SAN FRANCISCO
PLANNING DEPARTMENT

Subject to: (Select only if applicable)

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☐ Jobs Housing Linkage Program (Sec. 413)
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☐ Other

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

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Planning Commission Motion No. 19053

HEARING DATE: DECEMBER 19, 2013

Date:	December 12, 2013
Case No.:	**2008.1122P**
Project Name:	**San Francisco Groundwater Supply Project**
Zoning:	P (Public) Zoning District OS (Open Space) Height and Bulk District
Block/Lot:	7283/004 and 1700/001
Project Sponsor:	San Francisco Public Utilities Commission c/o Jeffrey Gilman 525 Golden Gate Ave. 10th Floor San Francisco, CA 94102
Staff Contact:	Michael Smith, (415) 558-6322 michael.e.smith@sfgov.org

ADOPTING FINDINGS RELATING TO THE APPROVAL OF A COASTAL ZONE PERMIT APPLICATION PURSUANT TO PLANNING CODE SECTION 330 TO ALLOW CONSTRUCTION OF THREE GROUNDWATER WELL FACILITIES AND ASSOCIATED PIPELINES IN THE CITY'S COASTAL ZONE. THE LAKE MERCED WELL FACILITY WOULD BE LOCATED NORTHWEST OF THE INTERSECTION BETWEEN LAKE MERCED BOULEVARD AND BROTHERHOOD WAY, ADJACENT TO THE EXISTING LAKE MERCED PUMP STATION, OWNED AND OPERATED BY THE SAN FRANCISCO PUBLIC UTILITES COMMISION. TWO WELL FACILITIES WOULD BE LOCATED IN WESTERN GOLDEN GATE PARK. THE SOUTH WINDMILL REPLACEMENT WELL FACILITY WOULD BE LOCATED NORTH OF MARTIN LUTHER KING JR. DRIVE AND EAST OF THE MURPHY WINDMILL AND MILLWRIGHT'S COTTAGE. THE NORTH LAKE WELL FACILITY WOULD BE LOCATED SOUTH OF FULTON STREET AND ADJACENT TO CHAIN OF LAKES DRIVE. BOTH OF THE PROPOSED WELLS IN GOLDEN GATE PARK WOULD BE REPLACEMENT OF EXISTING IRRIGATION WELLS OPERATED BY THE SAN FRANCISCO RECREATION AND PARKS DEPARTMENT WITH MUNICIPAL WATER WELLS. THE PROJECT AREA IS WITHIN THE P (PUBLIC) ZONING DISTRICT AND THE OPEN SPACE HEIGHT AND BULK DISTRICT.

PREAMBLE

On August 22, 2013, Jeffrey Gilman of the San Francisco Public Utilities Commission (hereinafter "Project Sponsor" or "SFPUC") filed an application with the Planning Department (hereinafter "Department") for a Coastal Zone Permit under Planning Code Section 330 to allow construction of the San Francisco Groundwater Supply Project ("Project"). The San Francisco Groundwater Project consists of a total of six groundwater well facilities and approximately five miles of pipelines in the western portion of San Francisco that would produce a total of four millions gallon per day of groundwater to augment the City's water supply. Three of the six groundwater well facilities and associated pipelines are located in the City's Coastal Zone, one at Lake Merced, adjacent to the existing SFPUC Lake Merced Pump Station, and two in western Golden Gate Park, at South Windmill and North Lake.

On November 19, 2013, the Department mailed a letter to the California Coastal Commission (CCC) to inform the CCC that an application for a Local Coastal Zone Permit had been filed. The letter disclosed to the CCC that the Project is appealable to the CCC.

On December 19, 2013, the Planning Commission (hereinafter "Commission") conducted a public hearing on the Final Environmental Impact Report (EIR) for the Project. The EIR tiers from the SFPUC's Water Supply Improvement Program Programmatic Environmental Impact Report, certified in 2008. The Commission reviewed and considered the EIR and found the contents of said report and the procedures through which the EIR was prepared, publicized and reviewed complied with the California Quality Environmental Quality Act (Public Resources Code section 21000 *et seq.*) ("CEQA"), the CEQA Guidelines (14 Cal. Code Reg. section 15000 *et seq.*), and Chapter 31 of the San Francisco Administrative Code.

On December 19, 2013, the Commission certified the Final EIR by Motion No. 19053. Additionally, the Commission adopted project approval findings under CEQA, including findings rejecting alternatives, adopting a mitigation monitoring and reporting program and making a statement of overriding considerations (due to the project's contribution to growth-inducing impacts as part of the SFPUC's Water Supply Improvement Program). These findings, including the MMRP, are incorporated by this reference as though fully set forth herein.

On December 19, 2013, the Commission conducted a duly noticed public hearing at a regularly scheduled meeting to consider the Coastal Zone Permit, Case No. 2008.1122P. The Commission heard and considered public testimony presented at the hearing and has further considered written and oral testimony provided by Department staff and other interested parties.

On December 19, 2013, the Commission approved the Coastal Zone Permit requested in the application under Case No. 2008.1122P based to the findings below.

FINDINGS

Having reviewed the materials identified in the preamble above, and having heard all testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The above recitals are accurate and constitute findings of this Commission.

2. **Site Description and Present Use.** The project sites are located at Lake Merced and the west end of Golden Gate Park, Assessor's Block/Lot 7283/004 and 1700/001, both parcels are within the P (Public) Zoning District and the Open Space Height and Bulk District. The Lake Merced well facility is located northwest of the intersection between Lake Merced Boulevard and Brotherhood Way, adjacent to the existing Lake Merced Pump Station. The South Windmill Replacement well facility is a replacement of an existing well pump station that is located in the western part of Golden Gate Park, north of Martin Luther King Jr. Drive and east of the Murphy Windmill and Millwright's Cottage. The North Lake well facility is also a replacement of an existing well pump station located in the western part of Golden Gate Park, south of Fulton Street and adjacent to Chain of Lakes Drive East. The Lake Merced well facility site is currently an undeveloped area adjacent to the access road and entrance to SFPUC's Lake Merced Pump Station. The South Windmill Replacement well site is in the western end of Golden Gate Park and is currently occupied by an existing irrigation well pump station, while the surrounding area is used by the San Francisco Recreation and Parks Department (SFRPD) to store logs and contains stockpiles of soil, concrete blocks and other debris. The North Lake well site, also in western Golden Gate Park, is currently occupied by an existing irrigation well pump station. The site is surrounded by trees and bounded by Fulton Street to the north and Chain of Lakes Drive to the south.

3. **Surrounding Properties and Neighborhood.** The closest neighborhood to the Lake Merced well site is Lake Shore. High-density residential uses at the Parkmerced housing development are located east of the site and the Tournament Players Cup (TCP) Harding Park is to the north. The San Francisco Golf Club and Impound Lake are to the south. For the South Windmill site, the closest neighborhood is the Outer Sunset to the south, across Lincoln Way. The Beach Chalet Soccer Fields are north of the site, and the Great Highway and Ocean Beach are to the west. The neighborhood closest to the North Lake well site is the Outer Richmond to the north, across Fulton Street. The site is bounded by park lands on the other three sides, including North Lake to the south.

4. **Project Description.** The SFPUC is proposing the San Francisco Groundwater Supply Project. The proposed project would provide an average of up to 4 million gallons per day (mgd) of groundwater to augment San Francisco's municipal water supply. All of the proposed groundwater well facilities would supply groundwater to existing reservoirs, where it would be blended with San Francisco's existing municipal water supply before distribution within the city. All project components would be located on the west side of San Francisco on land owned by the City and County of San Francisco (CCSF). The Groundwater Supply Project includes the following components:

    - Construction of six groundwater production well facilities, including: (1) the construction of four new groundwater well facilities; and (2) the conversion of two existing irrigation well facilities in Golden Gate Park to potable groundwater well facilities, if the SFPUC's Westside Recycled Water Project is also approved and constructed. Each of these facilities would include a groundwater well and a pump station.

    - Construction of a distribution system (including pipelines and connection points) to connect five of the groundwater well facilities to Sunset Reservoir. The sixth well would connect to the Lake Merced Pump Station (which pumps water to both Sutro and Sunset Reservoirs) and would require a short length of new distribution piping.

- Construction of a pH-adjustment facility at Sunset Reservoir within an existing reservoir building and a chlorine analyzer at the reservoir.

Three of the six well facilities and their associated pipelines would be located in the City's Coastal Zone: the Lake Merced well facility, the South Windmill Replacement well facility, and the North Lake well facility. The Lake Merced well facility would be sited northwest of the intersection between Lake Merced Boulevard and Brotherhood Way, adjacent to the existing SFPUC Lake Merced Pump Station. The South Windmill Replacement well facility would be a replacement of an existing well pump station that is located in the western part of Golden Gate Park, north of Martin Luther King Jr. Drive and east of the Murphy Windmill and Millwright's Cottage. The North Lake well facility is also a replacement of an existing well pump station located in the western part of Golden Gate Park, south of Fulton Street and adjacent to Chain of Lakes Drive East.

5. **Coastal Zone.** Pursuant to Planning Code Section 330, review of a Coastal Zone Permit Application is required as the project site is within the Local Coastal Zone Boundary per City Zoning Map Sheet CZ05 and CZ13. The Local Coastal Zone boundary within Golden Gate Park starts at Fulton Street and 40th Avenue, curves eastwardly from the Chain of Lakes Drive and ends at Lincoln Way and 41st Avenue. The Local Coastal Zone boundary at Lake Merced south of TCP Harding Park extends east of Lake Merced Boulevard and down to the border with Daly City. The project is appealable to the Coastal Commission because it is considered a major public works project.

6. **Public Comment**. The Department has received no comments to date regarding the Coastal Zone Permit application.

7. **Planning Code Compliance:** The Commission finds that the Project is consistent with the relevant provisions of the Planning Code in the following manner:

   A. **Land Use.** Structures and uses of governmental agencies not subject to regulation by the Planning Code and public structures and uses of the City and County of San Francisco, and of other governmental agencies that are subject to regulation by this Code are principally permitted within the P (Public) District.

   The installation of the proposed groundwater well facilities and associated pipelines that are operated by the San Francisco Public Utilities Commission are public facilities that are principally permitted within the P District.

   B. **Coastal Zone Permit Findings.** Planning Code Section 330.5.2 states that the Planning Commission in reviewing a Coastal Zone Permit application shall adopt factual findings that the project is consistent or not consistent with the Local Coastal Program and that a Coastal Zone Permit shall be approved only upon findings of fact establishing that the Project conforms to the requirements and objectives of the San Francisco Local Coastal Program.

The requirements and objectives of the San Francisco Local Coastal Program are established in the Western Shoreline Plan of the General Plan with specific objectives and policies related to Golden Gate Park and Lake Merced.

8. **Coastal Plan Compliance.** The Project is consistent with the following Objectives and Policies in the Western Shoreline Area Plan:

WESTERN SHORELINE AREA PLAN – GOLDEN GATE PARK
Objectives and Policies

OBJECTIVE 3:
ENHANCE THE RECREATIONAL CONNECTION BETWEEN GOLDEN GATE PARK AND THE BEACH FRONTAGE

Policy 3.1:
Strengthen the visual and physical connection between the park and beach. Emphasize the naturalistic landscape qualities of the western end of the park for visitor use. When possible eliminate the Richmond-Sunset sewer treatment facilities.

Policy 3.2:
Continue to implement a long-term reforestation program at the western portion of the park.

The proposed well facilities within Golden Gate Park would replace SFRPD's existing irrigation wells at South Windmill and North Lake and as such they do not represent a new use of Golden Gate Park. Because the proposed replacement wells would occupy roughly the same footprint as the existing irrigation wells, the naturalistic landscape qualities around the project sites would remain intact. The SFPUC proposes to remove two Monterey cypress trees at the North Lake well facility site. Tree removal would be conducted outside of the nesting season to the extent feasible. If trees need to be removed during the nesting season, a preconstruction survey would be conducted. If active nests were discovered then tree removal would be delayed until juveniles have fledged. The two trees that would be removed would also be replaced at a ratio of one-to-one or greater. The proposed tree replacement is consistent with emphasizing the natural landscape qualities of the Park and also the need for continued reforestation of the Park's aging tree population.

The South Windmill Replacement well facility site is within the site of the former Richmond-Sunset sewer treatment plant, which was largely removed in 1996. Few remnants of the treatment plant facilities are still on site; however, because the proposed well would occupy approximately the same footprint as the existing irrigation well, it would not preclude the further cleanup and removal of the Richmond-Sunset sewer treatment facilities. Because the proposed development would preserve the naturalistic qualities of the western end of the park and would contribute to the reforestation program at the western portion of the park, the proposed project is therefore consistent with policies 3.1 and 3.2 of the Western Shoreline Area Plan.

WESTERN SHORELINE AREA PLAN – LAKE MERCED

Objectives and Policies

OBJECTIVE 5:
PRESERVE THE RECREATIONAL AND NATURAL HABITAT OF LAKE MERCED.

Policy 5.1
Preserve in a safe, attractive, and usable condition the recreation facilities, passive activities, playgrounds and vistas of Lake Merced area for the enjoyment of citizens and visitors to the city.

Policy 5.3
Allow only those activities in Lake Merced area which will not threaten the quality of the water as a standby reservoir for emergency use.

The proposed Lake Merced well facility would not adversely affect the vistas of Lake Merced because the facility would have minimal visibility from the public road, Lake Merced Boulevard or the sidewalk. The project includes the installation of a bench below the sidewalk that would provide an overlook onto the lake. At the site of the proposed overlook, the well facility would be visible; however the viewer's view shed at that location would be directed to the larger vista of the lake. Also, because the facility would include a green roof, it would provide visual continuity with the trees surrounding the lake. However, the proposed project as a whole could have a significant impact on the visual resources of Lake Merced due to the combined pumping from all six groundwater wells. Modeling conducted for the project predicts that East Lake would be nearly dried up and Impound Lake would be completely dry at the end of a prolonged drought, which would reduce the visual quality of the lake as seen from the paved path around the lake perimeter and the picnic areas on John Muir Drive and Lake Merced Boulevard. While the water level in Lake Merced would be reduced naturally during a drought, the proposed project's pumping would exacerbate such conditions, and the visual character and quality of Lake Merced area would therefore be degraded substantially. As such, ***Mitigation Measure M-HY-9, Lake Level Management for Lake Merced*** *in the EIR requires the SFPUC to implement lake level management procedures to maintain Lake Merced at water levels similar to conditions that would occur without the project. These corrective actions include the additions of supplemental water and/or alteration of pumping patterns, as necessary. Therefore, with implementation of Mitigation Measure M-HY-9, Lake Merced would be maintained at conditions similar to those that are predicted to occur without project-related pumping. As a result, aesthetic resources at Lake Merced would be preserved.*

The proposed Lake Merced well facility would also not adversely affect Lake Merced's recreational resources because it would be located in an area that does not provide any recreational use (adjacent to the access road to Lake Merced Pump Station) and it would not affect access to any public trails or docks. However, combined groundwater pumping from all six project wells could lower water levels at Lake Merced in a manner that would result in signification impacts to recreational resources. Groundwater modeling for the project shows that the lowest modeled lake level with operation of the project, predicted to occur near the end of the design drought, is approximately -10-feet City Datum, which would be below the bottom of Impound Lake and near the bottom of East Lake. The lake is a recreational resource used for boating/paddling and fishing, including fishing from floating and stationary docks. Reduced water levels would reduce the lake acreage available for boating and fishing. Should water levels be reduced

substantially, stationary docks would not provide access to the lowered water surface, and Impound Lake and East Lake, which are smaller/shallower lakes than North Lake and South Lake, could dry up altogether. Under such conditions, the proposed project would result in a substantial degradation of this recreational resource, as compared to modeled existing conditions. To prevent such impacts, ***Mitigation Measure M-HY-9, Lake Level Management for Lake Merced*** *requires the SFPUC to implement lake level management procedures to maintain Lake Merced at water levels similar to conditions that are predicted to occur without the project. These corrective actions include the additions of supplemental water and/or alteration of pumping patterns, as necessary. Therefore, with implementation of Mitigation Measure M-HY-9, Lake Merced, as a recreational resource, would be maintained.*

Because the proposed project would preserve the recreational facilities and scenic vistas of Lake Merced, it would be consistent with Policy 5.1 of the Western Shoreline Area Plan.

With respect to Lake Merced water quality, the proposed project would implement appropriate water quality best management practices as required by the City's Green Building Ordinance as well as Mitigation Measure M-HY-1, Implement Groundwater Dewatering BMPs at Lake Merced Well Facility during construction to prevent erosion and sedimentation that would degrade the water quality of the lake. Accordingly, the SFPUC will implement an Erosion Control Plan as required by the San Francisco Green Building Ordinance which would include BMPs to address housekeeping (storage of construction materials, waste management, vehicle storage and maintenance, landscape materials, and pollutant control); non-stormwater management; erosion control; sediment control; and run-on and runoff control from the project site. Furthermore, Mitigation Measure M-HY-1, Implement Groundwater Dewatering BMPs at Lake Merced Well Facility, specifies that if groundwater produced during construction of the Lake Merced facility is not discharged to the sewer system, the SFPUC shall develop and implement standard BMPs for the treatment of sediment-laden water produced during groundwater dewatering. BMPs could include discharging water through filtration media, such as filter bags or a similar filtration device, or allowing the filtered water to infiltrate into the soil. The discharge of groundwater shall also be conducted at a rate that does not allow ponding and no chemicals shall be added to the discharged groundwater. Alternatively, rather than discharging groundwater, filtered groundwater could be used to spray disturbed areas and the soil stockpile to reduce fugitive dust emissions, if there is sufficient water and it is determined feasible by the construction contractor. With the implementation of the Erosion Control Plan and Mitigation Measure M-HY-1, construction of the Lake Merced well facility would not threaten the water quality of the lake.

As discussed above, the combined groundwater pumping from the overall project could lower water levels in Lake Merced, which could result in significant impacts to the lake's water quality. Modeling shows that Lake Merced water levels are predicted to be lowered to below 1 foot City Datum for 73 to 76 percent of the simulation period due to project-related pumping, compared to 4 percent predicted under the modeled existing conditions. If water levels were reduced to this extent, more of the lake bed would be exposed; making it susceptible to erosion and associated sedimentation of the lake, and the four individual lakes would separate hydraulically. Further, Impound Lake could be entirely dewatered if lake levels were to drop below -6 feet City Datum. This scenario could occur briefly at the end of the hypothetical design drought, and lake levels are also predicted to approach or exceed this level during the dry years 4 through 16 in the simulated period. Groundwater inflows to the lake are also predicted to be reduced relative to the modeled existing conditions. Reduced water levels and groundwater flows into the lake could increase

eutrophication because nutrients discharged to the lake would be concentrated in a smaller lake volume. Also, with a smaller volume, the lake would likely mix more frequently, and, as a result (based on the patterns described above), would likely experience an increase in time-averaged dissolved oxygen levels in the hypolimnion. Because the project is predicted to cause Lake Merced water levels to fall below 0 feet City Datum substantially more frequently than is predicted to occur under modeled existing conditions, the resulting water quality changes under the project could cause exceedences of water quality objectives in the San Francisco Bay Basin Plan related to warm and cold freshwater habitat (e.g., dissolved oxygen), which in turn could affect associated beneficial uses. Changes in dissolved oxygen levels and pH could also exacerbate the conditions responsible for Lake Merced's listing as an impaired water body. These changes affecting water quality would be a potentially significant impact.

To address these potential effects on water quality, the SFPUC will implement Mitigation Measure M-HY-9, Lake Level Management for Lake Merced, which requires the SFPUC to implement lake level management procedures to maintain Lake Merced at water levels similar to conditions that are predicted to occur without the project. Specifically, the measure requires the SFPUC to implement the proposed project in a stepwise manner, starting at 1 mgd, to monitor for adverse effects before pumping at the full operational rate and to use lake-level management procedures to maintain Lake Merced at a specified water level. By starting groundwater production at the reduced rate, any adverse effects on Lake Merced water levels would be minimized while sufficient monitoring data are collected to assess the potential effects of project-related pumping on lake levels. Mitigation Measure M-HY-9 also incorporates trigger levels to avoid impacts on wetlands as well as water quality as a result of a project-related decline in lake levels. The trigger levels specified in the mitigation measure depend on what the naturally occurring lake level would be without the effects from project-related pumping and the corresponding allowable range in lake levels necessary to avoid impacts on both water quality and wetlands. At most naturally occurring lake levels above 0 feet City Datum, there would be some allowable decline in lake levels as a result of project-related pumping, but no allowable decline at a naturally occurring lake level of 0 feet City Datum or less.

In accordance with Mitigation Measure M-HY-9, corrective action is required if project-related lake levels decline below trigger levels. The corrective actions to be implemented in accordance with the mitigation measure would include adding supplemental water (either SFPUC system water, treated stormwater, or recycled water), if available, and/or altering or redistributing pumping patterns. Implementation of this measure would ensure that any lake-level decline resulting from the project would be temporary, lasting only until corrective actions could be implemented. With the addition of supplemental water and/or the alteration or redistribution of pumping patterns as needed, the project would not result in long-term degradation of water quality at Lake Merced.

The SFPUC has estimated that it could require up to approximately 190 acre-feet per year (afy) of water to maintain Lake Merced water levels under the project in accordance with Mitigation Measure M-HY-9 and evaluated the feasibility of providing potential supplemental water sources to supplement lake levels. The SFPUC could proceed with lake augmentation and management with stormwater diversions or could provide up to 1,000 afy of recycled water during the low-irrigation season (roughly November to April). Surface water from SFPUC's regional water system may also be available when the demand on the system is less than 265 mgd, although the amount of water available would depend on the demand by wholesale and retail customers, and the total deliveries by the SFPUC would not exceed an annual average of 265

mgd. If these supplemental water sources were not available or sufficient to maintain Lake Merced water levels, the SFPUC would alter pumping patterns in place of providing a supplemental water source to maintain lake levels. This is achievable because the design capacity for each of the project wells ranges from 0.18 to 0.79 mgd over the planned pumping rate under the project which provides the flexibility to shift some of the pumping from one well to another and still maintain the total desired production rate under the project, provided that other adverse effects do not occur as a result of redistributing the pumping.

With implementation of these mitigation measures, the proposed project would not threaten Lake Merced water quality, and as such, the proposed project would consistent with Policy 5.3 of the Western Shoreline Area Plan.

9. The San Francisco Groundwater Supply Project is consistent with Planning Code Section 101.1(b) Priority Policies as follows:

   A. That existing neighborhood-serving retail uses be preserved and enhanced and future opportunities for resident employment in and ownership of such businesses enhanced.
   The Project would have no adverse effect on neighborhood serving retail uses or opportunities for employment in or ownership of such businesses. The proposed project would diversify and increase the reliability of San Francisco's water supply. A reliable water supply is essential for the preservation and enhancement of the neighborhood-serving uses.

   B. That existing housing and neighborhood character be conserved and protected in order to preserve the cultural and economic diversity of our neighborhood.
   The Project would have no adverse effect on the City's housing stock or on neighborhood character. The Lake Merced, Central Pump Station, South Windmill Replacement, and North Lake well facilities are not located in any residential or commercial neighborhoods, but are rather located at Lake Merced and within Golden Gate Park and would not affect housing or neighborhood character. As for the proposed well facilities at South Sunset and West Sunset playgrounds, the proposed designs would be compatible with the surrounding playground facility buildings in both scale and design, and would not affect the overall neighborhood character. The proposed project facilities at these sites have received approval from the Civic Design Review Committee of the San Francisco Arts Commission.

   C. That the City's supply of affordable housing be preserved and enhanced.
   The Project would preserve the City's supply of affordable housing by diversifying and increasing the reliability of the City's water supply.

   D. That commuter traffic not impede MUNI transit service or overburden our streets or neighborhood parking.
   The Project would not result in commuter traffic impeding MUNI's transit service, overburdening the streets or altering current neighborhood parking. The proposed project would construct up to six well stations in the western half of San Francisco. Each well station would require one daily visit by an SFPUC staff person for maintenance purposes. As such, commuter traffic would not increase notably that would impede MUNI services or the streets.

E. That a diverse economic base be maintained by protecting our industrial and service sectors from displacement due to commercial office development, and that future opportunities for residential employment and ownership in these sectors be enhanced.
The Project would not affect the existing economic base in this area. The proposed project would protect the diversity of retail and service uses already existing in the City by diversifying and increasing the reliability of the water supply.

F. That the City achieve the greatest possible preparedness to protect against injury and loss of life in an earthquake.
The proposed project would diversify and increase the reliability of San Francisco's water supply, which would improve the City's preparedness for an earthquake. The proposed project well stations would also serve as an emergency potable water supply after an earthquake. Moreover, the proposed project well stations would be designed and constructed to comply with applicable San Francisco Municipal Code standards to ensure public safety in the event of an earthquake.

G. That landmarks and historic buildings be preserved.
The proposed project would not affect designated landmarks or buildings. Golden Gate Park is a registered Historic District; however, the proposed project would not affect any landmarks or historic buildings within Golden Gate Park, or affect any contributors to the historic district. The project would construct a total of three well stations inside Golden Gate Park. One of the wells would be located next to the Central Pump Station, which is not a historic landmark or building, and the adjacent yard area is currently used as a wood waste storage and composting facility. The other two well facilities in Golden Gate Park would replace two existing well stations, neither of which are historic buildings as they were constructed in early 2000s.

H. That our parks and open space and their access to sunlight and vistas be protected from development.
The proposed project has been designed in coordination with the SFRPD. New well stations would be constructed at South Sunset and West Sunset playgrounds. Three wells stations would be constructed in Golden Gate Park, one new well located next to the Central Pump Station, and two wells that would renovate the existing wells at South Windmill Replacement and North Lake irrigation wells. The proposed well facilities would not be located on active play fields at South Sunset or West Sunset playgrounds, or in high visitor use areas in Golden Gate Park. The proposed project facility at the South Sunset Playground would include a room devoted exclusively to SFRPD storage for use in connection with the existing recreation uses. As the West Sunset Playground site, an area devoted to soils storage for use on the adjacent fields is proposed for use by the SFRPD.

Siting a well facility in the undeveloped forested area at the Central Pump Station well facility site would not substantially reduce Golden Gate Park recreation use areas, as this site is not highly used for recreation, and is adjacent to an existing, active irrigation pumping station and wood waste storage area. The site would include an approximately 798 square foot building with a resin-paved driveway and parking for worker site visits and maintenance. Therefore, the various recreational opportunities within the park would remain available during project construction activities and operations and would not be affected by completion of the proposed project.

The proposed Golden Gate Park wells would provide a backup irrigation supply and ornamental lake supply for Golden Gate Park, which would contribute to the upkeep of existing recreation areas in the park. For the reasons stated above, the proposed project would not affect public parks and open spaces operated and maintained by the SFRPD.

The proposed project would not affect the parks' access to vistas and sunlight. The Urban Design Element of the General Plan does not identify any scenic vistas near any of the proposed well facilities to be located within Golden Gate Park or on the Sunset District playgrounds.

The well facilities at West Sunset and South Sunset playgrounds would be located in out of the way spots and would not affect the vistas either from within or outside the playgrounds. The well buildings would be approximately 15 feet tall at those locations and would not block access to sunlight.

Within Golden Gate Park, the proposed project would not affect any significant vistas. The new well next to the Central Pump Station would be located in a wooded area. The well facility at North Lake would be immediately south of Fulton Street, and in another wooded area. The proposed project would demolish the current well building at North Lake and replace it with another similar utilitarian structure. The South Windmill Replacement well facility would also be a renovation of an existing well facility. The South Windmill Replacement site is in the western end of the Park and is in an area that is currently used to store logs, and contains stockpiles of soil, concrete blocks and other debris, and therefore does not represent a scenic vista. Because two of the wells in Golden Gate Park would be replacement wells, no new shade would be created. The well station at Central Pump Station would be in an existing wooded, shady area, and therefore, would also not create additional shade.

10. The Commission hereby finds that approval of the Coastal Permit would promote the health, safety and welfare of the City.

DECISION

That based upon the Record, the submissions by the Applicant, the staff of the Department and other interested parties, the oral testimony presented to this Commission at the public hearings, and all other written materials submitted by all parties, the Commission hereby **APPROVES Coastal Zone Permit Application No. 2008.1122P** in general conformance with plans on file and stamped "EXHIBIT B", which is incorporated herein by reference as though fully set forth**.**

APPEAL: Pursuant to Planning Code Sections 308.2 and 330.9, any aggrieved person may appeal this Coastal Zone Permit to the Board of Appeals within ten (10) days after the date of this motion. For further information, please contact the Board of Appeals in person at 1650 Mission Street, 3rd Floor (Room 304) or call 575-6880.

I hereby certify that the Planning Commission ADOPTED the foregoing Motion on December 19, 2013.

Jonas P. Ionin
Commission Secretary

AYES: Commissioners Hillis, Borden, Sugaya, Antonini, Moore, and Wu

NAYES: None

ABSENT: Commissioner Fong

ADOPTED: December 19, 2013

EXHIBIT A

SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
CULTURAL RESOURCES						
CP-2a	The proposed project would potentially cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5	**M-CP-2a: Accidental Discovery of Archeological Resources.** The following measures shall be implemented should construction activities result in the accidental discovery of a cultural resource: Construction activities will immediately be suspended within 50 feet of the find if there is any indication of a potential archeological resource. To avoid the potential for adverse effects on accidentally discovered buried or submerged historical resources, as defined in CEQA Guidelines Section 15064.5(a), the SFPUC shall distribute the Planning Department's archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor firms (including demolition, excavation, grading, foundation, pile driving, etc.); and/or to utilities firms involved in soil-disturbing activities within the project site. Prior to undertaking any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) confirming that all field personnel have received copies of the ALERT sheet. If the ERO determines that an archeological resource may be present within the project site, the SFPUC shall retain the services of an archeological consultant from the pool of qualified archeological consultants maintained by the Planning Department archeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource that retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource and make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require specific additional measures to be implemented by the SFPUC. Measures could include: in-situ preservation of the archeological resource; an archeological monitoring program; or an archeological evaluation program. The ERO might also require that the SFPUC immediately implement a site security program if an archeological resource is at risk from vandalism, looting, or other damaging actions. If an archeological resource is discovered, the archeological consultant shall submit an Archeological Data Recovery Report (ADRR) to the ERO which, in addition to the usual ADRR contents, will evaluate the historical significance of any discovered archeological resource, as well as describe the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken, and present, analyze, and interpret the recovered data. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the ADRR shall be distributed as follows: the relevant California Historical Resources Information System Information Center shall receive one copy, and the ERO shall receive a copy of the transmittal letter of the ADRR to the Information Center. The San Francisco Planning Department, Environmental Planning section shall receive three copies of the ADRR along with copies of any formal site recordation forms (DPR 523 series) and/or documentation for nomination to the National Register /California Register. The SFPUC shall receive copies of the ADRR in the number requested. In instances of high public interest in or high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM (Archeologist) 4. SFPUC CMB/BEM (Archeologist)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM and ERO	1. Ensure that the contract documents include measures related to archeological discoveries. 2. Ensure that all project personnel receive "Alert" sheet. Maintain file of affidavits for submittal to ERO. Monitor to ensure that the contractor implements measures in the contract documents, report noncompliance, and ensure corrective action. 3. Ensure that all potential discoveries are reported as required and that the contractor suspends work in the vicinity. Mobilize an archeologist to the area if the ERO determines that an archeological resource may be present. 4. In the event of a potential discovery, evaluate the potential discovery and advise ERO as to the significance of the discovery. Proceed with recommendations, evaluations, and implementation of additional measures in consultation with ERO. Prepare and distribute Final ADRR as required.	1. Design 2. Preconstruction and Construction 3. Construction 4. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting			
			Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
CULTURAL RESOURCES (cont.)						
CP-2b	Construction of the proposed Lake Merced well facility would potentially cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5.	**M-CP-2b:** Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried historical resources. The project sponsor shall retain the services of a qualified archeological consultant, based on standards developed by the Planning Department archeologist. 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 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 ERO, 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 Sect. 15064.5 (a)(c). ***Consultation with Descendant Communities.*** On discovery of an archeological site associated with descendant Native Americans or the Overseas Chinese, an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO 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. ***Archeological Testing Program.*** The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP 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. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO 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. If the ERO 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 ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.	1. SFPUC BEM (Archeologist) 2. SFPUC BEM (Archeologist) 3. SFPUC BEM (Archeologist) 4. SFPUC CMB/BEM 5. SFPUC BEM (Archeologist)	1. SFPUC BEM / ERO 2. SFPUC BEM/ERO 3. SFPUC BEM/ERO 4. SFPUC BEM/ERO 5. SFPUC BEM/ERO	1. Prepare and implement an Archeological Testing Plan in conjunction with SFPUC/ERO. Prepare written report of findings. 2. If significant archeological resources are present, prepare Archeological Data Recovery Plan and implement data recovery investigation and/or other treatment including consultation with descendant communities. 3. As determined by Archeological consultant in consultation with SFPUC/ERO, prepare and implement an Archeological Monitoring Program. Document activities in monitoring logs. 4. Monitor to ensure that contractor implements applicable measures in contract documents. Report noncompliance, and ensure corrective action. 5. Prepare Final Archeological Resources Report (FARR) to document historical significance of any discovered archeological resource.	1. Preconstruction/ Construction 2. Preconstruction/ Construction 3. Construction 4. Construction 5. Post-construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program: Implementation and Reporting – Responsible Party	Implementation and Reporting – Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
CULTURAL RESOURCES (cont.)						
CP-2b (cont.)		*Archeological Monitoring Program.* If the ERO in consultation with the archeological consultant determines that an archeological monitoring program (AMP) shall be implemented, the archeological monitoring program shall minimally include the following provisions: • The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils-disturbing activities commencing. The ERO 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 archeological consultant and the ERO until the ERO 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 activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO 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. 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. *Archeological Data Recovery Program.* The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP 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. The scope of the ADRP shall include the following elements: • *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations.				

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program: Implementation and Reporting – Responsible Party	Monitoring and Reporting Program: Implementation and Reporting – Reviewing and Approval Party	Monitoring and Reporting Program: Monitoring and Reporting Actions	Monitoring and Reporting Program: Implementation Schedule
CULTURAL RESOURCES (cont.)						
CP-2b (cont.)		• *Cataloguing and Laboratory Analysis.* Description of selected cataloguing system and artifact analysis procedures. • *Discard and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies. • *Interpretive Program.* Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. • *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • *Final Report.* Description of proposed report format and distribution of results. • *Curation.* 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. ***Final Archeological Resources Report.*** The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) 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/monitoring/data 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. • Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) 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.				
CP-4	The proposed project would potentially disturb human remains, including those interred outside of formal cemeteries.	**M-CP-4: Accidental Discovery of Human Remains.** The following measures shall be implemented should construction activities result in the accidental discovery of human remains and associated cultural materials: The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activities shall comply with applicable state laws. This shall include immediate notification of the coroner of the county within which the project is located and, in the event of the coroner's determination that the human remains are Native American, notification of the California Native American Heritage Commission, which shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). The archeological consultant, SFPUC, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 24 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the SFPUC shall follow Section 5097.98(b) of the PRC, which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."	1. SFPUC EMB 2. SFPUC CMB/BEM (Archeologist) 3. SFPUC CMB/BEM)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM and ERO	1. Ensure that Contract Documents include measures related to discovery of human remains. 2. If potential human remains are encountered, mobilize an archeologist to confirm existence of human remains. If human remains are confirmed, perform required coordination and notifications. 3. Monitor to ensure that the contractor implements measures in contract documents including insuring that all potential human remains are reported as required and that contractor suspends work in the vicinity. Report noncompliance and ensure corrective action.	1. Design 2. Construction 3. Construction

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program: Implementation and Reporting – Responsible Party	Monitoring and Reporting Program: Implementation and Reporting – Reviewing and Approval Party	Monitoring and Reporting Program: Monitoring and Reporting Actions	Monitoring and Reporting Program: Implementation Schedule
NOISE						
NO-1	The proposed project would result in the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance or result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	**M-NO-1: Administrative and Source Controls.** The SFPUC shall ensure that a noise control plan is prepared, reviewed, and approved by SFPUC, and is prepared and implemented by a qualified noise consultant, defined as a board-certified Institute of Noise Control Engineering member or other qualified consultant or engineer approved by the project engineer. The SFPUC shall verify that the noise control plan contains at least the following elements: • *Daytime:* Construction noise levels shall not exceed the San Francisco Noise Ordinance daytime threshold of 80 dBA at 100 feet (or 86 dBA at 50 feet) at all locations between 7 a.m. to 8 p.m. at all residential receptors (except where construction activities occur for two weeks or less at one location). The noise control plan shall identify sensitive receptor locations and include measures that could be employed to maintain noise levels at or below these performance standards, which could include, but not be limited, the following: • Implement best available noise control techniques such as mufflers, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds. • Limit continuous operation of heavy equipment near sensitive receptors. • Locate stationary noise sources (e.g., generators, fans, pumps) as far from sensitive receptors as possible and use noise controls (e.g., enclosures, barriers) as necessary. • The name and phone number of a SFPUC designated project liaison shall be posted at project facility construction sites so that the public can contact the liaison if noise disturbance occurs. This liaison shall immediately take steps to resolve any complaints received, including modifying construction practices as necessary to address the noise complaint.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC Communications 4. SFPUC CMB/BEM	1. SFPUC BEM 2 SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM	1. Incorporate appropriate language into contract documents including requirement for contractor(s) to prepare noise control plan. 2. Ensure that the noise control plan is prepared in accordance with the contract documents. 3. Designate project liaison responsible for responding to noise complaints. Ensure that liaison's name and phone number is included on posted notices. As necessary, develop a reporting program for tracking complaints received and for documenting their resolution. 4. Monitor to ensure that the contractor(s) implements noise control requirements, report noncompliance, and ensure corrective action within timelines specified in contract.	1. Design 2. Preconstruction 3. Preconstruction and Construction 4. Construction
UTILITIES AND SERVICE SYSTEMS						
UT-3	Project construction would potentially result in a substantial adverse effect related to disruption of utility operations or accidental damage to existing utilities.	**M-UT-3a: Preconstruction Utility Identification and Coordination.** Prior to construction activities, the SFPUC or its contractor(s) shall determine the locations of overhead and underground utility lines, such as natural gas, electricity, sewer, telephone, cable, fuel, water, and Muni lines, that may be encountered during construction work. Pursuant to State law, the SFPUC or its contractor(s) shall notify USA North so that utility companies may be advised of the work and may field-mark or otherwise protect and warn the contractor of their existing utility lines. Information regarding the location of existing utilities shall be reviewed before construction activities begin. Utilities may be located by customary techniques such as geophysical methods and hand excavation. The SFPUC or its contractor(s) shall notify all affected utility service providers in advance of the project construction plans and schedule. The SFPUC or its contractor(s) shall make arrangements with these entities regarding the protection, relocation, or temporary disconnection of services prior to the start of construction, and prompt reconnection of services, as required.	1.SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3b: Protection of Other Utilities during Construction. Specifications shall be prepared as part of the design plans. These specifications shall include procedures for the excavation, support, and fill of areas around subsurface utilities, cables, and pipes. If the project encounters overhead electric and/or telephone lines during pipeline construction, the SFPUC or its contractor(s) shall coordinate with SFMTA and appropriate telecommunication service providers to de-energize overhead electric lines as required by the federal and State Occupational Safety and Health Administration (OSHA) regulations.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Ensure that contract documents include applicable measures for protection of utilities during construction, including requirement for contractor to coordinate with affected utility owners and protect affected utilities, as appropriate. 2. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting			
			Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
UTILITIES AND SERVICE SYSTEMS (cont.)						
UT-3 (cont.)		**M-UT-3c: Safeguard Employees from Potential Accidents Related to Underground Utilities.** While any excavation is open, the SFPUC or its contractors shall protect, support, or remove underground utilities as necessary to safeguard employees. As part of contractor specifications, the contractor(s) shall be required to provide updates on excavations planned for the upcoming week and to specify when construction will occur near a high-priority utility. At the beginning of each week when this work will take place, per California OSHA, the contractor is required to hold safety tailgate meetings and to document contents of meeting. The SFPUC is not required to attend these contractor tailgate meetings, but may attend.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers and to provide SFPUC with advance schedule notification. 2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3d: Notify San Francisco Fire Department. If construction activities result in damage to high-priority utility lines the SFPUC or its contractor(s) shall immediately notify the San Francisco Fire Department to protect worker and public safety.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Ensure that contract documents include applicable measures, including requirement for contractor(s) to provide SFPUC with advance schedule notification. 2. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3e: Emergency Response Plan and Notification. The SFPUC or its contractor(s) shall develop an emergency response plan prior to commencing construction activities. The emergency response plan shall identify measures to be taken in response to a leak or explosion resulting from a utility rupture. In addition, the SFPUC or its contractor(s) shall notify the appropriate emergency response department whenever damage to any utility results in a threat to public safety.	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB 3. SFPUC CMB	1. Ensure that contract documents include applicable measures including requirement to prepare emergency response plan (ERP). 2. Ensure that contractor prepares the ERP. 3. Monitor to ensure that contractor(s) implements measures in contract documents and emergency response plan, and notifies local fire department in the event of damage to a gas utility line that results in a leak or suspected leak or damage to another utility line that could result in a threat to public safety. Report noncompliance, and ensure corrective action.	1. Design 2. Prior to commencing any excavation activities. 3. Construction
		M-UT-3f: Ensure Prompt Reconnection of Utilities. The SFPUC or its contractor(s) shall promptly notify utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting			
			Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
UTILITIES AND SERVICE SYSTEMS (cont.)						
UT-3 (cont.)		**M-UT-3g: Coordinate Final Construction Plans with Affected Utilities.** The SFPUC or its contractor(s) shall coordinate final construction plans and specifications with affected utilities.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
BIOLOGICAL RESOURCES						
BI-1	Construction of the proposed project would potentially adversely affect species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	**M-BI-1a: Avoidance and Minimization Measures for California Red-Legged Frog and Western Pond Turtle.** During construction at the Lake Merced, North Lake, and Central Pump Station well facility sites, the SFPUC shall ensure a biological monitor is present during installation of exclusion fencing and initial vegetation clearing and/or grading, and shall implement the following measures: • Within one week before work at these sites begins (including demolition and vegetation removal), a qualified biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, as deemed necessary by the biologist, to prevent California red-legged frogs, western pond turtles, and incidental, common wildlife from entering the work area. The construction contractor shall install suitable fencing with a minimum height of 3 feet above ground surface with an additional 4–6 inches of fence material buried such that species cannot crawl under the fence. • A qualified biologist shall conduct environmental awareness training for all construction workers prior to construction workers beginning their work efforts on the project. The training shall include information on species identification, avoidance measures to be implemented by the project, and the regulatory requirements and penalties for noncompliance. If necessary, the content shall vary according to specific construction areas (e.g., workers on city streets will receive training on nesting birds but not on California red-legged frog identification). • A qualified biologist shall survey the excluded area within 48 hours before the onset of initial ground-disturbing activities and shall be present during initial vegetation clearing and ground-disturbing activities. The biological monitor shall monitor the exclusion fencing weekly to confirm proper maintenance and inspect for frogs and turtles. If frogs or turtles are found, the SFPUC shall halt construction and contact the USFWS and/or CDFW for instructions on how to proceed. Construction shall resume after approval from the USFWS and/or CDFW. • During project activities, excavations deeper than 6 inches shall be covered overnight or an escape ramp of earth or a wooden plank at a 3:1 rise shall be installed; openings such as pipes where California red legged frogs or western pond turtles might seek refuge shall be covered when not in use; and all trash that may attract predators or hide California red-legged frogs or western pond turtles shall be properly contained on a daily basis, removed from the worksite, and disposed of regularly. Following construction, the construction contractor shall remove all trash and construction debris from work areas.	1. SFPUC EMB 2. SFPUC CMB/BEM (Biologist) 3 SFPUC CMB/BEM (Biologist) 4. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures for California red-legged frog, western pond turtles, and incidental, common wildlife, including requirement for exclusion fencings. 2. Develop worker training program and ensure that all construction personnel participate in the environmental training prior to beginning work at the job site(s). Require workers to sign the training program sign-in sheet. Maintain file of training sign-in sheets. 3. Obtain and review résumé or other documentation of consulting biologist's qualifications. Conduct preconstruction surveys, species relocation (if appropriate and approved by CDFW and/or USFWS), and monitoring, including weekly fence inspection. Document activities in monitoring logs. 4. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Preconstruction and Construction 4. Construction

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
BIOLOGICAL RESOURCES (cont.)						
		M-BI-1b: Avoidance and Minimization Measures for Special-Status Bats. A qualified wildlife biologist shall conduct preconstruction special-status bat surveys when large trees are to be removed, or when occasionally used or vacant buildings are to be demolished. If active day or night roosts are found, the wildlife biologist shall take actions to make such roosts unsuitable habitat prior to tree removal or building demolition. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would necessary.	1. SFPUC EMB 2. SFPUC CMB/BEM (Qualified Biologist) 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures. 2. Obtain and review resume or other documentation of consulting biologist's qualifications. Conduct pre-construction survey. If roosts are found, implement appropriate measures. Document activities in monitoring logs. 3. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Construction
		M-BI-1c: Avoidance and Minimization Measures for Monarch Butterfly. Construction activities in and around potential butterfly overwintering sites shall occur outside of the overwintering season (October to March), to the greatest extent feasible, to avoid potential impacts on monarch butterfly at the Golden Gate Park sites. However, when it is not feasible to avoid the overwintering season and construction activities take place during this time, the following measures shall apply: • Preconstruction surveys shall be conducted for overwintering monarch butterfly sites within 100 feet of the construction areas. • If an active overwintering site is located, work activities shall be delayed within 100 feet of the site location until avoidance measures have been implemented. Appropriate avoidance measures shall include the following measures (which may be modified as a result of consultation with the CDFW to provide equally effective measures): – If the qualified wildlife biologist determines that construction activities shall not affect an active overwintering site, activities may proceed without restriction. – A no-disturbance buffer may be established around the overwintering site to avoid disturbance or destruction until after the overwintering. – The extent of the no-disturbance buffers shall be determined by a qualified wildlife biologist in consultation with the CDFW.	1. SFPUC EMB 2. SFPUC CMB/BEM (Qualified Biologist) 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures. 2. Obtain and review resume or other documentation of consulting biologist's qualifications. Conduct pre-construction survey. If overwintering site is located, implement appropriate measures. Document activities in monitoring logs. 3. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Construction
BI-3	Construction of the proposed project would conflict with applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	**M-BI-3: Plant Replacement Trees.** The SFPUC shall replace the trees removed within SFRPD-managed lands with trees of equivalent ecological value (i.e., similar species) at a 1:1 ratio. If planting trees of equivalent ecological value at a 1:1 ratio is not feasible or such trees are not available, removed trees shall be replaced at a ratio of 1 inch for every 1 inch of the removed tree's diameter at breast height. If the project site does not have adequate room for replanting trees, the SFPUC shall coordinate with SFRPD to identify acceptable replanting locations in the vicinity of the project site. The SFPUC shall monitor tree replacement plantings annually for a minimum of three years after completion of construction to ensure the plantings have become established and, if necessary, shall replant to ensure the success of the replacement plantings.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM (Qualified Biologist or Arborist)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include tree replacement measures. 2. Ensure that the contractor implements tree replacement measures in accordance with SFRPD coordination. 3. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Post-Construction Monitoring (at least three years, depending on success)

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting			
			Responsible Party	Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
HYDROLOGY AND WATER QUALITY						
HY-1	Project construction would possibly violate water quality standards and waste discharge requirements or otherwise substantially degrade water quality.	**M-HY-1: Implement Groundwater Dewatering BMPs at Lake Merced Well Facility.** If groundwater produced during construction of the Lake Merced facility is not discharged to the sewer system, the SFPUC shall include a requirement in construction contracts that its construction contractor(s) develop and implement standard BMPs for the treatment of sediment-laden water produced during groundwater dewatering. BMPs could include discharging water through filtration media, such as filter bags or a similar filtration device, or allowing the filtered water to infiltrate into the soil. If infiltration is used, application of the groundwater shall be conducted at a rate and location that does not allow runoff into Lake Merced or drainage conveyances such as storm drains and does not cause flooding or runoff to adjacent properties. The discharge of groundwater shall also be conducted at a rate that does not allow ponding, unless the ponding is a result of implementing BMPs to reduce the velocity of the flow and occurs within constructed containment, such as an excavation or berm with no outlet. The discharge must also be applied at a sufficient distance from building foundations or other areas that could be damaged from ground settling or swelling. No chemicals shall be added to the discharged groundwater. Alternatively, rather than discharging groundwater, filtered groundwater could be used to spray disturbed areas and the soil stockpile to reduce fugitive dust emissions, if there is sufficient water and it is determined feasible by the construction contractor.	1.SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Incorporate appropriate language into contract documents including development of Dewatering Plan. 2. Review contractor's Dewatering Plan. 3. Monitor to ensure that the contractor implements measures in Dewatering Plan, report noncompliance, and ensure corrective action within timelines specified in contract.	1. Design 2. Preconstruction 3. Construction
HY-8	Project operations would possibly result in seawater intrusion due to decreased groundwater levels in the Westside Groundwater Basin.	**M-HY-8a: Expand Coastal Monitoring Network.** A minimum of one year prior to operating the South Windmill Replacement well, North Lake well, or Central Pump Station well facilities in Golden Gate Park, the SFPUC shall rehabilitate existing groundwater wells in the western portion of the park or install new groundwater monitoring wells between the Pacific Coast and the South Windmill Replacement well and North Lake well facilities. The SFPUC expects that existing wells NL-1 and SF-1, which are screened similarly to the North Lake irrigation well, can be rehabilitated, and wells SWM-3 and NWM-3 may also be able to be rehabilitated, if found. If the wells cannot be rehabilitated, the SFPUC shall coordinate with the SFRPD and install new wells in the same approximate location in areas of Golden Gate Park that are not highly used by the public and are currently developed/disturbed or are substantially devoid of vegetation in order to minimize the effects of installation. These monitoring wells shall be located a maximum of 100 feet inland to provide a coastal monitoring location in both the Shallow Aquifer and Primary Production Aquifer for the detection of seawater intrusion. These wells shall be included in the coastal groundwater monitoring network and monitored as part of the SFPUC's ongoing monitoring program for the detection of seawater intrusion. To establish a baseline of groundwater quality, these wells (which have not been previously monitored as part of the SFPUC's groundwater monitoring program) shall be monitored on a quarterly basis for a minimum of one year prior to operation of the South Windmill Replacement well, North Lake well, and Central Pump Station well facilities. For each monitoring event, a groundwater sample from each well shall be analyzed for the same parameters as are measured under the existing groundwater monitoring program (chloride, TDS, and specific conductance).	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise	1. Locate and rehabilitate existing monitoring wells. Ensure that new wells are installed if existing wells cannot be found or rehabilitated. 2. Monitor groundwater quality.	1. Design and construction 2. Construction, minimum of 1 year prior to operation of Golden Gate Park well(s).
		M-HY-8b: Continuous Groundwater Monitoring in the Primary Production Aquifer. The SFPUC shall install pressure transducers in coastal monitoring wells Kirkham MW-255, Kirkham MW-385, Ortega MW-265, Ortega MW-400, Taraval MW-240, Taraval MW-400, and San Francisco Zoo MW-450, which are completed in the Primary Production Aquifer, and shall conduct continuous groundwater-level monitoring in these monitoring wells. These groundwater levels shall be monitored as part of the ongoing monitoring program for the detection of seawater intrusion.	1. SFPUC Water Enterprise	1. SFPUC Water Enterprise	1. Install transducers and conduct continuous groundwater-level monitoring.	1. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-8 (cont.)		**Mitigation Measure M-HY-8c: Adaptive Management Program for Seawater Intrusion.** The SFPUC shall implement the Groundwater Supply Project in a stepwise manner, conduct monitoring to detect seawater intrusion, and alter pumping to prevent seawater intrusion from advancing to the coastal monitoring network in accordance with the process described below and shown in Figure MMRP-1. Prior to beginning full operation of the proposed project, the SFPUC shall begin pumping at a reduced rate and continue monitoring the expanded coastal monitoring network (including the new wells added under Mitigation Measure M-HY-8a) for evidence of seawater intrusion according to the following procedure: • At initial startup, the project wells shall be operated at a maximum combined capacity of 1 mgd. • The SFPUC shall continue semiannual groundwater quality monitoring of the coastal network (including the new wells added under Mitigation Measure M-HY-8a) in accordance with the ongoing monitoring program as revised by Mitigation Measure M-HY-8b. • After one year of monitoring, the SFPUC may increase annual pumping by 1 mgd each year, up to a total of 3 mgd during Phase 1 of the project and 4 mgd during Phase 2 if none of the chloride concentrations detected in the coastal monitoring network equals or exceeds 142 mg/L. If this limit is not met, semiannual groundwater quality monitoring of the coastal network shall continue. • In the event that the chloride concentration in any of the coastal monitoring wells equals or exceeds 142 mg/L, the SFPUC shall increase the coastal groundwater quality monitoring frequency to quarterly. • If there is an upward trend in chloride levels after three quarterly monitoring periods such that projected chloride levels could reach the secondary MCL of 250 mg/L in three years (based on a trend analysis using the most recent three quarters of groundwater sampling), the SFPUC shall either temporarily redistribute pumping to decrease pumping rates closest to the affected monitoring well, or decrease the overall pumping rate. • However, if the SFPUC can demonstrate to the satisfaction of the San Francisco Planning Department Environmental Review Officer, with independent 3rd party concurrence, that the upward trend is not due to the project, the SFPUC may continue pumping subject to the requirements of this mitigation measure. • Pumping may continue at the adjusted production rate and pattern as long as none the coastal monitoring wells exhibit chloride concentrations that are projected to reach 250 mg/L within three years (based on a trend analysis using the most recent three quarters of groundwater sampling). • The total annual pumping rate may be increased by 1 mgd (up to a maximum of 3 mgd during Phase 1 of the project and 4 mgd during Phase 2) after 21 months of quarterly monitoring indicate that none of the chloride concentrations at the coastal monitoring locations are projected to reach 250 mg/L within the next three years. • If the chloride concentration reaches 250 mg/L at any of the coastal monitoring points, the SFPUC shall stop pumping at the nearest project well, and stop all groundwater pumping if necessary to prevent seawater intrusion from progressing further. Pumping shall not be resumed until chloride concentrations at the affected well have been below 142 mg/L for one year based on quarterly monitoring. • The monitoring frequency may be reduced to semiannual once the chloride concentration in an affected well decreases to 142 mg/L or lower for one year based on quarterly monitoring. Mitigation Measures M-HY-8a through M-HY-8c could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise, SFPUC BEM and ERO 4. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Begin groundwater pumping at a maximum combined capacity of 1 mgd, and monitor groundwater quality. 2. Increase pumping capacity if chloride concentration thresholds are not exceeded, and continue monitoring groundwater quality. 3. Redistribute, reduce, or stop pumping if chloride concentration thresholds are exceeded, and continue monitoring groundwater quality. 4. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Project operation 2. Project operation 3. Project operation 4. Project Operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program: Implementation and Reporting – Responsible Party	Implementation and Reporting – Reviewing and Approval Party	Monitoring and Reporting Actions	Implementation Schedule
HYDROLOGY AND WATER QUALITY (cont.)						
HY-9	The proposed project would possibly have a substantial, adverse effect on water quality that could affect the beneficial uses of Lake Merced.	**Mitigation Measure M-HY-9: Lake-Level Management for Lake Merced.** The SFPUC shall implement a lake level management program in accordance with the process described below and shown in Figure MMRP-2. The program requires SFPUC to implement the Groundwater Supply Project in a stepwise manner; conduct monitoring to detect changes in lake level and water quality as well as groundwater-level elevations, and shall respond to project-related changes. Lake levels may be augmented by adding supplemental water (SFPUC system water, treated stormwater, or recycled water), if available. The SFPUC may also alter or redistribute pumping as necessary to avoid adverse effects on Lake Merced in the event a supplemental water source is not available or is insufficient to restore lake levels. Implementation of this measure shall be coordinated with the SFPUC's ongoing Lake Merced lake-level, lake water quality, and groundwater monitoring programs to document and maintain the database of these parameters throughout project operations. Prior to beginning full operation of the Groundwater Supply Project, the SFPUC shall begin pumping at a reduced rate and continue lake-level and groundwater monitoring for the purpose of detecting adverse effects on Lake Merced according to the following procedure: • At initial startup, the wells shall be operated at a maximum combined capacity of 1 mgd. • The SFPUC shall continue to maintain Lake-Level Model so as to be able to evaluate what lake levels would be without implementation of the project based on the actual hydrologic conditions that occurs during project implementation. The SFPUC shall use the model to determine the amount of lake-level decreases that are attributable to the project rather than to hydrologic or other factors, and: – If lake levels are projected to be within the range that would occur without the project, based on maintenance of the Lake-Level Model, then no project impact is indicated and no corrective action shall be required. – If project-related lake levels are projected to be below the range that would occur without the project, the allowable deviation from naturally occurring lake levels is dependent on what the naturally occurring lake levels would be without the project. Corrective action shall be implemented if the trigger levels identified in Table MMRP-1 are projected to be exceeded. • If after one year of monitoring, lake levels are above the trigger levels specified in Table MMRP-1, the SFPUC may increase pumping by 1 mgd per year, up to a total of 3 mgd during Phase 1, and up to a total of 4 mgd after Phase 2 is implemented. • If project-related lake levels are projected to be below the range that would occur without the project, the allowable deviation from naturally occurring lake levels that would prevent significant wetlands and water quality impacts from occurring is dependent on what the naturally occurring lake levels would be without the project. Corrective action shall be implemented if the trigger levels identified in the final column of Table MMRP-1 and shown on Figure MMRP-3 are projected to be exceeded, compared to water levels that would occur without the project. • If, after one year of monitoring, lake levels drop below the trigger levels specified in Table MMRP-1, and groundwater monitoring in combination with the Lake-Level Model results indicates that the decline is due to project-related pumping, the SFPUC shall augment lake levels by adding supplemental water of suitable quality (such as surplus potable water that is dechloraminated at the Lake Merced Pump Station, stormwater from the Vista Grande Canal, recycled water, or stormwater diverted from other development in the Lake Merced watershed) if available, to maintain lake levels at the specified trigger level based on Lake-Level modeling. At the end of the subsequent year of monitoring, the SFPUC may increase pumping by 1 mgd (up to a total of 3 mgd	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Begin groundwater pumping at a maximum combined capacity of 1 mgd, and monitor groundwater and lake levels. 2. Increase pumping capacity if lake level triggers are not exceeded, and continue monitoring groundwater and lake levels. 3. Redistribute, reduce, or stop pumping if chloride concentration lake level triggers are exceeded, and continue monitoring groundwater and lake levels. 4. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Project operation 2. Project operation 3. Project operation 4. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-9 (cont.)		during Phase 1 and up to 4 mgd after Phase 2 is implemented) if water levels can be maintained at the above-specified trigger levels. The SFPUC shall continue lake-level and groundwater monitoring, lake water-quality monitoring, and maintenance of the Lake-Level Model, and if warranted based on monitoring data and model results, continue supplemental water additions. The rate of surplus water additions shall be controlled such that water surface elevation increases are no greater than 0.5 feet over a 2.5-week period in any single nesting season (conservatively March 1 through August 15) and no greater than 3 feet in any given year to avoid impacts to nesting birds and western pond turtle. • If a supplemental water source is not available or is insufficient to maintain lake levels above the trigger levels specified in Table MMRP-1, implement other corrective actions such as redistributing pumping to reduce or eliminate groundwater withdrawals near Lake Merced or decreasing the overall pumping rate to maintain lake levels at or above the specified trigger levels. The SFPUC shall continue lake-level and groundwater-level monitoring, Lake Merced water quality monitoring, and maintenance of the Lake-Level Model to determine the effectiveness of the corrective measures such that lake levels shall be maintained at the above-specified trigger levels. As shown in Figure MMRP-2, the SFPUC shall continue to monitor lake levels and shall continue supplemental water additions or redistribution/reduction of groundwater pumping to maintain Lake Merced water levels at the above-specified trigger levels. Mitigation Measure M-HY-9 could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.				
HY-11	Project operation would possibly cause a violation of water quality standards.	**M-HY-11: Prepare a Source Water Protection Program and Update Drinking Water Source Assessment.** Because the DWSAP reports for each proposed well facility identified potentially contaminating activities with a vulnerability score of 8 or higher, the SFPUC shall develop and implement a source water protection program including the following components to be implemented to prevent contamination of the well facility: • Integration with the Westside Basin Groundwater Monitoring Program to identify changes in water quality that would warrant further study and response. • Continued cooperation with the San Francisco Department of Public Health in that department's implementation of the existing well construction and well destruction permit program. The goal of protecting and preserving groundwater quality requires that all wells be properly constructed and maintained during their operational lives, and properly destroyed after their useful lives. • Continued cooperation with the San Francisco Department of Public Health in that department's management of cases in the North Westside Basin where spills or leaks of chemicals (e.g., leaking underground fuel tanks) could threaten groundwater quality to ensure that the responsible party adequately investigates and cleans up any contamination that could threaten drinking water quality. • Continued cooperation with the SFPUC Wastewater Enterprise's Urban Watershed Management Program in the implementation of guidelines to maintain appropriate buffers between low impact development stormwater facilities and drinking water well facilities. • Continued coordination with the San Francisco Planning Department to ensure SFPUC review of and comment on CEQA planning documents for proposed projects in the North Westside Groundwater Basin to ensure that groundwater quality would not be degraded as a result of project implementation.	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Develop source water protection program in accordance with Mitigation Measure M-HY-11. 2. Implement source water protection program in accordance with Mitigation Measure M-HY-11. 3. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Construction, prior to project operation 2. Project operation 3. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program: Implementation and Reporting – Responsible Party	Monitoring and Reporting Program: Implementation and Reporting – Reviewing and Approval Party	Monitoring and Reporting Program: Monitoring and Reporting Actions	Monitoring and Reporting Program: Implementation Schedule
HYDROLOGY AND WATER QUALITY (cont.)						
HY-11 (cont.)		The source water protection program shall specify that in the event that potential contamination is identified, the SFPUC shall increase the monitoring frequency at the potentially affected well, investigate the potential source of contamination, coordinate with the San Francisco Department of Public Health or RWQCB to require responsible parties to address identified sources of contamination, and shut down the affected well or provide additional treatment for the groundwater if contamination of the drinking water supply cannot otherwise be avoided. In addition, the SFPUC shall update the drinking water source assessment for each well facility every five years to review existing and planned land uses as well as to identify potentially contaminating activities, as required by the California Department of Public Health, and revise monitoring requirements, if necessary to address additional potentially contaminating activities. The SFPUC shall encourage public participation in the development of the source water protection program and shall update the program every five years along with the drinking water source assessments for each project well, to prevent contamination that could cause an exceedance of drinking water MCLs at the project wells. Mitigation Measure M-HY-11 could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.				
HAZARDS AND HAZARDOUS MATERIALS						
HZ-2	Project construction would possibly result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials present in soil and groundwater.	**M-HZ-2a: Preconstruction Hazardous Materials Assessment.** Within three months prior to construction, the SFPUC shall retain a qualified environmental professional to conduct a regulatory agency database review to update and identify hazardous materials sites within ¼ mile of the project sites and to review appropriate standard information sources to determine the potential for soil or groundwater contamination at the project sites. Should this review indicate a high likelihood of encountering contamination at the project sites, follow-up sampling shall be conducted to characterize soil and groundwater quality prior to construction to provide necessary data for the site health and safety plan (Mitigation Measure M-HZ-2b) and hazardous materials management plan (Mitigation Measure M-HZ-2c). If needed, site investigations or remedial activities shall be performed at the project site in accordance with applicable laws.	1. SFPUC CMB/BEM (environmental professional)	1. SFPUC BEM	1. Update environmental database within 3 months of start of construction and perform follow-up analysis as required in this measure. Document findings in a report or technical memo to SFPUC.	1. Preconstruction
		M-HZ-2b: Health and Safety Plan. The construction contractor shall, prior to construction, prepare a site-specific health and safety plan in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal-OSHA regulations (8 CCR Title 8, Section 5192) to address worker health and safety issues during construction. The health and safety plan shall identify the potentially present chemicals, health and safety hazards associated with those chemicals, all required measures to protect construction workers and the general public from exposure to harmful levels of any chemicals identified at the site (including engineering controls, monitoring, and security measures to prevent unauthorized entry to the work area), appropriate personal protective equipment, and emergency response procedures. The health and safety plan shall designate qualified individuals responsible for implementing the plan and for directing subsequent procedures in the event that unanticipated contamination is encountered. The plan shall include requirements for management of soil on the east side of the North Lake Pump Station (near boring SB-4), from the ground surface to a depth of about 0.5 feet, that contains elevated levels of lead: shallow soil in this area shall be excavated and temporarily stockpiled for additional testing to determine offsite disposal requirements. Alternatively, affected soil shall be isolated beneath building foundations or pavement areas during construction, pending approval from the San Francisco Department of Public Health.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include the requirement for preparing a health and safety plan. 2. Ensure that contractor(s) prepares and submits a health and safety plan and verify that it includes information cited in contract documents. 3. Monitor to ensure that the contractor(s) implements measures in the contract documents and health and safety plan. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Construction

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HAZARDS AND HAZARDOUS MATERIALS (cont.)						
HZ-2 (cont.)		**M-HZ-2c: Hazardous Materials Management Plan.** The contractor shall, prior to construction, prepare a hazardous materials management plan that specifies the method for handling and disposal of contaminated soil and building debris, should any be encountered during construction. Contract specifications shall mandate full compliance with all applicable local, State, and federal regulations related to identifying, transporting, and disposing of hazardous materials, including those encountered in excavated soil, and demolition debris. The contractor shall provide the SFPUC with copies of hazardous waste manifests documenting that disposal of all hazardous materials has been performed in accordance with the law.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include requirements for preparing a hazardous materials management plan. 2. Ensure that contractor(s) prepares and submits a hazardous materials management plan and verify that it complies with requirements cited in contract documents. 3. Monitor to ensure that the contractor(s) implements measures in the contract documents and hazardous materials management plan. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Construction

DPW Engineering = Department of Public Works (CCSF)
BEM = Bureau of Environmental Management (SFPUC)
EP = San Francisco Planning Department, Environmental Planning Division (CCSF)
SFPUC = San Francisco Public Utilities Commission (CCSF)
ERO = Environmental review officer (CCSF – EP)

CCSF = City and County of San Francisco
EMB = Engineering Management Bureau (SFPUC)
CMB = Construction Management Bureau (SFPUC)

EXHIBIT A
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
CULTURAL RESOURCES						
CP-2a	The proposed project would potentially cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5	**M-CP-2a: Accidental Discovery of Archeological Resources.** The following measures shall be implemented should construction activities result in the accidental discovery of a cultural resource: Construction activities will immediately be suspended within 50 feet of the find if there is any indication of a potential archeological resource. To avoid the potential for adverse effects on accidentally discovered buried or submerged historical resources, as defined in CEQA Guidelines Section 15064.5(a), the SFPUC shall distribute the Planning Department's archeological resource "ALERT" sheet to the project prime contractor; to any project subcontractor firms (including demolition, excavation, grading, foundation, pile driving, etc.); and/or to utilities firms involved in soil-disturbing activities within the project site. Prior to undertaking any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel, including machine operators, field crew, pile drivers, supervisory personnel, etc. The SFPUC shall provide the Environmental Review Officer (ERO) with a signed affidavit from the responsible parties (prime contractor, subcontractor(s), and utilities firm) confirming that all field personnel have received copies of the ALERT sheet. If the ERO determines that an archeological resource may be present within the project site, the SFPUC shall retain the services of an archeological consultant from the pool of qualified archeological consultants maintained by the Planning Department archeologist. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource that retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify and evaluate the archeological resource and make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require specific additional measures to be implemented by the SFPUC. Measures could include: in-situ preservation of the archeological resource; an archeological monitoring program; or an archeological evaluation program. The ERO might also require that the SFPUC immediately implement a site security program if an archeological resource is at risk from vandalism, looting, or other damaging actions. If an archeological resource is discovered, the archeological consultant shall submit an Archeological Data Recovery Report (ADRR) to the ERO which, in addition to the usual ADRR contents, will evaluate the historical significance of any discovered archeological resource, as well as describe the archeological and historical research methods employed in the archeological monitoring/data recovery program(s) undertaken, and present, analyze, and interpret the recovered data. Information that may put at risk any archeological resource shall be provided in a separate removable insert within the final report. Once approved by the ERO, copies of the ADRR shall be distributed as follows: the relevant California Historical Resources Information System Information Center shall receive one copy, and the ERO shall receive a copy of the transmittal letter of the ADRR to the Information Center. The San Francisco Planning Department, Environmental Planning section shall receive three copies of the ADRR along with copies of any formal site recordation forms (DPR 523 series) and/or documentation for nomination to the National Register /California Register. The SFPUC shall receive copies of the ADRR in the number requested. In instances of high public interest in or high interpretive value of the resource, the ERO may require a different final report content, format, and distribution than that presented above.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM (Archeologist) 4. SFPUC CMB/BEM (Archeologist)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM and ERO	1. Ensure that the contract documents include measures related to archeological discoveries. 2. Ensure that all project personnel receive "Alert" sheet. Maintain file of affidavits for submittal to ERO. Monitor to ensure that the contractor implements measures in the contract documents, report noncompliance, and ensure corrective action. 3. Ensure that all potential discoveries are reported as required and that the contractor suspends work in the vicinity. Mobilize an archeologist to the area if the ERO determines that an archeological resource may be present. 4. In the event of a potential discovery, evaluate the potential discovery and advise ERO as to the significance of the discovery. Proceed with recommendations, evaluations, and implementation of additional measures in consultation with ERO. Prepare and distribute Final ADRR as required.	1. Design 2. Preconstruction and Construction 3. Construction 4. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
CULTURAL RESOURCES (cont.)						
CP-2b	Construction of the proposed Lake Merced well facility would potentially cause a substantial adverse change in the significance of an archeological resource pursuant to Section 15064.5.	**M-CP-2b:** Based on a reasonable presumption that archeological resources may be present within the project site, the following measures shall be undertaken to avoid any potentially significant adverse effect from the proposed project on buried historical resources. The project sponsor shall retain the services of a qualified archeological consultant, based on standards developed by the Planning Department archeologist. 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 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 ERO, 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 Sect. 15064.5 (a)(c). ***Consultation with Descendant Communities.*** On discovery of an archeological site associated with descendant Native Americans or the Overseas Chinese, an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and to consult with ERO 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. ***Archeological Testing Program.*** The archeological consultant shall prepare and submit to the ERO for review and approval an archeological testing plan (ATP). The archeological testing program shall be conducted in accordance with the approved ATP. The ATP 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. At the completion of the archeological testing program, the archeological consultant shall submit a written report of the findings to the ERO. If based on the archeological testing program the archeological consultant finds that significant archeological resources may be present, the ERO 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. If the ERO 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 ERO determines that the archeological resource is of greater interpretive than research significance and that interpretive use of the resource is feasible.	1. SFPUC BEM (Archeologist) 2. SFPUC BEM (Archeologist) 3. SFPUC BEM (Archeologist) 4. SFPUC CMB/BEM 5. SFPUC BEM (Archeologist)	1. SFPUC BEM / ERO 2. SFPUC BEM/ERO 3. SFPUC BEM/ERO 4. SFPUC BEM/ERO 5. SFPUC BEM/ERO	1. Prepare and implement an Archeological Testing Plan in conjunction with SFPUC/ERO. Prepare written report of findings. 2. If significant archeological resources are present, prepare Archeological Data Recovery Plan and implement data recovery investigation and/or other treatment including consultation with descendant communities. 3. As determined by Archeological consultant in consultation with SFPUC/ERO, prepare and implement an Archeological Monitoring Program. Document activities in monitoring logs. 4. Monitor to ensure that contractor implements applicable measures in contract documents. Report noncompliance, and ensure corrective action. 5. Prepare Final Archeological Resources Report (FARR) to document historical significance of any discovered archeological resource.	1. Preconstruction/ Construction 2. Preconstruction/ Construction 3. Construction 4. Construction 5. Post-construction

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			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
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CULTURAL RESOURCES (cont.)						
CP-2b (cont.)		***Archeological Monitoring Program.*** If the ERO in consultation with the archeological consultant determines that an archeological monitoring program (AMP) shall be implemented, the archeological monitoring program shall minimally include the following provisions: • The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the AMP reasonably prior to any project-related soils-disturbing activities commencing. The ERO 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 archeological consultant and the ERO until the ERO 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 activity (foundation, shoring, etc.), the archeological monitor has cause to believe that the pile driving activity may affect an archeological resource, the pile driving activity shall be terminated until an appropriate evaluation of the resource has been made in consultation with the ERO. The archeological consultant shall immediately notify the ERO 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. 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. ***Archeological Data Recovery Program.*** The archeological data recovery program shall be conducted in accord with an archeological data recovery plan (ADRP). The archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP prior to preparation of a draft ADRP. The archeological consultant shall submit a draft ADRP to the ERO. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP 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. The scope of the ADRP shall include the following elements: • *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations.				

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CULTURAL RESOURCES (cont.)						
CP-2b (cont.)		• *Cataloguing and Laboratory Analysis.* Description of selected cataloguing system and artifact analysis procedures. • *Discard and Deaccession Policy.* Description of and rationale for field and post-field discard and deaccession policies. • *Interpretive Program.* Consideration of an on-site/off-site public interpretive program during the course of the archeological data recovery program. • *Security Measures.* Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • *Final Report.* Description of proposed report format and distribution of results. • *Curation.* 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. ***Final Archeological Resources Report.*** The archeological consultant shall submit a Draft Final Archeological Resources Report (FARR) 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/monitoring/data 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. • Once approved by the ERO, copies of the FARR shall be distributed as follows: California Archeological Site Survey Northwest Information Center (NWIC) shall receive one (1) copy and the ERO shall receive a copy of the transmittal of the FARR to the NWIC. The Environmental Planning division of the Planning Department shall receive one bound, one unbound and one unlocked, searchable PDF copy on CD of the FARR along with copies of any formal site recordation forms (CA DPR 523 series) 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.				
CP-4	The proposed project would potentially disturb human remains, including those interred outside of formal cemeteries.	**M-CP-4: Accidental Discovery of Human Remains.** The following measures shall be implemented should construction activities result in the accidental discovery of human remains and associated cultural materials: The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activities shall comply with applicable state laws. This shall include immediate notification of the coroner of the county within which the project is located and, in the event of the coroner's determination that the human remains are Native American, notification of the California Native American Heritage Commission, which shall appoint a Most Likely Descendant (MLD) (PRC Section 5097.98). The archeological consultant, SFPUC, and MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The PRC allows 24 hours to reach agreement on these matters. If the MLD and the other parties do not agree on the reburial method, the SFPUC shall follow Section 5097.98(b) of the PRC, which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."	1. SFPUC EMB 2. SFPUC CMB/BEM (Archeologist) 3. SFPUC CMB/BEM)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM and ERO	1. Ensure that Contract Documents include measures related to discovery of human remains. 2. If potential human remains are encountered, mobilize an archeologist to confirm existence of human remains. If human remains are confirmed, perform required coordination and notifications. 3. Monitor to ensure that the contractor implements measures in contract documents including insuring that all potential human remains are reported as required and that contractor suspends work in the vicinity. Report noncompliance and ensure corrective action.	1. Design 2. Construction 3. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
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NOISE						
NO-1	The proposed project would result in the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance or result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	**M-NO-1: Administrative and Source Controls.** The SFPUC shall ensure that a noise control plan is prepared, reviewed, and approved by SFPUC, and is prepared and implemented by a qualified noise consultant, defined as a board-certified Institute of Noise Control Engineering member or other qualified consultant or engineer approved by the project engineer. The SFPUC shall verify that the noise control plan contains at least the following elements: • *Daytime:* Construction noise levels shall not exceed the San Francisco Noise Ordinance daytime threshold of 80 dBA at 100 feet (or 86 dBA at 50 feet) at all locations between 7 a.m. to 8 p.m. at all residential receptors (except where construction activities occur for two weeks or less at one location). The noise control plan shall identify sensitive receptor locations and include measures that could be employed to maintain noise levels at or below these performance standards, which could include, but not be limited, the following: • Implement best available noise control techniques such as mufflers, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds. • Limit continuous operation of heavy equipment near sensitive receptors. • Locate stationary noise sources (e.g., generators, fans, pumps) as far from sensitive receptors as possible and use noise controls (e.g., enclosures, barriers) as necessary. • The name and phone number of a SFPUC designated project liaison shall be posted at project facility construction sites so that the public can contact the liaison if noise disturbance occurs. This liaison shall immediately take steps to resolve any complaints received, including modifying construction practices as necessary to address the noise complaint.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC Communications 4. SFPUC CMB/BEM	1. SFPUC BEM 2 SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM	1. Incorporate appropriate language into contract documents including requirement for contractor(s) to prepare noise control plan. 2. Ensure that the noise control plan is prepared in accordance with the contract documents. 3. Designate project liaison responsible for responding to noise complaints. Ensure that liaison's name and phone number is included on posted notices. As necessary, develop a reporting program for tracking complaints received and for documenting their resolution. 4. Monitor to ensure that the contractor(s) implements noise control requirements, report noncompliance, and ensure corrective action within timelines specified in contract.	1. Design 2. Preconstruction 3. Preconstruction and Construction 4. Construction
UTILITIES AND SERVICE SYSTEMS						
UT-3	Project construction would potentially result in a substantial adverse effect related to disruption of utility operations or accidental damage to existing utilities.	**M-UT-3a: Preconstruction Utility Identification and Coordination.** Prior to construction activities, the SFPUC or its contractor(s) shall determine the locations of overhead and underground utility lines, such as natural gas, electricity, sewer, telephone, cable, fuel, water, and Muni lines, that may be encountered during construction work. Pursuant to State law, the SFPUC or its contractor(s) shall notify USA North so that utility companies may be advised of the work and may field-mark or otherwise protect and warn the contractor of their existing utility lines. Information regarding the location of existing utilities shall be reviewed before construction activities begin. Utilities may be located by customary techniques such as geophysical methods and hand excavation. The SFPUC or its contractor(s) shall notify all affected utility service providers in advance of the project construction plans and schedule. The SFPUC or its contractor(s) shall make arrangements with these entities regarding the protection, relocation, or temporary disconnection of services prior to the start of construction, and prompt reconnection of services, as required.	1.SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3b: Protection of Other Utilities during Construction. Specifications shall be prepared as part of the design plans. These specifications shall include procedures for the excavation, support, and fill of areas around subsurface utilities, cables, and pipes. If the project encounters overhead electric and/or telephone lines during pipeline construction, the SFPUC or its contractor(s) shall coordinate with SFMTA and appropriate telecommunication service providers to de-energize overhead electric lines as required by the federal and State Occupational Safety and Health Administration (OSHA) regulations.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Ensure that contract documents include applicable measures for protection of utilities during construction, including requirement for contractor to coordinate with affected utility owners and protect affected utilities, as appropriate. 2. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
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			Responsible Party	Reviewing and Approval Party		
UTILITIES AND SERVICE SYSTEMS (cont.)						
UT-3 (cont.)		**M-UT-3c: Safeguard Employees from Potential Accidents Related to Underground Utilities.** While any excavation is open, the SFPUC or its contractors shall protect, support, or remove underground utilities as necessary to safeguard employees. As part of contractor specifications, the contractor(s) shall be required to provide updates on excavations planned for the upcoming week and to specify when construction will occur near a high-priority utility. At the beginning of each week when this work will take place, per California OSHA, the contractor is required to hold safety tailgate meetings and to document contents of meeting. The SFPUC is not required to attend these contractor tailgate meetings, but may attend.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers and to provide SFPUC with advance schedule notification. 2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3d: Notify San Francisco Fire Department. If construction activities result in damage to high-priority utility lines the SFPUC or its contractor(s) shall immediately notify the San Francisco Fire Department to protect worker and public safety.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Ensure that contract documents include applicable measures, including requirement for contractor(s) to provide SFPUC with advance schedule notification. 2. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
		M-UT-3e: Emergency Response Plan and Notification. The SFPUC or its contractor(s) shall develop an emergency response plan prior to commencing construction activities. The emergency response plan shall identify measures to be taken in response to a leak or explosion resulting from a utility rupture. In addition, the SFPUC or its contractor(s) shall notify the appropriate emergency response department whenever damage to any utility results in a threat to public safety.	1. SFPUC EMB 2. SFPUC CMB 3. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB 3. SFPUC CMB	1. Ensure that contract documents include applicable measures including requirement to prepare emergency response plan (ERP). 2. Ensure that contractor prepares the ERP. 3. Monitor to ensure that contractor(s) implements measures in contract documents and emergency response plan, and notifies local fire department in the event of damage to a gas utility line that results in a leak or suspected leak or damage to another utility line that could result in a threat to public safety. Report noncompliance, and ensure corrective action.	1. Design 2. Prior to commencing any excavation activities. 3. Construction
		M-UT-3f: Ensure Prompt Reconnection of Utilities. The SFPUC or its contractor(s) shall promptly notify utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
UTILITIES AND SERVICE SYSTEMS (cont.)						
UT-3 (cont.)		**M-UT-3g: Coordinate Final Construction Plans with Affected Utilities.** The SFPUC or its contractor(s) shall coordinate final construction plans and specifications with affected utilities.	1. SFPUC EMB 2. SFPUC CMB	1. SFPUC BEM 2. SFPUC CMB	1. Coordinate final construction plans and specifications during the design phase including obtaining, as necessary, agreements and/or permits. Ensure that the contract documents include the requirement for contractor(s) to coordinate with utility service providers. 2. Monitor to ensure that contractor(s) implements measures in the contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction
BIOLOGICAL RESOURCES						
BI-1	Construction of the proposed project would potentially adversely affect species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.	**M-BI-1a: Avoidance and Minimization Measures for California Red-Legged Frog and Western Pond Turtle.** During construction at the Lake Merced, North Lake, and Central Pump Station well facility sites, the SFPUC shall ensure a biological monitor is present during installation of exclusion fencing and initial vegetation clearing and/or grading, and shall implement the following measures: • Within one week before work at these sites begins (including demolition and vegetation removal), a qualified biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, as deemed necessary by the biologist, to prevent California red-legged frogs, western pond turtles, and incidental, common wildlife from entering the work area. The construction contractor shall install suitable fencing with a minimum height of 3 feet above ground surface with an additional 4–6 inches of fence material buried such that species cannot crawl under the fence. • A qualified biologist shall conduct environmental awareness training for all construction workers prior to construction workers beginning their work efforts on the project. The training shall include information on species identification, avoidance measures to be implemented by the project, and the regulatory requirements and penalties for noncompliance. If necessary, the content shall vary according to specific construction areas (e.g., workers on city streets will receive training on nesting birds but not on California red-legged frog identification). • A qualified biologist shall survey the excluded area within 48 hours before the onset of initial ground-disturbing activities and shall be present during initial vegetation clearing and ground-disturbing activities. The biological monitor shall monitor the exclusion fencing weekly to confirm proper maintenance and inspect for frogs and turtles. If frogs or turtles are found, the SFPUC shall halt construction and contact the USFWS and/or CDFW for instructions on how to proceed. Construction shall resume after approval from the USFWS and/or CDFW. • During project activities, excavations deeper than 6 inches shall be covered overnight or an escape ramp of earth or a wooden plank at a 3:1 rise shall be installed; openings such as pipes where California red legged frogs or western pond turtles might seek refuge shall be covered when not in use; and all trash that may attract predators or hide California red-legged frogs or western pond turtles shall be properly contained on a daily basis, removed from the worksite, and disposed of regularly. Following construction, the construction contractor shall remove all trash and construction debris from work areas.	1. SFPUC EMB 2. SFPUC CMB/BEM (Biologist) 3 SFPUC CMB/BEM (Biologist) 4. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM 4. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures for California red-legged frog, western pond turtles, and incidental, common wildlife, including requirement for exclusion fencings. 2. Develop worker training program and ensure that all construction personnel participate in the environmental training prior to beginning work at the job site(s). Require workers to sign the training program sign-in sheet. Maintain file of training sign-in sheets. 3. Obtain and review résumé or other documentation of consulting biologist's qualifications. Conduct preconstruction surveys, species relocation (if appropriate and approved by CDFW and/or USFWS), and monitoring, including weekly fence inspection. Document activities in monitoring logs. 4. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Preconstruction and Construction 4. Construction

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
BIOLOGICAL RESOURCES (cont.)						
		M-BI-1b: Avoidance and Minimization Measures for Special-Status Bats. A qualified wildlife biologist shall conduct preconstruction special-status bat surveys when large trees are to be removed, or when occasionally used or vacant buildings are to be demolished. If active day or night roosts are found, the wildlife biologist shall take actions to make such roosts unsuitable habitat prior to tree removal or building demolition. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes. Bat roosts initiated during construction are presumed to be unaffected, and no buffer would necessary.	1. SFPUC EMB 2. SFPUC CMB/BEM (Qualified Biologist) 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures. 2. Obtain and review resume or other documentation of consulting biologist's qualifications. Conduct pre-construction survey. If roosts are found, implement appropriate measures. Document activities in monitoring logs. 3. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Construction
		M-BI-1c: Avoidance and Minimization Measures for Monarch Butterfly. Construction activities in and around potential butterfly overwintering sites shall occur outside of the overwintering season (October to March), to the greatest extent feasible, to avoid potential impacts on monarch butterfly at the Golden Gate Park sites. However, when it is not feasible to avoid the overwintering season and construction activities take place during this time, the following measures shall apply: • Preconstruction surveys shall be conducted for overwintering monarch butterfly sites within 100 feet of the construction areas. • If an active overwintering site is located, work activities shall be delayed within 100 feet of the site location until avoidance measures have been implemented. Appropriate avoidance measures shall include the following measures (which may be modified as a result of consultation with the CDFW to provide equally effective measures): - If the qualified wildlife biologist determines that construction activities shall not affect an active overwintering site, activities may proceed without restriction. - A no-disturbance buffer may be established around the overwintering site to avoid disturbance or destruction until after the overwintering. - The extent of the no-disturbance buffers shall be determined by a qualified wildlife biologist in consultation with the CDFW.	1. SFPUC EMB 2. SFPUC CMB/BEM (Qualified Biologist) 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include applicable avoidance and minimization measures. 2. Obtain and review resume or other documentation of consulting biologist's qualifications. Conduct pre-construction survey. If overwintering site is located, implement appropriate measures. Document activities in monitoring logs. 3. Monitor to ensure that contractor(s) implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Preconstruction and Construction 3. Construction
BI-3	Construction of the proposed project would conflict with applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	**M-BI-3: Plant Replacement Trees.** The SFPUC shall replace the trees removed within SFRPD-managed lands with trees of equivalent ecological value (i.e., similar species) at a 1:1 ratio. If planting trees of equivalent ecological value at a 1:1 ratio is not feasible or such trees are not available, removed trees shall be replaced at a ratio of 1 inch for every 1 inch of the removed tree's diameter at breast height. If the project site does not have adequate room for replanting trees, the SFPUC shall coordinate with SFRPD to identify acceptable replanting locations in the vicinity of the project site. The SFPUC shall monitor tree replacement plantings annually for a minimum of three years after completion of construction to ensure the plantings have become established and, if necessary, shall replant to ensure the success of the replacement plantings.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM (Qualified Biologist or Arborist)	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include tree replacement measures. 2. Ensure that the contractor implements tree replacement measures in accordance with SFRPD coordination. 3. Monitor to ensure that contractor implements measures in contract documents. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Post-Construction Monitoring (at least three years, depending on success)

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
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HYDROLOGY AND WATER QUALITY						
HY-1	Project construction would possibly violate water quality standards and waste discharge requirements or otherwise substantially degrade water quality.	**M-HY-1: Implement Groundwater Dewatering BMPs at Lake Merced Well Facility.** If groundwater produced during construction of the Lake Merced facility is not discharged to the sewer system, the SFPUC shall include a requirement in construction contracts that its construction contractor(s) develop and implement standard BMPs for the treatment of sediment-laden water produced during groundwater dewatering. BMPs could include discharging water through filtration media, such as filter bags or a similar filtration device, or allowing the filtered water to infiltrate into the soil. If infiltration is used, application of the groundwater shall be conducted at a rate and location that does not allow runoff into Lake Merced or drainage conveyances such as storm drains and does not cause flooding or runoff to adjacent properties. The discharge of groundwater shall also be conducted at a rate that does not allow ponding, unless the ponding is a result of implementing BMPs to reduce the velocity of the flow and occurs within constructed containment, such as an excavation or berm with no outlet. The discharge must also be applied at a sufficient distance from building foundations or other areas that could be damaged from ground settling or swelling. No chemicals shall be added to the discharged groundwater. Alternatively, rather than discharging groundwater, filtered groundwater could be used to spray disturbed areas and the soil stockpile to reduce fugitive dust emissions, if there is sufficient water and it is determined feasible by the construction contractor.	1.SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/BEM	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Incorporate appropriate language into contract documents including development of Dewatering Plan. 2. Review contractor's Dewatering Plan. 3. Monitor to ensure that the contractor implements measures in Dewatering Plan, report noncompliance, and ensure corrective action within timelines specified in contract.	1. Design 2. Preconstruction 3. Construction
HY-8	Project operations would possibly result in seawater intrusion due to decreased groundwater levels in the Westside Groundwater Basin.	**M-HY-8a: Expand Coastal Monitoring Network.** A minimum of one year prior to operating the South Windmill Replacement well, North Lake well, or Central Pump Station well facilities in Golden Gate Park, the SFPUC shall rehabilitate existing groundwater wells in the western portion of the park or install new groundwater monitoring wells between the Pacific Coast and the South Windmill Replacement well and North Lake well facilities. The SFPUC expects that existing wells NL-1 and SF-1, which are screened similarly to the North Lake irrigation well, can be rehabilitated, and wells SWM-3 and NWM-3 may also be able to be rehabilitated, if found. If the wells cannot be rehabilitated, the SFPUC shall coordinate with the SFRPD and install new wells in the same approximate location in areas of Golden Gate Park that are not highly used by the public and are currently developed/disturbed or are substantially devoid of vegetation in order to minimize the effects of installation. These monitoring wells shall be located a maximum of 100 feet inland to provide a coastal monitoring location in both the Shallow Aquifer and Primary Production Aquifer for the detection of seawater intrusion. These wells shall be included in the coastal groundwater monitoring network and monitored as part of the SFPUC's ongoing monitoring program for the detection of seawater intrusion. To establish a baseline of groundwater quality, these wells (which have not been previously monitored as part of the SFPUC's groundwater monitoring program) shall be monitored on a quarterly basis for a minimum of one year prior to operation of the South Windmill Replacement well, North Lake well, and Central Pump Station well facilities. For each monitoring event, a groundwater sample from each well shall be analyzed for the same parameters as are measured under the existing groundwater monitoring program (chloride, TDS, and specific conductance).	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise	1. Locate and rehabilitate existing monitoring wells. Ensure that new wells are installed if existing wells cannot be found or rehabilitated. 2. Monitor groundwater quality.	1. Design and construction 2. Construction, minimum of 1 year prior to operation of Golden Gate Park well(s).
		M-HY-8b: Continuous Groundwater Monitoring in the Primary Production Aquifer. The SFPUC shall install pressure transducers in coastal monitoring wells Kirkham MW-255, Kirkham MW-385, Ortega MW-265, Ortega MW-400, Taraval MW-240, Taraval MW-400, and San Francisco Zoo MW-450, which are completed in the Primary Production Aquifer, and shall conduct continuous groundwater-level monitoring in these monitoring wells. These groundwater levels shall be monitored as part of the ongoing monitoring program for the detection of seawater intrusion.	1. SFPUC Water Enterprise	1. SFPUC Water Enterprise	1. Install transducers and conduct continuous groundwater-level monitoring.	1. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-8 (cont.)		**Mitigation Measure M-HY-8c: Adaptive Management Program for Seawater Intrusion.** The SFPUC shall implement the Groundwater Supply Project in a stepwise manner, conduct monitoring to detect seawater intrusion, and alter pumping to prevent seawater intrusion from advancing to the coastal monitoring network in accordance with the process described below and shown in Figure MMRP-1. Prior to beginning full operation of the proposed project, the SFPUC shall begin pumping at a reduced rate and continue monitoring the expanded coastal monitoring network (including the new wells added under Mitigation Measure M-HY-8a) for evidence of seawater intrusion according to the following procedure: • At initial startup, the project wells shall be operated at a maximum combined capacity of 1 mgd. • The SFPUC shall continue semiannual groundwater quality monitoring of the coastal network (including the new wells added under Mitigation Measure M-HY-8a) in accordance with the ongoing monitoring program as revised by Mitigation Measure M-HY-8b. • After one year of monitoring, the SFPUC may increase annual pumping by 1 mgd each year, up to a total of 3 mgd during Phase 1 of the project and 4 mgd during Phase 2 if none of the chloride concentrations detected in the coastal monitoring network equals or exceeds 142 mg/L. If this limit is not met, semiannual groundwater quality monitoring of the coastal network shall continue. • In the event that the chloride concentration in any of the coastal monitoring wells equals or exceeds 142 mg/L, the SFPUC shall increase the coastal groundwater quality monitoring frequency to quarterly. • If there is an upward trend in chloride levels after three quarterly monitoring periods such that projected chloride levels could reach the secondary MCL of 250 mg/L in three years (based on a trend analysis using the most recent three quarters of groundwater sampling), the SFPUC shall either temporarily redistribute pumping to decrease pumping rates closest to the affected monitoring well, or decrease the overall pumping rate. • However, if the SFPUC can demonstrate to the satisfaction of the San Francisco Planning Department Environmental Review Officer, with independent 3rd party concurrence, that the upward trend is not due to the project, the SFPUC may continue pumping subject to the requirements of this mitigation measure. • Pumping may continue at the adjusted production rate and pattern as long as none the coastal monitoring wells exhibit chloride concentrations that are projected to reach 250 mg/L within three years (based on a trend analysis using the most recent three quarters of groundwater sampling). • The total annual pumping rate may be increased by 1 mgd (up to a maximum of 3 mgd during Phase 1 of the project and 4 mgd during Phase 2) after 21 months of quarterly monitoring indicate that none of the chloride concentrations at the coastal monitoring locations are projected to reach 250 mg/L within the next three years. • If the chloride concentration reaches 250 mg/L at any of the coastal monitoring points, the SFPUC shall stop pumping at the nearest project well, and stop all groundwater pumping if necessary to prevent seawater intrusion from progressing further. Pumping shall not be resumed until chloride concentrations at the affected well have been below 142 mg/L for one year based on quarterly monitoring. • The monitoring frequency may be reduced to semiannual once the chloride concentration in an affected well decreases to 142 mg/L or lower for one year based on quarterly monitoring. Mitigation Measures M-HY-8a through M-HY-8c could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise, SFPUC BEM and ERO 4. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Begin groundwater pumping at a maximum combined capacity of 1 mgd, and monitor groundwater quality. 2. Increase pumping capacity if chloride concentration thresholds are not exceeded, and continue monitoring groundwater quality. 3. Redistribute, reduce, or stop pumping if chloride concentration thresholds are exceeded, and continue monitoring groundwater quality. 4. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Project operation 2. Project operation 3. Project operation 4. Project Operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-9	The proposed project would possibly have a substantial, adverse effect on water quality that could affect the beneficial uses of Lake Merced.	**Mitigation Measure M-HY-9: Lake-Level Management for Lake Merced.** The SFPUC shall implement a lake level management program in accordance with the process described below and shown in Figure MMRP-2. The program requires SFPUC to implement the Groundwater Supply Project in a stepwise manner; conduct monitoring to detect changes in lake level and water quality as well as groundwater-level elevations, and shall respond to project-related changes. Lake levels may be augmented by adding supplemental water (SFPUC system water, treated stormwater, or recycled water), if available. The SFPUC may also alter or redistribute pumping as necessary to avoid adverse effects on Lake Merced in the event a supplemental water source is not available or is insufficient to restore lake levels. Implementation of this measure shall be coordinated with the SFPUC's ongoing Lake Merced lake-level, lake water quality, and groundwater monitoring programs to document and maintain the database of these parameters throughout project operations. Prior to beginning full operation of the Groundwater Supply Project, the SFPUC shall begin pumping at a reduced rate and continue lake-level and groundwater monitoring for the purpose of detecting adverse effects on Lake Merced according to the following procedure: • At initial startup, the wells shall be operated at a maximum combined capacity of 1 mgd. • The SFPUC shall continue to maintain Lake-Level Model so as to be able to evaluate what lake levels would be without implementation of the project based on the actual hydrologic conditions that occurs during project implementation. The SFPUC shall use the model to determine the amount of lake-level decreases that are attributable to the project rather than to hydrologic or other factors, and: - If lake levels are projected to be within the range that would occur without the project, based on maintenance of the Lake-Level Model, then no project impact is indicated and no corrective action shall be required. - If project-related lake levels are projected to be below the range that would occur without the project, the allowable deviation from naturally occurring lake levels is dependent on what the naturally occurring lake levels would be without the project. Corrective action shall be implemented if the trigger levels identified in Table MMRP-1 are projected to be exceeded. • If after one year of monitoring, lake levels are above the trigger levels specified in Table MMRP-1, the SFPUC may increase pumping by 1 mgd per year, up to a total of 3 mgd during Phase 1, and up to a total of 4 mgd after Phase 2 is implemented. • If project-related lake levels are projected to be below the range that would occur without the project, the allowable deviation from naturally occurring lake levels that would prevent significant wetlands and water quality impacts from occurring is dependent on what the naturally occurring lake levels would be without the project. Corrective action shall be implemented if the trigger levels identified in the final column of Table MMRP-1 and shown on Figure MMRP-3 are projected to be exceeded, compared to water levels that would occur without the project. • If, after one year of monitoring, lake levels drop below the trigger levels specified in Table MMRP-1, and groundwater monitoring in combination with the Lake-Level Model results indicates that the decline is due to project-related pumping, the SFPUC shall augment lake levels by adding supplemental water of suitable quality (such as surplus potable water that is dechloraminated at the Lake Merced Pump Station, stormwater from the Vista Grande Canal, recycled water, or stormwater diverted from other development in the Lake Merced watershed) if available, to maintain lake levels at the specified trigger level based on Lake-Level modeling. At the end of the subsequent year of monitoring, the SFPUC may increase pumping by 1 mgd (up to a total of 3 mgd	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise 4. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Begin groundwater pumping at a maximum combined capacity of 1 mgd, and monitor groundwater and lake levels. 2. Increase pumping capacity if lake level triggers are not exceeded, and continue monitoring groundwater and lake levels. 3. Redistribute, reduce, or stop pumping if chloride concentration lake level triggers are exceeded, and continue monitoring groundwater and lake levels. 4. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Project operation 2. Project operation 3. Project operation 4. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-9 (cont.)		during Phase 1 and up to 4 mgd after Phase 2 is implemented) if water levels can be maintained at the above-specified trigger levels. The SFPUC shall continue lake-level and groundwater monitoring, lake water-quality monitoring, and maintenance of the Lake-Level Model, and if warranted based on monitoring data and model results, continue supplemental water additions. The rate of surplus water additions shall be controlled such that water surface elevation increases are no greater than 0.5 feet over a 2.5-week period in any single nesting season (conservatively March 1 through August 15) and no greater than 3 feet in any given year to avoid impacts to nesting birds and western pond turtle. • If a supplemental water source is not available or is insufficient to maintain lake levels above the trigger levels specified in Table MMRP-1, implement other corrective actions such as redistributing pumping to reduce or eliminate groundwater withdrawals near Lake Merced or decreasing the overall pumping rate to maintain lake levels at or above the specified trigger levels. The SFPUC shall continue lake-level and groundwater-level monitoring, Lake Merced water quality monitoring, and maintenance of the Lake-Level Model to determine the effectiveness of the corrective measures such that lake levels shall be maintained at the above-specified trigger levels. As shown in Figure MMRP-2, the SFPUC shall continue to monitor lake levels and shall continue supplemental water additions or redistribution/reduction of groundwater pumping to maintain Lake Merced water levels at the above-specified trigger levels. Mitigation Measure M-HY-9 could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.				
HY-11	Project operation would possibly cause a violation of water quality standards.	**M-HY-11: Prepare a Source Water Protection Program and Update Drinking Water Source Assessment.** Because the DWSAP reports for each proposed well facility identified potentially contaminating activities with a vulnerability score of 8 or higher, the SFPUC shall develop and implement a source water protection program including the following components to be implemented to prevent contamination of the well facility: • Integration with the Westside Basin Groundwater Monitoring Program to identify changes in water quality that would warrant further study and response. • Continued cooperation with the San Francisco Department of Public Health in that department's implementation of the existing well construction and well destruction permit program. The goal of protecting and preserving groundwater quality requires that all wells be properly constructed and maintained during their operational lives, and properly destroyed after their useful lives. • Continued cooperation with the San Francisco Department of Public Health in that department's management of cases in the North Westside Basin where spills or leaks of chemicals (e.g., leaking underground fuel tanks) could threaten groundwater quality to ensure that the responsible party adequately investigates and cleans up any contamination that could threaten drinking water quality. • Continued cooperation with the SFPUC Wastewater Enterprise's Urban Watershed Management Program in the implementation of guidelines to maintain appropriate buffers between low impact development stormwater facilities and drinking water well facilities. • Continued coordination with the San Francisco Planning Department to ensure SFPUC review of and comment on CEQA planning documents for proposed projects in the North Westside Groundwater Basin to ensure that groundwater quality would not be degraded as a result of project implementation.	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise	1. SFPUC Water Enterprise 2. SFPUC Water Enterprise 3. SFPUC Water Enterprise, SFPUC BEM and ERO	1. Develop source water protection program in accordance with Mitigation Measure M-HY-11. 2. Implement source water protection program in accordance with Mitigation Measure M-HY-11. 3. Submit North Westside Basin Groundwater Basin Management Plan to Planning Department.	1. Construction, prior to project operation 2. Project operation 3. Project operation

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HYDROLOGY AND WATER QUALITY (cont.)						
HY-11 (cont.)		The source water protection program shall specify that in the event that potential contamination is identified, the SFPUC shall increase the monitoring frequency at the potentially affected well, investigate the potential source of contamination, coordinate with the San Francisco Department of Public Health or RWQCB to require responsible parties to address identified sources of contamination, and shut down the affected well or provide additional treatment for the groundwater if contamination of the drinking water supply cannot otherwise be avoided. In addition, the SFPUC shall update the drinking water source assessment for each well facility every five years to review existing and planned land uses as well as to identify potentially contaminating activities, as required by the California Department of Public Health, and revise monitoring requirements, if necessary to address additional potentially contaminating activities. The SFPUC shall encourage public participation in the development of the source water protection program and shall update the program every five years along with the drinking water source assessments for each project well, to prevent contamination that could cause an exceedance of drinking water MCLs at the project wells. Mitigation Measure M-HY-11 could be incorporated into the SFPUC's North Westside Basin Groundwater Management Plan. The Groundwater Management Plan would be submitted to the Planning Department prior to the operation of the San Francisco Groundwater Supply Project for review of consistency with the mitigation requirements for this project.				
HAZARDS AND HAZARDOUS MATERIALS						
HZ-2	Project construction would possibly result in a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials present in soil and groundwater.	**M-HZ-2a: Preconstruction Hazardous Materials Assessment.** Within three months prior to construction, the SFPUC shall retain a qualified environmental professional to conduct a regulatory agency database review to update and identify hazardous materials sites within ¼ mile of the project sites and to review appropriate standard information sources to determine the potential for soil or groundwater contamination at the project sites. Should this review indicate a high likelihood of encountering contamination at the project sites, follow-up sampling shall be conducted to characterize soil and groundwater quality prior to construction to provide necessary data for the site health and safety plan (Mitigation Measure M-HZ-2b) and hazardous materials management plan (Mitigation Measure M-HZ-2c). If needed, site investigations or remedial activities shall be performed at the project site in accordance with applicable laws.	1. SFPUC CMB/BEM (environmental professional)	1. SFPUC BEM	1. Update environmental database within 3 months of start of construction and perform follow-up analysis as required in this measure. Document findings in a report or technical memo to SFPUC.	1. Preconstruction
		M-HZ-2b: Health and Safety Plan. The construction contractor shall, prior to construction, prepare a site-specific health and safety plan in accordance with federal OSHA regulations (29 CFR 1910.120) and Cal-OSHA regulations (8 CCR Title 8, Section 5192) to address worker health and safety issues during construction. The health and safety plan shall identify the potentially present chemicals, health and safety hazards associated with those chemicals, all required measures to protect construction workers and the general public from exposure to harmful levels of any chemicals identified at the site (including engineering controls, monitoring, and security measures to prevent unauthorized entry to the work area), appropriate personal protective equipment, and emergency response procedures. The health and safety plan shall designate qualified individuals responsible for implementing the plan and for directing subsequent procedures in the event that unanticipated contamination is encountered. The plan shall include requirements for management of soil on the east side of the North Lake Pump Station (near boring SB-4), from the ground surface to a depth of about 0.5 feet, that contains elevated levels of lead: shallow soil in this area shall be excavated and temporarily stockpiled for additional testing to determine offsite disposal requirements. Alternatively, affected soil shall be isolated beneath building foundations or pavement areas during construction, pending approval from the San Francisco Department of Public Health.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include the requirement for preparing a health and safety plan. 2. Ensure that contractor(s) prepares and submits a health and safety plan and verify that it includes information cited in contract documents. 3. Monitor to ensure that the contractor(s) implements measures in the contract documents and health and safety plan. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Construction

ATTACHMENT B (continued)
SAN FRANCISCO GROUNDWATER SUPPLY PROJECT (CASE NO. 2008.1122E) – MITIGATION MONITORING AND REPORTING PROGRAM

Impact No.	Impact Summary	Mitigation Measure	Monitoring and Reporting Program			
			Implementation and Reporting		Monitoring and Reporting Actions	Implementation Schedule
			Responsible Party	Reviewing and Approval Party		
HAZARDS AND HAZARDOUS MATERIALS (cont.)						
HZ-2 (cont.)		**M-HZ-2c: Hazardous Materials Management Plan.** The contractor shall, prior to construction, prepare a hazardous materials management plan that specifies the method for handling and disposal of contaminated soil and building debris, should any be encountered during construction. Contract specifications shall mandate full compliance with all applicable local, State, and federal regulations related to identifying, transporting, and disposing of hazardous materials, including those encountered in excavated soil, and demolition debris. The contractor shall provide the SFPUC with copies of hazardous waste manifests documenting that disposal of all hazardous materials has been performed in accordance with the law.	1. SFPUC EMB 2. SFPUC CMB/BEM 3. SFPUC CMB/	1. SFPUC BEM 2. SFPUC BEM 3. SFPUC BEM	1. Ensure that contract documents include requirements for preparing a hazardous materials management plan. 2. Ensure that contractor(s) prepares and submits a hazardous materials management plan and verify that it complies with requirements cited in contract documents. 3. Monitor to ensure that the contractor(s) implements measures in the contract documents and hazardous materials management plan. Report noncompliance, and ensure corrective action.	1. Design 2. Construction 3. Construction

DPW Engineering = Department of Public Works (CCSF)
BEM = Bureau of Environmental Management (SFPUC)
EP = San Francisco Planning Department, Environmental Planning Division (CCSF)
SFPUC = San Francisco Public Utilities Commission (CCSF)
ERO = Environmental review officer (CCSF – EP)

CCSF = City and County of San Francisco
EMB = Engineering Management Bureau (SFPUC)
CMB = Construction Management Bureau (SFPUC)

INSERT figure MMRP-1a
Flow Chart for Seawater Intrusion Mitigation

INSERT figure MMRP-1b
Flow Chart for Seawater Intrusion Mitigation

INSERT figure MMRP-2
Flow Chart for Lake Merced Mitigation

INSERT figure MMRP-3
Lake Merced Water Surface Elevation Range for Avoidance of Significant Surface Water Interaction Effects

TABLE MMRP-1
LAKE MERCED WATER SURFACE ELEVATION RANGE FOR AVOIDANCE OF SIGNIFICANT SURFACE WATER INTERACTION EFFECTS[a]

Water Surface Elevation Without the Project (feet City Datum)	Corresponding Allowable Project-Related Water Surface Elevation Range (feet City Datum)			Allowable Increment of Change as a Result of Project	Trigger Level for Additional Actions (feet City Datum)
	Wetlands	Water Quality	Combined Range[b]		
13	13 to -10	0 to 13	0 to 13	Up to 13 feet of decline	0
12	4 to 12	0 to 12	4 to 12	Up to 8 feet of decline	4
11	9 to 11	0 to 11	9 to 11	Up to 2 feet of decline	9
10	9 to 10	0 to 10	9 to 10	Up to 1 foot of decline	9
9	8 to 9	0 to 9	8 to 9	Up to 1 foot of decline	8
8	7 to 8	0 to 8	7 to 8	Up to 1 foot of decline	7
7	4 to 7	0 to 7	4 to 7	Up to 3 feet of decline	4
6	5 to 6	0 to 6	5 to 6	Up to 1 foot of decline	5
5	4 to 5; -6 to -10	0 to 5	4 to 5	Up to 1 foot of decline	4
4	3 to 4; -5 to -10	0 to 4	3 to 4	Up to 1 foot of decline	3
3	2 to 3; -5 to -10	0 to 3	2 to 3	Up to 1 foot of decline	2
2	1 to 2; -4 to -10	0 to 2	1 to 2	Up to 1 foot of decline	1
1	0 to 1; -3 to -10	0 to 1	1	Up to 1 foot of decline	0
0	0 to -10	0	0	No decline permitted	0
-1	-1 to -10	-1	-1	No decline permitted	-1
-2	-2 to -10	-2	-2	No decline permitted	-2
-3	-3 to -10	-3	-3	No decline permitted	-3
-4	-4 to -10	-4	-4	No decline permitted	-4
-5	-5 to -10	-5	-5	No decline permitted	-5
-6	-6 to -10	-6	-6	No decline permitted	-6
-7	-7 to -10	-7	-7	No decline permitted	-7
-8	-8 to -10	-8	-8	No decline permitted	-8
-9	-9 to -10	-9	-9	No decline permitted	-9
-10	-10	-10	-10	No change; lake would be dewatered as a result of climatic conditions	-10

[a] The water surface elevation values represent the mean annual water surface elevation. Lake Merced water levels vary seasonally due to hydrologic and climatic conditions; therefore, an annual range in water surface elevation from about 1 foot above and below the mean is assumed; for example, an elevation of 6 feet City Datum, as seen in the table, actually represents a range in water surface elevation between of 5 and 7 feet City Datum.

[b] The combined range is the maximum and minimum mean annual water surface elevation that would avoid net loss of wetlands and substantial adverse effects on water quality.

SOURCE: ESA (wetlands information derived from San Francisco Groundwater Supply Project EIR, Appendix C tables)