition of a recreational dock on page 2-45 of the DEIR is a great example to honor on-the-water recreation. A detailed investment plan at each phase of the discussion is needed, as the population will grow exponentially over the next 10 years from the initial 1,800 people in 2016.

"CONSERVATION OF DOGPATCH HISTORY

"Safeguarding history is an ongoing priority in Dogpatch. More is better. The current plan to outline the priority of key structures should be studied and outlined carefully to insure Dogpatch history does not disappear.

"I support more housing and workplace density in Dogpatch presented by the project sponsor to focus attention on open space active recreation, new and current transportation options and

preservation of historic neighborhood assets along the Southeast San Francisco Waterfront.”
(Bruce Kin Huie, email, November 19, 2018 [I-Huie-1])

“The Power Station is within Dogpatch. Many of us in Dogpatch look forward to the addition of housing, recreation, and transportation options from this project to fill in current gaps in the neighborhood, complete services.

“As many of us learned during the Dogpatch/Central Waterfront Public Realm Plan, Dogpatch is a neighborhood with gaps in neighborhood-serving capabilities. Lack of streetlights, no sidewalks in many locations, including along 23rd Street to the west of the site, no community facilities such as a library, athletic center, or community center, and some but limited green space with urban recreation.

“Local property owners’ -- myself included -- reaction was the creation of the Green Benefit District to maintain current street parks serving new developments within southern Dogpatch and within a few blocks of the Power Station site.

“One recreation site is Progress Park that opened in 2012 with Mayor Ed Lee and offers a bocce ball court and a new exercise area underneath the 280 Freeway onramp.

“But this is not enough. There are three priority areas where continued detailed discussions between the project sponsor and neighbors would help many: active recreation, because it is unique for this property; neighborhood-serving services; and preservation of history on the site.

“Our recreation neighbors continue discussions with the project sponsor on details, that detail of open space and those active uses for all generations. Many children are in the neighborhood at this point. Ten years ago, we had very a [sic] little.

“Adolescents and those with families and, most important for my generation, active senior services, public community services that serve multiple generations such as a community center, library, or athletic center do not exist in Dogpatch but do exist in the neighborhoods to the west, up the hill, to the south, and built out in the north of Dogpatch in Mission Bay. All are missing in Dogpatch and needed within the population bump.

“Lastly, conservation of history is an ongoing priority in Dogpatch. More is actually better for us.” (Bruce Huie, public hearing transcript, November 8, 2018 [PH-Huie-1])

“I’m writing to express my unhappiness and frustration with the proposed project at the Potrero power plant site. A 300 foot tower will completely change the feel of the eastern part of the city, be out of line, and does not abide by what the development site was originally approved for.

“The eastern expansion continues to overshadow the existing neighborhoods, leaving hardworking taxpaying citizens rightly frustrated and ready to move out.

“Please do not approve this project. It changes the character of the neighborhood and does not abide by what was approved. Least of all, it demolishes a historic site.” (Rebecca Ronsaville, email, November 16, 2018 [I-Ronsaville-1])

"I have many objections and concerns about the proposed Potrero Power Station. I supported the Pier 70 project...but what is being proposed for the Potrero Power Station is unbelievable."
(Carol Sundell, email, November 16, 2018 [I-Sundell-1])

"First, as a resident of San Francisco and living in the Mission, I've struggled with housing the whole time I've been here. I've fought off evictions. And density and housing in this city is very important to me and a lot of the people I know here as well. I hope to some day, you know, own a home here and live here for a very long time. I love this city. And to see projects like this really excites me -- that we're adding more density to neighborhoods that, you know, I some day want to live in.

"Second, as a walking tour guide and historical tour guide of the Dogpatch neighborhood for the past four years, I've seen a lot of really positive changes in the development and the growth of the neighborhood. From a historical preservation standpoint and from a density standpoint, a lot of developers have added a lot of positive value to the places there.

"A lot of new shops and new restaurants and new places are popping up now that more housing is available to people in the neighborhood. And it's been a really positive trend that I've seen over the years. And I see projects like this as continuing that growth and that path in the neighborhood.

"And, you know, myself, I look forward to seeing more density and more historical preservation and reuse and more people caring about these places as they move in, as they live and they work in this neighborhood and continuing on.

"I've been a part of their public outreach and engagement and brought other people into the mix as well. And everything about the project has really excited me so far, from density, from historic preservation, and from the positive impacts that will continue from development like this in the neighborhood." (Zach Browne, public hearing transcript, November 8, 2018 [PH-Browne-1])

"I'm here to show my continued support for Dogpatch Power Station. As board member of Dogpatch Neighborhood Association, DNA, for the past ten years, Dogpatch block party organizer, I have seen amazing changes and growth all around the neighborhood. It's growing fast. New neighbors are moving in by the minute, and it's exciting.

"Here's why I support Dogpatch Power Station project. Dogpatch Power Station has been very active in our community about their project for the past couple of years, which they hosted numerous outreach workshops, extensive coordination with DNA, public tours, community events, office hours at various Dogpatch businesses. They are passionate about engaging with community and keeping us informed.

"What I find exciting is the future access to the waterfront, businesses, housing, jobs, open space, art space, green space, which is much, much needed in the great historical meaning of the area. Like Pier 70 project, Dogpatch Power Station will enhance for the betterment of the Eastern Neighborhood, which is part of our amazing city, San Francisco." (Vanessa Aquino, public hearing transcript, November 8, 2018 [PH-Aquino-1])

"We think that the proposed Power Station development, massing, programming, and adaptive reuse objectives are a breath of fresh air in comparison to other local developments like the Mission Bay that, as many know, are primarily single-program, monolithic mid-rise structures with little pedestrian activity or diversity and personality.

"And in contrast, the tower density of the proposed project allows for a more interesting series of building shapes and sizes across the site and is a much more urban and, therefore, appropriate solution and one for which the team, the project team, should be commended. It goes without saying that we enthusiastically support this proposed direction.

"The Unit 3 hotel in particular is a programmatically strong idea. We think that the different experience of the Bay or the City that it will provide both residents and visitors will be tremendous.

"You know, the current nexus of hotels in the City is in a very highly touristed area. A lot of people aren't actually crazy about being there. And it also supports the site being active throughout the day and the week, provides public amenities, and of course has the adaptive reuse of the existing and important historical building.

"Opening up the waterfront and placemaking and creating connectivity and continuation of our existing waterfront's extremely important. And it also offers an incredible vantage point that is contextual and offers a different experience than we currently have of our waterfront.

"And additionally, this strengthens the connectivity of the Dogpatch area to the rest of the City which, coincidentally, has some of the best weather, as we know.

"Additionally, the 60 percent program of housing is incredibly important, and it is more sensitively interspersed in the site. And this will again help create a variety of uses throughout the day and the week, which will be very important.

"And as we know and as we have heard, housing is desperately needed. I am a Bay Area native myself, and I've had many friends and family that are not only in the arts, but academia, engineering, science, real estate, entrepreneurs all be pushed out of the city based on a lack of housing.

"I should also mention that we, myself personally, our office, we love Station A. We think that building is fantastic. I don't know any architect that doesn't think it's absolutely beautiful. But we need to remember that adaptive reuse needs to also be financially feasible.

"So to that end, you know, we are open to considering possibilities where that gets saved or other ways in which it can get saved but not at the expense of the entire project.

"I should also mention lastly that no one should look at the massing diagrams that are shown here as actual designs of any of these buildings. They're really just used to show square footages and general placement along the site. And I think all of the efforts that are focused on making this tower go away should actually be focused on making a great tower with an incredible design that is slender and elegant." (*Emily Pearl, public hearing transcript, November 8, 2018 [PH-Pearl-1]*)

"I think Associate Capital has come into the neighborhood and really kind of woven themselves into the neighborhood and tried to keep that in mind when building the project.

"I'm going to focus more on what this brings to the neighborhood that isn't there now, particularly the hotel, with a very amazing view from the top, which is going to have a roof bar open to the public. I think this is an amenity that would be really unique to Dogpatch and we don't have much of south of the ballpark.

"The open space and shore access there is going to be incredible, particularly when it's woven in with Pier 70 and the Crane Cove Park.

"We don't have a grocery store in Dogpatch. This project is committed to bringing a large-scale grocery store to the neighborhood, which is much needed. The closest is the clear across -- almost to 101 at Whole Foods.

"And then finally, I think the biggest amenity that this brings to the City is more housing. We all know what -- what a problem that is in the City, how the rents have gotten high. I've had lots of friends leave the city. I'd like to see more of them be able to stay. So I'm supportive of this project." (*Scott Kline, public hearing transcript, November 8, 2018 [PH-Kline-1]*)

"And can't tell you how pleased and excited we are to see projects like this come forward that give evidence that finally, decades, decades later our old industrial lands are being repurposed in ways that meet the challenges we face.

"Big fans of the Dogpatch Power Station. While it's admittedly too early for the HAC to review it yet, there's not any firm numbers to analyze, we're big fans of the work that Perkins + Will does, land use planning. We'd urge the developer and the architects and the planners to build in the maximum flexibility in land uses because it's going to be years before a lot of this comes to the market, and things change. Job trends change, retail changes as we see almost by the minute. So it would be good that it's flexible.

"It appears that the DEIR is -- it's on the right approach. We like the approach. It appears balanced; it appears thorough. And we look forward to reviewing this in more detail but really want this to move forward as quickly as possible." (*Tim Colen, public hearing transcript, November 8, 2018 [PH-Colen-1]*)

"First, I would like to point out there was more of myself and my other neighbors that were here, but unfortunately, we ran late, and they had life to go back to. And they were here in support.

"I'm also here in support of one of the biggest things, which is housing and what they're doing. I know there's been a lot of discussions about views and about shadows. These are things that come, you know, living in the city. It's just unavoidable.

"But I'm looking forward with the work that -- what they're doing and making sure that a lot of our neighbors, like Bayview, have more housing to come into and be able to merge the two.

"So we are here in support, and we really love what they're doing. There's a lot of concerns that a lot of people are bringing. And those are absolutely valid, but please just remember that, you know, it's not the problem; come here with solutions. And I'm sure that Associate Capital and Enrique and Hassim [phonetic] will be more than happy to see what they can do within reason to make sure that everybody in the community feels heard." (*Ray Hernandez, public hearing transcript, November 8, 2018 [PH-Hernandez-1]*)

"I can't say how excited I am to see this go up. I think that the revitalization and added vibrancy that this will bring to my neighborhood and our city is dramatic.

"To see the plans that they've put together that have varied sizes and shapes that will add a different look to the -- what has become more cookie-cutter look to many buildings and new developments the City is really exciting to me and to my neighbors.

"Again, like somebody said earlier, I saw about 20 or 25 of my neighbors here earlier, and I think we were whittled down over time to about eight of us in dramatic support of this. And I think the key for me is seeing the interest and excitement from the developers and getting involved in the neighborhood.

"And whether that's having office hours at local restaurants and participating and sharing their space for events like Decompression or supporting a fantastic local nonprofit like La Cocina and supporting -- offering them the space for their street food festival to have an opportunity to raise money in support of their program, I consider these people, from my perspective, as what I would call white hat developers.

"They're in it for the good of us, for the good of the city. There may be specific issues that people have with density, et cetera. I know, as a hospitality professional in San Francisco and somebody who employs, in combined between my two businesses, over a hundred people, that having more places for them to live, more places for them to get out and enjoy the city is very important. And that level of density is valuable to us.

"With the inclusion of Crane Cove Park down the street, we will have beautiful open spaces. We'll have places to go. The opportunity to walk down to the bay and enjoy that view up close and personal rather than, as we saw in that -- from up on the hill is -- will be a dramatic difference. We've had no access to that. And these gentlemen and ladies that are participating in this development will be bringing that to us in a dramatic way. And I'm very excited to see it, and I'm full support." (*John Lerner, public hearing transcript, November 8, 2018 [PH-Lerner-1]*)

"Unfortunately, the design presented by the developer is the worst that we've seen. It combines some of the disappointing failings of recent developments in the city, demolishes historic resources, and creates a myriad of problems for the city that they will have to address.

"The proposed project would demolish historic buildings that contribute to the Third Street Industrial District. This greatly reduces the existing unique character of the area and forever loses to us a tremendous historic group of structures that are of national significance.

"If these historic resources are preserved, they will be encircled by buildings which tower over them, casting shadows, and which belittle the original context of these structures. These historic buildings will be overwhelmed by the bulk of the new and cut off from the bay.

"The environment would be affected by a permanent increase of ambient noise, and the impact on air quality would be in violation of air quality standards, impacting regional air quality.

"This issue is precisely why the Power Plant was torn down. The design as proposed would cast shadows on public open space nearly year round. It will result in the substantial shadowing of

lower buildings as well and potentially limit Forest City's flex buildings along 22nd Street to office uses instead of housing, an undesirable outcome that will skew the jobs-housing balance.

"The basic layout of the project creates a grid that is very similar the disastrous plan that has bemoaned the Mission Bay developments nearby. This layout presents an inflexible, closed, and monotonous built environment that features large unbroken blocks and contrasts sharply with the proposed development at nearby Pier 70.

"Because of the east-west orientation of the Central Power Station Park and unbroken massing of the buildings throughout, much of the open space is in shadow and vistas of historic resources and the bay are obscured. What is proposed creates the effect of a wall that substantially cuts off views of the bay.

"The DEIR shows that approved and proposed projects would add up to approximately 22,734 net new residents and 10,015 units. The density proposed is comparable to the current density in Manhattan. We are virtually taking the population of an American town and putting it down on a 29-acre site.

"This is substantially more than the nearby --

"-- Pier 70 project." (*Philip Anasovich, public hearing transcript, November 8, 2018 [PH-Anasovich-1]*)

"I think it's important to think about the costs and benefits of a project like this. A lot of people are talking about the historic preservation aspect. I recommend all of you go out and visit it because, if you go out and visit it, you can see how much history is being lost by it rotting away.

"You can't really visit and can't enjoy a historic artifact unless it's infused with life, unless it's redeveloped and becomes something worth visiting.

"If we're talking about preserving the brick buildings, that's where the housing has the potential to go. So we're talking about cutting the bit of housing in this project, and we're talking about preserving something that is a rusting hulk of industrialism. It reminds me of places where I used to club and have illegal parties back in the day when I was cool. But I would not say that a rusting post-industrial -- I mean, it's cool. Right? I did club there.

"But, like, we can do better. We can redevelop these places into something that people can enjoy every day. What is the point of our waterfront if it is not infused with life? People should be living there.

"I don't believe this, frankly, crap about how we can't increase our public transportation and run more bus lines and infuse this area with a transit-oriented, walkable community. I think it's great. We're talking about dumping a whole town right there. And that's frickin phenomenal. That's what we need to happen next. We need more life in our city, not a rusting hunk of junk.

"Keep the Stack; that's cool. Have the hotel built around it. I think that sounds really cool. Please do not listen to the people who are telling you that the thing they want less of is density and housing. The thing that they are putting up on the chopping block for this project is the housing aspect of this project. And if we lose that, this project will not be worth it.

"So, please, preserve the housing package of this, and make sure that we do get more transit out there. Make sure that this entire community continues to take the forward march of history and thrive." (Laura Clark, *public hearing transcript*, November 8, 2018 [PH-Clark-1])

Response G-8: Support or Opposition

This group of comments all express support of or opposition to the proposed project, along with various reasons for support or opposition. None of the comments raise significant environmental points or identify issues related to the adequacy or accuracy of the EIR. The comments will be provided to the decision-makers for their consideration prior to taking an approval action on the project. Responses to the specific details of certain comments, where they refer to an environmental issue, are presented to below.

Comment PH-Pearl-1 expresses support for the project but also mentions concern for saving Station A if it is financially feasible. EIR Chapter 9 describes the project variant, which would preserve certain features of Station A. See also Response G-9 regarding recommendations and opinions for approving an alternative that would preserve historic resources.

Comment PH-Hernandez-1 expresses support for the project but also mentions issues related to views and shadows. EIR Section 4.H analyzes shadow impacts of the project, and Section 9.C.9 analyzes the impacts of the variant. EIR Section 4.A discusses why aesthetics (views) are not considered in determining if a project has the potential to result in significant environmental effects under CEQA, but that a lead agency may consider aesthetic impacts under local design review ordinances or other discretionary powers. See also Response G-4, above.

Comment PH-Anasovich-1 expresses opposition to the project and also mentions environmental issues related to historic resources, shadows, noise, and air quality. EIR Section 4.D, Historic Architectural Resources, analyzes the impacts of the project on historic resources; EIR Section 4.H, Wind and Shadow, analyzes shadow impacts of the project on open spaces; EIR Section 4.F, Noise analyzes noise impacts of the project; and EIR Section 4.G analyzes impacts of the project on air quality; Chapter 9 presents the analysis of the variant's impacts on these same resources. The commenter also mentions effects of the project on jobs-housing balance. EIR Section 4.C, Population and Housing, includes a discussion on jobs-housing balance. In addition, the commenter states his opinions on the proposed project's site plan; EIR Section 2.E.4 (pp. 2-21 to 2-22), describes the Design for Development process for the proposed project that would provide design standards and guidelines and related design controls for the development.

The commenter states that "approved and proposed projects would add up to approximately 22,734 net new residents and 10,015 units." Presumably, these numbers are based on information presented in the EIR (Table 4.A-1, p. 4.A-1), where under the maximum residential scenario, the proposed project could result in up to 3,014 additional units, which when added to the maximum number of dwelling units of 7,001 that could occur if all cumulative projects presented in Table 4.A-2 (pp. 4.A-13 to 4.A-14) would result in 10,015 units. Assuming 2.27 persons per unit would result in 22,734 residents, as indicated by the commenter. However, the commenter is incorrect in stating

that the proposed density is comparable to Manhattan (approximately 66,940 people per square mile); the area of San Francisco that is considered in the cumulative projects assumption is approximately 1.5 square miles, and with a maximum future cumulative residential population of 22,734 people, the density would be about 15,000 people per square mile, or less than one fourth the density of Manhattan.

Comment PH-Clark-1 expresses support for the project but also indicates the need for increased transit in the area. EIR Section 4.E, Transportation and Circulation, includes analysis of transit impacts of the project under Impacts TR-4, TR-5, and TR-6 (pp. 4.E-66 to 4.E-76).

Comment G-9: Recommendations for Project Approval

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Andrew Wolfram, A-SFHPC-3
Mike Buhler, O-SFH-3
Rodney Minott, O-STH-3

Janet Carpinelli, I-Carpinelli-1, and PH-Carpinelli-1
Jim Warshell, PH-Warshell-1
President Hillis, PH-Hillis-2

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- “• The HPC agreed that they recommend adoption of Full Preservation Alternative C as it avoids significant impacts to the historic resource by rehabilitating all historic resources on site and maintaining the same general development program as the proposed project.
 - “• The HPC also supported adoption of one of the Partial Preservation Alternatives or a combination of partial preservation alternatives, such as retaining the Meter House and Compressor House and allowing for retention of a portion of Station A. The HPC President noted, further, that the HPC highly encourages the Planning Commission to look at a project that preserves historic resources even if there are some trades off, such as a small reduction of square footage or densification of the development program.” (*Andrew Wolfram, San Francisco Historic Preservation Commission, letter, November 2, 2018 [A-SFHPC-3]*)

“San Francisco's conversion of the Ghirardelli Chocolate Factory and Del Monte cannery – between 1964 and 1968 - into shops, restaurants, galleries, and offices is widely credited with starting the international trend for waterfront rehabilitation of industrial buildings. In the ensuing decades, historic preservation became a central tenet of the city's waterfront revitalization efforts, as reflected in the triumphant adaptive reuse of the Ferry Building and the Port's historic finger piers, and the ongoing redevelopment of the Union Iron Works Historic District at Pier 70. Like the industrial structures at Potrero Point, many of these projects faced daunting challenges and costs.

“In his 2011 essay for the National Trust's *Forum Journal*, “Preserving Industrial Heritage: Challenges, Options, and Priorities,” Duncan Hay of the Society for Industrial Archeology describes various techniques for preserving and interpreting historic industrial facilities, including: (1) continued industrial use, (2) adaptive use to non-industrial functions, (3) curation,

(4) documentation, and/or (5) preservation of fragments as monuments.³ Recognizing the inherent challenges posed by large, often derelict industrial structures, Hay advocates a pragmatic, flexible approach:

[W]e need to recognize that preserving industrial heritage usually requires more than saving and finding new uses for old buildings. In many of the most successful projects, developers and preservationists cleared the guts in order to save the skin. That, by itself, is no sin. We simply need to recognize that the reuse of industrial properties, like many preservation projects, requires compromises and tradeoffs.⁴

"In this spirit, the HPC has implored the Planning Commission to require greater preservation of historic resources at Potrero Point "even if there are some trades [sic] offs, such as a small reduction of square footage or densification of the development program,"⁵ while simultaneously expressing an openness to "creative solutions that are out of the typical preservation lexicon."⁶ Features highlighted by the HPC as especially worthy of retention include the small neoclassical façade of the Station A Machine Shop Office and the exposed, artfully besotted interior brick wall of Station A.

"Heritage generally agrees with the HPC's recommended approach, while calling for preservation of the entire Station A complex. Of the brick structures that remain, the awesome size, scale, and evolution of Station A — including several accretions and subtractions over time — best tell the messy, evolving story of Potrero Point. Accordingly, we feel that preservation of Station A and its components (Turbine Hall, Switching Station, and Machine shop Office) should be prioritized in any development program to complement the sponsor's existing plans to repurpose Unit 3 and the Boiler Stack.

Footnotes:

³ Proposed Mitigation Measure M-CR-5c, "Public Interpretation and Salvage," would require the project sponsor to "make a good faith effort to salvage materials of historical interest to be used as part of the interpretative [sic] program. This could include reuse of the Greek Revival façade of the Machine Shop Office, Gate House or a portion of the Unit 3 Power Block."

⁴ Duncan Hay, "Preserving Industrial Heritage: Challenges, Options, and Priorities," *Forum Journal* (Spring 2011, Vol. 25, No. 3), at p.11.

⁵ HPC comment letter to Planning Commission, November 2, 2018.

⁶ HPC hearing transcript, October 17, 2018."

(Mike Buhler, *San Francisco Heritage*, letter [email attachment], November 19, 2018, [O-SFH-3])

"We urge the Historic Preservation Commission to do the right thing by insisting that the Potrero Power Station project and the draft EIR be significantly revised in favor of a plan that feasibly preserves, protects, and reuses the multiple existing historic structures on the site that date back to the early 20th century." (Rodney Minott, *Save The Hill*, letter, October 14, 2018, [O-STH-3])

"I urge you to recommend a balance between Alternative B -a less dense project, and Alternative C but to include the demolition of the Unit 3 Power Block." (Janet Carpinelli, letter, November 8, 2018 [I-Carpinelli-1])

"And I am here today to urge you to recommend a balance between Alternative B, a less dense project, and Alternative C." (*Janet Carpinelli, public hearing transcript, November 8, 2018 [PH-Carpinelli-1]*)

"That there is a preservation Alternative C that gets all the metrics, all the housing, all the gross area, and also does full preservation of the historic assets is obviously good. So the HPC was very thoughtful in making that their first recommendation, and I really endorse that.

"Every time we do one of these big projects and so much is new, incorporating the old into it and making the whole project richer because it embraces the history and creates something more than it would be if we hadn't done that, you have to applaud creative efforts to do that.

"So, again, to keep it short, I'm at two minutes, please, save the brick buildings. They are part of the history. They define the area. Please support them." (*Jim Warshell, public hearing transcript, November 8, 2018 [PH-Warshell-1]*)

"And I think we're kind of -- we don't think about this site because we don't walk through it or bike through it or drive through it. It's pretty much hidden back beyond some of these historic buildings. And the same, I was able to tour the main kind of historic building. It's vast. And I think it's a great old building.

"And I think the developer thinks the same way, but what it could be or how it could be reused is difficult to imagine. It's just a vast, open building with not too many windows and no roof.

"So I don't -- you know, I agree with kind of Mr. Wolfram's comments from the Historic Preservation Commission. You know, sometimes when it's all new, it lacks some authenticity. So some preservation of that, some ability to keep the smaller buildings, or you know, this may be a good case for a façade or a partial -- you know, keeping a partial portion of a building, but it will be interesting to see, and it will be good to hear from Heritage and others on how that could be done." (*President Hillis, public hearing transcript, November 8, 2018 [PH-Hillis-1]*)

Response G-9: Recommendations for Project Approval

These seven comments all represent the opinions of the commenters regarding their recommendations for project approval. None of the comments raise significant environmental points or identify issues related to the adequacy or accuracy of the EIR. Comment O-SFH-3 requests that "the draft EIR be significantly revised in favor of a plan that feasibly preserves, protects, and reuses the multiple existing historic structures on the site." However, this request is contrary to the purpose of the EIR, which is to provide an objective analysis of the physical environmental effects of the project, as proposed, in order to enable decision makers to make an informed decision that considers environmental consequences. The EIR does not favor any given plan, but rather objectively analyzes a project as proposed by the project sponsor and identifies alternatives that would lessen or avoid any significant impacts of the project.

All seven commenters express support for adoption of an alternative that would provide various degrees of preservation of historic resources at the project site. These recommendations will be provided to the decision-makers for their consideration prior to taking an approval action on the project. Note that EIR Chapter 9 describes the project variant, which would preserve certain features of Station A.

11.B Project Description

The comments and corresponding responses in this section cover topics in EIR Chapter 2, Project Description. These include topics related to:

- Comment PD-1: Project Characteristics
- Comment PD-2: Adjacent Land Uses

Comment PD-1: Project Characteristics

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Rebecca Coates-Maloon, A-BCDC-2
Rebecca Coates-Maloon, A-BCDC-3

Rebecca Coates-Maloon, A-BCDC-4
J.R. Eppler, O-PBNA2-27

"2. Sea Level Rise. The Ocean Protection Council and California Natural Resources Agency released a State of California Sea Level Rise Guidance document earlier this year, which provides guidance on sea level rise risk analysis and planning based on probabilistic projections. It would be helpful to include information based on this Guidance as part of the discussion in Section 2.E.10, to understand how the proposed improvements to address sea level rise relate to the Guidance. Additionally, please note that BCDC will evaluate the proposed project for consistency with our laws and policies through the permitting process, including as they pertain to sea level rise. The San Francisco Bay Plan Climate Change policies state, in part, that "when planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared..." and that "...within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects...should be designed to be resilient to a mid-century sea level rise projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century." The Bay Plan Public Access policies also state, in part, "[p]ublic access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding" and that "[a]ny public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby." (Rebecca Coates-Maloon, Principal Permit Analyst, San Francisco Bay Conservation & Development Commission, email, November 19, 2018 [A-BCDC-2])

"3. Bay Fill Clarification. Please provide clarification on the amount of bay fill associated with the proposed dock and related components, which is described as "a new 80-foot long and 3-foot wide floating dock" on page 4.I-53. These are the dimensions of the gangway described on page 2-45, and the dock there is described as being 120 feet by 15 feet." (Rebecca Coates-Maloon, Principal Permit Analyst, San Francisco Bay Conservation & Development Commission, email, November 19, 2018 [A-BCDC-3])

"4. Temporary Events. Page 2-22 of the DEIR states that "Temporary events would be allowed in all open spaces on site. Events could include movie nights in the park, farmers markets, fairs, performances, food trucks, block parties, and weddings, any of which would be allowed in all open space areas." Please note that the baseline for public access areas required by BCDC as a condition of development is that those areas would be made available for public use at all times. Requests for special events or reasonable rules and restrictions on public access would need to be evaluated through the BCDC permitting process." (*Rebecca Coates-Maldoon, Principal Permit Analyst, San Francisco Bay Conservation & Development Commission, email, November 19, 2018 [A-BCDC-4]*)

"VII. Project Description

"The Proposed Project incorporates a flexible land use program in which certain blocks permit both residential and commercial uses. Future market conditions and other economic considerations may ultimately determine the type and amount of residential and commercial land uses to be developed.

"The specific uses would be determined after the EIR is adopted and after Project approval. This type of scheme shortcuts the required public review process that is meant to occur prior to adoption of a project.

"The "worst case" analysis states that under a maximum commercial scenario, impacts are based on office use, but the specifics are unclear. For example, would it include the grocery store that has been promised to the neighborhood, and generates far more trips than office, or even general retail?

"It is unclear as to whether Block 9 will be developed as residential vs. hotel and it is not explained whether ancillary restaurant or retail uses in the hotel were included in the analysis. Both of these uses generate far more trips and employee density than hotel or even office uses.

"Another unknown is whether the PG&E subarea will be developed as part of the Proposed Project. Its provision of housing will be critical to maintaining a good jobs/housing balance and affordable housing. The proposed new Georgia Street is within the subarea and infrastructure improvements including utilities and transportation are dependent on the subarea's inclusion. A much-needed San Francisco Recreation and Parks recreation center has been proposed for this location. This would help mitigate recreation impacts from massive population growth. Whether or not it would be built if the subarea is not developed under the Proposed Project is unclear.

"An accurate, stable and consistent project description is necessary to an adequate evaluation of the project's impacts; the project description should describe the physical development that will result if the project is approved; and the description should be sufficiently detailed to provide a foundation for a complete analysis of environmental impacts." (*J.R. Eppler Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-27]*)

Response PD-1: Project Characteristics

Sea Level Rise

EIR Section E.2.10 is the part of the project description that describes improvements that would be constructed under the proposed project to address sea level rise. The best science and current guidance regarding sea level rise are discussed in EIR Section 4.J, Hydrology and Water Quality, including the Ocean Protection Council's *State of California Sea-Level Rise Guidance: 2018 Update*, which is referenced by the commenter. Impact HY-5 (pp. 4.J-56 to 4.J-57) discusses how the proposed improvements would address sea level rise. Please also refer to Response HY-1 in Section 11.J of this document for a discussion of this topic.

The project sponsor acknowledges that as part of the project approval actions, the Bay Conservation and Development Commission (BCDC) will evaluate the consistency of the project with BCDC laws and policies through the permitting process, including those that pertain to sea level rise. A risk assessment will be submitted, as required by BCDC policies related to sea level rise, to demonstrate that the project would not endanger public safety. As discussed in EIR Impact HY-5 and Response HY-1, the project would be resilient to projected sea level rise through the end of the century (2100). Therefore, the project exceeds the requirement that the project be resilient to mid-century sea level rise projections. The project also includes the adaptive capacity to be resilient to sea level rise should the actual amount of sea level rise be greater than what is projected by either the NRC or the Ocean Protection Council. Further, all public access such as the proposed recreational dock, is designed to be above the projected sea level rise elevation through at least the end of the century. Therefore, the public access features would not be adversely affected by sea level rise or shoreline flooding.

Bay Fill Clarification

The commenter is correct in noting that the proposed gangway spanning the wharf and the floating dock would be 80 feet long and 3 feet wide. In addition, as described on page 2-45, the proposed dock would include a wharf deck 65 feet long by 35 feet wide, and a floating dock 120 feet by 15 feet. The text on page 4.I-53 is revised as follows to clarify this description (text changes shown in double underlined):

The proposed project includes several components that could result in placement of fill within jurisdictional waters of the San Francisco Bay. To address the potential hazard of future sea-level rise in combination with storm and high tide conditions, the proposed project includes physical shoreline improvements consisting of rock slope revetments, berms and bulkheads, and grading elevation inland, some of which would require work below the high tide line and mean high water line. Should a dual sewer and stormwater system be selected instead of the combined scenario (see Chapter 2, Project Description, and Section 4.J, Hydrology, Water Quality, and Sea Level Rise,) then a new stormwater outfall for discharging runoff from the project site would be installed in the vicinity of the existing Unit 3 Power Block outlet structure and below the high tide line and mean high water line. Additionally, the proposed project would include installation of a new 80-foot long and 3-foot wide gangway and 120-foot long by 15-foot wide floating dock. The wharf portion of the dock would require nine 24-inch support piles, six of which would be

installed landside (though potentially below the high tide line and within the U.S. Army Corps of Engineers section 404 jurisdiction), and three of which would occur below the mean higher high water line (and within the army corps section 10 jurisdiction). The floating dock would be held in place by guide piles, either four 36-inch diameter steel piles or 14 24-inch diameter concrete piles. No other project work is planned to occur below the high tide line or mean higher high water line that would affect the bay.

This revision does not change the analysis or conclusions presented in the EIR.

Under the project variant, as described in Chapter 9, the proposed gangway and floating dock would be slightly larger; the gangway would be 100 feet long by about 6.5 feet wide, and the floating dock would be 120 feet long by 24 feet wide. Regardless of the dimensions of the proposed shoreline improvements, the specific amounts of bay fill that would occur under the project or the variant have not been calculated, but as described in Impact BI-7 (pp. 4.I-53 to 4.I-54), the quantity of permanent fill in the bay attributable to the project and resulting in the loss of jurisdictional waters, if any, would be determined during the required permitting process and through project review by regulatory agencies with authority over the San Francisco Bay. The EIR identifies all potential environmental construction and operational impacts associated with the creation of new bay fill under the project, discloses the required regulatory permits the project would be subject to, and identifies mitigation measures to reduce impacts. Implementation of **Mitigation Measure M-BI-7, Compensation for Fill of Jurisdictional Waters** (EIR p. 4.I-54), under either the proposed project or the project variant, would reduce this impact to a less-than-significant level.

Please also refer to Chapter 9, Project Variant, in this Responses to Comments document. As discussed in that chapter, under the variant, the dimensions of the proposed revised dock facility would be somewhat larger than the original design, which would increase the amount of bay fill associated with that project feature, but the amount of bay fill would be reduced by demolishing the existing approximate 200-foot-long seawall section, removing adjacent inland soil backfill, and then constructing the new concrete seawall section parallel to, but approximately 3 feet west of, the alignment proposed under the project design (approximately 5 feet west of alignment of the existing seawall). Nevertheless, as for the proposed project, the quantity of permanent fill in the bay attributable to the project variant, if any, would be determined during the required permitting process, and implementation of Mitigation Measure M-BI-7 would reduce this impact to a less-than-significant level.

Temporary Events

The project sponsor acknowledges that under either the proposed project or the project variant, BCDC would require as a condition of development that public access areas would be made available for public use at all times, and that any requests for special events or reasonable rules and restrictions on public access would need to be evaluated through the BCDC permitting process.

Project Description

As the commenter notes, the proposed project incorporates a flexible land use program, in which certain flex blocks permit both residential and commercial uses; and that future market conditions and other economic considerations may, ultimately, determine the type and amount of residential and commercial land uses to be developed on the flex blocks. The proposed land use plan (Chapter 2, Project Description, Figure 2-5, p. 2-16) indicates the potential land use(s) allowed on each block.

As discussed in Section 4.A, Impact Overview, the EIR acknowledges that due to the potential land use variation that could occur under the flex blocks and with Unit 3, implementation of the proposed project could result in a range of impacts. Therefore, in order to provide the reasonable worst-case analysis under each impact topic, the EIR notes that two scenarios bracket the full range of potential impacts: (1) development that maximizes residential uses is considered the *maximum residential scenario*, and (2) development that maximizes office space and commercial uses is considered the *maximum office scenario*. The impact analysis in the EIR assumes the development scenario that would have the greatest impact on a topic by topic basis to identify the maximum potential impact on a resource. As a result, all potential environmental impacts associated with the project are appropriately disclosed in the EIR. This approach to analysis for addressing flex blocks was also conducted for the project variant, as described in Chapter 9.

The EIR assumed a grocery store would be developed at the project site under either the maximum residential or maximum office scenario; as such, the EIR appropriately addressed the potential environmental impacts of that land use.

With respect to the inquiry if ancillary restaurant or retail uses were included in the analysis, the EIR analysis assumed the hotel could have ancillary restaurant or retail uses, similar to other hotels in San Francisco. For example, the trip generation rates used in the EIR reflect the total number of individuals or vehicles entering or leaving the site, including those who may also attend its supporting facilities such as restaurants, cocktail lounges, or retail stores.¹ As indicated above and described in detail in Appendix C, the travel demand assumptions used in the transportation analysis for the proposed project were based on the scenario (either maximum residential or maximum office) with the higher trip generation for both the inbound and outbound direction. For example, for the p.m. peak hour of analysis inbound trips generally are from the maximum residential scenario to capture the larger number of residents returning back to the project site from work outside the project site, while the outbound trips generally are from the maximum commercial scenario to capture the larger number of persons leaving the commercial uses on the project site. As such, the EIR addressed the potential environmental impacts of the hotel and associated ancillary uses as appropriate to reflect the highest number of potential trips.

¹ The trip generation rates presented in the SF Guidelines are based counts collected by the planning department at various locations in the City, supplemented with data obtained from the Institute of Transportation Engineers Trip Generation Manual Report.

PG&E Subarea

Regarding the PG&E sub-area portion of the project site, as discussed in the EIR Project Description, p. 2-5, the project sponsor has received letters of authorization from PG&E to study the proposed project within the PG&E sub-area, but it has not determined whether to develop this property as part of the project. PG&E has not determined the feasibility of relocating the utility facilities in the PG&E sub-area, or whether PG&E will sell the PG&E sub-area to any other entity to be redeveloped. PG&E's decision regarding relocating facilities and a possible sale will require regulatory review and approval by the California Public Utilities Commission and Federal Energy Regulatory Commission. As shown in Figure 2-5, p. 2-16, in the EIR Project Description, the proposed project land use plan designates the majority of the PG&E sub-area as residential, with a small portion designated as flex residential or office. This potential development in the PG&E sub-area was analyzed as part of the overall proposed project in the EIR, and all impacts associated with that development are disclosed.

Chapter 9 of this Responses to Comments document describes and analyzes the environmental impacts of a project variant, including a "no PG&E scenario" of the project variant that excludes the PG&E subarea from the proposed development. Under the no PG&E scenario, Humboldt Street would not connect to Illinois Street, and instead, there would be a turnaround at the west end of Humboldt Street north of Block 5. In addition, Georgia Street would not connect to 22nd Street, and the western end of Craig Lane would terminate at Louisiana Street. Under the no PG&E scenario, the project variant would not result in any new or substantially increased significant impacts as compared to the proposed project.

With respect to transportation impacts, the analysis indicates that under the no PG&E scenario the transportation impact conclusions identified in the Draft EIR (as revised in Chapter 12 of this document) remain unchanged. Similarly, under the no PG&E scenario in which residential land uses would be substantially reduced (and associated demand for recreational resources would also be reduced) and the majority of the utilities infrastructure in the PG&E subarea would not be constructed, the recreation and utilities impact conclusions in the Draft EIR also remain unchanged. Please see Chapter 9 for further description and analysis of potential impacts of development without the PG&E subarea. Given all the factors discussed above, the EIR adequately characterizes the proposed project (Chapter 2) and project variant (Chapter 9) at a sufficient level of detail in order to provide an adequate evaluation of the project's or variant's impacts as required under CEQA. Furthermore, adequate mechanisms exist to ensure that should any future project changes arise that would substantially alter the existing project description, then the City would conduct appropriate additional environmental review and public notification if needed to assess and disclose potential changes to impacts and mitigation identified in this EIR.

Comment PD-2: Adjacent Land Uses

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Commissioner Richards, PH-Richards-4

"I am concerned, the PG&E Transmission Station next door seems to be an issue. Is the long-term plan to have that always be there, or will that be relocated somewhere else, thereby mitigating the need to demolish the buildings because they're actually not usable because of the ongoing, you know, electrical-generating transmission activity right next door." (*Commissioner Richards, public hearing transcript, November 8, 2018 [PH-Richards-4]*)

Response PD-2: Adjacent Land Uses

As described in the EIR, PG&E switchyard facilities are located on PG&E-owned land both within the project site (i.e., within the PG&E sub-area), and adjacent to the project site. The PG&E switchyard facilities within the project site are discussed in response PD-1 above. With regard to the PG&E facilities adjacent to the project site, the planning department is not aware of any plans to relocate those facilities, nor of any relationship between the location of those facilities and the decision of whether to demolish buildings on the project site.

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11.C Plans and Policies

The comments and corresponding responses in this section cover topics in EIR Chapter 3, Plans and Policies. These include topics related to:

- Comment PP-1: San Francisco General Plan
- Comment PP-2: Eastern Neighborhood Plans
- Comment PP-3: Central Waterfront Area Plan
- Comment PP-4: Historic Resources Policies
- Comment PP-5: Shadow Policies
- Comment PP-6: Open Space Policies
- Comment PP-7: San Francisco Bay Plan
- Comment PP-8: BCDP Bay Jurisdiction
- Comment PP-9: San Francisco Bay Trail Plan

Comment PP-1: San Francisco General Plan

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-21, and O-PBNA2-25

“There are a number of clear inconsistencies with the Central Waterfront Plan, Plan Bay Area, Waterfront Land Use Plan, and General Plan which must be considered as part of the CEQA review. The DEIR cherry picks its analysis, overlooking inconsistencies with a number of local and regional plan policies. The DEIR admits that it doesn’t provide a comprehensive analysis of general plan consistency and asserts that this will be considered in future staff reports. However CEQA requires the EIR to discuss and analyze the Project’s inconsistency with area plans and policies. (CEQA Guidelines § 15125(d).)” (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-21])

“Housing Element of the General Plan

“The San Francisco Housing Element requires that infrastructure needs be planned and coordinated to accommodate new development, but the Proposed Project conflicts with a number of objectives and policies of the General Plan’s Housing Element, and in particular fails to balance housing growth with adequate infrastructure, particularly public transit. Analysis of consistency with the Housing Element is omitted entirely despite the fact that the Proposed Project will disproportionately burden the neighborhood with growth well beyond any previous projections and concentrate it in an area with inadequate public services. Among the policies and objectives that should have been considered are the following:

Objective 12: *Balance housing growth with adequate infrastructure that serves the City’s growing population.*

Policy 12.1: *Encourage new housing that relies on transit use and environmentally sustainable patterns of movement.*

Policy 12.2: Consider the proximity of quality of life elements, such as open space, childcare, and neighborhood services, when developing new housing units.

Policy 12.3: Ensure new housing is sustainably supported by the City's public infrastructure systems.

Policy 1.2: Focus housing growth and infrastructure necessary to support growth according to community plans.

Policy 4.6: Encourage an equitable distribution of growth according to infrastructure and site capacity.

Policy 13.1: Support "smart" regional growth that locates new housing close to jobs and transit.

Policy 13.3: Promote sustainable land use patterns that integrate housing with transportation in order to increase transit, pedestrian, and bicycle mode share.

"Transportation Element of the General Plan

"The Proposed Project is car-centric with a large parking component. Nearly 50% of the external person trips each day will be by private automobile and parking comprises 17% the entire building area. Given the Project's location within a congested area underserved by transit, inconsistencies with the *Transportation Element* that should have been considered but were omitted include the following:

Policy 1.3: Give priority to public transit and other alternatives to the private automobile as the means of meeting San Francisco's transportation needs, particularly those of commuters.

"The *Transportation Element* also requires that developers coordinate land use with transit service and mitigate traffic problems. Instead the Proposed Project will burden transit and increase traffic. The severity of these impacts, their adherence with the following policy, is not considered:

Policy 11.3: Encourage development that efficiently coordinates land use with transit service, requiring that developers address transit concerns as well as mitigate traffic problems."

(J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-25])

Response PP-1: San Francisco General Plan

This response applies to both the proposed project and project variant, given the basic similarities between the two land use plans.

The first comment introduces more specific comments related to consistency with various plans and policies. Responses to specific comments concerning the San Francisco General Plan are provided here. Responses to comments concerning the Central Waterfront Plan, an area plan within the San Francisco General Plan, are provided in Response PP-3, below. Although the comment also alleges project inconsistencies with Plan Bay Area (the region's Sustainable Communities Strategy and Regional Transportation Plan, the current version of which was adopted by the Metropolitan Transportation Commission and Association of Bay Area Governments in July 2017), no specific comments regarding consistency with this plan were made. Likewise, the comment suggests inconsistencies with the Port of San Francisco's Waterfront Land Use Plan, but no specifics were given. Therefore, no response is provided concerning inconsistencies with these last two plans.

Please note that comments specifically concerning policies with respect to historical resources, shadow, and open space are presented and responded to separately below.

The second comment states that the EIR does not describe potential conflicts with the San Francisco General Plan with respect to ensuring that housing development is balanced with growth of infrastructure, particularly transit; and with respect to project-generated traffic congestion and its effect on transit.

First, it is not required that an EIR discuss every relevant policy of the San Francisco General Plan. The primary purpose of an EIR is “to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project” (CEQA section 21061). CEQA defines a significant effect as “a substantial, or potentially substantial, adverse change in the environment,” and the “environment” consists of “the physical conditions that exist within the area which will be affected by a proposed project” (CEQA sections 21068 and 21060.5). Thus, a conflict with a plan or policy does not, in and of itself, indicate a significant effect on the environment. Rather, that conflict is an indication that a potential physical effect could occur and serves as guidance to the EIR preparer that further investigation of such physical effect may be warranted. Accordingly, as explained in EIR Chapter 3, Plans and Policies, physical effects that could result from conflicts with general plan policies are investigated in the EIR, in the relevant topical sections. However, in the larger sense as explained on EIR p. 3-2, “potential conflicts with the general plan are considered by the decision-makers (in the case of a general plan amendment, the planning commission and board of supervisors) independently of the environmental review process. Thus, in addition to considering inconsistencies that affect environmental issues, the decision-makers consider other potential inconsistencies with the general plan as part of the decision to approve or disapprove a proposed project.” Thus, the City’s process of considering the project for approval will involve a thorough review of applicable plans and policies beyond those that could result in physical effects.

As further explained in EIR Chapter 3, the focus of the EIR’s analysis of conflicts with the San Francisco General Plan is the Central Waterfront Area Plan, which is the area plan that governs the project site and vicinity. As explained in the Introduction to the San Francisco General Plan, and stated on EIR p. 3-2, in an area plan, “the more general policies in the General Plan elements are made more precise as they relate to specific parts of the city.” Therefore, the EIR appropriately focuses the discussion of the project’s general plan consistency on consistency with the Central Waterfront Area Plan.

Concerning housing growth, it should be noted firstly that the proposed project is not solely a proposal for new housing development. Rather, as stated on EIR p. 2-13, the project proposes some 2,682 dwelling units, along with approximately 1.6 million square feet of commercial uses (office, R&D/life science, retail, hotel, and PDR), approximately 25,000 gross square feet (gsf) of entertainment/assembly uses, about 100,000 gsf of community facilities (potentially including a recreational space, community center, library, and/or childcare; see EIR p. 2-17), and 6.2 acres of publicly accessible open space. Similarly, the project variant proposes 2,601 dwelling units, 1.8

million square feet of commercial uses, 25,000 gsf of entertainment/assembly uses, 50,000 gsf of community facilities, and 6.9 acres of open space. The land use diversity would allow residents and employees to meet many daily needs within the project site. As such, the EIR transportation analysis assumes that more than one-fourth of daily person-trips generated at the project site would not leave the site. This would reduce transportation impacts—including, among other things, traffic and transit delay. Moreover, one of the project objectives, set forth on EIR p. 2-4, is: “Increase the city’s supply of housing to contribute to meeting the San Francisco General Plan Housing Element goals, and the Association of Bay Area Governments’ Regional Housing Needs Allocation for San Francisco by optimizing the number of dwelling units, particularly housing near transit.”

Additionally, as noted, the project would include approximately 100,000 gsf of community facilities (and 50,000 gsf for the project variant), which could consist of a recreation space, community center, library, and/or childcare facility. Thus, the project would include “quality of life elements” called for in Housing Element Policy 12.2. Furthermore, most of the Housing Element objectives and policies cited by the commenter are, in fact, set forth in the EIR’s analysis of population and housing in Section 4.C, p. 4.C-7. Inasmuch as that analysis identifies no significant housing effects of the project, no conflicts with Housing Element policies have been identified that would result in adverse physical impacts under CEQA.

However, the EIR does find that the proposed project would result in a significant unavoidable impact due to project-generated transit ridership that could not be accommodated by nearby Muni transit capacity (specifically on the 22 Fillmore and the 48 Quintara Muni lines) and would result in a substantial increase in transit delay on line 22 (see Impacts TR-4 and TR-5 in Chapter 4, Section 4.E, Transportation and Circulation). Accordingly, in Chapter 3, the EIR concludes that the project could conflict with Objective 4.1 of the Central Waterfront Area Plan (Improve public transit to better serve existing and new development in Central Waterfront).

Comment PP-2: Eastern Neighborhood Plans

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Rick Hall, O-CAN-6, and PH-Hall-2

“The EIR scopes an illegal project.

“The scope is not in compliance with zoning and plans (including the EN Plan) and is thus an illegal project. This flaw also makes it a mockery of all of the community and city work that went into creating the EN Plan.” (*Rick Hall, Cultural Action Network, email, November 19, 2018 [O-CAN-6]*)

“Essentially, this DEIR does not comply with the growth plans under the EN plan. And instead, it discusses amending the Central Waterfront Plan of the Eastern Neighborhoods Plan. Well,

those are maxed out in 2017, essentially, as determined by the EN monitoring report.” (*Rick Hall, public hearing transcript, November 8, 2018 [PH-Hall-2]*)

Response PP-2: Eastern Neighborhood Plans

The comments state that the proposed project does not comply with the “Eastern Neighborhoods Plan,” particularly with respect to “growth plans.” This response applies to both the proposed project and project variant, given the basic similarities between the two land use plans and development programs.

For context, the Eastern Neighborhoods Rezoning and Area Plans project was a multi-year planning process that culminated in 2008 with adoption by the San Francisco Board of Supervisors of four separate area plans within the San Francisco General Plan—the Central Waterfront Area Plan, the East SoMa (South of Market) Area Plan, the Mission Area Plan, and the Showplace Square/Potrero Area Plan. Subsequently, the Western SoMa Area Plan was adopted in 2013 and the Central SoMa Area Plan was adopted in 2018; these latter two plans also cover portions of the Eastern Neighborhoods.¹ The Central Waterfront Area Plan is the area plan applicable to the project site and vicinity. As stated on EIR p. 3-3, the Central Waterfront Area Plan is one of the four original area plans adopted in 2008 as part of the Eastern Neighborhoods Rezoning and Area Plans project. The 21 area plans within the San Francisco General Plan, including the Central Waterfront Area Plan, set forth goals and objectives for specific geographic planning areas of San Francisco. As explained on EIR p. 3-2, “In an area plan, ‘the more general policies in the General Plan elements are made more precise as they relate to specific parts of the city’ (San Francisco General Plan, Introduction). The area plans contain specific policies and objectives that address land use and planning issues in the local context.”

With respect to the growth assumed under the Eastern Neighborhoods Plans, a program EIR (PEIR) was prepared for the Eastern Neighborhoods Rezoning and Area Plans project; the PEIR was certified in 2008. The Eastern Neighborhoods PEIR contains projections of population and housing growth through the year 2025, which were based upon the best estimates available at the time the PEIR was prepared. However, neither the PEIR nor the area plans themselves include these population and housing projections as a cap or limit to growth within the areas that would be subject to the Eastern Neighborhoods Area Plans, nor would exceedance of the growth projections necessarily result in significant physical environmental impacts beyond those identified in the PEIR. “?” Accordingly, this EIR evaluates the physical environmental effects of the proposed Potrero Power Station Mixed-Use Development and project variant but does not undertake this evaluation by comparing growth under the proposed project to earlier growth projections.

¹ Litigation is under way with respect to the Central SoMa Plan environmental impact report, but as of this writing, no legal injunction has been issued and the Plan, therefore, remains in effect.

To correct a reference to the Eastern Neighborhoods Plans, the paragraph under the heading "General Plan Land Use Designations" on EIR p. 2-9 is revised as follows (new text is shown in double underlined):

The project site is centrally located within the eastern portion of the Central Waterfront Area Plan area (shown on Figure 2-1), which is one of the five plan areas included in the Eastern Neighborhoods Area Plans, adopted in 2008 and that took effect in January 2009.

This revision does not change the analysis or conclusions presented in the EIR.

Concerning the commenter's reference to the EIR being "not in compliance with zoning and plans," the project sponsor is working with the City to apply for new zoning, height limits, building controls, etc., for the project site, which would be revised as part of the project through the SUD, the D for D and the development agreement, and the planning department is generally supportive of these changes. EIR Chapter 3, Plans and Policies, finds that the proposed project would be substantially consistent with relevant plans and policies, with partial exceptions concerning historical resources and the city's Transit First Policy; this conclusion would also apply to the project variant. The commenter's assertion that the proposed project is illegal is false; as evidenced by the information presented in the EIR, the project sponsor is currently undergoing the City's prescribed process for planning and implementing a development project. EIR Chapter 2, pp. 2-58 to 2-61 describes the approvals required for the proposed project to inform the public and decision makers of legal requirements to which the project will be subject.

Comment PP-3: Central Waterfront Area Plan

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-22
Richard C. Hutson, I-Hutson-1

"Please state how the Project is consistent with the following plan policies:

"Central Waterfront Area Plan

"The Eastern Neighborhoods Plan promised 'a full array of public benefits'. Unfortunately the City has failed to provide most of the necessary infrastructure to support existing development, let alone massive unanticipated growth in an area already underserved by public transit and other public services. Rather than adhering to the objectives and policies of the Plan, the Proposed Project discusses amending it to address inconsistencies. The Power Station site is very much part of the Central Waterfront Area. It was specifically mentioned in the Plan and its location 'west of Illinois' and 'historically set off from the rest of the Central Waterfront Area' doesn't exempt it from Central Waterfront Area Plan policies.

"The Proposed Project is broadly inconsistent with the Central Waterfront Area Plan. The DEIR identifies some, but fails to properly identify all inconsistencies. While acknowledging a failure to meet objectives for noise and air quality, it also notes that the project is inconsistent with the Plan's anticipated use of the site:

"The Central Waterfront Plan anticipated that the Power Plant site would be used for large-scale commercial and research development:

Policy 1.1.8: Consider the Potrero Power Plant site as an opportunity for reuse for larger-scale commercial and research establishments.

"Remarkably, the DEIR erroneously concludes, based simply on a presumption that hazardous materials onsite could be remediated to instead allow for residential uses, that the project would avoid 'any physical effects' due to these inconsistencies with the Area Plan. The opposite is true. The sheer scale and density of the Proposed Project as a mixed-use development with non-industrial uses would result in a number of significant physical impacts, both individual and cumulative that were never anticipated or analyzed in the Eastern Neighborhoods Plan EIR.

"The Plan sought to protect manufacturing. One of two key policy goals was ensuring a stable future for Production, Distribution and Repair ('PDR') businesses in the city, mainly by reserving a certain amount of land for this purpose. Although the proposed project includes 45,040 gross square feet of PDR and 645,738 gross square feet of Research and Development ('R&D') space, this amounts to only .08% PDR and 12% R&D of the total proposed building area. The vast majority of the space will go to Residential, Retail, and Office uses, which are generally more impactful than traditional industrial uses. Considerably denser than what was anticipated under the central Waterfront Plan, the Proposed Project will further exacerbate impacts and the need for infrastructure improvements.

"As noted in the Transportation section of the DEIR, proposed mitigations fail to adequately address existing transportation issues as well as those from future development. The Proposed Project is inconsistent with the following public transit objectives and policies in the Central Waterfront Area Plan:

Objective 4.1: Improve Public Transit to better serve existing and new development in Central Waterfront

Policy 4.1.6: Improve public transit in the Central Waterfront including cross-town routes and connections to the 22nd Street Caltrain Station and Third Street Light Rail.

Objective 4.10: Develop a comprehensive funding plan for transportation improvements.

Objective 4.3: Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.

"The scale of the historic Dogpatch neighborhood was to be protected by lower height limits under the Central Waterfront Area Plan. The site was zoned for heights of 40 to 65 feet, with area heights stepping down eastward from the Caltrain station and elevated freeway to the water's edge. Views from Potrero Hill were not to be affected. With increased heights and density from rezoning under the Proposed Project, views of the Bay and historic features from the west will be greatly diminished in conflict with the following Central Waterfront policy:

"Policy 3.1.5: Respect Public View Corridors

"The DEIR fails to consider this loss of public vistas as inconsistent with the Central Waterfront Plan. CEQA section 21099 doesn't preclude the application of local general plan policies related to protected views." (J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-22])

"Page 34 of the Central Waterfront Plan – *Generally, building heights should not obstruct public views of the Bay from Potrero Hill. Public "windows" to the bay should be maintained or created from within the Central Waterfront by extending the street grid as much as possible through Port lands to give views of the water or maritime activities.*

"It is my understanding that except for a 100' strip along the Bay that belongs to the Port, this project is on private land, but it seems like the same objectives should apply to any project that close to the Bay." (Richard C. Hutson, email/letter, November 12, 2018 [I-Hutson-1])

Response PP-3: Central Waterfront Area Plan

The first comment states that the proposed project's land uses, development density, and building heights are inconsistent with those envisioned for the site in the Central Waterfront Area Plan, and that adverse transportation effects will occur as a result of the project. This comment also states that the Central Waterfront is currently underserved with respect to infrastructure, notably transportation, and that amending the area plan to allow for development of the proposed project would worsen this condition. Another comment states that the proposed project's building heights would not be consistent with policy language concerning protection of views from Potrero Hill. This response applies to both the proposed project and project variant, given the basic similarities between the two land use plans and development programs.

Regarding the project's consistency with permitted land uses, density, and building heights set forth in the Central Waterfront Area Plan, the commenter is correct that the area plan and the San Francisco Planning Code (including the Zoning Maps) would be amended to change the current industrial use zoning to use district(s) that would permit the project's or variant's proposed residential, retail, office, research and development, hotel, community, and entertainment/assembly uses and to increase the allowable building heights. To the extent that these changes would result in physical effects, those effects are fully analyzed in the EIR. In particular, as noted above in Response PP-1, the EIR finds that the project or variant would result in a significant unavoidable impact due to project-generated transit ridership that could not be accommodated by nearby Muni transit capacity and would result in a substantial increase in transit delay. Accordingly, in Chapter 3, the EIR concludes that the project could conflict with Objective 4.1 of the Central Waterfront Area Plan (Improve public transit to better serve existing and new development in Central Waterfront); this conclusion also applies to the project variant. The objective and the policies listed in the comment are applicable to City actions and not to specific projects. For information, the following is provided.

Concerning Policy 4.1.6 (Improve public transit in the Central Waterfront including cross-town routes and connections the 22nd Street Caltrain Station and Third Street Light Rail), since adoption of the Central Waterfront Plan, the City began construction of the extension of the Central Subway, which will extend the Third Street light rail line into Chinatown and remove the northern end of the route from on-street operation, where traffic can slow light rail. This will improve service on the Third Street light rail line, which is the backbone of Central Waterfront transit operations. SFMTA also implemented a new crosstown route just north of the Central Waterfront, the 55 16th Street line, which connects Mission Bay and the 16th Street BART station. Additionally, the 48 Quintara/24th Street line, which serves the 22nd Street Caltrain station, was rerouted to provide more direct access to the 24th Street BART station.

Regarding Objective 4.10 (Develop a comprehensive funding plan for transportation improvements), the accompanying text in the Central Waterfront Plan states that new development in the Eastern Neighborhoods, including the Central Waterfront, will exert significant strain on the area's existing transportation infrastructure, and therefore the City must identify new funding sources for transit, pedestrian, and bicycle improvements. Accordingly, accompanying Policy 4.10.1 states that the City should "pursue funding for transit, pedestrian, bicycle and auto improvements through developer impact fees, in-kind contributions, community facilities districts, dedication of tax revenues, and state or federal grant sources." The project sponsor would be required to pay developer fees as mandated by the City (including the Transportation Sustainability Fee), a portion of which would be devoted to transportation improvements. Therefore, the project would be consistent with Objective 4.10. Moreover, as noted on EIR page 3-4, the proposed project itself would include a number of on- and off-site transportation enhancements, including an on-site pedestrian and bicycle network, accommodation of Muni buses that could serve the site, shuttle service to BART and Caltrain, an open space network including Bay access and extension of the Bay Trail, centralized parking in a district parking garage, freight loading spaces both on- and off-street, and a transportation demand management plan to reduce vehicle trip generation.

Finally, concerning Objective 4.3 (Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes), it is noted that the planning code now incorporates many of the accompanying Central Waterfront policies, such as elimination of minimum off-street parking requirements and establishment of parking caps for both residential and non-residential development (Policies 4.3.1 and 4.3.2) and separate pricing of parking from residential space (Policy 4.3.3). Moreover, the proposed project's district parking garage would be consistent with Policy 4.3.5's direction that new parking garages should be "part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area," as well as Policy 4.3.4's direction to "encourage, or require where appropriate, innovative parking arrangements that make efficient use of space, particularly where cars will not be used on a daily basis."

The EIR also identifies significant unavoidable impacts for both the proposed project and project variant with respect to historic architectural resources, noise, air quality, and wind effects on pedestrians. Accordingly, in EIR Chapter 3, Plans and Policies, potential conflicts with the

San Francisco General Plan are identified with respect to transit, historic architectural resources, noise, and air quality; and these conclusions also apply to the project variant.²

Both the proposed project and project variant would include over 600,000 gsf of research and development uses and about one million gsf of other commercial uses. As stated EIR p. 4.B-12, the project therefore “would include the ‘larger-scale commercial and research establishments’ called for in the Central Waterfront Area Plan” (Policy 1.1.8 quoted by the commenter). Moreover, as also stated on p.4.B-12, “As called for in the Central Waterfront Plan [text accompanying Objective 1.1], the project sponsor has undertaken a ‘community planning process,’ with numerous public meetings and open houses.”

The commenter also miscalculates the percentage of PDR under the proposed project, which is 0.8 percent and not 0.08 percent (the 12 percent calculation of R&D is correct). In comparison, the total building area for the project variant would be 0.6 percent PDR and 12 percent R&D. This EIR evaluates the physical environmental effects of the proposed project and project variant, including effects on infrastructure (see Appendix B, Initial Study, for a discussion of impacts on utilities and service systems).

Concerning transportation issues, EIR Chapter 4, Section 4.E, provides a comprehensive analysis of transportation and circulation effects of the project, including transit effects and cumulative conditions. The project sponsor has been working with the planning department and the San Francisco Municipal Transportation Agency to coordinate the proposed development with the City’s transit plans. Accordingly, the project or variant would be designed to accommodate future bus service (see Figure 2-13 and Figure 9-11 for the preliminarily proposed transit bus plan for the project and variant, respectively).

Concerning building heights and the potential for views from Potrero Hill to be obstructed, as explained in EIR Section 4.A, pursuant to CEQA section 21099, “aesthetic impacts of a residential or mixed-use residential project on an in-fill site in a transit priority area *shall* not be considered significant impacts on the environment.” [Emphasis added.] Therefore, the EIR does not evaluate the effects on views from Potrero Hill. Nevertheless, as stated in Response PP-1, the decision-makers will consider all policy matters in their deliberations on the project. It is also noted that views of San Francisco Bay through the project site are limited under existing conditions because of the presence of existing structures. Additionally, because there is limited public access to the site under existing conditions, views of San Francisco Bay from the site are not generally available. Therefore, neither the proposed project nor the project variant would substantially diminish public vistas of San Francisco Bay and would, instead, increase access to such views by providing for public access to the bay shoreline.

² There are no general plan policies addressing pedestrian winds.

Comment PP-4: Historic Resources Policies

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-6, and O-PBNA2-23 Rodney Minott, O-STH-2
Alison Heath, O-GPR1-4

"As noted in the section on Area Plans and Policies, the Proposed Project is in conflict with several policies protecting historic resources." (J.R. Eppler, *President, Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-6])

"The proposed project conflicts with the following objective to preserve historic resources. Preserving the Stack is not a substitute for preservation of more significant resources. The Proposed Project is inconsistent with the following:

Objective 8.2: *Protect, preserve and reuse historic resources within the Central Waterfront Area.*

Policy 8.2.1: *Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street."*

(J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-23])

"The Proposed Project is inconsistent with the *Central Waterfront Plan*, the *Urban Design Element* and the *Housing Element*.

"Specifically the project is at odds with the *Central Waterfront's Plan Objective 8.2* that protects historic resources within the Area, particularly those east of Illinois, and the *Urban Design Element* that seeks to preserve notable areas of historic value." (Alison Heath, *Grow Potrero Responsibly*, letter, October 16, 2018 [O-GPR1-4])

"Additionally, the Potrero Power Station project remains inconsistent with the Central Waterfront Area Plan. Objective 8.2 of the Central Waterfront Plan calls for protecting, preserving, and reusing historic resources within the Area Plan — particularly those east of Illinois Street." (Rodney Minott, *Save The Hill*, letter, October 17, 2018 [O-STH-2])

Response PP-4: Historic Resources Policies

This group of comments restates the finding of the EIR Chapter 3, p. 3-6, that "because it would demolish several historical resources, the proposed project would result in a significant effect, even with mitigation, with respect to historic architectural resources and would be at least partially inconsistent with" Central Waterfront Plan Area Plan Objective 8.2 (Protect, preserve, and reuse historic resources within the Central Waterfront area plan) and Policy 8.2.1 (Protect individually

significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street). This same finding applies to the project variant, as described in Chapter 9, although the project variant includes partial façade retention of Station A. The third comment also alleges inconsistencies with the general plan Urban Design Element and Housing Element but provides no detail as to how or what aspect of the project is inconsistent with these elements of the general plan. Regarding how the proposed project relates to the San Francisco General Plan Housing Element goals, see the response to Comment PP-1, above. However, because the commenter provides no additional detail, no further response is provided.

Comment PP-5: Shadow Policies

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-20, and O-PBNA2-24

“Shadowing of planned open space doesn’t comply with protections in the San Francisco General Plan, Urban Design Element and Central Waterfront Plan:

Recreation and Open Space Element

Policy 1.9: *Preserve sunlight in public open space.*

Urban Design Element

Objective 3: *Moderation of Major New Development to Complement the City Pattern, the Resources to be Conserved, and the Neighborhood Environment.*

Accompanying text as part of “Fundamental Principles for New Development” states, “Plazas or parks located in the shadows cast by large buildings are unpleasant for the user.

“A. Large buildings can be oriented to minimize shadows falling on public or semi-public open spaces.

“B. The height and mass of tall, closely packed buildings can be shaped to permit sunlight to reach open spaces.”

Policy 3.4: *Promote building forms that will respect and improve the integrity of open spaces and other public areas.*

Central Waterfront Area Plan

Policy 5.2.6: *Ensure quality open space is provided in flexible and creative ways, adding a well used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines:*

- A. *Designed to allow for a diversity of uses, including elements for children, as appropriate.*
- B. *Maximize sunlight exposure and protection from wind.*
- C. *Adhere to the performance-based evaluation tool.”*

(J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-20])

"General Plan

"The Proposed Project will conflict with the following General Plan policy by blocking public vistas of the Bay and historic buildings, while shadowing the Bay shoreline and much of the onsite open space. The DEIR doesn't address inconsistencies with this policy:

Priority Policy 8: *That our parks and open space and their access to sunlight and vistas be protected from development.*

(J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-24])

Response PP-5: Shadow Policies

The comments state that the EIR does not describe potential conflicts with the San Francisco General Plan with respect to shading of, and loss of views from, parks and open space.

The first comment cites one of the San Francisco General Plan's eight "priority policies," which are also codified in section 101.1 of the San Francisco Planning Code. These policies are discussed in EIR Chapter 3 on p. 3-10, where it is explained:

Prior to issuing a permit for any project that requires an initial study under CEQA, and prior to issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the general plan, the City must find that the proposed project or legislation is consistent with the Priority Policies. In evaluating general plan consistency of the proposed project, the planning commission and/or planning department would make the necessary findings of consistency with the Priority Policies. The staff report for the planning commission will analyze the proposed project's consistency with general plan policies and zoning, and will discuss in detail any modifications required in connection with plan adoption.

As stated above in Response PP-3, in accordance with CEQA section 21099, the EIR does not consider effects on views of or from parks as potentially significant. Response PP-3 also notes that the project would not substantially diminish public vistas of San Francisco Bay and would, instead, increase access to such views by providing for public access to the bay shoreline. Nevertheless, pursuant to the language above, the planning commission will consider Priority Policy No. 8, "That our parks and open space and their access to sunlight and vistas be protected from development." Please see also the response to Comment G-4 for additional information concerning aesthetics.

As to shadow on the bay shoreline and the project's own open space, including its proposed Waterfront Park along the San Francisco Bay shoreline, the EIR explains, on p. 4.H-66, that, because these open spaces do not currently exist, and because CEQA concerns itself with the impacts of a project on existing conditions, there is no shadow impact, under CEQA, to these

open spaces. Accordingly, the EIR finds no conflict with plans or policies that could result in an adverse physical impact under CEQA with respect to shadow. Nevertheless, the decision-makers, in their deliberations on the proposed project, will consider project consistency with the San Francisco General Plan, including the Priority Policy regarding open space.

Comment PP-6: Open Space Policies

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Sean D. Angles, O-GPR2-7

“(3) PARKS and RECREATION

“I strongly believe the Potrero Power Plant would be better suited for OPEN SPACE and PUBLIC PARKS AND RECREATION as a natural extension to fulfill the promised benefits of the Eastern Neighborhood Plans.

“Here are specific references to open space and recreation that should be addressed in the EIR for the Potrero Power Plant.

“Eastern Neighborhoods Plans

Chapter 5:

OBJECTIVE 5.1

PROVIDE PUBLIC PARKS AND OPEN SPACES THAT MEET THE NEEDS OF RESIDENTS, WORKERS AND VISITORS

“Page 51 of Showplace Square/Potrero Hill Area Plan December 2008 adopted version:

“It is critical that at least one new substantial open space be provided as part of this Plan. The Planning Department will continue working with the Recreation and Parks Department to identify a site in Showplace / Potrero for a public park and will continue to work to acquire additional open spaces.”

“Page 52 of Showplace Square/Potrero Hill Area Plan December 2008 adopted version:

“POLICY 5.1.1

Identify opportunities to create new public parks and open spaces and provide at least one new public park or open space serving the Showplace / Potrero.” (Sean D. Angles, *Grow Potrero Responsibly*, letter, November 19, 2018 [O-GPR2-7])

Response PP-6: Open Space Policies

The commenter states that the project site should be used as open space rather than be developed as proposed and recites policy language from the Showplace Square/Potrero Hill Area Plan in support of this contention.

However, the Showplace Square/Potrero Hill Area Plan does not apply to the project site, which is within the Central Waterfront Area Plan area. However, the Central Waterfront Plan, contains the same Policy 5.1, "Provide public parks and open spaces that meet the needs of residents, workers and visitors." Like the Showplace Square/Potrero Hill Plan, the Central Waterfront Plan also identifies a critical need for "at least one substantial new open space" in the Plan area. The Central Waterfront Plan identifies potential open space locations, including "the area behind the IM Scott School site," ... expansion of Warm Water Cove and the development of Crane Cove Park on Pier 70." The Plan also notes the potential for new open space surrounding Irish Hill as part of development at Pier 70. Since the Central Waterfront Plan was adopted by the Board of Supervisors in 2008, both Crane Cove Park and the Irish Hill area have been approved for new open space. Crane Cove, a 7-acre public park located on Port of San Francisco land east of Illinois Street between Mariposa Street and a new extension of 19th Street, is being developed by the Port. Construction began in late 2018, and the park is anticipated to be completed by late 2019. The area surrounding the last remnant of Irish Hill will be privately developed as a publicly accessible playground within the Pier 70 redevelopment project, which was approved in 2018. The 2-acre Irish Hill Playground would include children's play areas and other recreation opportunities, a picnic grove, walkways, and passive open space, and would be part of the Pier 70 project's 9 acres of publicly accessible open space. Irish Hill Playground is anticipated to be developed by about 2023.³ Based on these new and planned open spaces, no conflict is identified with Policy 5.1 of the Central Waterfront Plan.

Comment PP-7: San Francisco Bay Plan

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-26

"BCDC Bay Area Plan"

"Although the Proposed Project includes only a 100-foot swath of land along the shoreline, the proposed hotel and other private uses such as cafes and private events may encroach on this land. With a hotel complex as tall as 128 feet extending across much of the waterfront, views of the Bay will be impacted and private access may be compromised. The DEIR fails in consistency with the following policies:

The most important uses of the Bay are those providing substantial public benefits and treating the Bay as a body of water, not as real estate.

Views from vista points and from public roads should be protected and scenic roads and trails should be built in accordance with the policies on Appearance, Design, and Scenic Views.

³ Pier 70 Mixed-Use District Project Final EIR (Case No. 2014-001272ENV); Final EIR certified August 24, 2017; and Addendum to the Final EIR, April 16, 2018. Available on the internet at: <https://sf-planning.org/environmental-impact-reports-negative-declarations>; reviewed January 18, 2019.

All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore.

Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water."

(J.R. Eppler, President, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-26])

Response PP-7: San Francisco Bay Plan

The comment states that the proposed project would be inconsistent with policies in the San Francisco Bay Plan adopted by the Bay Conservation and Development Commission (BCDC), particularly with respect to public access to the bay and views of the bay as a result of the project's proposed hotel and related components.

As described in EIR Chapter 2, Project Description (pp. 2-13, 2-15, and 2-17) and in Chapter 9, Project Variant, the preferred option for either the proposed project or the project variant would include a hotel on the project's Block 9, at the location of the existing 128-foot-tall Unit 3 Power Block. Because the existing Unit 3 Power Block occupies most of the project's proposed Block 9, at heights of about 30 feet to as much as 143 feet, development at this location would not result in substantially altered views of the bay compared to existing conditions. Under the proposed project or the project variant, public access to San Francisco Bay, and views of the bay, would be substantially enhanced, compared to existing conditions, under which no public access to the bay is available on the project site. Moreover, a hotel use would be anticipated to attract people to the bay shoreline, further enhancing public access. This is also the case with respect to the project's proposed ground-floor retail use, described on p. 2-17 and shown in Figure 2-6, Proposed Ground Floor Land Use Plan, (p. 2-18) and Figure 9-3, Project Variant Ground Floor Land Use Plan.

As stated on EIR p.3-11, under the San Francisco Bay Plan, the Bay Conservation and Development Commission "has permit authority over the placement of fill, extraction of materials, and substantial changes in use of land, water, or structures within its jurisdiction, and to enforce policies aimed at protecting the bay and its shoreline, **as well as maximizing public access to the bay**" (emphasis added). BCDC typically requires public access along the entire bay frontage of development such as the proposed project, and that such access be permanently guaranteed. The proposed project and project variant would fulfill this requirement through creation of its proposed Waterfront Park along the entire bay shoreline of the project site, as described on EIR p. 2-22 and illustrated in EIR Figure 2-8, p. 2-23, and Figure 9-6.

Comment PP-8: BCDC Bay Jurisdiction

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Rebecca Coates-Maldoon, A-BCDC-1

"1. Project Components Within BCDC Jurisdiction. In Section 3.C.2, the DEIR describes the project as partially occurring within BCDC's 100-foot shoreline band jurisdiction. Please note that some portions of the project, including the proposed recreational dock and shoreline protection, appear to be located within BCDC's Bay jurisdiction, and are therefore subject to the laws and policies that apply to work in this jurisdiction." *(Rebecca Coates-Maldoon, San Francisco Bay Conservation & Development Commission, email, November 19, 2018 [A-BCDC-1])*

Response PP-8: BCDC Bay Jurisdiction

The comment states that a portion of the proposed project would fall under the jurisdiction of the Bay Conservation and Development Commission (BCDC) with respect to development within San Francisco Bay, whereas the EIR Section 3.C.2, p. 3-11 makes reference only to BCDC's jurisdiction over a 100-foot wide band along the bay shoreline.

The commenter is correct that the proposed recreational dock and potentially stabilization of certain shoreline features, described in Chapter 2, Project Description on p. 2-45, Proposed Dock and Other Shoreline Features, as well as shoreline protection measures, described on p. 2-47 in Section 2.E.10, Proposed Improvements to Address Sea Level Rise, would potentially occur within San Francisco Bay and thus would be subject to BCDC's Bay jurisdiction. Also subject to BCDC's Bay jurisdiction would be a portion of the Block 9 where rehabilitation of the Unit 3 Power Block is proposed for hotel use and construction of a new stormwater outfall if a separate stormwater system is constructed in the eastern portion of the project site, as described on p. 2-39. The same improvements and activities would be subject to BCDC's Bay jurisdiction under the project variant; see Chapter 9, Project Variant. Physical effects of in-water construction are discussed primarily in EIR Section 4.J, Biological Resources, and Section 4.J, Hydrology and Water Quality.

To acknowledge in-water construction in EIR Chapter 3, Plans and Policies, the first two paragraphs on EIR p. 3-11, under the heading, San Francisco Bay Plan, are revised as follows (new text is double underlined; deleted text is shown in ~~strike through~~):

The San Francisco Bay Conservation and Development Commission (BCDC) is the state's coastal management agency for San Francisco Bay. The San Francisco Bay Plan, as amended through 2011, guides the protection and use of the bay and its shoreline. The commission has permit jurisdiction over portions of the nine Bay Area counties subject to tidal action up to the mean high tide line, including the bay, its sloughs, tidelands, submerged lands, and certain marshlands, as well as over land lying within a 100-foot-

wide shoreline band upland from the bay shoreline. The commission has permit authority over the placement of fill, extraction of materials, and substantial changes in use of land, water, or structures within its jurisdiction, and to enforce policies aimed at protecting the bay and its shoreline, as well as maximizing public access to the bay.

At the project site, the shoreline band under BCDC jurisdiction encompasses an area within 100 feet inland of the mean high tide line. The proposed project would require commission approval of activities within this shoreline band and those activities proposed in San Francisco Bay, including construction of a recreational dock, shoreline protection and other shoreline features, a portion of the Unit 3 Power Block rehabilitation, and a potential new stormwater outfall. Because only recreational, open space, and public access uses and certain shoreline improvements are proposed for the portions of the project site within the shoreline band or in the bay, the project does not appear to conflict with the San Francisco Bay Plan or BCDC regulations. However, the commission will make the final determination of consistency with plans and policies for the portions of the project site that are within its permit jurisdiction.

This revision does not change the analysis or conclusions presented in the EIR.

Comment PP-9: San Francisco Bay Trail Plan

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Maureen Gaffney, A-BayTrail-1

"Plans and Policies"

"The list of relevant Plans and Policies omits the San Francisco Bay Trail Plan, adopted in 1989 by the Association of Bay Area Governments (ABAG)." (*Maureen Gaffney, SF Bay & Water Trail Programs, email, November 19, 2018 [A-BayTrail-1]*)

Response PP-9: San Francisco Bay Trail Plan

The comment states that the EIR should discuss the adopted San Francisco Bay Trail Plan.

The Bay Trail Plan is discussed in EIR Section 4.E, Transportation and Circulation, on p. 4.E-22. The text there notes that the Plan is administered by the Association of Bay Area Governments, and that the Bay Trail "is a multi-purpose recreational trail that, when complete, would encircle San Francisco Bay and San Pablo Bay with a continuous 500-mile network of bicycling and hiking trails. To date, more than 350 miles of the alignment have been completed."

As discussed in the EIR, the proposed project would include development of an open space network that includes public access to San Francisco Bay and extension of the planned Bay Trail through the project site (see, for example, pp. 3-5 and 3-7 in EIR Chapter 3, Plans and Policies). To add a reference to the Bay Trail Plan to EIR Chapter 3, the paragraph under the heading "3.C.3, Other Regional Plans and Policies," on EIR p. 3-12 is revised as follows (new text is double underlined; deleted text is shown in ~~striketrough~~):

Other regional plans and policies, such as the Association of Bay Area Governments' 1989 San Francisco Bay Trail Plan, the Bay Area Air Quality Management District's 2017 Clean Air Plan, and the San Francisco Bay Regional Water Quality Control Board's Water Quality Control Plan for the San Francisco Bay Basin, directly address specific environmental resources and contain objectives or standards to maintain or improve specific characteristics of the city's, as well as the region's, physical environment. These matters are discussed in the relevant resource sections of this EIR. As explained therein, the proposed project is not expected to conflict substantially with any of these objectives or standards.

This revision does not change the analysis or conclusions presented in the EIR.

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11.D Population and Housing

The comments and corresponding responses in this section cover topics in EIR Section 4.C, Population and Housing. These include topics related to:

- Comment PH-1: Growth
- Comment PH-2: Jobs-Housing Balance

Comment PH-1: Growth

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Sean D. Angles, O-GPR2-12
J.R. Eppler, O-PBNA2-28

Katherine Doumani, I-Doumani-3
Rick Hall, PH-Hall-1

“Studies are out of date: The City is relying on a document (Eastern Neighborhoods Final EIR) that is 10 years old and is now stale for the environmental review. Some of the studies and research rely on data that is as old as the 2000 census.” (*Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-12]*)

“VIII. Population and Housing

“Impacts to Population and Housing should be classified as significant. The Proposed Project will result in significant population increases with the potential to result in adverse physical impacts. A full and accurate analysis of physical impacts resulting from that growth should be provided.

“Individually the project would increase the residential population by 6,842 people, an increase of 51% in the area from the 2012-2016 baseline. Cumulatively the DEIR shows that approved and proposed projects, when combined with the proposed project, would add up to approximately 22,734 net new residents in 10,015 units in the vicinity. Once complete, the Project would bring up to 5524 jobs and cumulatively 25,066. However, cumulative analysis omits major developments including India Basin, UCSF medical office expansion and dorms, The Exchange, Uber offices at 1455 Third, and some smaller residential projects, all within a .5 mile radius of the proposed project.

“The DEIR analysis of cumulative growth employs a faulty methodology by which it looks at combined growth from nearby projects and then compares them to citywide Plan Bay Area projections. The comparison of population increase directly resulting from the Proposed Project to projected overall population throughout San Francisco is not a valid basis; the proper comparison is the Project’s cumulative contribution within the area.

“The DEIR states that the level of population growth can be accommodated under “the City’s existing zoning (height and bulk controls) ... and the existing controls for the project site are not a barrier to growth”. This is a nonsensical statement given the dramatic upzoning, density and land uses for the Proposed Project. Zoning controls established under the Eastern Neighborhoods Plan anticipated industrial and R&D uses at the site with heights ranging from 40 to 65 feet. Concentrating development in this area would not only push growth well beyond what was

anticipated under the Eastern Neighborhoods Plan, the level of growth cannot be accommodated by existing services and infrastructure. Clear evidence of this can be found in the DEIR's analyses of significant and inmitigable impacts.

"As noted in the DEIR, the project would "generate a cumulatively significant impact... should the cumulative residential or employment growth substantially exceed planned growth, and... [if]... the growth could not be accommodated by existing services and infrastructure". Physical impacts directly related to population increases acknowledged throughout the DEIR include significant impacts to transportation, along with impacts to air quality and ambient noise from motorized vehicles. These physical impacts can't be simply dismissed as the result of an economic or social change. They are directly related to an increase in population.

"The Association of Bay Area Governments ("ABAG") projections and Plan Bay Area goals are for the whole region and cannot be the sole measure of growth at the neighborhood level. It's unreasonable to label impacts from the Project's population growth as "less than significant" by simply claiming the Project is consistent with Plan Bay Area's goals for the entire region. In fact, under Plan Bay Area, population increases for the entire Port of San Francisco Priority Development Area ("PDA") and Eastern Neighborhoods PDA are already on track to well exceed 2040 targets without inclusion of Proposed Project. ABAG has a "Fair Share" policy to ensure that individual PDAs do not shoulder too much of the responsibility for meeting the region's housing needs. That is exactly what is occurring in both PDA's where anticipated residential growth exceeds the policy's 110% threshold. To make matters worse, Plan Bay Area does not address the need for infrastructure improvements at the project or neighborhood level, nor does it provide any direct funding to mitigate impacts for the significant population increase in the vicinity of the Project.

"Rather than confronting the fact that residential growth in the Eastern Neighborhoods Plan has been exceeded, the DEIR discusses amending the Central Waterfront Area Plan. The Central Waterfront growth projections for residential development in the Eastern Neighborhoods Plan were already maxed out by 2017. As noted in the *2010-2015 Monitoring Report*, over 2704 residential units had been constructed or were in the pipeline in the Central Waterfront at the end of 2015, with hundreds more submitted for review in 2016. Additional projects currently underway will result in approximately 7900 new residential units in an area that had planned for just 2020 units. Meanwhile, infrastructure improvements and community benefits to mitigate impacts of projected, let alone actual development have lagged way behind what was promised in the Eastern Neighborhoods Plan.

"The Proposed Project may result in adverse and direct physical environmental effects due to population growth from a large commercial component. Employment opportunities at the Power Station and nearby developments will induce massive population growth, exacerbating the demand for additional housing locally as well as throughout the region. The DEIR considers some regional impacts, but should also analyze neighborhood and citywide impacts from cumulative job growth in the Central Waterfront and nearby Mission Bay.

"Growth-inducing impacts under CEQA are defined as "the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment". The Proposed Project is growth-inducing because it would accommodate new residential and employment growth in an undeveloped area with a direct increase in population on a very large scale, resulting in direct and cumulative adverse physical environmental effects due to that population growth." (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-28])

"2008 EN Plan growth projections and how these relate to current housing development, infrastructure and estimated levels of service for recreation/public services/amenities:

"EN Plan Growth Projections

"• the DEIR discusses amending the Central Waterfront Area Plan because growth projections for residential development in the EN Plan were maxed out by 2017.

"To make matters worse, infrastructure improvements and community benefits to mitigate impacts of projected, let alone actual development, have lagged way behind what was promised in the Eastern Neighborhoods Plan." (*Katherine Doumani, email, November 11, 2018 [I-Doumani-3]*)

"I spoke earlier at general public comment on the need for an additional planning process tool to help analyze what CEQA doesn't. And I think what you're hearing today and what you see in this DEIR probably really does show we need a different tool to go along with this.

"But since we're looking at the DEIR, it should be as best as it can be. And you know, essentially, in it's analyses, the population growth in this -- in this DEIR omits India Basin, the UCSF Medical Offices and Uber offices at 1455 Third, the Exchange, and other smaller projects within a half a mile radius. So, you know, it -- it does not include a proper population analysis.

"And on some cases, you know, people impose sort of ABAG, Plan Bay Area Growth projections. But those are useless at neighborhood levels." (*Rick Hall, public hearing transcript, November 8, 2018 [PH-Hall-1]*)

Response PH-1: Growth

The comments about growth-related impacts of the project fall into three primary subcategories 1) that the EIR's analysis of population and housing is inadequate because it does not consider an adequate range of cumulative development, 2) that the methodology is flawed because it is based on outdated reports and inappropriately compares growth regionally as opposed to locally, and 3) that the EIR does not appropriately consider impacts related to project/cumulative growth. This response addresses each of these distinct yet related comments.

Cumulative List

With respect to project-generated population and housing impacts, the EIR identifies cumulative projects in EIR Section 4.A.6, Approach to Cumulative Impact Analysis (pp. 4.A-9 to 4.A-15). The approach to cumulative development impact analysis for resource topics using the list-based approach identifies cumulative projects and their status as of the date of the Notice of Preparation (November 1, 2017), as explained on EIR p. 4.A-11. The list of cumulative projects considered is presented in Table 4.A-2, Cumulative Projects in the Project Vicinity, pp. 4.A-14 to 4.A-15. This list was prepared by considering projects in the following categories: under construction, building permit approved, planning entitled or under review and was based on the San Francisco Planning Department, Quarter 4, 2017 Pipeline Report. In order to capture a larger range of projects than from a 0.25-mile radius, as is typically adequate for nearby cumulative impacts, the EIR considers a list of projects within a 0.5-mile radius due to the magnitude of the

proposed project. In addition, in order to capture the most meaningful growth by cumulative projects, the list also considers projects not yet complete but considered under the adjacent Pier 70 Mixed-Use District Project EIR analysis. However, the list excluded projects of a small scale because their contributions to cumulative impacts were deemed to be negligible compared to those of the numerous large-scale projects in the vicinity. Comments by both O-PBNA2-28 and PH-Hall-1 reference excluded projects, including developments within India Basin, UCSF medical office expansion and dorms, the Exchange, Uber offices at 1455 Third, and some smaller residential projects; these projects were not included because they do not meet the criteria for projects considered in the cumulative impact analysis. Specifically, these projects are either located beyond the 0.5 mile distance criteria, or are smaller than nine units. To clarify the projects included in this list the EIR text has been revised on p. 4.A-11 to read (deleted text is shown as ~~strikethrough~~ and new text is double underlined):

“For the resource topics using the list-based approach, **Table 4.A-2, Cumulative Projects in the Project Vicinity**, presents a comprehensive list of cumulative development and infrastructure projects generally located within 0.5 mile of the project site that are considered in the various cumulative analyses. ~~(Though in order to consider larger projects this table considers some projects beyond 0.5 mile~~ when they were also included in the adjacent Pier 70 Mixed-Use District Project EIR cumulative list (beginning on Pier 70 Mixed-Use District Project EIR p. 4.A-12) and generally excludes projects that are smaller than nine new units or primarily entail renovations).”

This revision does not change the analysis or conclusions presented in the EIR.

Methodology

This section addresses the comments that suggest the EIR methodology considered for population and housing impacts is flawed.

Comment O-GPR2-12 incorrectly states that data relied on in the consideration of impacts to population and housing is outdated. Where census data from before 2015 is referenced in the context of EIR Section 4.C.2, Environmental Setting, this information is included for context to provide data on historic trends. The EIR describes the methodology and data relied on for population and housing impacts on pp. 4.C-13 through 4.C-15, which included the most current data available.

Comment O-PBNA2-28 correctly states that the EIR population and housing analysis compares cumulative project growth to overall population growth projected by the City planning documents, including *Plan Bay Area 2040*. Population and housing impacts are by nature a citywide issue. In contrast, neighborhood level impacts such as impacts on public services are considered appropriately in the individual sections of EIR Chapter 4, Appendix B, Initial Study, and Chapter 9.C, Project Variant, Environmental Impacts and Mitigation Measures. Project impacts to population and housing, as described in the EIR Section 4.C, Population and Housing, and 9.C.3, Population and Housing, are considered consistent with the environmental checklist in Appendix G of the CEQA Guidelines, as modified by the San Francisco Planning Department. As discussed on EIR p. 4.C-14, the methodology for analysis of cumulative growth impacts relies on

CEQA Guidelines section 15130(b)(1)(B), and therefore uses population forecasts presented in the Plan Bay Area 2040. The analysis compares growth associated with the list of probable future projects as presented in Table 4.A-2, Cumulative Projects in the Project Vicinity, on p. 4.A-14, to the growth projections contained in published regional planning documents.

Following this, Comments O-PBNA2-28, I-Doumani-3, and PH-Hall-1 state that it is not appropriate to compare project population and housing impacts to citywide growth, and state that the Bay Area models are useless at neighborhood levels. Because population growth is a citywide constraint, that is, the public services and infrastructure that support population are allocated on a citywide basis, the cumulative analysis relies on the citywide projections provided in the Plan Bay Area 2040 Final, which serve as a proxy for planned City growth. The EIR makes references to the Eastern Neighborhoods Area Plan Final EIR only in the context of Section 3.B Plans and Policies/Local Plans and Policies, and not in a comparative manner for analysis. As discussed in Impact PH-2, implementation of the project would not result in increased growth beyond the City's and ABAG's 2040 growth projections. In other words, the project would not create new jobs or new demand for housing in San Francisco or the Bay Area in excess of that which is currently planned.

The proposed project would result in a higher portion of anticipated growth to occur at the project site, which is within two designated regional Priority Development Areas (PDAs), rather than elsewhere in the city. Pursuant to ABAG projections, the same level of employment and population growth would occur in San Francisco with or without the proposed project. Without adoption of the project, however, this growth would be more dispersed. Consistent with Plan Bay Area, development under the project would accommodate a large part of the city's share of anticipated regional growth in jobs and housing and would reduce greenhouse gas emissions per person.

Comment O-PBNA2-28 also states that full impacts related to growth should be discussed, and that the level of growth by the project cannot be accommodated by existing services and infrastructure and references impacts to transportation, noise, and air quality. Physical impacts related to growth that would be generated by the project are discussed in all other topical sections in the EIR along with Appendix B, Initial Study. CEQA Guidelines section 15382, "Significant Effects on the Environment," defines a significant effect on the environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." Please see EIR Sections 4.E, 4.F, and 4.G for analysis of the project's physical impacts on transportation, noise, and air quality, respectively. Please see EIR Appendix B, Initial Study, Sections E.11 and E.12 for analysis of the project's physical impacts on utilities/service systems and public services, respectively.

As discussed in EIR Section 4.E, Transportation and Circulation, the proposed project would result in a lower average daily VMT than the regional average which also reduces greenhouse

gas emissions; this is also true of the project variant, as discussed in Chapter 9. As stated above, all of the physical and environmental effects of project growth are analyzed in the EIR and Appendix B, Initial Study.

Growth Inducement

Comment O-PBNA2-28 states that the proposed project is growth inducing. EIR Chapter 5, Section 5.A, Growth Inducement (pp. 5-1 to 5-2), provides an evaluation of the potential growth-inducing impacts of the project. The EIR determined that the proposed project would not result in a significant growth-inducing impact, either directly or indirectly. This conclusion also applies to the project variant, which would result in fewer residents than the proposed project (see Table 9-5).

The proposed project and the project variant would not have a substantial direct growth-inducing impact for two reasons: (1) while the project would increase the residential population on the site, this growth is accounted for within the planned growth for San Francisco; and (2) while the project would increase housing demand by creating new jobs, this demand would be offset the proposed project's housing units. Further, as addressed under their respective topics in the EIR and initial study, this project-related growth would be served by existing infrastructure, and public services. Furthermore, the proposed project and project variant would not indirectly result in growth inducement because it would be located on an infill site in an urbanized area. Although the proposed project and variant would involve extensions of roads and other infrastructure, such facilities would serve the project site only and would not enable additional development in currently undeveloped areas. The project and variant would also not remove any existing barriers to growth in the surrounding area. Thus, for the reasons summarized above and described in the EIR, the project's growth inducement impacts would be less than significant.

Comment PH-2: Jobs-Housing Balance

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

J.R. Eppler, O-PBNA2-32

"XII. Jobs Housing Balance

"The DEIR includes housing numbers for the adjacent PG&E parcel, which comprises 27% of the total, but there are no guarantees that the PG&E site will be developed for residential use in the foreseeable future. If not developed, the ratio of jobs to housing will be even higher, exacerbating the local and regional imbalances in the growth of jobs versus the growth of housing.

"Analysis of the jobs housing balance is critical because commercial uses tend to be more intensive than residential ones, and impacts on transportation are worse with commuters traveling within the region to jobs.

"Analysis of Jobs Housing Balance impacts was omitted in the DEIR and should be included."
(J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-27])

Response PH-2: Jobs-Housing Balance

The EIR provides information on the topic of jobs-housing balance in EIR Section 4.C, Population and Housing on pp. 4.C-15, 4.C-18, and 4.C-19. As stated in this section on p. 4.C-15, "While regional and local governments may use jobs-housing balance as a planning tool to weigh particular policy outcomes, it does not necessarily imply a physical change to the environment or relate to any recognized criteria under CEQA... For local and regional land use planning purposes, the balance between jobs and housing is assessed on citywide and regional scales, rather than on a project-by-project basis."

The EIR on pp. 4.C-18 through 19, further describes that the "non-residential development at the project site would be subject to San Francisco's Jobs-Housing Linkage Fee (Planning Code section 413 et seq.) and could be modified by the project's development agreement. The fee would apply to the gross square feet of new office, retail, and restaurant uses to mitigate the impact of employment growth on housing supply and affordability. The Jobs-Housing Linkage Fee revenue would be deposited in the Citywide Affordable Housing Fund to be used to increase the supply of affordable housing in San Francisco. For the reasons stated above, a maximum office scenario would not create a substantial demand for housing that could not be accommodated by on-site residential development and by anticipated citywide and regional development, including affordable housing that would be developed as a result of Jobs-Housing Linkage Fee revenue." Because the proposed project or project variant would include residential and commercial uses and would be subject to San Francisco's Jobs-Housing Linkage Fee, development of the project or variant would not create a substantial demand for housing that could not be met by supply.

The commenter is correct in stating that that "there are no guarantees that the PG&E site will be developed for residential use in the foreseeable future." Chapter 9 describes and analyzes a "no PG&E scenario" that excludes the PG&E subarea from the proposed development. If the PG&E subarea were not to be developed, but the remainder of the project site were to be developed as proposed under the project variant, then the number of residential units would be reduced to 1,466 under the no PG&E scenario compared to 2,682 for the proposed project and 2,601 for the variant (see Chapter 9, Table 9-1). The percent increase in housing in San Francisco would be reduced from 0.68 percent under the project (see EIR p. 4.C-18) to 0.37 percent under the no PG&E scenario (and to 0.66 percent under the variant).¹ This reduced percentage would still remain relatively balanced with the projected increase in jobs, which is 0.67 percent for the

¹ The proposed project would provide 2,682 housing units, while the project variant would provide 2,601 new housing units and the no PG&E scenario would provide 1,466 new housing units (see Chapter 9, Table 9-1). As addressed on EIR p. 4.C-18, 382,000 housing units in San Francisco in 2017 are used as the basis for calculating the percentage increase in housing for the different scenarios.

project and 0.76 percent for the no PG&E scenario (and 0.77 percent for the variant),² but the relative citywide balance would be about the same. However, it is speculative at this time to know what will occur in the future at the PG&E subarea, let alone its effects on the citywide and regional jobs-housing balance. As stated on EIR p. 2-5, PG&E has authorized the project sponsor to study the proposed project on its property, and the EIR reflects a blueprint for potential development that provides continuity across the entire project site and analyzed the potential environmental impacts of the project as a whole, as required under CEQA.

Regardless, and as stated in this section, in Impact PH-1 (p. 4C.15), and in Chapter 9, development under the project or project variant, with or without the no PG&E subarea, would not stimulate new population or job growth within San Francisco that is not already projected by the City, as well as in regional growth forecasts and regional air quality planning efforts. Therefore, revisions to the Draft EIR to address these comments are not required. The comment will be transmitted to City decision makers for consideration in their deliberations on the proposed project.

² The project variant would provide about 5,431 new jobs (see Chapter 9, Table 9-4), and the no PG&E scenario would provide slightly fewer, about 5,320 jobs. As addressed on EIR p. 4.C-18, 703,600 jobs in San Francisco in 2016 are used as the basis for calculating the percentage increase in housing for the different scenarios.

11.E Historic Architectural Resources

The comments and corresponding responses in this section cover topics in EIR Section 4.D, Historic Architectural Resources. These include topics related to:

- Comment HR-1: CEQA Adequacy
- Comment HR-2: Effects on Historic Architectural Resources
- Comment HR-3: Period of Significance
- Comment HR-4: Adequacy of Mitigation Measures

Comment HR-1: CEQA Adequacy

This response addresses comments from the commenter listed below; each comment on this topic is quoted in full below this list:

Andrew Wolfram, A-SFHPC-1

“• The HPC agreed that the analysis of historic resources in the DEIR was adequate and clear.”
(Andrew Wolfram, San Francisco Historic Preservation Commission, letter, November 2, 2018)

Response HR-1: CEQA Adequacy

The planning department acknowledges the comment from Commission President Wolfram. No further response is required.

Comment HR-2: Effects on Historic Architectural Resources

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Alison Heath, O-GPR1-2
J.R. Eppler, O-PBNA1-2, O-PBNA2-2,
and O-PBNA2-5
Rodney Minott, O-STH-1
Philip Anasovich, I-Anasovich-1
Pamela Wellner, I-Wellner-1

Katherine Petrin, PH-Petrin-1
Katherine Doumani, PH-Doumani-2
Mike Buhler, O-SFH-2
Peter Linenthal, O-PHAP1-1, O-PHAP1-3,
O-PHAP2-1, O-PHAP2-3, PH-Linenthal-1,
and PH-Linenthal-3

“The Preferred Project Alternative would irreparably harm the Third Street Industrial District and adjacent Districts.

“The Third Street Industrial District encompasses the highest concentration of significant light industrial and processing properties remaining in the Central Waterfront Area. Along with the

neighborhood's other two historic districts, this is the only area in San Francisco that still retains the infrastructure of a historic mixed-use industrial and residential community, once the most important industrial zone on the West Coast.

"The Power Station represents 1/2 of the entire Third Street Industrial District, with six remaining structures identified as contributors to the District. Demolition under the Preferred Project plan would destroy four or five of the six identified structures. Station A, the Gate House, the Meter House, and the Compressor House would all be lost, along with their history of early power generation and gas manufacturing in San Francisco. These precious resources are some of the oldest in the district and important examples of the character-defining typology of brick industrial buildings from this significant period in the city's industrial history.

"According to the HRER, the demolition of these four buildings would result in loss of the "characteristics that justify, in part, the district's eligibility for the California Register" and would "remove historic materials, features, and spaces that characterize the historic district and justify the existing district boundary, and ... result in physical destruction, damage or alteration such that the significance of the district [would] be materially impaired.

"The buildings slated for demolition connect the portion of the district along San Francisco Bay with the rest of the district and other nearby districts. Their loss would create a physical gap between remaining historic buildings along the waterfront including the Spreckels Sugar Refinery warehouse south of the project site, Irish Hill, and all of the district contributors along Third Street." *(Alison Heath, Grow Potrero Responsibly, letter, October 16, 2018 [O-GPR1-2])*

"The Power Station site comprises half of the area of the Third Street Industrial District, and includes six structures that are identified as contributors to the Central Waterfront's mixed-use industrial past. That history runs deep, from the area's days as a sugar refinery and its earliest use as a power generating facility. Full loss of Station A, the Gate House, the Meter House and the Compressor House would remove all tangible association with that history.

"In exchange for the complete loss of these historical contributors, the project proposes to save the boiler stack and Unit 3. While these are interesting and appreciated ideas, their historic significance, especially Unit 3's, should not be conflated with the historic significance of the elements slated for removal. This concern is exacerbated by the uncertainty around whether Unit 3 may be physically repurposed as a hotel in a way that maintains any historic relevance.

"The Draft EIR proposes a question: it is adequate to preserve only those historic features that are most marketable, whether as a revenue generator (Unit 3's hotel) or an iconic place maker (the boiler stack), or should the goal of preservation be to reach back and tell a richer, more complete story of the site? We believe that it is the latter, and we look forward to working with you, and continuing our work with Associate Capital, to creatively, and tangibly, incorporate the site's built history into the overall project." *(J.R. Eppler, Potrero Boosters Neighborhood Association, letter, October 17, 2018 [O-PBNA1-2])*

"I. Historic Architectural Resources

"The Proposed Project would demolish individually significant historic buildings as well as buildings that contribute to the Third Street Industrial District and justify its inclusion in the California Register of Historical Resources. These buildings are representative of the explosion of

industry on Potrero Point from the mid-19th to early 20th centuries. This was the most important power plant west of the Mississippi. The District is part of the only area in San Francisco that combines industrial and residential communities.” (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-2])

“The Proposed Project will rehabilitate the Boiler Stack, but there is little likelihood that Unit 3 will be retained to the extent that it would retain any historic significance whatsoever. The Boiler Stack would be the last remaining historic resource, and its integrity would be compromised in setting and feeling as it would be surrounded by new buildings and overwhelmed in scale by the bulk of the 300’ tower to the west.” (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-5])

“The historic brick buildings on the Potrero Power Station site have extraordinary local and national significance, offering a connection to:

- the explosion of industry on Potrero Point from the mid 19th to the early 20th centuries
- until 1913, the most important power plant on the west coast
- competition between power producing industries which led to PG&E’s 99 years on the site
- worker’s neighborhood of Irish Hill just to the north
- and the rebuilding of San Francisco following the earthquake & fire of 1906.
- In addition these buildings are part of the only historic district in San Francisco combining industrial & residential communities, the only buildings which give context to the last remaining Spreckels Sugar warehouses across the street

“History gave us these buildings and we must respond to them.” (Peter Linenthal, *Potrero Hill Archives Project*, letter, October 17, 2018 [O-PHAP1-1])

“Public awareness of these buildings is just beginning; most people have no idea at all what’s there. The historic buildings are largely hidden from view and inaccessible even on Power Station tours. My article and photos in the September Potrero View was an attempt to raise awareness. We will be circulating a ‘Save historic Potrero Power Station Brick Buildings’ petition which we will give to you.

“The developer makes a point of using materials and design elements in new construction which reflect the site’s industrial past. To tear down the few buildings which actually ARE PART of that past makes absolutely no sense.

“If Associate Capital truly intends the Power Station development to merge with Pier 70’s development to the north, why is the Power Station development preserving fewer of its historic buildings? Why is it denser than Pier 70? Why does it offer a smaller percentage of open space?” (Peter Linenthal, *Potrero Hill Archives Project*, letter, October 17, 2018 [O-PHAP1-3])

"Building our future does not require throwing away our past.

"The historic brick buildings on the Potrero Power Station site have extraordinary national significance, offering a connection to:

- the explosion of industry on Potrero Point starting in the 1860s
- until 1913, the most important power plant on the west coast
- PG&E's 99 years on the site
- Irish Hill to the north
- and the rebuilding of San Francisco following 1906.
- These buildings are part of the only historic district in San Francisco combining industrial & residential communities, and give context to the remaining Spreckels Sugar warehouses across the street." (Peter Linenthal, Potrero Hill Archives Project, email, November 17, 2018 [O-PHAP2-1])

"Most people have no idea what's on this site. The historic buildings are largely hidden from view and inaccessible even on Power Station tours. My article in the September Potrero View was an attempt to raise awareness. We will be circulating a 'Save the Historic Potrero Power Station Brick Buildings' petition. The developer wants the development to reflect the site's history but to tear down the few buildings which are part of that history makes absolutely no sense.

"If Associate Capital intends the development to merge with Pier 70 to the north, why is the Power Station development preserving fewer historic buildings? Why is it denser than Pier 70? Why does it offer a smaller percentage of open space?" (Peter Linenthal, Potrero Hill Archives Project, email, November 17, 2018 [O-PHAP2-3])

"I'm concerned about the future of the brick buildings on the site. Building our future does not have to mean throwing away our past. The historic brick buildings on the Potrero Power Station site have extraordinary national significance, offering a connection to the explosion of industry on Potrero Point starting in the 1860s and, until 1913, the most important Power Plant on the West Coast.

"PG&E has 99 years on this site. Irish Hill is to the north. And the Power Station was crucial in the rebuilding of San Francisco following the destruction of 1906. These buildings are part of the only historic district in San Francisco which combines industrial and residential communities, and it gives context to the remaining Spreckles [sic] Sugar warehouses just across the street.

"I was heartened by Mark Buhler and San Francisco's Heritage strong support for saving as many of these historic brick buildings as possible at the HPC." (Peter Linenthal, public hearing transcript, November 8, 2018 [PH-Linenthal-1])

"Most people have no idea at all what's on this site. The historic brick buildings are largely hidden from view and inaccessible even on Power Station tours. My article in the Potrero View, which I'll give you copies of today, was an attempt to raise awareness. We're also circulating a Save the Historic Brick Buildings petition now.

"The developer wants the development to reflect the site's history, but to tear down the very few remaining buildings which actually are part of that history makes absolutely no sense.

"If Associate Capital intends the development to merge with Pier 70 to the north, why is the Power Station development preserving fewer historic buildings? Why is it denser than Pier 70, and why does it offer a smaller percentage of open space?" (*Peter Linenthal, public hearing transcript, November 8, 2018 [PH-Linenthal-3]*)

"Based on information presented in the Draft EIR, the preferred project would erase all traces of the site's early industrial brick buildings from the turn-of-the-twentieth-century, primarily represented by the Meter House (1902), Gate House (1914), Compressor House (1924), and the Station A Turbine Hall, Switching Station, and Machine Shop Office (1901-1902, 1930-1931).² With the exception of the Gate House, all are individually eligible for the California Register of Historical Resources. Despite suffering severe neglect, disrepair, and partial demolition, the EIR concludes that they retain sufficient physical integrity to convey their importance to San Francisco's industrial past. Their demolition would result in significant, irreversible adverse impacts on historic resources. The EIR analyzes an array of less harmful preservation options, including one full preservation and four partial preservation alternatives.

"Although not included in the Draft EIR's project description, the sponsor is currently developing an innovative concept to convert Unit 3, built in 1965, into a hotel and public amenity. Heritage applauds and encourages these efforts, as Unit 3 and the iconic Boiler Stack are important latter-day contributors to the Third Street Industrial District and, together, they tell the story of the power plant's final phase of development.

Footnote:

² The Station A Boiler Hall, formerly attached to the east side of the Station A Turbine Hall, was demolished in 1983, reducing the size of the Station A power plant by more than 50%."

(*Mike Buhler, San Francisco Heritage, letter, November 19, 2018 [O-SFH-2]*)

"After review, STH believes the draft EIR contains serious flaws related to analysis of significant impacts on historic resources and the feasibility of alternatives.

"Save The Hill was founded in 2012 as a grassroots neighborhood group dedicated to the health, culture, heritage, and scenic beauty of Potrero Hill. We enjoy the support of hundreds of our fellow neighbors. Our mission is to protect and promote Potrero Hill's unique identity, to support its locally run businesses and to ensure that neighborhood growth promotes the highest standards of urban development and planning.

"As currently proposed by the developer, the Potrero Power Station project would irreparably alter, harm, and undermine the integrity of the historic Third Street Industrial District by demolishing buildings eligible for the California Historic Register. The Potrero Power Station site alone comprises about half of this special district and houses at least six structures that contribute significantly to the area's rich industrial history. Yet the developer's project proposes to demolish up to four or five of these buildings — buildings that are among the oldest in the area. The DEIR simply fails to offer additional reasonable and feasible alternatives that would save and repurpose the oldest of these structures.

"Merely preserving the site's Boiler Stack, as the developer proposes, isn't enough to satisfy good and meaningful standards of historic preservation. For one, any significance of the Boiler Stack would be vastly compromised and overshadowed by multiple new high-rises the developer proposes to build on the site. In contrast, development of the adjacent Pier 70 property site has been a model of retaining and repurposing historic resources while also respecting visual and historic context — largely by keeping building heights at reasonable levels unlike the Potrero Power Station plan." (Rodney Minott, *Save The Hill*, letter, October 17, 2018 [O-STH-1])

"The single most important issue that is being dealt with is not the development itself, but what it proposes for a group of extremely historically important structures on the site. These buildings represent a critical phase in the early industrial history of the City of San Francisco. These buildings are: the old PG&E Station 'A' Turbine Hall, Machine Shop, Office and Switching Center; the Meter House, the Compressor House and the small Gate House. There are also 2 mid-century structures under consideration for preservation, one a smoke stack.

"But these early 20th century brick buildings, whether abandoned, decayed, or in ruins, cluster in an area that lies in the center of the project. It is critical that they be saved for future generations. There are alternate plans in the DEIR that propose solutions which address these structures with a sense of respect and true interest in preservation, and which propose to save *all* the structures. Other alternative schemes either call for partial demolition, total incorporation into new unsympathetic uses, or in the extreme case mitigation by filming the buildings, saving fragments, and creating a sad post demolition narrative.

"I can only support the full preservation outcome with any enthusiasm, and I will be the first to admit that it may require some adjustment, and possible trimming of size and scope. A truly sensitive adaptive reuse strategy may be appropriate in some cases. We must save these early 20th century industrial buildings." (Philip Anasovich, email, October 17, 2018 [I-Anasovich-1])

"*Demolition of Historic Buildings. All of the historically significant brick buildings on the 28+ acre industrial site will be destroyed under plans for the proposed project. These unique structures are representative of the City's famed industrial past at Potrero Point in the mid-19th to early 20th centuries." (Pamela Wellner, email, November 18, 2018 [I-Wellner-1])

"With the exception of the Smoke Stack in Unit 3, none of the site's historic resources will be retained as part of the overall development plan. Based on the information in the Draft EIR, the preferred project would erase all traces of the site's highly significant early industrial development, making it difficult to engage in a meaningful dialog to determine what is actually possible in terms of historic preservation, both in terms of financial and technical feasibility." (Katherine Petrin, *public hearing transcript*, November 8, 2018 [PH-Petrin-1])

"The proposed project considers demolishing individually significant 19th century historic buildings. This was the most important Power Plant west of the Mississippi. The District is part of the only area of San Francisco that combines industrial and residential communities.

"I know that the Historic Preservation Commission recommended that Associate Capital study innovative ways to capture and reuse parts of these buildings to assure that the story and the character of these buildings are not lost. I also know that the developer and his team are working creatively on this challenge.

"In the DEIR, this would have been clearer if viable alternatives were considered that would reuse portions of the most important historic structures.

"I strongly urge that creative reuse of these walls and volumes happen to prevent the wholesale demolition of such a significant portion of our community and city's history. It is in these seams of old and new, industrial and residential, gritty and natural, that bring such vibrancy to our beloved and still mixed-use neighborhood." (Katherine Doumani, *public hearing transcript*, November 8, 2018 [PH-Doumani-2])

Response HR-2: Effects on Historic Architectural Resources

Each of the comments related to this topic object to the project's effects on historic architectural resources due to the proposed demolition of buildings that are individually eligible for the California Register of Historical Resources and/or are contributors to the California Register-eligible Third Street Industrial District. These impacts are identified and fully documented in the EIR (Impact CR-4, p. 4.D-28, and Impact CR-5, p. 4.D-29). The EIR identifies these impacts as *significant and unavoidable*, even with implementation of identified mitigation measures. The comments do not, however, object to the EIR's analysis. Therefore, these comments do not relate to the adequacy or accuracy of the EIR. The comments opposing the demolition of these historic resources are noted and will be considered by the decision-makers in their deliberations on the proposed project.

Per CEQA Guidelines section 15093, quoted below, it is up to the decision-making agency to determine whether there are overriding considerations related to the benefits of a proposed project that would render its environmental impacts acceptable:

CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits, including region-wide or statewide environmental benefits, of a proposal project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."

To the extent that comments in this topic allege inadequacy in the EIR's identification of a reasonable range of alternatives to reduce or avoid effects on historic architectural resources, please see the response to Comment ALT-2 in Section 11.K of this document, concerning the range of alternatives analyzed.

Comment HR-3: Period of Significance

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Alison Heath, O-GPR1-3
J.R. Eppler, O-PBNA2-4

Peter Linenthal, O-PHAP1-2, O-PHAP2-2,
and PH-Linenthal-2

"Extending the period of significance to 1965 to include the Boiler Stack and Unit 3 establishes a false equivalency between these two 1965 structures and considerably older, more significant resources.

"Unlike the Boiler Stack and Unit 3, the older Station A, Meter House, and Compressor House are individually eligible for listing on the California Register. With the Gate House, these four late-19th and early 20th century structures have extraordinary local and national significance and must be saved.

"The historic significance of the Boiler Stack and Unit 3 is dubious. As noted in the HRE, the design and construction of Unit 3 isn't unique. It wasn't the first natural gas power plant of its kind. Dozens of additional power plants of similar design were constructed in the latter half of the twentieth century and early 2000s.

"The DEIR analysis assumes that Unit 3 would be demolished or would be repurposed in a manner such that it would no longer convey whatever historical significance justifies its eligibility for the California Register as a contributor. In fact, it might simply act a placeholder, allowing a hotel ranging in height from 65 to 143 feet to be constructed within 80-100 feet of the waterfront, running along nearly 2/3 the length of the public shoreline. This would compromise the relatively narrow dimensions of the Waterfront Park, and obscure vistas. While the Boiler Stack may serve as an iconic feature, its context as the only historic element onsite would limit any remaining historic relevance. The integrity of its setting would be lost amidst surrounding new buildings, overwhelmed in scale by the combined bulk and height of the proposed 300 foot tower and other large buildings to the west." (Alison Heath, *Grow Potrero Responsibly*, letter, October 16, 2018 [O-GPR1-3])

"The only structures that would be retained as part of the Proposed Project would be the Boiler Stack and possibly Unit 3, both built in 1965. The analysis done for the DEIR extended the period of significance to the mid-1960s to include these structures. Although they are character defining, their design and construction isn't unique. Dozens of additional power plants of similar design were constructed in the latter half of the twentieth century and early 2000s." (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-4])

"The proposed project would demolish four brick buildings; and extend the historic period to include Unit 3 and the Stack. I challenge anyone to make the case that the 1960s were as significant as the 1870s to the early 1900s on the Power Station site. The '60s saw technological development at PG&E while the earlier period saw the birth and growth of industries and businesses that transformed San Francisco and California. Saving the '60s structures is fine but only if priority is

given to the cluster of the much more significant brick buildings.” (Peter Linenthal, *Potrero Hill Archives Project*, email, November 17, 2018 [O-PHAP1-2])

“The proposed project in the DEIR would demolish four brick buildings, extending the historic period to include Unit 3 and the Stack, both built in the 1960s. I challenge anyone to make the case that the 1960s were as significant as the late 19th & early 20th century periods on this site. Saving the ‘60s structures is fine but only if priority is given to the cluster of more significant brick buildings.” (Peter Linenthal, *Potrero Hill Archives Project*, email, November 17, 2018 [O-PHAP2-2])

“The proposed project would demolish four brick buildings extending the historic period to include Unit 3 and the Stack. I really challenge anyone in the world to make the case that the 1960s were as significant as the earlier period on this site. Saving the ‘60s structures is fine, but only if priority is given to the cluster of much more significant brick buildings.” (Peter Linenthal, *public hearing transcript*, November 8, 2018 [PH-Linenthal-2])

Response HR-3: Period of Significance

These comments object to the EIR’s identification of an extended period of significance for the California Register-eligible Third Street Industrial District, and also allege that the extended period of significance falsely equates the newer Unit 3 Power Block and Boiler Stack in historical significance with the older brick buildings associated with the Station A power generating facility.

The EIR Section 4.D, on p. 4.D-16, presents the following justification for extending the period of significance:

The original period of significance of the Third Street Industrial District was 1872 to 1958, with the end date being 50 years prior to the district designation. The HRE identified, and the HREER concurred with, an extension of the period of significance for the Third Street Industrial District to an end date of 1965, which the HREER notes was “the start of the decline in manufacturing and industry in the area and therefore marks another potential date for the district’s period of significance.” The change in end date resulted in the addition to the district of two contributing buildings that were not previously evaluated: the Unit 3 Power Block and the Boiler Stack, both constructed in 1965. With these additions, there are six buildings on the project site that contribute to the Third Street Industrial District.

As further explained in the HRE, the original end date of the district’s period of significance, 1958, “was justified as 50 years prior to the time of survey in 2008, which means that it may be considered somewhat arbitrary.”¹ Because of the original decision to limit the end date of this historic district to 1958, the Unit 3 Power Block and Boiler Stack were outside the period of significance of the Third

¹ Page & Turnbull, *Potrero Power Station Final Historic Resource Evaluation, Part 1*, February 8, 2018, p. 101. It is noted that 50 years is the typical minimum age for a building or structure to be identified as a historical resource unless it is of exceptional importance (see National Park Service, “National Register Bulletin No. 15,” revised 2002. Available at: <https://www.nps.gov/nr/publications/bulletins/nrb15/>. Reviewed February 2, 2019.

Street Industrial District and were not identified for historical significance in 2008. With the passage of an additional 10 years, the HRE and HRER reconsidered resources not originally identified as district contributors. As explained in the HRE:

"The year 1958 was an arbitrary date that cuts short a sustained period of productive industrial activity lasting until 1965, despite a post-World War II decline in employment. ... Industrial productivity through 1965 and the area's subsequent decline suggest that the Third Street Industrial District's period of significance could be extended beyond 1958 to 1965.²

As for the comments regarding a "false equivalency" between district contributors, one contributor to a historic district is not necessarily more or less significant than another, nor does it imply equivalency between contributors. Rather contributors are identified because they meet the threshold of significance and integrity. Under CEQA no ranking of resources is involved or required for the impact analysis. Finally, it is noted that even if the period of significance had not been extended to 1965, this would not change the EIR's conclusion that impacts to historic architectural resources would be significant and unavoidable with mitigation.

Comment HR-4: Adequacy of Mitigation Measures

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Peter Linenthal, O-PHAP1-4, O-PHAP2-4, J.R. Eppler, O-PBNA2-3
and PH-Linenthal-4

"Mitigations offered in the DEIR for the proposed destruction of the brick buildings are offensive. Does anyone imagine that books-printed-on-demand, videos, displays or salvaged fragments would compensate for the loss of these historic structures? The history held by these buildings belongs to everyone and should not be taken away." (*Peter Linenthal, Potrero Hill Archives Project, letter, October 17, 2018 [O-PHAP1-4]*)

"Some of the mitigations offered are insulting. Can anyone imagine that books printed-on-demand, videos, or salvaged fragments would compensate for the loss of historic structures?" (*Peter Linenthal, Potrero Hill Archives Project, email, November 17, 2018 [O-PHAP2-4]*)

"Some of the mitigations offered are, frankly, insulting. Can anyone imagine that books printed on demand, videos, or salvaged fragments would compensate for the loss of historic structures?" (*Peter Linenthal, public hearing transcript, November 8, 2018 [PH-Linenthal-4]*)

² Page & Turnbull, *Potrero Power Station Final Historic Resource Evaluation, Part 1*, February 8, 2018, p. 101.

"Proposed mitigation measures, such as books-printed-on-demand, videos, displays or salvaged fragments, and design controls for new construction will never compensate for the loss of these historic structures." (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-3])

Response HR-4: Adequacy of Mitigation Measures

These comments state that the mitigation measures identified in the Draft EIR are not adequate to compensate for the project's proposed demolition of historical resources.

The EIR identifies significant and unavoidable impacts to historic architectural resources, even with mitigation. Therefore, the EIR clearly states that proposed measures would not reduce the impacts of the project to a less-than-significant level. Rather, the planning department concluded that, even with mitigation, impacts to historic architectural resources are significant and unavoidable.

Proposed mitigation measures are not intended to offend or insult, contrary to what the commenters suggest. The mitigation measures included in the EIR are the same or similar to those commonly used by the City and County of San Francisco and in other jurisdictions in California and across the nation.

As required by CEQA, in addition to evaluating potential mitigation measures for the impact to historic resources, the EIR identifies and analyzes two full preservation alternatives and four partial preservation alternatives (see EIR Chapter 6) as means of avoiding or reducing impacts on historical resources.

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11.F Transportation and Circulation

The comments and corresponding responses in this section cover topics in EIR Section 4.E, Transportation and Circulation. These include topics related to:

- Comment TR-1: Transportation Setting
- Comment TR-2: Travel Demand Methodology and Results
- Comment TR-3: I-280 Interchange Operations
- Comment TR-4: Traffic Congestion
- Comment TR-5: Transit Impacts
- Comment TR-6: Loading Impacts
- Comment TR-7: Transportation Mitigation Measures
- Comment TR-8: Proposed Project TDM Plan
- Comment TR-9: Proposed Project Shuttle Service

Comment TR-1: Transportation Setting

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Maureen Gaffney, A-BayTrail-2

Patricia Maurice, A-Caltrans1-3

"Transportation and Circulation"

"It is extremely important that connections through the site to the waterfront, as well as the "existing" Bay Trail on Illinois are safe, inviting and comfortable. The current facility on Illinois Street represents the least desirable form of Bay Trail—a Class II bike lane with poor paving coupled with discontinuous, uneven sidewalks. The project development should include improvements to the bike lanes and sidewalks on Illinois Street as part of the project.

"Page 4.E-15 states that "Class II bikeways are bicycle lanes striped within the paved areas of roadways and established for the preferential use of bicycles. They include a striped, marked and signed bicycle lane buffered from vehicle traffic." Class II bike lanes are generally not "buffered from vehicle traffic." Class IV facilities are buffered, and the distinction is important so that the reader/commenter can fully understand the type of facility that is being proposed.

"Page 4.E-17 states that "At various locations, the Bay Trail consists of paved multi-use paths, dirt trails, bicycle lanes, sidewalks or city streets signed as bicycle routes." This is not accurate. As noted above, the Bay Trail's mission is a Class I, fully separated bicycle and pedestrian facility located as close to the shoreline as feasible. When no option for a shoreline alignment is possible, as is currently the case along Illinois Street, the Bay Trail Steering Committee can decide, on a case-by-case basis, to accept Class II or Class IV bike lanes and sidewalks as "complete" Bay Trail. The Bay Trail does not recognize Class III bicycle routes as an acceptable trail facility within our system—Class III bike routes are considered gaps until such time as they can be upgraded to Class I, or II/IV with sidewalks." (Maureen Gaffney, *SF Bay & Water Trail Programs*, email, November 19, 2018 [A-BayTrail-2])

“Project Site Maps

“The project site map in Figure 4.E-1 on page 4.E-2 incorrectly shows the project site as being near I-80. The freeway shown in this Figure should be labeled I-280. The same error is found in the figures following Figure 4.E-1.” (*Patricia Maurice, California Department of Transportation, letter attachment, November 16, 2018 [A-Caltrans1-3]*)

Response TR-1: Transportation Setting

Class II bicycle lanes can be buffered to provide a greater separation from an adjacent travel lane or between the bicycle lane and on-street vehicular parking, and these facilities are still considered class II bikeways. These buffers are typically provided by using chevrons or diagonal pavement markings. A class IV facility is physically separated from vehicular traffic.¹ There are a number of class II bicycle lanes in San Francisco that are buffered from the adjacent travel with pavement markings. In response to the comment regarding the accuracy of the description of class II bikeways, the text on EIR p. 4.E-15 was clarified as follows (deleted text is shown as ~~striketrough~~ and new text is double underlined):

“The study area in the vicinity of the project site is flat, with minimal changes in grades, facilitating bicycling within and through the area. However, to the west of Pennsylvania Avenue, the change in grade associated with the Potrero Hill and the U.S. 101 freeway create discontinuities in the east-west roadway network. There are several bicycle routes near the project site. These include city routes that are part of the San Francisco Bicycle Network and regional routes that are part of the San Francisco Bay Trail system. **Figure 4.E-3, Existing Bicycle Network**, identifies the bicycle facilities within the study area. Bicycle facilities are typically classified as class I, class II, class III or class IV facilities.² Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists and pedestrians. Class II bikeways are bicycle lanes striped within the paved areas of roadways and established for the preferential use of bicycles. They include a striped, marked and signed bicycle lane and can be buffered from vehicle traffic. These facilities are located on roadways and reserve 4 to 5 feet of space exclusively for bicycle traffic. Class III bikeways are signed bicycle routes that allow bicyclists to share travel lanes with vehicles, and may include sharrows markings. A class IV bikeway is an exclusive bicycle facility that is separated and protected from vehicular traffic and parked cars by a buffer zone (sometimes referred to as a cycle track).”

This revision does not change the analysis or conclusions presented in the EIR.

¹ See http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf.

² Bicycle facilities are defined by the State of California in the California Streets and Highway Code section 890.4.

In response to the comment regarding the description of the Bay Trail, the text on EIR p. 4.E-17 was clarified as follows (deleted text is shown as ~~striketrough~~ and new text is double underlined):

“Figure 4.E-3 also shows the San Francisco Bay Trail. The San Francisco Bay Trail is designed to create recreational pathway links to the commercial, industrial and residential neighborhoods that abut San Francisco Bay. In addition, the trail connects points of historic, natural, and cultural interest as well as recreational areas such as beaches, marinas, fishing piers, boat launches, and numerous parks and wildlife preserves. The Bay Trail’s mission is a class I, fully separated facility for people walking and bicycling located as close to the shoreline as possible. At various locations, the Bay Trail currently consists of paved multi-use paths, dirt trails, ~~bicycle lanes, sidewalks~~ or city streets ~~signed as bicycle routes~~. In the project vicinity, the Bay Trail currently runs as an on-street segment along Illinois Street between Cargo Way and Terry A. Francois Boulevard, where it continues north as a paved path along the shoreline within the area currently being developed as part of the Mission Bay Plan as the Bayfront Park.”

This revision does not change the analysis or conclusions presented in the EIR.

One comment states that the proposed project should include improvements to the bicycle lanes and sidewalks on Illinois Street. As noted in the EIR 4.E-32, the proposed project would construct the Bay Trail/Blue Greenway multi use path (class I facility) along the waterfront within the project site and would include a network of bicycle lanes within the project site. However, no bicycle network improvements are proposed outside of the project site (e.g., on Illinois Street). The project would reconstruct the existing sidewalk on the east side of Illinois Street adjacent to the project site.

In response to the comment that Figure 4.E-1 through Figure 4.E-4 incorrectly label I-80 as I-280, these figures have been corrected, and the revised figures are included in Chapter 12, Draft EIR Revisions. These revisions do not change the analysis or conclusions presented in the EIR.

Comment TR-2: Travel Demand Methodology and Results

This response addresses comments from the commenters listed below; each comment on this topic is quoted in full below this list:

Rick Hall, O-CAN-2

Sean D. Angles, O -GPR2-8

J.R. Eppler, O-PBNA2-10, O-PBNA2-11, and
O-PBNA2-14

Sean Angles, PH-Angles-5

Commissioner Richards, PH-Richards-1

"The transportation study uses outdated data and is invalid

"TNC's are not even considered." (*Rick Hall, Cultural Action Network, email, November 19, 2018 [O-CAN-2]*)

"(4) TRAFFIC

"Adequate analysis of noise, air quality, greenhouse gas emissions, emergency vehicle access, pedestrian and bike safety are all dependent on accurate and realistic traffic and mode share projections, rather than the outdated modeling from SF-CHAMP and 2002 SF Guidelines. Traffic is considered only indirectly, but its impacts are undeniable.

"This is a very private car-centric project. With a total of 2622 parking places, parking comprises 921,981 gsf or 17% of the entire building area. Analysis in the DEIR shows the proposed project would generate 93,609 person trips daily, with nearly half of external trips made by private automobile. There is no recognition of TNC's as a transit mode so it's likely that the number of person trips by private automobile is even higher."

"A discussion of automobile delay impacts under LOS is relevant and should be provided at least for informational purposes to better determine traffic-related impacts and inform a more realistic TDM plan." (*Sean D. Angles, Grow Potrero Responsibly, letter, November 19, 2018 [O-GPR2-8]*)

"Transportation analysis is based on outdated projections. Mode analysis for the project is derived from the outdated *SF Guidelines* from 2002. This analysis didn't consider Transportation Network Companies ("TNCs") as a unique transit mode although the DEIR includes a footnote about "app-based ride-hailing services" in Table 4.E-11 without explanation as to how this was determined or how it would have been an option in 2002." (*J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-10]*)

"The *Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand*, contained in Appendix C and cited in the DEIR, is confusing, lacks transparency and contradicts some of what is in the DEIR itself. It appears to be based on outdated methodology, supplemented with speculative assumptions of future conditions with little empirical basis. For example, it seems to arbitrarily determine that mode share for the project would be some combination of the 2002 NE (downtown) Quadrant and 2002 SE Quadrant. The analysis goes on to cite national trends from the 2010 *Improved Estimation of Internal Trip Capture for Mixed-Use Development*, a *Presidio Trust Management Plan* from 2002, and the *Final Mission Bay Subsequent EIR*, dated 1998. None of these are relevant to current or anticipated conditions in the area of the Power Station.

"Glaring discrepancies between and Table 4.E-11 in the DEIR and Table 9 in Appendix C must be clarified. For example, is the auto share 35.7% or 47.2%?"

**TABLE 4.E-11
PROPOSED PROJECT TRAVEL MODE SPLIT – INTERNAL AND EXTERNAL TRIPS**

Mode	Daily	AM Peak Hour	PM Peak Hour
Auto ^a	35.7%	37.0%	34.2%
Transit	17.1%	27.0%	19.8%
Other modes ^b	47.2%	36.0%	46.0%
Total	100.0%	100.0%	100.0%

NOTES:

^a Auto mode includes persons traveling by private auto, carpool, app-based ride-hailing services (e.g., Uber, Lyft)

^b Other modes include walk, bicycle, motorcycle, and additional modes such as taxis. Internal trips, generally by walking and bicycling, are also included within the "other" mode.

SOURCE: Technical Memorandum – Potrero Power Station Mixed-Use Development Project Estimation of Project Travel Demand, April 2018. See Appendix C.

**Table 9
Potrero Power Station Modal Split Comparison by Scenario
Before and After Estimation of Internal Trips
Internal + External Person-trips ^(a)**

Scenario	Daily		AM Peak Hour		PM Peak Hour	
	Before ^(b)	After ^(c)	Before ^(b)	After ^(c)	Before ^(b)	After ^(c)
Proposed Project						
Auto	47.2%	35.8%	46.2%	37.1%	46.8%	34.2%
Transit	24.2%	17.1%	34.3%	27.0%	28.1%	19.8%
Other ^(d)	28.6%	47.2%	19.5%	36.0%	25.1%	46.0%
Total Proposed Project	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Scenario A – Maximum Residential						
Auto	46.9%	34.2%	45.5%	35.8%	46.3%	31.9%
Transit	24.6%	16.8%	34.9%	26.8%	28.5%	19.4%
Other ^(d)	28.5%	49.1%	19.6%	37.4%	25.2%	48.8%
Total Scenario A	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Scenario B – Maximum Commercial						
Auto	47.4%	36.6%	46.8%	38.2%	47.2%	35.1%
Transit	24.0%	17.3%	34.0%	27.1%	27.9%	20.1%
Other ^(d)	28.6%	46.0%	19.2%	34.7%	24.9%	44.9%
Total Scenario B	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:

^(a) Numbers may not sum to total due to rounding.

^(b) Generally based on US Census and SF Guidelines data; treats all person-trips as external to the project site.

^(c) Calculates the proportion of person-trips that would be internal to the project and shifts them to use non-motorized modes of travel.

^(d) "Other" includes walk, bicycle, motorcycle, and additional modes such as taxis and limousines.

SOURCE: Advant Consulting – April 2018.

(J.R. Eppler, Potrero Boosters Neighborhood Association, letter [email attachment], November 19, 2018 [O-PBNA2-11])

"This is a very car-centric project. With a total of 2,622 parking places, parking comprises 921,981 gross square feet or 17% of the entire building area. Adequate analysis of noise, air quality, greenhouse gas emissions, emergency vehicle access, pedestrian and bike safety are all dependent on accurate and realistic traffic and mode share projections, rather than outdated modeling from SFCHAMP and 2002 *SF Guidelines*. Traffic is considered only indirectly, but its impacts are undeniable.

"There is no recognition of TNCs as a transit mode anywhere in the DEIR or Transportation Analysis outside of one unexplained footnote. Recent analysis by the SF County Transit Authority (*TNCs and Congestion*) shows that these vehicles are responsible for 51% of the increase in daily vehicle hours of delay and 47% of increase in Vehicle Miles Travelled ("VMT"). These impacts are particularly acute in urban areas, throwing into question the accuracy of VMT analysis.

"The VMT analysis also fails to incorporate recent San Francisco County Transportation Authority ("SFCTA") analysis showing that a substantial share of TNC trips have shifted away from public transit. SFCTA's publication *TNCs Today* estimates conservatively that TNCs contribute 570,000 VMT on a typical workday. Urban areas are experiencing especially acute increases in traffic due to this shift. We can no longer assume that a project's location in an urban area will automatically result in reduced traffic." (J.R. Eppler, *Potrero Boosters Neighborhood Association*, letter [email attachment], November 19, 2018 [O-PBNA2-14])

"I'd like to also highlight the transportation analysis in the DEIR is based on outdated methodology. It's using the SF Guidelines 2002 analysis, which is a very long time ago.

"I'd also like to talk about traffic briefly. There's inadequate analysis of noise, air quality, and greenhouse gasses, and emergency vehicle access has not been looked at. They're, again, using outdated guidelines from SF-CHAMP. And this project is very private-car centric." (Sean Angles, *public hearing transcript*, November 8, 2018 [PH-Angles-5])

"So the items that concern me most are around the outdated transportation figures that I think we struggle with when we get to do these EIRs over and over and somebody gets up and says "We're using 2002 data that doesn't do TNCs." I still struggle with that. And I'd still like some, something in the record around why we're continuing to use old data and what's the plan to start using better data." (Commissioner Richards, *public hearing transcript*, November 8, 2018 [PH-Richards-1])

Response TR-2: Travel Demand Methodology and Results

Various comments state that the travel demand analysis presented in the EIR for the proposed project is based on outdated methodology, citing the *San Francisco Transportation Impact Analysis Guidelines for Environmental Review* (SF Guidelines) and the SF-CHAMP travel demand forecasting model as examples. The description of the travel demand assumptions, methodology, and results are presented in Section 4.E, Transportation and Circulation of the EIR, pp. 4.E-41 to 4.E-52. In addition, Appendix C, Transportation Supporting Information includes additional descriptions and data regarding travel demand, contained in a technical memorandum (*Potrero Power Station Mixed-Use Development Estimation of Project Travel Demand*, pp. C-99 through C-214) dated April 30, 2018. Travel demand for the project variant was calculated using the same methodology and assumptions, and is presented in Chapter 9 and Appendix C-1.

The travel demand analysis for the proposed project was not based on an outdated methodology. It was conducted based on sound methodology and the best information available at the time of the analysis. The San Francisco Guidelines for Environmental Review, prepared by the San Francisco Planning Department in October 2002 (2002 SF Guidelines), were the most current guidelines for transportation impact analysis at the time that the transportation analysis was undertaken for the proposed project. The SF Guidelines are not prescriptive and the planning department allows for adjustments and refinements in their application based on updated or better

applicable information to account for the specific characteristics of each project. As described on EIR pp. 4.E-42 to 4.E-46, and in Appendix C, the methodology and data presented in the SF Guidelines were updated for this EIR in the following ways:

- The most recent mode of travel and origin/destination information available from the U.S. Census at the time of the analysis (American Community Survey 5-year estimate 2011-2015, published in January 2017) was used for the analysis of the residential components of the proposed project.
- The modal split assumptions for non-residential uses were based on an average of the travel characteristics presented in the SF Guidelines for San Francisco Superdistrict 3 (SE quadrant, where the project is located) and Superdistrict 1 (NE quadrant, located to the north and directly adjacent to Superdistrict 3), and were updated to reflect the increase in non-automobile travel that has been observed south of the Mission Creek Channel, the effects of transportation improvements that have occurred in San Francisco and in the area since the preparation of the SF Guidelines, and the transportation enhancements to be implemented by the project, such as a robust shuttle bus service.
- Trip generation rates for some of the non-residential land uses were obtained from the Institute of Transportation Engineers, Trip Generation Report, published in 2012, which is a nationally recognized source for trip generation rates.

The SF-CHAMP travel demand forecasting model, which was originally developed by the San Francisco County Transportation Authority in 2002 to assess the impacts of land use, socioeconomic, and transportation system changes on the performance of the local transportation system in San Francisco, has been enhanced and updated several times over the years. The SF-CHAMP model data used in the EIR analysis (SF-CHAMP 4.3.1, 2012 Base Year Model Run) were the same as those used in the Central SoMa EIR. The data, methodology and results of the SF-CHAMP model are consistent with those of other travel demand forecasting models in the Bay Area, namely the BAYCAST model prepared and regularly updated by the Metropolitan Transportation Commission (MTC). Furthermore, the future population and socio-economic input data in the SF-CHAMP model are consistent with the projections developed by the Association of Bay Area Governments (ABAG) for the entire Bay Area, including San Francisco, and which are regularly updated every couple of years.

The planning department released a comprehensive update to the Transportation Impact Analysis Guidelines on February 14, 2019. The revised Transportation Impact Analysis Guidelines (2019 SF Guidelines) are available on the planning department's website at <https://sfplanning.org/project/impact-analysis-guidelines-environmental-review-update>.

In response to this comment, the planning department compared the transportation impacts of the proposed project under the 2002 Guidelines with the same impacts under the 2019 SF Guidelines and found that no new or more severe impacts would occur.³

³ Wietgreffe, Wade, Transportation Review Team Manager, San Francisco Planning Department, 2019. Potrero Power Station Draft Environmental Impact Report and Transportation Impact Analysis Guidelines, Memorandum, August 12, 2019. Case No. 2017.011878ENV.

The CEQA transportation analysts compared the p.m. peak hour travel demand estimates resulting from the use of the trip generation and modal split presented in the 2019 SF Guidelines with those shown in the Draft EIR. The comparison included project land uses for which trip generation rates are presented in the 2019 SF Guidelines, such as residential, office, retail, restaurant, supermarket, and hotel.⁴ The results are presented in Appendix C-1 (p. 71) and summarized below.

The comparison test showed that the person-trip travel demand generated by all of the above project land uses during the p.m. peak hour using the 2019 SF Guidelines data was 18 percent lower than the travel demand generated using the 2002 SF Guidelines. When the p.m. peak hour person-trips generated by the remainder of the project land uses (R&D, childcare, library, community center, and open space), as calculated in the EIR were added, the resulting project total travel demand was 14 percent lower than the travel demand presented in the EIR.

A comparison of mode of travel splits shows similar values for the three major categories (auto, transit, and other) with a slight shift from auto and transit usage (about 4 percentage points each) towards other modes of travel, such as walking and bicycling. In summary, based on the comparison test described above, the estimated travel demand resulting from the application of the 2019 SF Guidelines would result in lower overall trip generation, less vehicles, a reduction in transit utilization, and higher walk and bicycle travel.

Another comment states that the citation of trends from analyses conducted as part of the *2010 Improved Estimation of Internal Trip Capture for Mixed-Use Development*, the Presidio Trust Management Plan from 2002, and the Final Mission Bay Plan Subsequent EIR, dated 1998 are irrelevant or obsolete data. As described in the technical memorandum in Appendix C (pp. C-99 through C-214), these reports, as well as others, such as those prepared for the Mission Rock project and the Pier 70 Mixed Use District project are not cited as sources of information, rather as examples of when a similar approach and methodology has been used to evaluate internal trip capture in large mixed-use projects in San Francisco. The methodology has proven to be valid over the years, after minor adjustments have been made to take into account the specific nature and land uses of each project.

Some of the comments indicate that the potential effects of vehicles belonging to app-based ride-hail services (also known as Transportation Network Companies or TNCs) such as Uber and Lyft have not been considered in the transportation analysis, and that they should be recognized and added as a separate transit mode. As stated on EIR p. 4.E-42 and subsequent pages, the estimated "auto" mode trips resulting from the updates to the SF Guidelines assumptions described above include persons traveling by app-based ride hailing services (e.g., Uber, Lyft), in the same way as they include drive alone and carpool trips. Given that travel by app-based ride-hail companies are made in motor vehicles, the categorization of such trips within the auto mode rather than transit mode is more appropriate. In this way, the person trips made by app-based ride hailing services can be easily converted into vehicle trips and analyzed accordingly.

⁴ The 2019 SF Guidelines trip generation rates were updated based on substantial data collection and analysis, primarily at newer development sites.

A commenter states that app-based ride-hail services (TNCs) trips represent a substantial share in the urban mobility market in San Francisco, referencing a SFCTA report (*TNCs Today-A profile of San Francisco Transportation Network Company Activity*, Final Report, SFCTA June 2017) that estimates that such trips represent approximately 570,000 vehicle-miles of travel (VMT) on a typical weekday. The reference to 570,000 daily VMT associated with ride hailing service vehicles is correct, as it is shown in Table 4 (p. 18) of the SFCTA report; this includes both on-service (miles traveled when transporting a passenger) and out-of-service miles (miles traveled while circulating to pick up a passenger). Caltrans estimates that the daily VMT in San Francisco in 2017 was approximately 9.65 million miles (Table 6, p. 100; *California Public Road Data 2017*). As such, travel by ride hailing service vehicles on a typical day represent less than 6 percent of the total daily VMT in San Francisco. Thus, although travel by ride hailing service vehicles is one component of urban mobility in San Francisco and has been growing over the past few years, its contribution to overall VMT is less than 6 percent of the total VMT.

SFCTA's report *TNCs & Congestion* (October 2018, pp. 20-21) indicates that according to analysis conducted using the SF-CHAMP model, ride hailing service vehicles are responsible for an increase of approximately 300,000 daily VMT between 2010 and 2016. The daily VMT on the study roadways in San Francisco for 2016 are also presented in the SFCTA report, and correspond to 5.6 million daily miles. As such, the contribution of ride hailing service vehicles to the daily VMT on a typical day in 2016 was approximately 5.5 percent, which is consistent with the Caltrans estimate of less than 6 percent in 2017. Thus, although travel by ride hailing service vehicles has increased rapidly over the past few years, and contributes to more than half of the growth in VMT during the same period, its contribution to the overall VMT is less than 6 percent of the total VMT in San Francisco.

A comment states that the VMT analysis in the EIR is inaccurate because it does not take into account that ride hailing service vehicles are responsible for 51 percent of the increase in daily vehicle hours of delay (VHD), as well as a 47 percent increase in daily VMT.

Following the State Office of Planning and Research's (OPR) guidelines for evaluating transportation impacts in CEQA, the planning department uses VMT, rather than VHD, as a parameter to determine if a project would have a significant effect on the environment. Existing and future average daily VMT per capita for residents, employees, and visitors for the area where the project is located are estimated using the SF-CHAMP travel demand model. If the proposed project is located within an area of the city where the existing and future VMT per capita is more than 15 percent below the average VMT values for all purposes for the Bay Area region as a whole, then, it is considered that potential project VMT impacts would be less than significant.

The same comment further states that the VMT analysis in the EIR fails to include the fact that a substantial component of travel by ride hailing service vehicles are shifted away from public transit, citing information presented in a report by the SFCTA. In reality, the state of current research has not yet been able to determine how ride hailing services actually affect transit ridership. As stated in SFCTA's *Emerging Mobility Evaluation Report* (July 2018) citing recent research conducted at U.C. Davis and U.C. Berkeley (pp. 27-28), there is currently insufficient data to evaluate whether, or to what extent, ride hailing services support, rather than compete with public transit services. The

same report cites examples of cities in the U.S. and Europe that are exploring partnerships with ride hailing companies to integrate their services with public transit by supplementing transit service offerings or providing first and last mile travel solutions. Researchers have published numerous other studies on the effects of transportation network companies the last few years. Some studies acknowledge that transportation network companies increase VMT due to items like induced vehicle trips, driving without any passengers, and people switching some trips from non-vehicular or transit travel to transportation network company trips. However, total VMT is not the metric used to evaluate VMT impacts. No known studies attribute VMT increases to land uses or locations or provide the opportunity for an “apples-to-apples” comparison in a CEQA VMT analysis.⁵

A comment states that information presented in the technical memorandum included in Appendix C (Potrero Power Station Mixed-Use Development Estimation of Project Travel Demand, April 2018) is confusing, lacks transparency and contradicts some of the data presented in Chapter 4, Section 4.E, Transportation and Circulation, of the EIR. The example provided in the comment compares the data in Table 4.E-11: Proposed Project Travel Mode Split–Internal and External Trips (EIR p. 4.E-46) of the EIR with Table 9: Potrero Power Station Modal Split Comparison by Scenario–Before and After Estimation of Internal Trips, Internal + External Person Trips (p. C-108) in the technical memorandum. The comment points out that the daily mode share for auto travel generated by the proposed project as shown in Table 4.E-11 is 35.7 percent, while Table 9 shows 47.2 percent. Both tables, Table 4.E-11 in the EIR and Table 9 in the technical memorandum are correct; they represent different conditions. Table 9 in the technical memorandum compares the modal split of proposed project trips before and after the internal project site trips were taken into consideration. The methodology for estimation of internal project site trips is also described in the technical memorandum (pp. C-107 and C-108). For each time period (daily, a.m. peak hour, and p.m. peak hour), the values before the internal trip estimation are shown on the left, and the values after the internal trip estimation are shown on the right. The values on the right shown in Table 9 of the technical memorandum are the same as those shown in Table 4.E-11 in the EIR; minor rounding adjustments (+ or – 0.001) have been made in Table 4.E-11 so that the totals in the table add up to 100 percent.

Refer to Response TR-4 regarding the comment that intersection LOS traffic operations analysis is still relevant and should be included in the EIR, at least for informational purposes.

Regarding the amount of space allocated and number of vehicular parking spaces, see Response G-7 Opinions Related to the Project.

⁵ Fehr & Peers, “Estimated TNC Share of VMT in Six US Metropolitan Regions (Revision 1)”, August 6, 2019 also does not allow for such comparison. The study identifies the percent of VMT attributable to the TNC companies within the bay area region and San Francisco County during September 2018. This study does not attribute VMT increases to land uses or refined locations (e.g., transportation analysis zones) or identify the percentage of people switching from non-vehicular or transit travel to TNC trips. This study also does not provide TNC data for independent verification of the study’s findings or independent analysis to facilitate attribution of VMTs to particular land uses, locations, or mode choices.