APPENDIX BIO

Special Status Species List and Tree Survey Results

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APPENDIX BIO
SPECIAL-STATUS SPECIES THAT MAY OCCUR IN THE PROJECT AREA

Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Listing**	**Habitat Description / Blooming Period**	**Potential to Occur in the Project Area**
Invertebrates					
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE	--	--	Coastal scrub on rocky outcrops with broadleaf stonecrop (*Sedum spathulifolium*)	**Low.** No suitable habitat present. Three known populations at San Bruno Mountain, Montara, and Pacifica.
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	--	--	Serpentine grasslands.	**Absent.** No suitable habitat present.
Mission blue butterfly *Plebejus icarioides missionensis*	FE	--	--	Grassland with *Lupinus albifrons, L. Formosa*, and *L. varicolor*.	**Low.** No suitable habitat present.
Callippe silverspot butterfly *Speyeria callippe callippe*	FE	--	--	Found in native grasslands with *Viola pedunculata* as larval food plant.	**Low.** No suitable habitat present.
Monarch butterfly *Danaus plexippus*	--	*	--	Eucalyptus groves (wintering sites).	**Low.** Several records of this species in Golden Gate Park but no wintering sites known at or adjacent to project site.
Mimic tryonia (=California brackishwater snail) *Tryonia imitator*	--	*	--	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	**Low**. No suitable habitat present.
Reptiles					
Western pond turtle *Emys marmorata*	--	CSC	--	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and suitable upland habitat for egg-laying. Nest sites most often characterized as having gentle slopes (<15%) with little vegetation or sandy banks.	**Absent.** No suitable habitat present.
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	FE	CE	--	Densely vegetated ponds near open hillsides with abundant small mammal burrows.	**Absent.** No suitable habitat present. Species is considered likely extirpated from San Francisco.
Amphibians					
California red-legged frog *Rana aurora draytonii*	FT	CSC	--	Freshwater ponds and slow streams with emergent vegetation for egg attachment.	**Absent.** No suitable habitat present.

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Birds					
Western snowy plover *Charadrius alexandrines nivosus*	FT	CSC	--	Sandy beaches, salt pond levees and shores or large alkali lakes.	**Low.** Potential low-quality foraging habitat present along Pier 94 and Heron's Head Park salt marshes, but low potential for species to occur with high frequency of disturbance within proximity of project site.
Ridgway's rail *Rallus obsoletus*	FE	CE/CFP	--	Salt marsh wetlands along San Francisco Bay.	**Low.** Potential low-quality foraging habitat present along Pier 94 and Heron's Head Park salt marshes, but moderate potential for species to occur with high frequency of disturbance within proximity of project site.
California least tern *Sternula antillarum browni*	FE	CE/CFP	--	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**Low.** May migrate and forage over project staging areas on a transient basis and forage. Nesting colony is located on Alameda Island approximately 4.5 miles east of project area.
Burrowing owl *Athene cunicularia*		CSC	--	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	**Absent.** No suitable habitat present.
Northern harrier *Circus cyaneus*		CSC	--	Nests on ground in shrubby vegetation, usually at marsh edge. Nest built of large mound of sticks in wet areas.	**Absent.** No recorded occurrences in San Francisco Peninsula. No suitable habitat present.
White-tailed kite *Elanus leucurus*		CFP	--	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	**Absent.** No suitable habitat present.
American peregrine falcon *Falco peregrinus anatum*	FD/ BCC	CFP	--	Woodlands, coastal habitats, riparian areas, coastal and inland waters, human-made structures that may be used as nest or temporary perch sites.	**Low.** No suitable habitat present.
Bank swallow *Riparia riparia* (nesting)	--	CT	--	Vertical banks and cliffs with sandy soil, near water. Nests in holes dug in cliffs and river banks.	**Low.** Could be present on a transient basis adjacent to project site.
California black rail *Laterallus jamaicensis coturniculus*	--	CT	--	Salt and brackish marshes; also in freshwater marshes at low elevations. Requires waters that do not fluctuate during the year and dense vegetation for nesting habitat.	**Low.** Potential low-quality foraging habitat present along Pier 94 and Heron's Head Park salt marshes, but low potential for species to occur with high frequency of disturbance within proximity of project site.
Salt marsh common yellowthroat *Geothlypis trichas sinuous*	--	CSC	--	Forages in various marsh, riparian and upland habitats. Nests on or near the ground in concealed locations. Requires thick, continuous cover down to water surface for foraging. Nests in tall grasses, tule patches, and willows.	**Moderate.** This species is known to breed in the freshwater marshes in the western part of the city. Potential suitable foraging habitat north of Pier 94 staging area; however, staging area setback precludes any potential impacts.

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Common Name *Scientific Name*	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Project Area
Birds (cont.)					
Alameda song sparrow *Melospiza melodia pusillula*	--	CSC	--	Salt marshes of eastern and south San Francisco Bay.	**Low.** Potential foraging habitat in salt marsh north of Pier 94 staging area. However, species only recorded in East Bay.
San Pablo song sparrow *Melospiza melodia samuelis*	--	CSC	--	Salt marshes of eastern and north San Francisco Bay.	**Low.** No suitable habitat present.
Double-crested cormorant *Phalacrocorax auritus*	--	WL, 3503.5	--	Coastal areas and inland lakes in fresh, saline, and estuarine waters.	**Moderate.** Could forage in waters near Piers 94 and 96 staging areas. Cargo crane facilities on eastern edge of Pier 96.
Cooper's hawk *Accipiter cooperii*	--	3503.5	--	Nests in riparian areas and oak woodlands, forages at woodland edges.	**Low.** Foraging is known in Lake Merced over 5 miles east of project site, though breeding remains undocumented. Large trees in project area, including eucalyptus and Monterey cypress, could support nests for this species.
Sharp-shinned hawk *Accipiter striatus*	--	3503.5	--	Nests in riparian areas and oak woodlands, forages in open areas.	**Low.** Could nest in large trees near project site.
Red-tailed hawk *Buteo jamaicensis*	--	3503.5	--	Found in nearly all habitats and elevations.	**Low.** Large trees in project area, including eucalyptus and Monterey pines, could support nests for this species.
Red-shouldered hawk *Buteo lineatus*	--	3503.5	--	Riparian woodlands with swamps and emergent wetlands.	**Low.** Large trees in project area, including eucalyptus and Monterey pines, could support nests for this species.
Caspian tern *Hydroprogne caspia*	BCC	--	--	Nests colonially on sandy estuarine shores, on levees in salt ponds, and on islands in alkali and freshwater lakes. Breeding adults often fly substantial distances to forage in lacustrine, riverine, and fresh and saline emergent wetland habitats.	**Low.** Species known to nest in Heron's Head Park, south of Pier 96 staging area; however, existing industrial activities preclude potential impacts to species as a result of the project.
Snowy egret *Egretta thula*	--	3503.5	--	Nests colonially on along margins of water bodies.	**Moderate.** Nests locally on Farm Island and Alcatraz. Only potential suitable nesting site for species would be in restored saltmarsh north of Pier 94 staging area, but lack of trees or large shrubs in this area preclude nesting habitat.
Osprey *Pandion haliaetus*	--	3503.5	--	Habitat varies greatly and usually includes adequate supply of accessible fish, shallow waters, open and elevated nest sites (10 to 60 feet in height), and artificial structures such as towers. Builds large platform stick nests near or in open waters such as lakes, estuaries, and bays.	**Low.** Could forage in shoreline vicinity.
Great blue heron	--	3503.5	--	Shallow estuaries and fresh and saline emergent wetlands.	**Low.** Could forage in shoreline vicinity.

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Ardea herodias					
Mammals					
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE	CE/FP	--	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Found primarily in pickleweed (*Salicornia* spp.). Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	**Absent.** Suitable habitat not found onsite.
Pallid bat *Antrozous pallidus*	--	CSC	--	Prefers caves, crevices, hollow trees, or buildings in areas adjacent to open space for foraging. Associated with lower elevations in California. Very sensitive to disturbance of roosting sites.	**Low.** Species may migrate through area but ongoing disturbance occurring at site not suitable for pallid bat roost.
Townsend's big-eared bat *Corynorhinus townsendii*	--	CSC	--	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings of rocky areas with caves or tunnels. Roosting sites limited. Extremely sensitive to human disturbance.	**Moderate.** Suitable roosting habitat is available in undisturbed portions of Central Shops and Asphalt Plant.
Western red bat *Lasiurus blossevillii*	--	CSC	--	Roosts primarily in trees, 2 to 40 feet above ground, from sea level up through mixed conifer forests.	**Low.** No suitable habitat present.
Hoary bat *Lasiurus cinereus*	--	--	--	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths; requires water.	**Low.** Low quality roosting habitat is available in undisturbed portions of Asphalt Plant or Central Shops. May be present on a transient basis. Nearest CNDDB occurrence is approximately 1.5 miles south of project site at Gilman Playground, although this occurrence is historical.
American badger *Taxidea taxus*	--	CSC	--	Open grasslands with loose, friable soils.	**Low.** No suitable habitat present.
Plants					
Presidio manzanita *Arctostaphylos montana* ssp. *Ravenii*	FE	CE	1B.1	Open, rocky, serpentine slopes in chaparral, coastal scrub, and coastal prairie. February – March	**Absent.** No suitable habitat present.
Presidio clarkia *Clarkia franciscana*	FE	CE	1B.1	Serpentine outcrops in coastal scrub, and valley and foothill grassland. May – July	**Absent.** No suitable habitat present.

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Common Name *Scientific Name*	Federal Status	State Status	CNPS Listing	Habitat Description / Blooming Period	Potential to Occur in the Project Area
Plants (cont.)					
Santa Cruz tarplant *Holocarpha macradenia*	FT	CE	1B.1	Coastal prairie, coastal scrub, valley and foothill grassland. June – October	**Absent.** No suitable habitat present.
San Francisco lessingia *Lessingia germanorum*	FE	CE	1B.1	Coastal scrub, sandy soils free of competing species. July – November	**Absent.** No suitable habitat present. Historically known in San Francisco.
White rayed pentachaeta *Pentachaeta bellidiflora*	FE	CE	1B.1	Open, dry, rocky slopes and grassy areas, usually on serpentine. March – May	**Absent.** No suitable habitat present.
Marin western flax *Hesperolinon congestum*	FE	CT	1B.1	Chaparral and grassland, usually on serpentine barrens. April – July	**Absent.** No suitable habitat present.
Robust spineflower *Chorizanthe robusta var. robusta*	FE	--	1B.1	Sandy or gravelly coastal dunes, coastal scrub, cismontane woodland, and maritime chaparral. April – September	**Absent.** Potentially suitable habitat present north of Pier 94 staging area but species presumed extirpated in San Francisco.
San Bruno Mountain manzanita *Arctostaphylos imbricada*	--	CE	1B.1	Chaparral and coastal scrub, usually on sandstone outcrops. February – May	**Absent.** No suitable habitat present.
San Francisco popcorn-flower *Plagiobothrys diffusus*	--	CE	1B.1	Coastal prairie, and valley and foothill grasslands. March – June	**Absent.** Known to be extirpated in San Francisco. No suitable habitat present.
California seablite *Suaeda californica*	FE	--	1B.1	Margins of coastal salt marshes and swamps. July – October	**Low.** Species restored in salt marsh north of Pier 94 staging area, but highly disturbed habitat within the project area is unlikely to support this species. Curb separating staging area from restored population would preclude impacts to this species.
Adobe sanicle *Sanicula maritima*	--	--	1B.1	Moist clay or ultramafic soil in chaparral, coastal prairie, meadows, seeps, and valley and foothill grassland. February – May	**Absent.** No suitable habitat present.
Two-fork clover *Trifolium amoenum*				Valley and foothill grassland, coastal bluff scrub. April – June	**Absent.** No suitable habitat present.
Hairless popcorn-flower *Plagiobothrys glaber*	--	--	1A	Coastal salt marshes and alkaline meadows. March – May	**Low.** Known to be extirpated in San Francisco. No suitable habitat present.

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Plants (cont.)					
Kellogg's horkelia *Horkelia cuneata* ssp. *sericea*	--	--	1B.1	Coastal scrub, dunes, and openings of closed-cone coniferous forests. February – July	**Absent.** No suitable habitat present.
Rose leptosiphon *Leptosiphon rosaceus*	--	--	1B.1	Coastal bluff scrub. April – July	**Absent.** No suitable habitat present.
Oregon polemonium *Polemonium carneum*	--	--	1B.1	Coastal prairie, coastal scrub, lower montane coniferous forest. April – September	**Absent.** No suitable habitat present.
Franciscan onion *Allium peninsulare var. franciscanum*			1B.2	Cistamone woodland, valley and foothill grassland in clay soils, often on dry, serpentine hillsides. April -June	**Absent.** No suitable habitat present.
Bent-flowered fiddleneck *Amsinckia lunaris*	--	--	1B.2	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland. March – June	**Absent.** No suitable habitat present.
Franciscan manzanita *Arctostaphylos franciscana*	--	--	1B.1	Open, rocky, serpentine outcrops in chaparral. February – April	**Absent.** No suitable habitat present.
Montara manzanita *Arctostaphylos montaraensis*	--	--	1B.2	Slopes and ridges in chaparral and coastal scrub. January – March	**Absent.** No suitable habitat present.
Coastal marsh milk-vetch *Arctostaphylos pycnostachyus var pycnostachyus*	--	--	1B.2	Coastal salt marshes, scrub and dunes. April – October	**Low.** Nearest occurrence recorded near Crystal Springs Reservoir over 15 miles south of project site.
Alkali milk-vetch *Astragualus tener* var. *tener*	--	--	1B.2	Alkali flats, flooded grassland, playas, and vernal pools. March – June	**Low.** No suitable habitat present; species presumed extirpated in San Francisco.
Pappose tarplant *Centromadia parryi* ssp. *parryi*	--	--	1B.2	Chaparral, coastal prairie, meadows, seeps, coastal salt marshes and swamps, and vernally mesic, often alkaline, valley and foothill grasslands. May – November	**Absent.** No suitable habitat present.

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Plants (cont.)					
Franciscan thistle *Cirsium andrewsiisnowy*	--	--	1B.2	Coastal bluff scrub, coastal prairie, coastal mesic scrub, and broadleaf upland forest; sometimes on serpentine. March – July	**Absent.** No suitable habitat present.
San Francisco Bay spineflower *Chorizanthe cuspidata* var. *cuspidata*	--	--	1B.2	Coastal scrub, dunes and grassland. April – July	**Absent.** No suitable habitat present.
Point Reyes bird's-beak *Chloropyron maritimum* ssp. *palustre*	--	--	1B.2	Coastal salt marshes and swamps. June – October	**Low.** All recorded occurrences in San Francisco Peninsula are extirpated besides localized Presidio occurrence.
Round-headed Chinese-houses *Collinsia corymbosa*	--	--	1B.2	Coastal dunes and coastal prairie. April – June	**Absent.** No suitable habitat present. Only historical occurrence of species recorded in San Francisco.
Fragrant fritillary *Fritillaria liliacea*	--	--	1B.1	On clay, often serpentine-derived soils in coastal scrub, grassland, and coastal prairie. February – April	**Absent.** No suitable habitat present.
Blue coast gilia *Gilia capitata* spp. *chamissonis*	--	--	1B.1	Coastal dunes and scrub. April – July	**Absent.** No suitable habitat present.
San Francisco gumplant *Grindelia hirsutula* var. *maritime*	--	--	1B.2	On sandy or serpentine slopes of sea bluffs in coastal scrub, or valley and foothill grasslands. June – September	**Absent.** Serpentine soils necessary. No suitable habitat present.
Diablo helianthella *Helianthella castanea*	--	--	1B.2	On rocky soils in broadleaf upland forest, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. March – June	**Absent.** No suitable habitat present.
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	--	--	1B.2	Sandy bluffs and flats in coastal scrub and coastal dunes. March – June	**Absent.** No suitable habitat present.
Arcuate bush mallow *Malacothamnus arcuatus*	--	--	1B.2	Gravelly alluvium in chaparral and cismontane woodland. April – September	**Absent.** No suitable habitat present.

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Common Name *Scientific Name*	**Federal Status**	**State Status**	**CNPS Listing**	**Habitat Description / Blooming Period**	**Potential to Occur in the Project Area**
Plants (cont.)					
Marsh microseris *Microseris paludosa*	--	--	1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland. August – June	**Absent.** No suitable habitat present.
Choris's popcorn-flower *Plagiobothrys chorisianus* var. *chorisianus*	--	--	1B.2	Mesic sites in chaparral, coastal scrub, and coastal prairie. March – June	**Absent.** No suitable habitat.
San Francisco campion *Silene verecunda* ssp. *verecunda*	--	--	1B.2	Mudstone, shale, or serpentine substrates in coastal scrub, coastal prairie, chaparral and valley and foothill grassland. March – June	**Absent.** No suitable habitat present.
Santa Cruz microseris *Stebbinsoseris decipiens*	--	--	1B.2	On sandstone, shale or serpentine-derived seaward-facing slopes in broadleaf upland forest, closed-cone coniferous forest, chaparral, coastal prairie, and coastal scrub. April – May	**Absent.** No suitable habitat present.
Coastal triquetrella *Triquetrella californica*	--	--	1B.2	On soil in coastal bluff and coastal scrub.	**Absent.** No suitable habitat present.
San Francisco owl's clover *Triphysaria floribunda*	--	--	1B.2	Grasslands. April – June	**Absent.** Historically occurred in San Francisco. No suitable habitat present.
Saline clover *Trifolium depauperatum var. hydrophilum*			1B.2	Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites.	**Absent**. Suitable habitat not found onsite.
Marin knotweed *Polygonum marinense*	--	--	3.1	Marshes and swamps. April – October	**Low.** No suitable habitat present.

NOTES:
The "Potential for Effect" category is defined as follows:
High = Species is expected to occur and habitat meets species requirements.
Moderate = Habitat is only marginally suitable or is suitable but not within species geographic range.
Low = Habitat does not meet species requirements as currently understood in the scientific community.

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STATUS CODES:

Federal:
FE = Listed as "endangered" under the Federal Endangered Species Act
FT = Listed as "threatened" under the Federal Endangered Species Act
FS = United States Forest Service Sensitive
BCC = USFWS Birds of Conservation Concern
FSC = NOAA Fisheries designated "species of concern"
FPD = Proposed delisted
FD = Delisted

CNPS:
List 1A= Plants presumed extirpated in California and either rare or extinct
List 1B= Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California, but more common elsewhere
List 3 = Plants about which we need more information--a review list
List 4 = Plants of limited distribution--a watch list
LS = Locally Significant Species

State:
CE = Listed as "endangered" under the California Endangered Species Act
CT = Listed as "threatened" under the California Endangered Species Act
CSC = California Department of Fish and Wildlife designated "species of special concern"
CFP = California Department of Fish and Wildlife designated "fully protected"
SC = California Department of Fish and Wildlife designated "candidate threatened"
WL = California Department of Fish and Wildlife designated "watch list"
3503.5 = Eggs, Nests, and Nestlings Protected under section 3503.5 of the California Department of Fish and Game Code
* = California special animal

SOURCE: United States Fish and Wildlife Service (USFWS), 2015, Endangered Species Act Species List for the SFPUC Biosolids Digester Facilities Project, available online: http://ecos.fws.gov/ipac/, accessed on September 16, 2015; California Department of Fish and Wildlife (CDFW), 2015, California Natural Diversity Database (CNDDB) Summary Table Report for 7.5-minute topographic quadrangles San Francisco North, San Francisco South, Hunters Point, Montara Mountain, Oakland West, San Mateo, Commercial Version, September 16, 2015; California Native Plant Society (CNPS), Rare Plant Program, 2015, Inventory of Rare and Endangered Plants (online edition, v8-02), California Native Plant Society, Sacramento, CA, website http://www.rareplants.cnps.org, accessed on September 16, 2015.

APPENDIX A: August 7, 2015 and July 19, 2016 Tree Survey Results, Main Project Area (Figures 1 and 2)

SFPUC SEP Biosolids Digester Facilities Project, San Francisco CA

Tree #	**Common Name**	**Scientific Name**	**Diameter (inches) at 54"**	**Height** feet (approx.)	**Spread** feet (approx.)	**Protection Category[1]**	**Effect Code[2]**	**General Condition[3]**	**Comments**
1	Brisbane box	*Lophostemon confertus*	10.5	34	20	SG	PE-TP	Good	
2	Bailey acacia	*Acacia baileyana*	8.5	19	18	SG	PE-TP	Good	
3	Bailey acacia	*Acacia baileyana*	7	24	16	SG	PE-TP	Good	
4	Brisbane box	*Lophostemon confertus*	7	32	12	SG	PE-TP	Good	
5	Bailey acacia	*Acacia baileyana*	6	18	15	SG	R	Fair	Trunk scar at 3'. Canopy unbalanced to south.
6	Brisbane box	*Lophostemon confertus*	7	18	8	SG	R	Poor	Topped @ 4'. Watersprouts with weak attachments from cut.
7	Brisbane box	*Lophostemon confertus*	10.5	29	18	C	PE-TP	Good	
8	Brisbane box	*Lophostemon confertus*	6	24	12	C	PE-TP	Good	
9	Brisbane box	*Lophostemon confertus*	10	17	17	C	PE-TP	Good	
10	Lombardy poplar	*Populus nigra*	6+3	14	14	C	R	Poor	Against concrete wall. Codominant stems with weak attachment.
11	Pyracantha	*Pyracantha angustifolia*	6	15	15	C	R	Poor	Against concrete wall. 40% dead canopy.
12	Pyracantha	*Pyracantha angustifolia*	5.5	17	17	C	R	Fair	Against concrete wall. 20% dead canopy.
13	Monterey pine	*Pinus radiata*	20	36	30	C	R	Fair	Pitch canker, dead branches.
14	Monterey pine	*Pinus radiata*	13	32	15	C	R	Fair	Pitch canker, dead branches.
15	Lombardy poplar	*Populus nigra*	14.5	42	12	C	R	Fair	Suppressed by neighboring trees.
16	Lombardy poplar	*Populus nigra*	27	46	20	C	R	Good	
17	Monterey pine	*Pinus radiata*	19.5	40	20	C	R	Fair	Canopy unbalanced to south
18	London plane tree	*Platanus x acerifolia*	26	54	43	C	PE-TP	Good	
19	blackwood acacia	*Acacia melanoxylon*	8.5	36	10	C	R	Poor	Thin unbalanced canopy. Bark cracked and peeling.
20	blackwood acacia	*Acacia melanoxylon*	12	42	16	C	R	Fair	Unbalanced canopy, 10% dead wood.
21	blackwood acacia	*Acacia melanoxylon*	22	47	28	C	R	Good	
22	blackwood acacia	*Acacia melanoxylon*	13	34	15	C	R	Poor	Canopy unbalanced to west
23	blackwood acacia	*Acacia melanoxylon*	15.5	46	20	C	R	Fair	Canopy unbalanced to east.
24	blackwood acacia	*Acacia melanoxylon*	11	36	16	C	R	Fair	Trunk lean 10 to west. Canopy unbalanced and thin.
25	blackwood acacia	*Acacia melanoxylon*	14	34	15	C	R	Poor	40% dead canopy. Codominant stems @ 6' with included bark.

[1] Protection category: Tree protected under San Francisco Urban Forestry Ordinance as: **ST** = **Street tree**, within public right-of-way, **SG** = **Significant tree**, a tree (1) on property under the jurisdiction of the Department of Public Works or (2) on privately owned-property with any portion of its trunk within 10 feet of the public right-of-way, and (3) that satisfies at least one of the following criteria: (a) a diameter at breast height (DBH, or 54 inches) in excess of twelve (12) inches, (b) a height in excess of twenty (20) feet, or (c) a canopy in excess of fifteen (15) feet. ,**C** = tree on **City property**.

[2] Effect code: **R** = Remove for project development, **PE-TP** = Potential effect, tree protection may be necessary.

[3] Condition: **Good** = 80-100% healthy foliage and no significant defects; **Fair** = 50-79% healthy foliage and/or minor defects; **Poor** = 5-49% healthy foliage and/or other significant defects; **Dead** = less than 5% healthy foliage.

Tree #	Common Name	Scientific Name	Diameter (inches) at 54"	Height	Spread	Protection Category[1]	Effect Code[2]	General Condition[3]	Comments
				feet (approx.)					
26	blackwood acacia	*Acacia melanoxylon*	12.5	36	15	C	R	Fair	Canopy unbalanced to east.
27	blackwood acacia	*Acacia melanoxylon*	14	36	16	C	R	Fair	30% dead wood.
28	blackwood acacia	*Acacia melanoxylon*	15	36	20	C	R	Fair	Codominant stems @ 10' with weak attachment.
29	blackwood acacia	*Acacia melanoxylon*	12	36	12	C	R	Fair	Canopy thin with dead branches.
30	blackwood acacia	*Acacia melanoxylon*	17	36	24	C	R	Fair	Trunk scar from 2-7'.
31	blackwood acacia	*Acacia melanoxylon*	14	34	22	C	R	Fair	Lion tailed canopy.
32	blackwood acacia	*Acacia melanoxylon*	13	38	18	C	R	Fair	Canopy unbalanced to east.
33	blackwood acacia	*Acacia melanoxylon*	18	30	24	C	R	Poor	Cracked and peeling bark @10' on 2 of 4 main stems.
34	London plane tree	*Platanus x acerifolia*	25.5	42	44	SG	R	Fair	Canopy thin. Large branch removed on south side.
35	Lombardy poplar	*Populus nigra*	21	48	16	C	R	Good	
36	Lombardy poplar	*Populus nigra*	16.5	46	12	C	R	Fair	Unbalanced to northeast.
37	Lombardy poplar	*Populus nigra*	19	46	18	C	R	Good	
38	London plane tree	*Platanus x acerifolia*	8.5	23	20	SG	PE-TP	Fair	Thin canopy.
39	London plane tree	*Platanus x acerifolia*	11.5	33	20	C	R	Good	
40	London plane tree	*Platanus x acerifolia*	8	26	12	SG	R	Poor	60% dead canopy.
41	London plane tree	*Platanus x acerifolia*	13	35	25	SG	R	Fair	15% dead top.
42	blackwood acacia	*Acacia melanoxylon*	13.5	34	20	C	R	Good	
43	Lombardy poplar	*Populus nigra*	18	46	14	C	R	Good	
44	Lombardy poplar	*Populus nigra*	16	46	16	C	R	Good	
45	Lombardy poplar	*Populus nigra*	18.5	48	15	C	R	Good	
46	blackwood acacia	*Acacia melanoxylon*	17	46	22	C	R	Good	
47	Lombardy poplar	*Populus nigra*	12	40	10	C	R	Fair	Thin canopy, unbalanced to northeast.
48	Lombardy poplar	*Populus nigra*	13	42	12	C	R	Fair	Cavity at base of trunk. 30% void or decayed wood.
49	Lombardy poplar	*Populus nigra*	17	43	14	C	R	Good	
50	Monterey pine	*Pinus radiata*	39	54	56	C	**Removed** (per arborist-hazard risk)	Poor	40% dead canopy. Bark beetle pitch tubes along trunk with significant frass accumulated at tree base.
51	Monterey pine	*Pinus radiata*	45	46	52	C	**Removed** (per arborist-hazard risk)	Poor	40% dead canopy. Bark beetle pitch tubes along trunk with significant frass accumulated at tree base.

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Tree #	Common Name	Scientific Name	Diameter (inches) at 54"	Height	Spread	Protection Category¹	Effect Code²	General Condition³	Comments
				feet (approx.)					
52	London plane tree	*Platanus x acerifolia*	10	36	18	C	PE-TP	Fair	
53	London plane tree	*Platanus x acerifolia*	11	36	22	C	PE-TP	Good	
54	London plane tree	*Platanus x acerifolia*	11	32	20	C	PE-TP	Good	
55	London plane tree	*Platanus x acerifolia*	9	30	16	C	PE-TP	Fair	Unbalanced to east. Wind burned.
56	American sweet gum	*Liquidambar styraciflua*	9	27	16	SG	PE-TP	Fair	Poor branching structure.
57	American sweet gum	*Liquidambar styraciflua*	9	28	18	SG	PE-TP	Fair	Poor branching structure.
58	London plane tree	*Platanus x acerifolia*	20	44	50	SG	PE-TP	Good	
59	London plane tree	*Platanus x acerifolia*	9	38	15	C	PE-TP	Fair	Canopy thin.
60	London plane tree	*Platanus x acerifolia*	16.5	50	40	C	PE-TP	Fair	Topped for power line
61	London plane tree	*Platanus x acerifolia*	17	54	42	C	PE-TP	Good	
62	London plane tree	*Platanus x acerifolia*	15	52	38	C	PE-TP	Fair	Wind pruned
63	London plane tree	*Platanus x acerifolia*	17	44	33	C	PE-TP	Fair	Wind pruned
64	London plane tree	*Platanus x acerifolia*	15	46	30	C	PE-TP	Fair	Wind pruned
65	London plane tree	*Platanus x acerifolia*	19	44	38	ST	PE-TP	Good	Topped for power line
66	London plane tree	*Platanus x acerifolia*	13	40	27	ST	PE-TP	Good	Topped for power line
67	London plane tree	*Platanus x acerifolia*	10	36	27	ST	PE-TP	Fair	Topped for power line
68	London plane tree	*Platanus x acerifolia*	10	36	28	ST	PE-TP	Fair	Topped for power line
69	London plane tree	*Platanus x acerifolia*	11	33	28	ST	PE-TP	Good	Topped for power line
70	London plane tree	*Platanus x acerifolia*	6.5	30	12	ST	PE-TP	Poor	Topped for power line. Canopy thin.
71	London plane tree	*Platanus x acerifolia*	11.5	35	30	ST	PE-TP	Fair	Topped for power line
72	London plane tree	*Platanus x acerifolia*	10.5	35	24	ST	PE-TP	Fair	Topped for power line
73	London plane tree	*Platanus x acerifolia*	10	35	25	ST	PE-TP	Fair	Topped for power line
74	London plane tree	*Platanus x acerifolia*	10.5	36	26	ST	PE-TP	Fair	Topped for power line
75	London plane tree	*Platanus x acerifolia*	16	32	30	ST	PE-TP	Fair	Topped for power line
76	London plane tree	*Platanus x acerifolia*	20	36	40	ST	PE-TP	Fair	Topped for power line
77	Victorian box	*Pittosporum undulatum*	12.5	26	18	SG	R	Fair	Against fence. Multistemed @ 4' & 6"
78	Victorian box	*Pittosporum undulatum*	9	25	19	SG	R	Fair	Against fence. Multistemed @ 4'
79	avocado	*Persea americana*	6	14	13	C	R	Poor	Against fence. 30% dead wood. Bark cracked and peeling.
80	ngaio tree	*Myoporum laetum*	17.5+16	28	28	C	PE-TP	Poor	Canopy heavily weighted to west side of trunk. 20% dead wood in canopy.
81	little-leaf fig	*Ficus microcarpa*	8.5	20	14	C	PE-TP	Fair	25° lean to west. 15 gal. container with roots now anchored in the ground.
82	Canary Island pine	*Pinus canariensis*	12	24	11	C	PE-TP	Fair	24" box with roots now anchored in the ground. Growing against brick wall.

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Tree #	Common Name	Scientific Name	Diameter (inches) at 54"	Height	Spread	Protection Category[1]	Effect Code[2]	General Condition[3]	Comments
				feet (approx.)					
83	little-leaf fig	*Ficus microcarpa*	12.5	18	20	C	PE-TP	Good	
84	tulip tree	*Liriodendron tulipifera*	9.5	18	18	ST	PE-TP	Fair	
85	tulip tree	*Liriodendron tulipifera*	14.5	22	26	ST	PE-TP	Good	
86	tulip tree	*Liriodendron tulipifera*	10.5	18	16	ST	PE-TP	Fair	
87	tulip tree	*Liriodendron tulipifera*	11	26	20	ST	PE-TP	Good	
88	tulip tree	*Liriodendron tulipifera*	11.5	26	22	ST	PE-TP	Good	
89	tulip tree	*Liriodendron tulipifera*	6.5	25	18	ST	PE-TP	Fair	Decay in branch attachment at 7'.
90	tulip tree	*Liriodendron tulipifera*	8	24	18	ST	PE-TP	Poor	Deep trunk scars @ 1' and 5'-9'.
91	American sweet gum	*Liquidambar styraciflua*	12	24	20	ST	PE-TP	Fair	Rootbound. Roots lifting sidewalk.
92	tulip tree	*Liriodendron tulipifera*	8	10	10	ST	PE-TP	Poor	Topped @ 9'.
93	tulip tree	*Liriodendron tulipifera*	12	22	24	ST	PE-TP	Poor	Deep trunk scar south side @ 1'-8'. Dead top.
94	glossy privet	*Ligustrum lucidum*	11	20	24	C	PE-TP	Fair	
95	glossy privet	*Ligustrum lucidum*	9	22	12	C	PE-TP	Fair	
96	glossy privet	*Ligustrum lucidum*	12	24	20	C	PE-TP	Fair	
97	maidenhair tree	*Ginkgo biloba*	7	28	12	C	PE-TP	Fair	
98	maidenhair tree	*Ginkgo biloba*	7	17	12	C	PE-TP	Fair	Premature leaf drop. Multi-branched @ 7'.
99	maidenhair tree	*Ginkgo biloba*	6	28	14	C	PE-TP	Fair	
100	New Zealand tea tree	*Leptospermum scoparium*	6.5+5+5	12	16	C	PE-TP	Good	
101	New Zealand tea tree	*Leptospermum scoparium*	4.5+4+4+3+3	12	15	C	PE-TP	Good	
102	Lombardy poplar	*Populus nigra*	26	44	21	C	R	Good	
103	Lombardy poplar	*Populus nigra*	15	46	12	C	R	Fair	
104	Lombardy poplar	*Populus nigra*	17.5	46	18	C	R	Fair	
105	Lombardy poplar	*Populus nigra*	14	46	14	C	R	Fair	
106	Lombardy poplar	*Populus nigra*	27	50	24	C	R	Good	
107	Brisbane box	*Lophostemon confertus*	19.5	38	25	SG	PE-TP	Good	
108	Brisbane box	*Lophostemon confertus*	8	26	8	SG	PE-TP	Poor	Thin, dead branches in canopy.
109	Brisbane box	*Lophostemon confertus*	17	28	17	SG	PE-TP	Fair	
110	American sweet gum	*Liquidambar styraciflua*	9.5	25	22	SG	PE-TP	Fair	Poor branching structure.
111	American sweet gum	*Liquidambar styraciflua*	14	34	20	SG	PE-TP	Fair	Poor branching structure.
112	American sweet gum	*Liquidambar styraciflua*	9	25	20	C	PE-TP	Fair	Poor branching structure.
113	Monterey pine	*Pinus radiata*	38	48	50	C	PE-TP	Fair	Canopy unbalanced to south.
114	London plane tree	*Platanus x acerifolia*	16.5	50	38	C	PE-TP	Fair	
115	London plane tree	*Platanus x acerifolia*	16.5	48	30	C	PE-TP	Fair	
116	London plane tree	*Platanus x acerifolia*	11	30	26	C	PE-TP	Fair	
117	Brazilian pepper tree	*Schinus terebinthifolius*	15	26	25	C	R	Fair	Concrete cracked and lifted by tree roots.
118	Brazilian pepper tree	*Schinus terebinthifolius*	12	18	16	C	R	Fair	Concrete cracked and lifted by tree roots.

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APPENDIX B: March 7 and July 19, 2016 Tree Survey Results, 1550 Evans Avenue (Figure 3) SFPUC
SEP Biosolids Digestor Facilities Project, San Francisco, CA

Tree #	Common Name	Scientific Name	Diameter (inches) at 54" above grade	Height feet (approx.)	Spread feet (approx.)	Protection Category[1]	Effect Code[2]	General Condition[3]	Comments
E-1	carob	*Ceratonia siliqua*	7	15	12	C	R	Fair	
E-2	carob	*Ceratonia siliqua*	6	12	12	C	R	Fair	
E-3	Chinese elm	*Ulmus parvifloia*	10	25	22	C	R	Fair	
E-4	Chinese elm	*Ulmus parvifloia*	11	28	28	C	R	Good	
E-5	Chinese elm	*Ulmus parvifloia*	9	24	24	C	R	Fair	
E-6	Chinese elm	*Ulmus parvifloia*	11	28	22	C	R	Fair	
E-7	mayten	*Maytenus boaria*	7	20	10	C	R	Fair	20% dead canopy
E-8	mayten	*Maytenus boaria*	7	22	14	C	R	Fair	
E-9	NUMBER SKIPPED								
E-10	blackwood acacia	*Acacia melanoxylon*	17	38	24	C	R	Poor	Poor structure, trunk decay at base, 6' and 12'
E-11	hopseed	*Dodonea viscosa*	10 (at base)	20	15	C	R	Poor	Multi-stemmed @ 18", 80% defoliated
E-12	loquat	*Eriobotrya japonica*	5	12	14	C	R	Fair	Top out @ 5', thin foliage
E-13	evergreen pear	*Pyrus kawakamii*	7	14	15	C	R	Fair	
E-14	evergreen pear	*Pyrus kawakamii*	5	11	10	C	R	Fair	
E-15	evergreen pear	*Pyrus kawakamii*	5	10	10	C	R	Fair	Significant leaf spot, chlorotic
E-16	evergreen pear	*Pyrus kawakamii*	5	11	10	C	R	Fair	
E-17	evergreen pear	*Pyrus kawakamii*	6	14	12	C	R	Fair	Thin canopy
E-18	evergreen pear	*Pyrus kawakamii*	5	12	9	C	R	Fair	Thin canopy, chlorotic
E-19	evergreen pear	*Pyrus kawakamii*	9	18	18	C	R	Fair	
E-20	redwood	*Sequoia sempervirens*	11	13	14	C	PE-TP	Poor	Disfigured and stunted @ 8'
E-21	redwood	*Sequoia sempervirens*	10	13	12	C	PE-TP	Poor	Disfigured and stunted, epicormic sprouts
E-22	redwood	*Sequoia sempervirens*	15+13	25	18	C	R	Poor	Canopy 100% brown, few basal sprouts
E-23	carob	*Ceratonia siliqua*	5	10	15	C	R	Fair	Full green canopy but short multi-stemmed
E-24	loquat	*Eriobotrya japonica*	7+4	15	17	C	R	Fair	Multi-stemmed with sprouts from base
E-25	loquat	*Eriobotrya japonica*	7+4	18	14	C	R	Poor	Dead stems with decay@ 2', thin canopy
E-26	redwood	*Sequoia sempervirens*	14+14+4	38	18	C	PE-TP	Poor	Canopy 90% brown, few epicormic sprouts
E-27	redwood	*Sequoia sempervirens*	14	36	16	C	PE-TP	Poor	Canopy 90% brown, few epicormic sprouts
E-28	redwood	*Sequoia sempervirens*	18+13+6	38	18	C	PE-TP	Poor	Canopy 90% brown, few epicormic sprouts
E-29	redwood	*Sequoia sempervirens*	20	30	15	C	PE-TP	Poor	Canopy 80% brown, codominant stems @ 6'
E-30	redwood	*Sequoia sempervirens*	14	26	14	C	PE-TP	Poor	Canopy 95% brown, basal sprouts

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Tree #	Common Name	Scientific Name	Diameter (inches) at 54" above grade	Height	Spread	Protection Category[1]	Effect Code[2]	General Condition[3]	Comments
				feet (approx.)					
E-31	blackwood acacia	*Acacia melanoxylon*	18	28	35	C	PE-TP	Fair	Unbalanced to south, numerous root sprouts, trunk sanwiched between 2 fences
E-32	redwood	*Sequoia sempervirens*	11	20	15	C	PE-TP	Poor	Canopy 30% brown, thin canopy
E-33	redwood	*Sequoia sempervirens*	16	22	12	C	PE-TP	Fair	Disfigured, multi-stemmed @10-12', unbalanced to south
E-34	redwood	*Sequoia sempervirens*	18	28	18	C	PE-TP	Fair	Codominant stems @ 12'
E-35	redwood	*Sequoia sempervirens*	20	38	15	C	PE-TP	Poor	Canopy 80% brown, un balanced to south, multi-stemmed @ 10'
E-36	redwood	*Sequoia sempervirens*	17	36	15	C	R	Poor	Canopy 95% brown, few epicormic sprouts
E-37	redwood	*Sequoia sempervirens*	20	36	12	C	R	Poor	Canopy 95% brown, few epicormic sprouts
E-38	redwood	*Sequoia sempervirens*	27	28	18	C	R	Poor	Canopy 95% brown, few epicormic sprouts
E-39	redwood	*Sequoia sempervirens*	20.5	30	16	C	PE-TP	Fair	Top wind pruned, multi-stemmed @ 16'
E-40	redwood	*Sequoia sempervirens*	18	32	12	C	PE-TP	Fair	Top wind pruned, multi-stemmed @ 15'
E-41	redwood	*Sequoia sempervirens*	20	28	16	C	PE-TP	Fair	Top wind pruned, multi-stemmed @ 14'
E-42	redwood	*Sequoia sempervirens*	17	27	15	C	PE-TP	Fair	Top wind pruned, disfigured
E-43	redwood	*Sequoia sempervirens*	15.5	23	14	C	PE-TP	Fair	Top wind pruned, disfigured
E-44	redwood	*Sequoia sempervirens*	16.5	30	12	C	R	Fair	Within 4' of building
E-45	redwood	*Sequoia sempervirens*	15	33	12	C	R	Fair	Within 6' of building
E-46	redwood	*Sequoia sempervirens*	17	28	15	C	R	Fair	Top wind pruned, disfigured
E-47	redwood	*Sequoia sempervirens*	24	50	20	C	PE-TP	Fair	
E-48	Brazilian pepper tree	*Schinus terebinthifolius*	15	28	22	C	R	Fair	Trunk scar 2-4' NW side.
E-49	Brazilian pepper tree	*Schinus terebinthifolius*	9.5	18	16	C	R	Good	
E-50	Chinese elm	*Ulmus parvifolia*	20	34	42	C	R	Fair	Trunk split @ 3' with 5" gap
E-51	mayten	*Maytenus boaria*	11.5	27	13	C	R	Fair	Unbalanced to north (away from E-50)
E-52	jacaranda	*Jacaranda mimosifolia*	7	18	20	C	R	Fair	15° lean to the NW towards bulding
E-53	silk oak	*Grevillea robusta*	10	23	16	C	PE-TP	Fair	Canopy unbalanced to SW
E-54	silk oak	*Grevillea robusta*	12	24	22	C	R	Fair	
E-55	silk oak	*Grevillea robusta*	8	18	16	C	R	Fair	

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SOURCE: Orion Environmental Associates

SFPUC Biosolids Digester Facilities Project

Figure 1

Main Survey Area (North) - Tree Surveys August 7, 2015 and July 19, 2016

SOURCE: Kramer Botanical, 2016

SFPUC Biosolids Digester Facilities Project

Figure 2

Main Survey Area (South) - Tree Surveys August 7, 2015 and July 19,2016

SOURCE: Orion Environmental Associates

SFPUC Biosolids Digester Facilities Project

Figure 3

1550 Evans Avenue - Tree Surveys March 7, 2016 and July 19, 2016

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APPENDIX HAZ

Soil and Groundwater Sampling Data

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SEWER SYSTEM IMPROVEMENT PROGRAM | Grey. Green. Clean.

Environmental Site Investigation Work Plan for San Francisco Department of Public Health Article 22A Compliance

Technical Memorandum

July 2015

Prepared for:
San Francisco Public Utilities Commission

Authored by:
Biosolids Digester Facilities Project Consultant Team

Contract CS-235 Biosolids Digester Facilities Project

FINAL

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Environmental Site Investigation Work Plan for San Francisco Department of Public Health Article 22A Compliance

Contract Reference for Deliverables

Task Order 3

Subtask 11

July 2015

Prepared for:
San Francisco Public Utilities Commission

Authored by:
Biosolids Digester Facilities Project Consultant Team

Contract CS-235 Biosolids Digester Facilities Project

Brown AND Caldwell with ch2m: BLACK & VEATCH and associated firms

Guy Graening
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Environmental Site Investigation Work Plan for San Francisco Department of Public Health Article 22A Compliance

Contract Reference for Deliverables

Task Order 3

Subtask 11

Acknowledgements

People listed in the table below have provided significant input on this report.

Acknowledgements	
Name	**Organization**
Kenneth Leung	AEW Engineering
G. "Neel" Neelakantan	Geotechnical Consultants

Program Quality Assurance and Quality Control Review

Reviewers listed in the table below have completed an internal quality review check and approval process that is consistent with procedures and directives previously identified by SFPUC. The table below outlines the reviewers for this document.

Identification of Technical and Administrative Reviewers			
Subtask	**Deliverable (list both Draft and Final versions)**	**Technical Reviewer**	**Complete**
	Draft	Michael Yacyshyn/Brown and Caldwell	4/21/2015
		Tom Birmingham/Brown and Caldwell	4/30/2015
	Revised Draft	Kenn Conner/AMEC-Foster Wheeler	6/9/2015
		Tracy Stigers/Brown and Caldwell	6/9/2015
		Guy Graening/Brown and Caldwell	7/15/2015

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Environmental Site Investigation Work Plan for San Francisco Department of Public Health Article 22 Compliance

Table of Contents

List of Tables

List of Figures

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Attachment C: Tabulated Results of Chemical Analyses, 2013 Site Investigation, 1800 Jerrold Avenue Property

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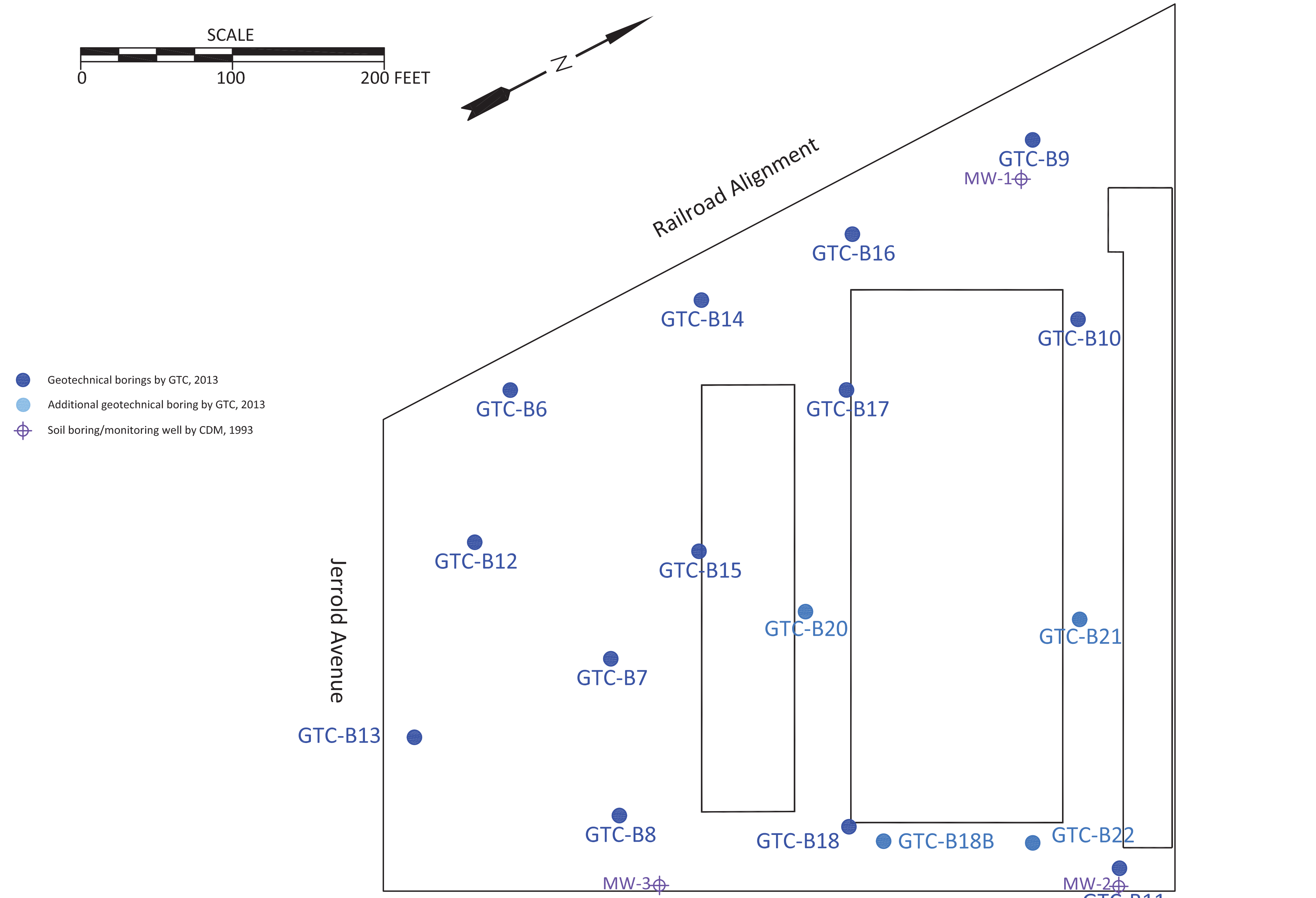

Source Map: Geotechnical Consultants, Inc., October 2013

Brown and Caldwell / ch2m / Black & Veatch AEW Engineering, Inc. 55 New Montgomery Street Suite 722 San Francisco, CA 94105	*Designed by: RNM*	*Drawn by: RNM*	**Site Layout** **1800 Jerrold Ave** **San Francisco, CA**	**Figure** **2**
	Reviewed by: RY	*Approved by: RY*		
	Date: 9/10/2014	*Project No: 2013-024 Task 1*		
	Version Number: 0	*File Name: Fig2_ Boring Location.dwg*		

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TABLE 1
LIST OF CHEMICAL ANALYSES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Chemical Analyses (Note 2) TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET As	WET Ba	WET Cr	TCLP Cr	WET Cu	WET Pb	TCLP Pb	WET Ni	WET Zn	Asbestos	pH	Total Suspended Solids	Total Solids	Total Recoverable Oil & Grease
Soil Samples																							
Group 1: GTC-B9, GTC-B10 & GTC-B16																							
GTC-B9, B10 & B16 Comp 2.5	GTC-B9-2.5	GTC-B9	2.5	√	√	√	√	√	√	NR (3)	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B10-2.5	GTC-B10	2.5																				
	GTC-B16-2.5	GTC-B16	2.5																				
GTC-B9, B10 & B16 Comp 5	GTC-B9-5.5	GTC-B9	5.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B10-5.5	GTC-B10	5.5																				
	GTC-B16-5.5	GTC-B16	5.5																				
GTC-B9, B10 & B16 Comp 10	GTC-B9-9.5	GTC-B9	9.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B10-9.5	GTC-B10	9.5																				
	GTC-B16-10.5	GTC-B16	10.5																				
GTC-B9, B10 & B16 Comp 15	GTC-B9-14	GTC-B9	14	√	√	√	√	√	√	NR	NR	NR	NR	√	NR	√	NR	NR	√	--	--	--	--
	GTC-B10-16.5	GTC-B10	16.5																				
	GTC-B16-16	GTC-B16	16																				
GTC-B9, B10 & B16 Comp 20	GTC-B9-21.5	GTC-B9	21.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B10-19.5	GTC-B10	19.5																				
	GTC-B16-20.5	GTC-B16	20.5																				
GTC-B9, B10 & B16 Comp 25	GTC-B9-25.5	GTC-B9	25.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B10-25.5	GTC-B10	25.5																				
	GTC-B16-25.5	GTC-B16	25.5																				
GTC-B9, B10 & B16 Comp 30	GTC-B9-30.5	GTC-B9	30.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-30.5	GTC-B10	30.5																				
	GTC-B16-30.5	GTC-B16	30.5																				
GTC-B9, B10 & B16 Comp 35	GTC-B9-35.5	GTC-B9	35.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-35.5	GTC-B10	35.5																				
	GTC-B16-35.5	GTC-B16	35.5																				
GTC-B9, B10 & B16 Comp 40	GTC-B9-40.5	GTC-B9	40.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-40.5	GTC-B10	40.5																				
	GTC-B16-40.5	GTC-B16	40.5																				
GTC-B9, B10 & B16 Comp 45 & 50	GTC-B9-45.5	GTC-B9	45.5	√	√	√	√	√	√	NR	NR	√	√	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-45.5	GTC-B10	45.5																				
	GTC-B16-45.5	GTC-B16	45.5																				
	GTC-B9-50.5	GTC-B9	50.5																				
	GTC-B10-50.5	GTC-B10	50.5																				
	GTC-B16-50	GTC-B16	50																				
GTC-B9, B10 & B16 Comp 55 & 60	GTC-B9-55.5	GTC-B9	55.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-55.5	GTC-B10	55.5																				
	GTC-B16-55.5	GTC-B16	55.5																				
	GTC-B9-60	GTC-B9	60																				
	GTC-B10-60	GTC-B10	60																				
	GTC-B16-60.5	GTC-B16	60.5																				
GTC-B9, B10 & B16 Comp 65 & 70	GTC-B9-65.5	GTC-B9	65.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-65.5	GTC-B10	65.5																				
	GTC-B16-65.5	GTC-B16	65.5																				
	GTC-B9-70.5	GTC-B9	70.5																				
	GTC-B10-70.5	GTC-B10	70.5																				
	GTC-B16-70.5	GTC-B16	70.5																				
GTC-B9, B10 & B16 Comp 75 & 80	GTC-B9-75.5	GTC-B9	75.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-75.5	GTC-B10	75.5																				
	GTC-B16-75.5	GTC-B16	75.5																				
	GTC-B9-80.5	GTC-B9	80.5																				
	GTC-B10-80.5	GTC-B10	80.5																				
	GTC-B16-80.5	GTC-B16	80.5																				
GTC-B9, B10 & B16 Comp 85 & 90	GTC-B9-85.5	GTC-B9	85.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-85	GTC-B10	85																				
	GTC-B16-85.5	GTC-B16	85.5																				
	GTC-B9-90	GTC-B9	90																				
	GTC-B10-90	GTC-B10	90																				
	GTC-B16-90	GTC-B16	90																				

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1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET As	WET Ba	WET Cr	TCLP Cr	WET Cu	WET Pb	TCLP Pb	WET Ni	WET Zn	Asbestos	pH	Total Suspended Solids	Total Solids	Total Recoverable Oil & Grease
GTC-B9, B10 & B16 Comp 95 & 100	GTC-B9-95.5	GTC-B9	95.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B10-95	GTC-B10	95																				
	GTC-B16-95	GTC-B16	95																				
	GTC-B9-100	GTC-B9	100																				
	GTC-B10-100	GTC-B10	100																				
	GTC-B16-100	GTC-B16	100																				
Group 2: GTC-B6, GTC-B14 & GTC-B17																							
GTC-B6, B14 & B17 Comp 2.5	GTC-B6-2.5	GTC-B6	2.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B14-2.5	GTC-B14	2.5																				
	GTC-B17-2.5	GTC-B17	2.5																				
GTC-B6, B14 & B17 Comp 5	GTC-B6-5	GTC-B6	5	√	√	√	√	√	√	NR	NR	√	√	NR	√	√	√	NR	√	--	--	--	--
	GTC-B14-5.5	GTC-B14	5.5																				
	GTC-B17-5.5	GTC-B17	5.5																				
GTC-B6, B14 & B17 Comp 10	GTC-B6-12	GTC-B6	12	√	√	√	√	√	√	NR	NR	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B14-10.5	GTC-B14	10.5																				
	GTC-B17-10.5	GTC-B17	10.5																				
GTC-B6, B14 & B17 Comp 15	GTC-B6-15.5	GTC-B6	15.5	√	√	√	√	√	√	NR	NR	√	NR	NR	√	√	NR	NR	√	--	--	--	--
	GTC-B14-15.5	GTC-B14	15.5																				
	GTC-B17-17.5	GTC-B17	17.5																				
GTC-B6, B14 & B17 Comp 20	GTC-B6-20.5	GTC-B6	20.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B14-20.5	GTC-B14	20.5																				
	GTC-B17-21.5	GTC-B17	21.5																				
GTC-B6, B14 & B17 Comp 25	GTC-B6-25.5	GTC-B6	25.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B14-25.5	GTC-B14	25.5																				
	GTC-B17-25.5	GTC-B17	25.5																				
GTC-B6, B14 & B17 Comp 30	GTC-B6-30.5	GTC-B6	30.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR		--	--	--	--
	GTC-B14-30.5	GTC-B14	30.5																				
	GTC-B17-30.5	GTC-B17	30.5																				
GTC-B6, B14 & B17 Comp 35	GTC-B6-35.5	GTC-B6	35.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-35.5	GTC-B14	35.5																				
	GTC-B17-35.5	GTC-B17	35.5																				
GTC-B6, B14 & B17 Comp 40	GTC-B6-40.5	GTC-B6	40.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-40.5	GTC-B14	40.5																				
	GTC-B17-40.5	GTC-B17	40.5																				
GTC-B6, B14 & B17 Comp 45 & 50	GTC-B6-45	GTC-B6	45	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-45.5	GTC-B14	45.5																				
	GTC-B17-45.5	GTC-B17	45.5																				
	GTC-B6-50.5	GTC-B6	50.5																				
	GTC-B14-50.5	GTC-B14	50.5																				
	GTC-B17-50.5	GTC-B17	50.5																				
GTC-B6, B14 & B17 Comp 55 & 60	GTC-B6-55.5	GTC-B6	55.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-55.5	GTC-B14	55.5																				
	GTC-B17-55.5	GTC-B17	55.5																				
	GTC-B6-60.5	GTC-B6	60.5																				
	GTC-B14-60.5	GTC-B14	60.5																				
	GTC-B17-60.5	GTC-B17	60.5																				
GTC-B6, B14 & B17 Comp 65 & 70	GTC-B6-65.5	GTC-B6	65.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-65.5	GTC-B14	65.5																				
	GTC-B17-65.5	GTC-B17	65.5																				
	GTC-B6-70.5	GTC-B6	70.5																				
	GTC-B14-70.5	GTC-B14	70.5																				
	GTC-B17-70.5	GTC-B17	70.5																				
GTC-B6, B14 & B17 Comp 75 & 80	GTC-B6-75.5	GTC-B6	75.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-76	GTC-B14	76																				
	GTC-B17-75	GTC-B17	75																				
	GTC-B6-80.5	GTC-B6	80.5																				
	GTC-B14-80.5	GTC-B14	80.5																				
	GTC-B17-80.5	GTC-B17	80.5																				
GTC-B6, B14 & B17 Comp 85 & 90	GTC-B6-85	GTC-B6	85	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-85.5	GTC-B14	85.5																				
	GTC-B17-85	GTC-B17	85																				
	GTC-B6-90	GTC-B6	90																				
	GTC-B14-90	GTC-B14	90																				
	GTC-B17-90	GTC-B17	90																				
GTC-B6, B14 & B17 Comp 95 & 100	GTC-B6-95.5	GTC-B6	95.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B14-95	GTC-B14	95																				
	GTC-B17-95	GTC-B17	95																				
	GTC-B6-100	GTC-B6	100																				
	GTC-B14-100	GTC-B14	100																				
	GTC-B17-100	GTC-B17	100																				

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET As	WET Ba	WET Cr	TCLP Cr	WET Cu	WET Pb	TCLP Pb	WET Ni	WET Zn	Asbestos	pH	Total Suspended Solids	Total Solids	Total Recoverable Oil & Grease
Group 3: GTC-B8, GTC-B11 & GTC-B18																							
GTC-B8, B11 & B18 Comp 2.5	GTC-B8-2.5 GTC-B11-2.5 GTC-B18-2.5	GTC-B8 GTC-B11 GTC-B18	2.5 2.5 2.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	√	√	NR	NR	√	--	--	--	--
GTC-B8, B11 & B18 Comp 5	GTC-B8-5 GTC-B11-5.5 GTC-B18-4.5	GTC-B8 GTC-B11 GTC-B18	5 5.5 4.5	√	√	√	√	√	√	√	NR	√	√	√	√	√	NR	NR	√	--	--	--	--
GTC-B8 & B11 Comp 10	GTC-B8-10.5 GTC-B11-11	GTC-B8 GTC-B11	10.5 11	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	√	NR	NR	√	--	--	--	--
GTC-B8 & B11 Comp 15	GTC-B8-15.5 GTC-B11-15.5	GTC-B8 GTC-B11	15.5 15.5	√	√	√	√	√	√	NR	NR	√	NR	NR	√	√	NR	NR	√	--	--	--	--
GTC-B8 & B11 Comp 20	GTC-B8-22.5 GTC-B11-20.5	GTC-B8 GTC-B11	22.5 20.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B8 & B11 Comp 25	GTC-B8-26.5 GTC-B11-25.5	GTC-B8 GTC-B11	26.5 25.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B8 & B11 Comp 30	GTC-B8-30.5 GTC-B11-31	GTC-B8 GTC-B11	30.5 31	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR		--	--	--	--
GTC-B8 & B11 Comp 35	GTC-B8-35.5 GTC-B11-35.5	GTC-B8 GTC-B11	35.5 35.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 40	GTC-B8-40.5 GTC-B11-40.5	GTC-B8 GTC-B11	40.5 40.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 45 & 50	GTC-B8-45.5 GTC-B11-45.5 GTC-B8-50.5 GTC-B11-50.5	GTC-B8 GTC-B11 GTC-B8 GTC-B11	45.5 45.5 50.5 50.5	√	√	√	√	√	√	NR	NR	√	√	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 55 & 60	GTC-B8-55 GTC-B11-55 GTC-B8-60.5 GTC-B11-60	GTC-B8 GTC-B11 GTC-B8 GTC-B11	55 55 60.5 60	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 65 & 70	GTC-B8-65.5 GTC-B11-65.5 GTC-B8-70.5 GTC-B11-70.5	GTC-B8 GTC-B11 GTC-B8 GTC-B11	65.5 65.5 70.5 70.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 75 & 80	GTC-B8-75.5 GTC-B11-75.5 GTC-B8-80.5 GTC-B11-80.5	GTC-B8 GTC-B11 GTC-B8 GTC-B11	75.5 75.5 80.5 80.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 85 & 90	GTC-B8-85 GTC-B11-85.5 GTC-B8-90 GTC-B11-90	GTC-B8 GTC-B11 GTC-B8 GTC-B11	85 85.5 90 90	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B8 & B11 Comp 95 & 100	GTC-B8-95.5 GTC-B11-95.5 GTC-B8-100 GTC-B11-100	GTC-B8 GTC-B11 GTC-B8 GTC-B11	95.5 95.5 100 100	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
Group 4a: GTC-B7, GTC-B12 & GTC-B15																							
GTC-B7, B12 & B15 Comp 2.5	GTC-B7-2.5 GTC-B12-2.5 GTC-B15-2.5	GTC-B7 GTC-B12 GTC-B15	2.5 2.5 2.5	√	√	√	√	√	√	NR	NR	√	NR	√	√	√	√	NR	√	--	--	--	--
GTC-B7, B12 & B15 Comp 5	GTC-B7-5.5 GTC-B12-5.5 GTC-B15-5.5	GTC-B7 GTC-B12 GTC-B15	5.5 5.5 5.5	√	√	√	√	√	√	NR	NR	√	√	NR	√	√	√	NR	√	--	--	--	--
GTC-B7, B12 & B15 Comp 10	GTC-B7-10.5 GTC-B12-10 GTC-B15-11	GTC-B7 GTC-B12 GTC-B15	10.5 10 11	√	√	√	√	√	√	NR	NR	√	√	√	NR	√	√	√	√	--	--	--	--
GTC-B7, B12 & B15 Comp 15	GTC-B7-15.5 GTC-B12-15.5 GTC-B15-15.5	GTC-B7 GTC-B12 GTC-B15	15.5 15.5 15.5	√	√	√	√	√	√	NR	NR	√	NR	NR	√	NR	NR	NR	√	--	--	--	--
GTC-B7, B12 & B15 Comp 20	GTC-B7-20.5 GTC-B12-20.5 GTC-B15-20.5	GTC-B7 GTC-B12 GTC-B15	20.5 20.5 20.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B7, B12 & B15 Comp 25	GTC-B7-25.5 GTC-B12-27.5 GTC-B15-25.5	GTC-B7 GTC-B12 GTC-B15	25.5 27.5 25.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B7, B12 & B15 Comp 30	GTC-B7-30.5 GTC-B12-30.5 GTC-B15-30.5	GTC-B7 GTC-B12 GTC-B15	30.5 30.5 30.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR		--	--	--	--

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SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET As	WET Ba	WET Cr	TCLP Cr	WET Cu	WET Pb	TCLP Pb	WET Ni	WET Zn	Asbestos	pH	Total Suspended Solids	Total Solids	Total Recoverable Oil & Grease
GTC-B7, B12 & B15 Comp 35	GTC-B7-35.5	GTC-B7	35.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B12-35.5	GTC-B12	35.5																				
	GTC-B15-35.5	GTC-B15	35.5																				
GTC-B7, B12 & B15 Comp 40	GTC-B7-40.5	GTC-B7	40.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B12-40.5	GTC-B12	40.5																				
	GTC-B15-40.5	GTC-B15	40.5																				
GTC-B7, B12 & B15 Comp 45 & 50	GTC-B7-45.5	GTC-B7	45.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B12-45.5	GTC-B12	45.5																				
	GTC-B15-45.5	GTC-B15	45.5																				
	GTC-B7-50.5	GTC-B7	50.5																				
	GTC-B12-50.5	GTC-B12	50.5																				
	GTC-B15-50.5	GTC-B15	50.5																				
GTC-B7 & B15 Comp 55 & 60	GTC-B7-55	GTC-B7	55	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B15-55	GTC-B15	55																				
	GTC-B7-60.5	GTC-B7	60.5																				
	GTC-B15-60.5	GTC-B15	60.5																				
GTC-B7 & B15 Comp 65 & 70	GTC-B7-65.5	GTC-B7	65.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B15-65.5	GTC-B15	65.5																				
	GTC-B7-70.5	GTC-B7	70.5																				
	GTC-B15-70.5	GTC-B15	70.5																				
GTC-B7 & B15 Comp 75 & 80	GTC-B7-75.5	GTC-B7	75.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B15-75.5	GTC-B15	75.5																				
	GTC-B7-80.5	GTC-B7	80.5																				
	GTC-B15-80.5	GTC-B15	80.5																				
GTC-B7 & B15 Comp 85 & 90	GTC-B7-85.5	GTC-B7	85.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B15-85.5	GTC-B15	85.5																				
	GTC-B7-90.5	GTC-B7	90.5																				
	GTC-B15-90.5	GTC-B15	90.5																				
GTC-B7 & B15 Comp 95 & 100	GTC-B7-95.5	GTC-B7	95.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B15-95.5	GTC-B15	95.5																				
	GTC-B7-100.5	GTC-B7	100.5																				
	GTC-B15-100.5	GTC-B15	100.5																				
Group 4b: GTC-B13																							
GTC-B13-2.5	GTC-B13-2.5	GTC-B13	2.5	√	√	√	√	√	√	NR	NR	√	√	NR	NR	NR	√	NR	√	--	--	--	--
GTC-B13-5	GTC-B13-5	GTC-B13	5	√	√	√	√	√	√	NR	NR	NR	NR	√	NR	√	NR	NR	√	--	--	--	--
GTC-B13-10.5	GTC-B13-10.5	GTC-B13	10.5	√	√	√			√	NR	NR	NR	NR	√	NR	√	NR	NR	√	--	--	--	--
GTC-B13-15	GTC-B13-15	GTC-B13	15	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B13-20.5	GTC-B13-20.5	GTC-B13	20.5	√	√	√			√	NR	NR	NR	NR	NR	NR	NR	NR	NR	√	--	--	--	--
GTC-B13 Comp 25, 30	GTC-B13-24.5	GTC-B13	24.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	√	--	--	--	--
	GTC-B13-29	GTC-B13	29																				
GTC-B13 Comp 35, 40	GTC-B13-35.5	GTC-B13	35.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-40.59	GTC-B13	40.5																				
GTC-B13 Comp 45, 50	GTC-B13-45.5	GTC-B13	45.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-50	GTC-B13	50																				
GTC-B13 Comp 55, 60	GTC-B13-55	GTC-B13	55	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-60.5	GTC-B13	60.5																				
GTC-B13 Comp 65, 70	GTC-B13-65.5	GTC-B13	65.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-70.5	GTC-B13	70.5																				
GTC-B13 Comp 75, 80	GTC-B13-75	GTC-B13	75	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-80.5	GTC-B13	80.5																				
GTC-B13 Comp 85, 90	GTC-B13-85	GTC-B13	85	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-90.5	GTC-B13	90.5																				
GTC-B13 Comp 95, 100	GTC-B13-95	GTC-B13	95	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B13-100	GTC-B13	100																				
Group 5: GTC-B18B & GTC-B20																							
GTC-B18B & GTC-B20 Comp 2.5	GTC-B18B-2.5	GTC-B18B	2.5	√	√	√	√	√	√	NR	√	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B20-2.5	GTC-B20	2.5																				
GTC-B18B & GTC-B20 Comp 5	GTC-B18B-5.5	GTC-B18B	5.5	√	√	√	√	√	√	NR	√	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B20-5.5	GTC-B20	5.5																				
GTC-B18B & GTC-B20 Comp 10	GTC-B18B-10.5	GTC-B18B	10.5	√	√	√	√	√	√	NR	NR	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B20-10.5	GTC-B20	10.5																				
GTC-B18B & GTC-B20 Comp 15	GTC-B18B-15.5	GTC-B18B	15.5	√	√	√	√	√	√	NR	NR	NR	NR	NR	√	√	NR	NR	--	--	--	--	--
	GTC-B20-15.5	GTC-B20	15.5																				
GTC-B18B & GTC-B20 Comp 20	GTC-B18B-21.5	GTC-B18B	21.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B20-21.5	GTC-B20	21.5																				

TABLE 1
LIST OF CHEMICAL ANALYSES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET As	WET Ba	WET Cr	TCLP Cr	WET Cu	WET Pb	TCLP Pb	WET Ni	WET Zn	Asbestos	pH	Total Suspended Solids	Total Solids	Total Recoverable Oil & Grease
Group 6: GTC-B21 & GTC-B22																							
GTC-B21 & GTC-B22 Comp 2.5	GTC-B-21-2.5	GTC-B21	2.5	√	√	√	√	√	√	NR	√	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B22-2.5	GTC-B22	2.5																				
GTC-B21 & GTC-B22 Comp 5	GTC-B-21-5.5	GTC-B21	5.5	√	√	√	√	√	√	NR	NR	√	NR	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B22-5.5	GTC-B22	5.5																				
GTC-B21 & GTC-B22 Comp 10	GTC-B-21-10.5	GTC-B21	10.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B22-10.5	GTC-B22	10.5																				
GTC-B21 & GTC-B22 Comp 15	GTC-B-21-15.5	GTC-B21	15.5	√	√	√	√	√	√	NR	√	NR	NR	√	NR	√	NR	NR	--	--	--	--	--
	GTC-B22-15.5	GTC-B22	15.5																				
GTC-B21 & GTC-B22 Comp 20	GTC-B-21-20.5	GTC-B21	20.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	NR	NR	NR	--	--	--	--	--
	GTC-B22-20.5	GTC-B22	20.5																				
Groundwater Samples - 2013																							
GTC-B6-W	GTC-B6-W	GTC-B6	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B8-W	GTC-B8-W	GTC-B8	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B9-W	GTC-B9-W	GTC-B9	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B10-W	GTC-B10-W	GTC-B10	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B11-W	GTC-B11-W	GTC-B11	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B15-W	GTC-B15-W	GTC-B15	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B16-W	GTC-B16-W	GTC-B16	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B17-W	GTC-B17-W	GTC-B17	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	√	√	√	√
GTC-B21-W	GTC-B21-W	GTC-B21	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--
GTC-B22-W	GTC-B22-W	GTC-B22	--	√	√	√	√	√	√	NR	NR	NR	NR	NR	NR	NR	NR	NR	--	--	--	--	--

***Notes*:**

1. bgs = below existing ground surface.
2. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
   Pesticides = Organochlorine Pesticides by USEPA Method 8080 series.
   PCBs = Polychlorinated Biphenyls by USEPA Method 8080 series.
   Title-22 Metals = 17 Metals as listed in Title 22 of the California Code of Regulations by USEPA Methods 6000/7000 series.
   Sb=Antimony, As=arsenic, Ba=Barium, Be=Beryllium, Cd=Cadmium, Cr=Chromium, Cr+6=Chromium VI, and Co=Cobalt.
   Cu=Copper, Pb=Lead, Hg=Mercury, Mo=Molybdenum, Ni=Nickel, Se=Selenium, Ag=Silver, Tl=Thallium, V=Vanadium; and Zn=Zinc.
   WET = California Waste Extraction Test.
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure.
   Asbestos = Asbestos analyses by Air Resources Board's Method 435.
   pH = pH analyses by USEPA Method 9040;
   TSS & TS = Total susepended solids and total solids by USEPA Method 2540;
   O&G = Oil and Grease by USEPA Method 1664;

3. - - = Not Analyzed, NR = Not Required.

TABLE 2
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	**TPHs-D**	**TPHs-MO**	**Benzene**	**Ethyl Benzene**	**Toluene**	**Total Xylenes**	**MTBE**
Unit (2)				**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Risk Regulatory Criteria (3)											
USEPA RSL Industrial				NA (4)	NA	NA	5.1	25	47000	2500	210
ESL - Commerical (Table B)				500	110	500	1.2	4.7	9.3	11	8.4
ESL - Construction Workers (K-3)				2700	900	28000	71	490	4300	2500	3800
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
TTLC				NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	10	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <1 Max: 250 Ave: 9**	**Min: <1 Max: 590 Ave: 21.1**	**Min: <5 Max: 1300 Ave: 60.5**	**Min: <0.005 Max: 0.71 Ave: 0.025**	**Min: <0.005 Max: 0.16 Ave: 0.009**	**Min: <0.005 Max: 1.6 Ave: 0.03**	**Min: <0.005 Max: 0.8 Ave: 0.02**	**Min: <0.05 Max: <1 Ave: 0.08**
Soil Samples (6)											
Group 1: GTC-B9, GTC-B10, GTC-B16											
GTC-B9, B10 & B16 Comp 2.5	GTC-B9-2.5	GTC-B9	2.5	<1	***2.2***	***20***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-2.5	GTC-B10	2.5								
	GTC-B16-2.5	GTC-B16	2.5								
GTC-B9, B10 & B16 Comp 5	GTC-B9-5.5	GTC-B9	5.5	<1	***12***	***36***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-5.5	GTC-B10	5.5								
	GTC-B16-5.5	GTC-B16	5.5								
GTC-B9, B10 & B16 Comp 10	GTC-B9-9.5	GTC-B9	9.5	<1	***6.1***	***33***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-9.5	GTC-B10	9.5								
	GTC-B16-10.5	GTC-B16	10.5								
GTC-B9, B10 & B16 Comp 15	GTC-B9-14	GTC-B9	14	***6.8***	***5.3***	***11***	***0.71***	***0.038***	***0.056***	***0.17***	<0.2
	GTC-B10-16.5	GTC-B10	16.5								
	GTC-B16-16	GTC-B16	16								
GTC-B9, B10 & B16 Comp 20	GTC-B9-21.5	GTC-B9	21.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-19.5	GTC-B10	19.5								
	GTC-B16-20.5	GTC-B16	20.5								
GTC-B9, B10 & B16 Comp 25	GTC-B9-25.5	GTC-B9	25.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-25.5	GTC-B10	25.5								
	GTC-B16-25.5	GTC-B16	25.5								
GTC-B9, B10 & B16 Comp 30	GTC-B9-30.5	GTC-B9	30.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-30.5	GTC-B10	30.5								
	GTC-B16-30.5	GTC-B16	30.5								
GTC-B9, B10 & B16 Comp 35	GTC-B9-35.5	GTC-B9	35.5	<1	***1.4***	***7.7***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-35.5	GTC-B10	35.5								
	GTC-B16-35.5	GTC-B16	35.5								
GTC-B9, B10 & B16 Comp 40	GTC-B9-40.5	GTC-B9	40.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-40.5	GTC-B10	40.5								
	GTC-B16-40.5	GTC-B16	40.5								
GTC-B9, B10 & B16 Comp 45 & 50	GTC-B9-45.5	GTC-B9	45.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-45.5	GTC-B10	45.5								
	GTC-B16-45.5	GTC-B16	45.5								
	GTC-B9-50.5	GTC-B9	50.5								
	GTC-B10-50.5	GTC-B10	50.5								
	GTC-B16-50	GTC-B16	50								
GTC-B9, B10 & B16 Comp 55 & 60	GTC-B9-55.5	GTC-B9	55.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-55.5	GTC-B10	55.5								
	GTC-B16-55.5	GTC-B16	55.5								
	GTC-B9-60	GTC-B9	60								
	GTC-B10-60	GTC-B10	60								
	GTC-B16-60.5	GTC-B16	60.5								
GTC-B9, B10 & B16 Comp 65 & 70	GTC-B9-65.5	GTC-B9	65.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-65.5	GTC-B10	65.5								
	GTC-B16-65.5	GTC-B16	65.5								
	GTC-B9-70.5	GTC-B9	70.5								
	GTC-B10-70.5	GTC-B10	70.5								
	GTC-B16-70.5	GTC-B16	70.5								

TABLE 2 (Con't.)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
			USEPA RSL Industrial	NA (4)	NA	NA	5.1	25	47000	2500	210
			ESL - Commerical (Table B)	500	110	500	1.2	4.7	9.3	11	8.4
			ESL - Construction Workers (K-3)	2700	900	28000	71	490	4300	2500	3800
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	10	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <1 Max: 250 Ave: 9**	**Min: <1 Max: 590 Ave: 21.1**	**Min: <5 Max: 1300 Ave: 60.5**	**Min: <0.005 Max: 0.71 Ave: 0.025**	**Min: <0.005 Max: 0.16 Ave: 0.009**	**Min: <0.005 Max: 1.6 Ave: 0.03**	**Min: <0.005 Max: 0.8 Ave: 0.02**	**Min: <0.05 Max: <1 Ave: 0.08**
Soil Samples (6)											
GTC-B9, B10 & B16 Comp 75 & 80	GTC-B9-75.5	GTC-B9	75.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-75.5	GTC-B10	75.5								
	GTC-B16-75.5	GTC-B16	75.5								
	GTC-B9-80.5	GTC-B9	80.5								
	GTC-B10-80.5	GTC-B10	80.5								
	GTC-B16-80.5	GTC-B16	80.5								
GTC-B9, B10 & B16 Comp 85 & 90	GTC-B9-85.5	GTC-B9	85.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-85	GTC-B10	85								
	GTC-B16-85.5	GTC-B16	85.5								
	GTC-B9-90	GTC-B9	90								
	GTC-B10-90	GTC-B10	90								
	GTC-B16-90	GTC-B16	90								
GTC-B9, B10 & B16 Comp 95 & 100	GTC-B9-95.5	GTC-B9	95.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B10-95	GTC-B10	95								
	GTC-B16-95	GTC-B16	95								
	GTC-B9-100	GTC-B9	100								
	GTC-B10-100	GTC-B10	100								
	GTC-B16-100	GTC-B16	100								
Group 2: GTC-B6 GTC-B14 GTC-B17											
GTC-B6, B14 & B17 Comp 2.5	GTC-B6-2.5	GTC-B6	2.5	<1	***27***	***310***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-2.5	GTC-B14	2.5								
	GTC-B17-2.5	GTC-B17	2.5								
GTC-B6, B14 & B17 Comp 5	GTC-B6-5	GTC-B6	5	<1	***8.1***	***44***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-5.5	GTC-B14	5.5								
	GTC-B17-5.5	GTC-B17	5.5								
GTC-B6, B14 & B17 Comp 10	GTC-B6-12	GTC-B6	12	***1.1***	***2.6***	***12***	***0.0086***	***0.0083***	***0.0088***	***0.028***	<0.05
	GTC-B14-10.5	GTC-B14	10.5								
	GTC-B17-10.5	GTC-B17	10.5								
GTC-B6, B14 & B17 Comp 15	GTC-B6-15.5	GTC-B6	15.5	<1	***2.7***	***14***	***0.0063***	<0.005	<0.005	<0.005	<0.05
	GTC-B14-15.5	GTC-B14	15.5								
	GTC-B17-17.5	GTC-B17	17.5								
GTC-B6, B14 & B17 Comp 20	GTC-B6-20.5	GTC-B6	20.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-20.5	GTC-B14	20.5								
	GTC-B17-21.5	GTC-B17	21.5								
GTC-B6, B14 & B17 Comp 25	GTC-B6-25.5	GTC-B6	25.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-25.5	GTC-B14	25.5								
	GTC-B17-25.5	GTC-B17	25.5								
GTC-B6, B14 & B17 Comp 30	GTC-B6-30.5	GTC-B6	30.5	<1	***1.9***	***12***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-30.5	GTC-B14	30.5								
	GTC-B17-30.5	GTC-B17	30.5								
GTC-B6, B14 & B17 Comp 35	GTC-B6-35.5	GTC-B6	35.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-35.5	GTC-B14	35.5								
	GTC-B17-35.5	GTC-B17	35.5								
GTC-B6, B14 & B17 Comp 40	GTC-B6-40.5	GTC-B6	40.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-40.5	GTC-B14	40.5								
	GTC-B17-40.5	GTC-B17	40.5								
GTC-B6, B14 & B17 Comp 45 & 50	GTC-B6-45	GTC-B6	45	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-45.5	GTC-B14	45.5								
	GTC-B17-45.5	GTC-B17	45.5								
	GTC-B6-50.5	GTC-B6	50.5								
	GTC-B14-50.5	GTC-B14	50.5								
	GTC-B17-50.5	GTC-B17	50.5								

TABLE 2 (Con't.)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
			USEPA RSL Industrial	NA (4)	NA	NA	5.1	25	47000	2500	210
			ESL - Commerical (Table B)	500	110	500	1.2	4.7	9.3	11	8.4
			ESL - Construction Workers (K-3)	2700	900	28000	71	490	4300	2500	3800
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	10	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <1 Max: 250 Ave: 9	Min: <1 Max: 590 Ave: 21.1	Min: <5 Max: 1300 Ave: 60.5	Min: <0.005 Max: 0.71 Ave: 0.025	Min: <0.005 Max: 0.16 Ave: 0.009	Min: <0.005 Max: 1.6 Ave: 0.03	Min: <0.005 Max: 0.8 Ave: 0.02	Min: <0.05 Max: <1 Ave: 0.08
Soil Samples (6)											
GTC-B6, B14 & B17 Comp 55 & 60	GTC-B6-55.5	GTC-B6	55.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-55.5	GTC-B14	55.5								
	GTC-B17-55.5	GTC-B17	55.5								
	GTC-B6-60.5	GTC-B6	60.5								
	GTC-B14-60.5	GTC-B14	60.5								
	GTC-B17-60.5	GTC-B17	60.5								
GTC-B6, B14 & B17 Comp 65 & 70	GTC-B6-65.5	GTC-B6	65.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-65.5	GTC-B14	65.5								
	GTC-B17-65.5	GTC-B17	65.5								
	GTC-B6-70.5	GTC-B6	70.5								
	GTC-B14-70.5	GTC-B14	70.5								
	GTC-B17-70.5	GTC-B17	70.5								
GTC-B6, B14 & B17 Comp 75 & 80	GTC-B6-75.5	GTC-B6	75.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-76	GTC-B14	76								
	GTC-B17-75	GTC-B17	75								
	GTC-B6-80.5	GTC-B6	80.5								
	GTC-B14-80.5	GTC-B14	80.5								
	GTC-B17-80.5	GTC-B17	80.5								
GTC-B6, B14 & B17 Comp 85 & 90	GTC-B6-85	GTC-B6	85	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-85.5	GTC-B14	85.5								
	GTC-B17-85	GTC-B17	85								
	GTC-B6-90	GTC-B6	90								
	GTC-B14-90	GTC-B14	90								
	GTC-B17-90	GTC-B17	90								
GTC-B6, B14 & B17 Comp 95 & 100	GTC-B6-95.5	GTC-B6	95.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B14-95	GTC-B14	95								
	GTC-B17-95	GTC-B17	95								
	GTC-B6-100	GTC-B6	100								
	GTC-B14-100	GTC-B14	100								
	GTC-B17-100	GTC-B17	100								
Group 3: GTC-B8 GTC-B11 GTC-B18											
GTC-B8, B11 & B18 Comp 2.5	GTC-B8-2.5	GTC-B8	2.5	<1	***3.2***	***28***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-2.5	GTC-B11	2.5								
	GTC-B18-2.5	GTC-B18	2.5								
GTC-B8, B11 & B18 Comp 5	GTC-B8-5	GTC-B8	5	***7.0***	***2.6***	***15***	***0.018***	***0.012***	***0.023***	***0.11***	<0.05
	GTC-B11-5.5	GTC-B11	5.5								
	GTC-B18-4.5	GTC-B18	4.5								
GTC-B8 & B11 Comp 10	GTC-B8-10.5	GTC-B8	10.5	***190***	***350***	***290***	<0.1	<0.1	<0.1	<0.1	<1
	GTC-B11-11	GTC-B11	11								
GTC-B8 & B11 Comp 15	GTC-B8-15.5	GTC-B8	15.5	<1	<1	<5	***0.052***	<0.005	<0.005	<0.005	<0.05
	GTC-B11-15.5	GTC-B11	15.5								
GTC-B8 & B11 Comp 20	GTC-B8-22.5	GTC-B8	22.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-20.5	GTC-B11	20.5								
GTC-B8 & B11 Comp 25	GTC-B8-26.5	GTC-B8	26.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-25.5	GTC-B11	25.5								
GTC-B8 & B11 Comp 30	GTC-B8-30.5	GTC-B8	30.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-31	GTC-B11	31								
GTC-B8 & B11 Comp 35	GTC-B8-35.5	GTC-B8	35.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-35.5	GTC-B11	35.5								
GTC-B8 & B11 Comp 40	GTC-B8-40.5	GTC-B8	40.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-40.5	GTC-B11	40.5								

TABLE 2 (Con't.)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	**TPHs-D**	**TPHs-MO**	**Benzene**	**Ethyl Benzene**	**Toluene**	**Total Xylenes**	**MTBE**
			Unit (2)	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Risk Regulatory Criteria (3)											
			USEPA RSL Industrial	NA (4)	NA	NA	5.1	25	47000	2500	210
			ESL - Commerical (Table B)	500	110	500	1.2	4.7	9.3	11	8.4
			ESL - Construction Workers (K-3)	2700	900	28000	71	490	4300	2500	3800
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	10	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <1 Max: 250 Ave: 9**	**Min: <1 Max: 590 Ave: 21.1**	**Min: <5 Max: 1300 Ave: 60.5**	**Min: <0.005 Max: 0.71 Ave: 0.025**	**Min: <0.005 Max: 0.16 Ave: 0.009**	**Min: <0.005 Max: 1.6 Ave: 0.03**	**Min: <0.005 Max: 0.8 Ave: 0.02**	**Min: <0.05 Max: <1 Ave: 0.08**
Soil Samples (6)											
GTC-B8 & B11 Comp 45 & 50	GTC-B8-45.5	GTC-B8	45.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-45.5	GTC-B11	45.5								
	GTC-B8-50.5	GTC-B8	50.5								
	GTC-B11-50.5	GTC-B11	50.5								
GTC-B8 & B11 Comp 55 & 60	GTC-B8-55	GTC-B8	55	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-55	GTC-B11	55								
	GTC-B8-60.5	GTC-B8	60.5								
	GTC-B11-60	GTC-B11	60								
GTC-B8 & B11 Comp 65 & 70	GTC-B8-65.5	GTC-B8	65.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-65.5	GTC-B11	65.5								
	GTC-B8-70.5	GTC-B8	70.5								
	GTC-B11-70.5	GTC-B11	70.5								
GTC-B8 & B11 Comp 75 & 80	GTC-B8-75.5	GTC-B8	75.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-75.5	GTC-B11	75.5								
	GTC-B8-80.5	GTC-B8	80.5								
	GTC-B11-80.5	GTC-B11	80.5								
GTC-B8 & B11 Comp 85 & 90	GTC-B8-85	GTC-B8	85	<1	***1.5***	***5.2***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-85.5	GTC-B11	85.5								
	GTC-B8-90	GTC-B8	90								
	GTC-B11-90	GTC-B11	90								
GTC-B8 & B11 Comp 95 & 100	GTC-B8-95.5	GTC-B8	95.5	<1	***1.9***	***9.0***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B11-95.5	GTC-B11	95.5								
	GTC-B8-100	GTC-B8	100								
	GTC-B11-100	GTC-B11	100								
Group 4a: GTC-B7 GTC-B12 GTC-B15											
GTC-B7, B12 & B15 Comp 2.5	GTC-B7-2.5	GTC-B7	2.5	***1.2***	***47***	***120***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-2.5	GTC-B12	2.5								
	GTC-B15-2.5	GTC-B15	2.5								
GTC-B7, B12 & B15 Comp 5	GTC-B7-5.5	GTC-B7	5.5	<1	***2.9***	***21***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-5.5	GTC-B12	5.5								
	GTC-B15-5.5	GTC-B15	5.5								
GTC-B7, B12 & B15 Comp 10	GTC-B7-10.5	GTC-B7	10.5	<1	***53***	***190***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-10	GTC-B12	10								
	GTC-B15-11	GTC-B15	11								
GTC-B7, B12 & B15 Comp 15	GTC-B7-15.5	GTC-B7	15.5	<1	***1.2***	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-15.5	GTC-B12	15.5								
	GTC-B15-15.5	GTC-B15	15.5								
GTC-B7, B12 & B15 Comp 20	GTC-B7-20.5	GTC-B7	20.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-20.5	GTC-B12	20.5								
	GTC-B15-20.5	GTC-B15	20.5								
GTC-B7, B12 & B15 Comp 25	GTC-B7-25.5	GTC-B7	25.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-27.5	GTC-B12	27.5								
	GTC-B15-25.5	GTC-B15	25.5								
GTC-B7, B12 & B15 Comp 30	GTC-B7-30.5	GTC-B7	30.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-30.5	GTC-B12	30.5								
	GTC-B15-30.5	GTC-B15	30.5								
GTC-B7, B12 & B15 Comp 35	GTC-B7-35.5	GTC-B7	35.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-35.5	GTC-B12	35.5								
	GTC-B15-35.5	GTC-B15	35.5								
GTC-B7, B12 & B15 Comp 40	GTC-B7-40.5	GTC-B7	40.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-40.5	GTC-B12	40.5								
	GTC-B15-40.5	GTC-B15	40.5								

TABLE 2 (Con't.)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
USEPA RSL Industrial				NA (4)	NA	NA	5.1	25	47000	2500	210
ESL - Commerical (Table B)				500	110	500	1.2	4.7	9.3	11	8.4
ESL - Construction Workers (K-3)				2700	900	28000	71	490	4300	2500	3800
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
TTLC				NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	10	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <1 Max: 250 Ave: 9**	**Min: <1 Max: 590 Ave: 21.1**	**Min: <5 Max: 1300 Ave: 60.5**	**Min: <0.005 Max: 0.71 Ave: 0.025**	**Min: <0.005 Max: 0.16 Ave: 0.009**	**Min: <0.005 Max: 1.6 Ave: 0.03**	**Min: <0.005 Max: 0.8 Ave: 0.02**	**Min: <0.05 Max: <1 Ave: 0.08**
Soil Samples (6)											
GTC-B7, B12 & B15 Comp 45 & 50	GTC-B7-45.5	GTC-B7	45.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B12-45.5	GTC-B12	45.5								
	GTC-B15-45.5	GTC-B15	45.5								
	GTC-B7-50.5	GTC-B7	50.5								
	GTC-B12-50.5	GTC-B12	50.5								
	GTC-B15-50.5	GTC-B15	50.5								
GTC-B7 & B15 Comp 55 & 60	GTC-B7-55	GTC-B7	55	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B15-55	GTC-B15	55								
	GTC-B7-60.5	GTC-B7	60.5								
	GTC-B15-60.5	GTC-B15	60.5								
GTC-B7 & B15 Comp 65 & 70	GTC-B7-65.5	GTC-B7	65.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B15-65.5	GTC-B15	65.5								
	GTC-B7-70.5	GTC-B7	70.5								
	GTC-B15-70.5	GTC-B15	70.5								
GTC-B7 & B15 Comp 75 & 80	GTC-B7-75.5	GTC-B7	75.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B15-75.5	GTC-B15	75.5								
	GTC-B7-80.5	GTC-B7	80.5								
	GTC-B15-80.5	GTC-B15	80.5								
GTC-B7 & B15 Comp 85 & 90	GTC-B7-85.5	GTC-B7	85.5	<1	***1.2***	***5.9***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B15-85.5	GTC-B15	85.5								
	GTC-B7-90.5	GTC-B7	90.5								
	GTC-B15-90.5	GTC-B15	90.5								
GTC-B7 & B15 Comp 95 & 100	GTC-B7-95.5	GTC-B7	95.5	<1	***2.1***	***9.6***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B15-95.5	GTC-B15	95.5								
	GTC-B7-100.5	GTC-B7	100.5								
	GTC-B15-100.5	GTC-B15	100.5								
Group 4b: GTC-B13											
GTC-B13-2.5	GTC-B13-2.5	GTC-B13	2.5	<1	***22***	***130***	<0.005	<0.005	<0.005	***0.013***	<0.05
GTC-B13-5	GTC-B13-5	GTC-B13	5	<1	***3.9***	***11***	<0.005	<0.005	<0.005	<0.005	<0.05
GTC-B13-10.5	GTC-B13-10.5	GTC-B13	10.5	<1	***1.6***	***5.7***	<0.005	<0.005	<0.005	***0.014***	<0.05
GTC-B13-15	GTC-B13-15	GTC-B13	15	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
GTC-B13-20.5	GTC-B13-20.5	GTC-B13	20.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
GTC-B13 Comp 25, 30	GTC-B13-24.5	GTC-B13	24.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-29	GTC-B13	29								
GTC-B13 Comp 35, 40	GTC-B13-35.5	GTC-B13	35.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-40.59	GTC-B13	40.5								
GTC-B13 Comp 45, 50	GTC-B13-45.5	GTC-B13	45.5	<1	***2.3***	***13***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-50	GTC-B13	50								
GTC-B13 Comp 55, 60	GTC-B13-55	GTC-B13	55	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-60.5	GTC-B13	60.5								
GTC-B13 Comp 65, 70	GTC-B13-65.5	GTC-B13	65.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-70.5	GTC-B13	70.5								
GTC-B13 Comp 75, 80	GTC-B13-75	GTC-B13	75	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-80.5	GTC-B13	80.5								
GTC-B13 Comp 85, 90	GTC-B13-85	GTC-B13	85	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-90.5	GTC-B13	90.5								
GTC-B13 Comp 95, 100	GTC-B13-95	GTC-B13	95	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B13-100	GTC-B13	100								

TABLE 2 (Con't.)
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1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
			USEPA RSL Industrial	NA (4)	NA	NA	5.1	25	47000	2500	210
			ESL - Commerical (Table B)	500	110	500	1.2	4.7	9.3	11	8.4
			ESL - Construction Workers (K-3)	2700	900	28000	71	490	4300	2500	3800
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	10	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <1 Max: 250 Ave: 9	Min: <1 Max: 590 Ave: 21.1	Min: <5 Max: 1300 Ave: 60.5	Min: <0.005 Max: 0.71 Ave: 0.025	Min: <0.005 Max: 0.16 Ave: 0.009	Min: <0.005 Max: 1.6 Ave: 0.03	Min: <0.005 Max: 0.8 Ave: 0.02	Min: <0.05 Max: <1 Ave: 0.08
Soil Samples (6)											
Group 5: GTC-B18B GTC-B20											
GTC-B18B & GTC-B20 Comp 2.5	GTC-B18B-2.5	GTC-B18B	2.5	***8.9***	***98***	***1300***	<0.01	<0.01	<0.01	***0.081***	<0.1
	GTC-B20-2.5	GTC-B20	2.5								
GTC-B18B & GTC-B20 Comp 5	GTC-B18B-5.5	GTC-B18B	5.5	<1	***11***	***53***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B20-5.5	GTC-B20	5.5								
GTC-B18B & GTC-B20 Comp 10	GTC-B18B-10.5	GTC-B18B	10.5	***23***	***140***	***570***	***0.02***	***0.0057***	***0.11***	***0.12***	<0.05
	GTC-B20-10.5	GTC-B20	10.5								
GTC-B18B & GTC-B20 Comp 15	GTC-B18B-15.5	GTC-B18B	15.5	***2.2***	***4.7***	***16***	***0.021***	***0.008***	***0.027***	***0.03***	<0.05
	GTC-B20-15.5	GTC-B20	15.5								
GTC-B18B & GTC-B20 Comp 20	GTC-B18B-21.5	GTC-B18B	21.5	<1	***1.1***	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B20-21.5	GTC-B20	21.5								
Group 6: GTC-B21 GTC-B22											
GTC-B21 & GTC-B22 Comp 2.5	GTC-B-21-2.5	GTC-B21	2.5	<1	***7.1***	***60***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B22-2.5	GTC-B22	2.5								
GTC-B21 & GTC-B22 Comp 5	GTC-B-21-5.5	GTC-B21	5.5	***14***	***84***	***860***	<0.005	<0.005	***0.044***	<0.005	<0.05
	GTC-B22-5.5	GTC-B22	5.5								
GTC-B21 & GTC-B22 Comp 10	GTC-B-21-10.5	GTC-B21	10.5	***250***	***590***	***550***	***0.65***	***0.16***	***1.6***	***0.8***	<1
	GTC-B22-10.5	GTC-B22	10.5								
GTC-B21 & GTC-B22 Comp 15	GTC-B-21-15.5	GTC-B21	15.5	***130***	***200***	<5	***0.096***	<0.05	***0.22***	***0.11***	>0.5
	GTC-B22-15.5	GTC-B22	15.5								
GTC-B21 & GTC-B22 Comp 20	GTC-B-21-20.5	GTC-B21	20.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B22-20.5	GTC-B22	20.5								

***Notes*:**

1. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   bgs=below existing ground surface
2. mg/Kg = milligrams per Kilogram
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is a NOT a current or potential source of drinking water) under commercial/residential use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
6. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL - Commercial/Industrial value.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

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TABLE 3
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				VOCs (1																SVOCs (1)									
				Acetone	2-Butanone	Benzene	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Carbon Disulfide	Isopropyl benzene	4-Isopropyl toluene	MTBE	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (a) fluoranthene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Chrysene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Pyrene	Other SVOCs
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																													
USEPA RSL Industrial				670000	190000	5.1	58000	120000	120000	3500	9900	NA (4)	210	17	22000	240	12000	2500	NA	2.9	2.9	29	NA	0.29	290	30000	2.9	23000	NA
ESL - Commerical (Table B)				0.5	NA	1.2	NA	NA	NA	NA	NA	NA	8.4	4.8	NA	NA	NA	11	NA	1.3	1.3	1.3	27	0.13	13	40	1.3	85	NA
ESL - Construction Workers (K-3)				240000	NA	71	NA	NA	NA	NA	NA	NA	3800	370	NA	NA	NA	2500	NA	8.3	8.3	8.3	NA	0.83	83	5700	8.3	8600	NA
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)																													
TTLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.1 Max: <2 Ave: 0.165	Min: <0.02 Max: <0.4 Ave: 0.032	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: 0.8 Ave: 0.023	Min: <0.005 Max: 0.26 Ave: 0.012	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.007	Min: <0.005 Max: 0.26 Ave: 0.013	Min: <0.005 Max: 0.12 Ave: 0.009	Min: <0.005 Max: 0.4 Ave: 0.016	Min: <0.005 Max: 0.14 Ave: 0.011	Min: <0.005 Max: <0.1 Ave: 0.01		Min: <0.25 Max: <10 Ave: 1.774	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.755	Min: <0.25 Max: <10 Ave: 1.759	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.772	Min: <0.25 Max: <10 Ave: 1.76	Min: <0.25 Max: <10 Ave: 1.758	Min: <0.25 Max: <10 Ave: 1.758	
Soil Samples (6)																													
Group 1: GTC-B9, GTC-B10, GTC-B16																													
GTC-B9, B10 & B16 Comp 2.5	GTC-B9-2.5 GTC-B10-2.5 GTC-B16-2.5	GTC-B9 GTC-B10 GTC-B16	2.5 2.5 2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND(4)	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND(3)
GTC-B9, B10 & B16 Comp 5	GTC-B9-5.5 GTC-B10-5.5 GTC-B16-5.5	GTC-B9 GTC-B10 GTC-B16	5.5 5.5 5.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 10	GTC-B9-9.5 GTC-B10-9.5 GTC-B16-10.5	GTC-B9 GTC-B10 GTC-B16	9.5 9.5 10.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 15	GTC-B9-14 GTC-B10-16.5 GTC-B16-16	GTC-B9 GTC-B10 GTC-B16	14 16.5 16	<0.1	<0.02	***0.009***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	***0.013***	<0.005	<0.005	***0.0051***	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 20	GTC-B9-21.5 GTC-B10-19.5 GTC-B16-20.5	GTC-B9 GTC-B10 GTC-B16	21.5 19.5 20.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 25	GTC-B9-25.5 GTC-B10-25.5 GTC-B16-25.5	GTC-B9 GTC-B10 GTC-B16	25.5 25.5 25.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 30	GTC-B9-30.5 GTC-B10-30.5 GTC-B16-30.5	GTC-B9 GTC-B10 GTC-B16	30.5 30.5 30.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 35	GTC-B9-35.5 GTC-B10-35.5 GTC-B16-35.5	GTC-B9 GTC-B10 GTC-B16	35.5 35.5 35.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B9, B10 & B16 Comp 40	GTC-B9-40.5 GTC-B10-40.5 GTC-B16-40.5	GTC-B9 GTC-B10 GTC-B16	40.5 40.5 40.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
Group 1: GTC-B6 GTC-B14 GTC-B17																													
GTC-B6, B14 & B17 Comp 2.5	GTC-B6-2.5 GTC-B14-2.5 GTC-B17-2.5	GTC-B6 GTC-B14 GTC-B17	2.5 2.5 2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND
GTC-B6, B14 & B17 Comp 5	GTC-B6-5 GTC-B14-5.5 GTC-B17-5.5	GTC-B6 GTC-B14 GTC-B17	5 5.5 5.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<4	<4	<4	<4	<4	<4	<4	<4	<4	ND
GTC-B6, B14 & B17 Comp 10	GTC-B6-12 GTC-B14-10.5 GTC-B17-10.5	GTC-B6 GTC-B14 GTC-B17	12 10.5 10.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	ND
GTC-B6, B14 & B17 Comp 15	GTC-B6-15.5 GTC-B14-15.5 GTC-B17-17.5	GTC-B6 GTC-B14 GTC-B17	15.5 15.5 17.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B6, B14 & B17 Comp 20	GTC-B6-20.5 GTC-B14-20.5 GTC-B17-21.5	GTC-B6 GTC-B14 GTC-B17	20.5 20.5 21.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.25	ND
GTC-B6, B14 & B17 Comp 25	GTC-B6-25.5 GTC-B14-25.5 GTC-B17-25.5	GTC-B6 GTC-B14 GTC-B17	25.5 25.5 25.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B6, B14 & B17 Comp 30	GTC-B6-30.5 GTC-B14-30.5 GTC-B17-30.5	GTC-B6 GTC-B14 GTC-B17	30.5 30.5 30.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B6, B14 & B17 Comp 35	GTC-B6-35.5 GTC-B14-35.5 GTC-B17-35.5	GTC-B6 GTC-B14 GTC-B17	35.5 35.5 35.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B6, B14 & B17 Comp 40	GTC-B6-40.5 GTC-B14-40.5 GTC-B17-40.5	GTC-B6 GTC-B14 GTC-B17	40.5 40.5 40.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND

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TABLE 3 (Con't.)
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Acetone	2-Butanone	Benzene	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Carbon Disulfide	Isopropyl benzene	4-Isopropyl toluene	MTBE	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (a) fluoranthene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Chrysene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Pyrene	Other SVOCs
				VOCs (1																*SVOCs (1)*									
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																													
			USEPA RSL Industrial	670000	190000	5.1	58000	120000	120000	3500	9900	NA (4)	210	17	22000	240	12000	2500	NA	2.9	2.9	29	NA	0.29	290	30000	2.9	23000	NA
			ESL - Commerical (Table B)	0.5	NA	1.2	NA	NA	NA	NA	NA	NA	8.4	4.8	NA	NA	NA	11	NA	1.3	1.3	1.3	27	0.13	13	40	1.3	85	NA
			ESL - Construction Workers (K-3)	240000	NA	71	NA	NA	NA	NA	NA	NA	3800	370	NA	NA	NA	2500	NA	8.3	8.3	8.3	NA	0.83	83	5700	8.3	8600	NA
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)																													
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	Min: <0.1 Max: <2 Ave: 0.165	Min: <0.02 Max: <0.4 Ave: 0.032	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: 0.8 Ave: 0.023	Min: <0.005 Max: 0.26 Ave: 0.012	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.007	Min: <0.005 Max: 0.26 Ave: 0.013	Min: <0.005 Max: 0.12 Ave: 0.009	Min: <0.005 Max: 0.4 Ave: 0.016	Min: <0.005 Max: 0.14 Ave: 0.011	Min: <0.005 Max: <0.1 Ave: 0.01		Min: <0.25 Max: <10 Ave: 1.774	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.755	Min: <0.25 Max: <10 Ave: 1.759	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.772	Min: <0.25 Max: <10 Ave: 1.76	Min: <0.25 Max: <10 Ave: 1.758	Min: <0.25 Max: <10 Ave: 1.758	
Soil Samples (6)																													
Group 3: GTC-B8 GTC-B11 GTC-B18																													
GTC-B8, B11 & B18 Comp 2.5	GTC-B8-2.5 GTC-B11-2.5 GTC-B18-2.5	GTC-B8 GTC-B11 GTC-B18	2.5 2.5 2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	ND
GTC-B8, B11 & B18 Comp 5	GTC-B8-5 GTC-B11-5.5 GTC-B18-4.5	GTC-B8 GTC-B11 GTC-B18	5 5.5 4.5	<0.1	<0.02	<0.005	***0.013***	***0.0077***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	***0.0073***	***0.040***	***0.017***	***0.036***	ND	***0.73***	***1.1***	***0.54***	***0.71***	0.99	***1.0***	***0.61***	***0.66***	***0.8***	ND
GTC-B8 & B11 Comp 10	GTC-B8-10.5 GTC-B11-11	GTC-B8 GTC-B11	10.5 11	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B8 & B11 Comp 15	GTC-B8-15.5 GTC-B11-15.5	GTC-B8 GTC-B11	15.5 15.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B8 & B11 Comp 20	GTC-B8-22.5 GTC-B11-20.5	GTC-B8 GTC-B11	22.5 20.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B8 & B11 Comp 25	GTC-B8-26.5 GTC-B11-25.5	GTC-B8 GTC-B11	26.5 25.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B8 & B11 Comp 30	GTC-B8-30.5 GTC-B11-31	GTC-B8 GTC-B11	30.5 31	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND										ND
GTC-B8 & B11 Comp 35	GTC-B8-35.5 GTC-B11-35.5	GTC-B8 GTC-B11	35.5 35.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B8 & B11 Comp 40	GTC-B8-40.5 GTC-B11-40.5	GTC-B8 GTC-B11	40.5 40.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND										ND
Group 4a: GTC-B7 GTC-B12 GTC-B15																													
GTC-B7, B12 & B15 Comp 2.5	GTC-B7-2.5 GTC-B12-2.5 GTC-B15-2.5	GTC-B7 GTC-B12 GTC-B15	2.5 2.5 2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<4	<4	<4	<4	<4	<4	<4	<4	<4	ND
GTC-B7, B12 & B15 Comp 5	GTC-B7-5.5 GTC-B12-5.5 GTC-B15-5.5	GTC-B7 GTC-B12 GTC-B15	5.5 5.5 5.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<4	<4	<4	<4	<4	<4	<4	<4	<4	ND
GTC-B7, B12 & B15 Comp 10	GTC-B7-10.5 GTC-B12-10 GTC-B15-11	GTC-B7 GTC-B12 GTC-B15	10.5 10 11	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND
GTC-B7, B12 & B15 Comp 15	GTC-B7-15.5 GTC-B12-15.5 GTC-B15-15.5	GTC-B7 GTC-B12 GTC-B15	15.5 15.5 15.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B7, B12 & B15 Comp 20	GTC-B7-20.5 GTC-B12-20.5 GTC-B15-20.5	GTC-B7 GTC-B12 GTC-B15	20.5 20.5 20.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B7, B12 & B15 Comp 25	GTC-B7-25.5 GTC-B12-27.5 GTC-B15-25.5	GTC-B7 GTC-B12 GTC-B15	25.5 27.5 25.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B7, B12 & B15 Comp 30	GTC-B7-30.5 GTC-B12-30.5 GTC-B15-30.5	GTC-B7 GTC-B12 GTC-B15	30.5 30.5 30.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND										ND
GTC-B7, B12 & B15 Comp 35	GTC-B7-35.5 GTC-B12-35.5 GTC-B15-35.5	GTC-B7 GTC-B12 GTC-B15	35.5 35.5 35.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B7, B12 & B15 Comp 40	GTC-B7-40.5 GTC-B12-40.5 GTC-B15-40.5	GTC-B7 GTC-B12 GTC-B15	40.5 40.5 40.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND										ND
Group 4b: GTC-B13																													
GTC-B13-2.5	GTC-B13-2.5	GTC-B13	2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<4	<4	<4	<4	<4	<4	<4	<4	<4	ND
GTC-B13-Comp 5, 10	GTC-B13-5 GTC-B13-10.5	GTC-B13 GTC-B13	5 10.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B13-Comp 15, 20	GTC-B13-15 GTC-B13-20.5	GTC-B13 GTC-B13	15 20.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B13 Comp 25, 30	GTC-B13-24.5 GTC-B13-29	GTC-B13 GTC-B13	24.5 29	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
GTC-B13 Comp 35, 40	GTC-B13-35.5 GTC-B13-40.59	GTC-B13 GTC-B13	35.5 40.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND

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TABLE 3 (Con't.)
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				VOCs (1																SVOCs (1)									
				Acetone	2-Butanone	Benzene	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Carbon Disulfide	Isopropyl benzene	4-Isopropyl toluene	MTBE	Naphthalene	n-Propyl benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (a) fluoranthene	Benzo (b) fluoranthene	Benzo (k) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Chrysene	Fluoranthene	Indeno (1,2,3-cd) pyrene	Pyrene	Other SVOCs
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																													
USEPA RSL Industrial				670000	190000	5.1	58000	120000	120000	3500	9900	NA (4)	210	17	22000	240	12000	2500	NA	2.9	2.9	29	NA	0.29	290	30000	2.9	23000	NA
ESL - Commerical (Table B)				0.5	NA	1.2	NA	NA	NA	NA	NA	NA	8.4	4.8	NA	NA	NA	11	NA	1.3	1.3	1.3	27	0.13	13	40	1.3	85	NA
ESL - Construction Workers (K-3)				240000	NA	71	NA	NA	NA	NA	NA	NA	3800	370	NA	NA	NA	2500	NA	8.3	8.3	8.3	NA	0.83	83	5700	8.3	8600	NA
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)																													
TTLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.1 Max: <2 Ave: 0.165	Min: <0.02 Max: <0.4 Ave: 0.032	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: 0.8 Ave: 0.023	Min: <0.005 Max: 0.26 Ave: 0.012	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.009	Min: <0.005 Max: <0.1 Ave: 0.008	Min: <0.005 Max: <0.1 Ave: 0.007	Min: <0.005 Max: 0.26 Ave: 0.013	Min: <0.005 Max: 0.12 Ave: 0.009	Min: <0.005 Max: 0.4 Ave: 0.016	Min: <0.005 Max: 0.14 Ave: 0.011	Min: <0.005 Max: <0.1 Ave: 0.01		Min: <0.25 Max: <10 Ave: 1.774	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.755	Min: <0.25 Max: <10 Ave: 1.759	Min: <0.25 Max: <10 Ave: 1.769	Min: <0.25 Max: <10 Ave: 1.772	Min: <0.25 Max: <10 Ave: 1.76	Min: <0.25 Max: <10 Ave: 1.758	Min: <0.25 Max: <10 Ave: 1.758	
Soil Samples (6)																													
Group 5: GTC-B18B GTC-B20																													
GTC-B18B & GTC-B20 Comp 2.5	GTC-B18B-2.5 GTC-B20-2.5	GTC-B18B GTC-B20	2.5 2.5	<0.4	<0.08	***0.088***	<0.02	<0.02	<0.02	<0.02	<0.02	***0.022***	<0.02	***0.26***	***0.021***	***0.40***	***0.14***	***0.071***	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND
GTC-B18B & GTC-B20 Comp 5	GTC-B18B-5.5 GTC-B20-5.5	GTC-B18B GTC-B20	5.5 5.5	***0.21***	***0.028***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND
GTC-B18B & GTC-B20 Comp 10	GTC-B18B-10.5 GTC-B20-10.5	GTC-B18B GTC-B20	10.5 10.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	***0.0053***	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND
GTC-B18B & GTC-B20 Comp 15	GTC-B18B-15.5 GTC-B20-15.5	GTC-B18B GTC-B20	15.5 15.5	***0.2***	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B18B & GTC-B20 Comp 20	GTC-B18B-21.5 GTC-B20-21.5	GTC-B18B GTC-B20	21.5 21.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND
Group 6: GTC-B21 GTC-B22																													
GTC-B21 & GTC-B22 Comp 2.5	GTC-B-21-2.5 GTC-B22-2.5	GTC-B21 GTC-B22	2.5 2.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<2	<2	<2	<2	<2	<2	<2	<2	<2	ND
GTC-B21 & GTC-B22 Comp 5	GTC-B-21-5.5 GTC-B22-5.5	GTC-B21 GTC-B22	5.5 5.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	ND
GTC-B21 & GTC-B22 Comp 10	GTC-B-21-10.5 GTC-B22-10.5	GTC-B21 GTC-B22	10.5 10.5	<2	<0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND	***0.46***	***0.58***	<0.25	***0.26***	0.47	***0.58***	***0.39***	<0.25	***0.62***	ND
GTC-B21 & GTC-B22 Comp 15	GTC-B-21-15.5 GTC-B22-15.5	GTC-B21 GTC-B22	15.5 15.5	<1	<0.2	<0.005	***0.8***	***0.26***	***0.052***	<0.05	***0.098***	<0.05	<0.005	<0.05	***0.12***	<0.05	<0.05	<0.05	ND	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND
GTC-B21 & GTC-B22 Comp 20	GTC-B-21-20.5 GTC-B22-20.5	GTC-B21 GTC-B22	20.5 20.5	<0.1	<0.02	<0.005	<0.005	<0.005	<0.005	***0.0068***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	ND

Notes :

1. VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
   bgs=below existing ground surface
2. mg/Kg = milligrams per Kilogram
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is a NOT a current or potential source of drinking water) under commercial/residential use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
6. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL - Commercial/Industrial value.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation).

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TABLE 4
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
Group 1: GTC-B9, G GTC-B10, & GTC-B16																														
GTC-B9, B10 & B16 Comp 2.5	GTC-B9-2.5	GTC-B9	2.5	<0.5	2.6	NR(3)	370	NR	<0.5	<0.25	30	NR	NR	8.7	72	NR	7.2	NR	NR	0.054	<0.5	28	NR	<0.5	<0.5	<0.5	39	26	NR	ND(4)
	GTC-B10-2.5	GTC-B10	2.5																											
	GTC-B16-2.5	GTC-B16	2.5																											
GTC-B9, B10 & B16 Comp 5	GTC-B9-5.5	GTC-B9	5.5	p	5.9	NR	98	NR	<0.5	<0.25	41	NR	NR	11	39	NR	16	NR	NR	0.056	0.71	46	NR	<0.5	<0.5	<0.5	52	65	NR	<1
	GTC-B10-5.5	GTC-B10	5.5																											
	GTC-B16-5.5	GTC-B16	5.5																											
GTC-B9, B10 & B16 Comp 10	GTC-B9-9.5	GTC-B9	9.5	<0.5	4.1	NR	72	NR	<0.5	<0.25	53	0.44	NR	16	35	NR	18	NR	NR	0.48	0.64	49	NR	<0.5	<0.5	<0.5	88	87	NR	ND
	GTC-B10-9.5	GTC-B10	9.5																											
	GTC-B16-10.5	GTC-B16	10.5																											
GTC-B9, B10 & B16 Comp 15	GTC-B9-14	GTC-B9	14	38	32	NR	370	NR	<0.5	<0.25	46	NR	NR	6.5	270	3.5	1300	NR	0.39	0.5	2.9	62	NR	<0.5	1.1	<0.5	32	490	NR	ND
	GTC-B10-16.5	GTC-B10	16.5																											
	GTC-B16-16	GTC-B16	16																											
GTC-B9, B10 & B16 Comp 20	GTC-B9-21.5	GTC-B9	21.5	<0.5	4.4	NR	24	NR	<0.5	<0.25	50	0.23	NR	7	18	NR	5.8	NR	NR	<0.05	1.5	50	NR	<0.5	<0.5	<0.5	40	52	NR	ND
	GTC-B10-19.5	GTC-B10	19.5																											
	GTC-B16-20.5	GTC-B16	20.5																											
GTC-B9, B10 & B16 Comp 25	GTC-B9-25.5	GTC-B9	25.5	<0.5	5.9	NR	21	NR	<0.5	<0.25	42	NR	NR	7.3	17	NR	4.9	NR	NR	<0.05	1.2	45	NR	<0.5	<0.5	<0.5	35	44	NR	ND
	GTC-B10-25.5	GTC-B10	25.5																											
	GTC-B16-25.5	GTC-B16	25.5																											
GTC-B9, B10 & B16 Comp 30	GTC-B9-30.5	GTC-B9	30.5	<0.5	4.1	NR	24	NR	<0.5	<0.25	42	NR	NR	8.5	17	NR	4.9	NR	NR	<0.05	3.7	51	NR	<0.5	<0.5	<0.5	39	43	NR	N/A
	GTC-B10-30.5	GTC-B10	30.5																											
	GTC-B16-30.5	GTC-B16	30.5																											
GTC-B9, B10 & B16 Comp 35	GTC-B9-35.5	GTC-B9	35.5	<0.5	2.4	NR	27	NR	<0.5	<0.25	47	NR	NR	6.4	13	NR	3.2	NR	NR	<0.05	0.78	39	NR	<0.5	<0.5	<0.5	40	33	NR	N/A
	GTC-B10-35.5	GTC-B10	35.5																											
	GTC-B16-35.5	GTC-B16	35.5																											
GTC-B9, B10 & B16 Comp 40	GTC-B9-40.5	GTC-B9	40.5	<0.5	2.7	NR	28	NR	<0.5	<0.25	54	0.38	NR	6.9	8.2	NR	2.4	NR	NR	<0.05	<0.5	42	NR	<0.5	<0.5	<0.5	53	32	NR	N/A
	GTC-B10-40.5	GTC-B10	40.5																											
	GTC-B16-40.5	GTC-B16	40.5																											
GTC-B9, B10 & B16 Comp 45 & 50	GTC-B9-45.5	GTC-B9	45.5	<0.5	2	NR	21	NR	<0.5	<0.25	120	0.092	<0.050	7.9	7.5	NR	2.4	NR	NR	<0.05	<0.5	43	NR	<0.5	<0.5	<0.5	70	28	NR	N/A
	GTC-B10-45.5	GTC-B10	45.5																											
	GTC-B16-45.5	GTC-B16	45.5																											
	GTC-B9-50.5	GTC-B9	50.5																											
	GTC-B10-50.5	GTC-B10	50.5																											
	GTC-B16-50	GTC-B16	50																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
GTC-B9, B10 & B16 Comp 55 & 60	GTC-B9-55.5	GTC-B9	55.5	<0.5	***1.4***	NR	***21***	NR	<0.5	<0.25	***75***	<0.05	NR	***7.9***	***5.9***	NR	***3.1***	NR	NR	<0.05	<0.5	***30***	NR	<0.5	<0.5	<0.5	***110***	***33***	NR	N/A
	GTC-B10-55.5	GTC-B10	55.5																											
	GTC-B16-55.5	GTC-B16	55.5																											
	GTC-B9-60	GTC-B9	60																											
	GTC-B10-60	GTC-B10	60																											
	GTC-B16-60.5	GTC-B16	60.5																											
GTC-B9, B10 & B16 Comp 65 & 70	GTC-B9-65.5	GTC-B9	65.5	<0.5	***8.8***	NR	***49***	NR	<0.5	<0.25	***67***	<0.05	NR	***7.6***	***18***	NR	***6***	NR	NR	<0.05	<0.5	***41***	NR	<0.5	<0.5	<0.5	***69***	***42***	NR	N/A
	GTC-B10-65.5	GTC-B10	65.5																											
	GTC-B16-65.5	GTC-B16	65.5																											
	GTC-B9-70.5	GTC-B9	70.5																											
	GTC-B10-70.5	GTC-B10	70.5																											
	GTC-B16-70.5	GTC-B16	70.5																											
GTC-B9, B10 & B16 Comp 75 & 80	GTC-B9-75.5	GTC-B9	75.5	<0.5	***3.5***	NR	***53***	NR	<0.5	<0.25	***75***	***0.12***	NR	***9.7***	***16***	NR	***3.4***	NR	NR	***0.064***	<0.5	***61***	NR	<0.5	<0.5	<0.5	***58***	***37***	NR	N/A
	GTC-B10-75.5	GTC-B10	75.5																											
	GTC-B16-75.5	GTC-B16	75.5																											
	GTC-B9-80.5	GTC-B9	80.5																											
	GTC-B10-80.5	GTC-B10	80.5																											
	GTC-B16-80.5	GTC-B16	80.5																											
GTC-B9, B10 & B16 Comp 85 & 90	GTC-B9-85.5	GTC-B9	85.5	<0.5	3.7	NR	39	NR	<0.5	<0.25	55	0.11	NR	7	8.5	NR	3.5	NR	NR	<0.05	<0.5	38	NR	<0.5	<0.5	<0.5	45	28	NR	N/A
	GTC-B10-85	GTC-B10	85																											
	GTC-B16-85.5	GTC-B16	85.5																											
	GTC-B9-90	GTC-B9	90																											
	GTC-B10-90	GTC-B10	90																											
	GTC-B16-90	GTC-B16	90																											
GTC-B9, B10 & B16 Comp 95 & 100	GTC-B9-95.5	GTC-B9	95.5	<0.5	***4.3***	NR	***28***	NR	<0.5	<0.25	***54***	***0.087***	NR	***6.7***	***7.2***	NR	***2.7***	NR	NR	***0.056***	<0.5	***43***	NR	<0.5	<0.5	<0.5	***46***	***27***	NR	N/A
	GTC-B10-95	GTC-B10	95																											
	GTC-B16-95	GTC-B16	95																											
	GTC-B9-100	GTC-B9	100																											
	GTC-B10-100	GTC-B10	100																											
	GTC-B16-100	GTC-B16	100																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
Group 2: GTC-B6, GTC-B14 & GTC-B17																														
GTC-B6, B14 & B17 Comp 2.5	GTC-B6-2.5	GTC-B6	2.5	<0.5	2.8	NR	190	NR	<0.5	<0.25	36	NR	NR	8.7	69	NR	5	NR	NR	0.086	<0.5	41	NR	<0.5	<0.5	<0.5	37	60	NR	ND
	GTC-B14-2.5	GTC-B14	2.5																											
	GTC-B17-2.5	GTC-B17	2.5																											
GTC-B6, B14 & B17 Comp 5	GTC-B6-5	GTC-B6	5	1.5	6.5	NR	190	NR	<0.5	0.65	200	0.67	<0.05	29	240	NR	770	2.5	<0.2	1.5	7.5	530	8.3	<0.5	<0.5	<0.5	53	270	NR	<1
	GTC-B14-5.5	GTC-B14	5.5																											
	GTC-B17-5.5	GTC-B17	5.5																											
GTC-B6, B14 & B17 Comp 10	GTC-B6-12	GTC-B6	12	0.78	9.7	NR	120	NR	<0.5	<0.25	240	0.73	<0.05	37	66	NR	53	1.9	NR	0.17	1.7	510	5.3	<0.5	<0.5	<0.5	84	98	NR	<1
	GTC-B14-10.5	GTC-B14	10.5																											
	GTC-B17-10.5	GTC-B17	10.5																											
GTC-B6, B14 & B17 Comp 15	GTC-B6-15.5	GTC-B6	15.5	<0.5	7.6	NR	86	NR	<0.5	<0.25	52	0.21	NR	11	38	NR	100	1.6	0.27	0.068	1.4	48	NR	<0.5	<0.5	<0.5	62	79	NR	ND
	GTC-B14-15.5	GTC-B14	15.5																											
	GTC-B17-17.5	GTC-B17	17.5																											
GTC-B6, B14 & B17 Comp 20	GTC-B6-20.5	GTC-B6	20.5	<0.5	5	NR	26	NR	<0.5	<0.25	50	0.26	NR	8.6	19	NR	5.7	NR	NR	<0.05	0.66	52	NR	<0.5	<0.5	<0.5	40	49	NR	ND
	GTC-B14-20.5	GTC-B14	20.5																											
	GTC-B17-21.5	GTC-B17	21.5																											
GTC-B6, B14 & B17 Comp 25	GTC-B6-25.5	GTC-B6	25.5	<0.5	5.6	NR	23	NR	<0.5	<0.25	47	NR	NR	7.8	18	NR	5.2	NR	NR	<0.05	0.87	46	NR	<0.5	<0.5	<0.5	38	45	NR	ND
	GTC-B14-25.5	GTC-B14	25.5																											
	GTC-B17-25.5	GTC-B17	25.5																											
GTC-B6, B14 & B17 Comp 30	GTC-B6-30.5	GTC-B6	30.5	<0.5	3.7	NR	28	NR	<0.5	<0.25	49	NR	NR	8.3	18	NR	7.8	NR	NR	<0.05	1.6	46	NR	<0.5	<0.5	<0.5	43	44	NR	0
	GTC-B14-30.5	GTC-B14	30.5																											
	GTC-B17-30.5	GTC-B17	30.5																											
GTC-B6, B14 & B17 Comp 35	GTC-B6-35.5	GTC-B6	35.5	<0.5	2	NR	23	NR	<0.5	<0.25	55	0.54	NR	6	15	NR	1.9	NR	NR	<0.05	<0.5	30	NR	<0.5	<0.5	<0.5	41	31	NR	N/A
	GTC-B14-35.5	GTC-B14	35.5																											
	GTC-B17-35.5	GTC-B17	35.5																											
GTC-B6, B14 & B17 Comp 40	GTC-B6-40.5	GTC-B6	40.5	<0.5	0.99	NR	23	NR	<0.5	<0.25	44	NR	NR	6	7.2	NR	1.4	NR	NR	<0.05	<0.5	29	NR	<0.5	<0.5	<0.5	34	22	NR	N/A
	GTC-B14-40.5	GTC-B14	40.5																											
	GTC-B17-40.5	GTC-B17	40.5																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
GTC-B6, B14 & B17 Comp 45 & 50	GTC-B6-45	GTC-B6	45	<0.5	1.3	NR	15	NR	<0.5	<0.25	47	NR	NR	5.1	5.7	NR	1.2	NR	NR	<0.05	<0.5	26	NR	<0.5	<0.5	<0.5	44	19	NR	N/A
	GTC-B14-45.5	GTC-B14	45.5																											
	GTC-B17-45.5	GTC-B17	45.5																											
	GTC-B6-50.5	GTC-B6	50.5																											
	GTC-B14-50.5	GTC-B14	50.5																											
	GTC-B17-50.5	GTC-B17	50.5																											
GTC-B6, B14 & B17 Comp 55 & 60	GTC-B6-55.5	GTC-B6	55.5	<0.5	1.6	NR	29	NR	<0.5	<0.25	62	0.072	NR	7.9	12	NR	2.7	NR	NR	<0.05	<0.5	33	NR	<0.5	<0.5	<0.5	65	36	NR	N/A
	GTC-B14-55.5	GTC-B14	55.5																											
	GTC-B17-55.5	GTC-B17	55.5																											
	GTC-B6-60.5	GTC-B6	60.5																											
	GTC-B14-60.5	GTC-B14	60.5																											
	GTC-B17-60.5	GTC-B17	60.5																											
GTC-B6, B14 & B17 Comp 65 & 70	GTC-B6-65.5	GTC-B6	65.5	<0.5	4.5	NR	45	NR	<0.5	<0.25	57	0.062	NR	10	10	NR	3	NR	NR	<0.05	<0.5	43	NR	<0.5	<0.5	<0.5	55	28	NR	N/A
	GTC-B14-65.5	GTC-B14	65.5																											
	GTC-B17-65.5	GTC-B17	65.5																											
	GTC-B6-70.5	GTC-B6	70.5																											
	GTC-B14-70.5	GTC-B14	70.5																											
	GTC-B17-70.5	GTC-B17	70.5																											
GTC-B6, B14 & B17 Comp 75 & 80	GTC-B6-75.5	GTC-B6	75.5	<0.5	3.2	NR	32	NR	<0.5	<0.25	42	NR	NR	7	7.2	NR	2.2	NR	NR	0.82	<0.5	37	NR	<0.5	<0.5	<0.5	38	25	NR	N/A
	GTC-B14-76	GTC-B14	76																											
	GTC-B17-75	GTC-B17	75																											
	GTC-B6-80.5	GTC-B6	80.5																											
	GTC-B14-80.5	GTC-B14	80.5																											
	GTC-B17-80.5	GTC-B17	80.5																											
GTC-B6, B14 & B17 Comp 85 & 90	GTC-B6-85	GTC-B6	85	<0.5	2.5	NR	24	NR	<0.5	<0.25	54	<0.05	NR	7.4	6.7	NR	2.1	NR	NR	<0.05	<0.5	35	NR	<0.5	<0.5	<0.5	46	25	NR	N/A
	GTC-B14-85.5	GTC-B14	85.5																											
	GTC-B17-85	GTC-B17	85																											
	GTC-B6-90	GTC-B6	90																											
	GTC-B14-90	GTC-B14	90																											
	GTC-B17-90	GTC-B17	90																											
GTC-B6, B14 & B17 Comp 95 & 100	GTC-B6-95.5	GTC-B6	95.5	<0.5	2.5	NR	18	NR	<0.5	<0.25	43	NR	NR	5.6	6.2	NR	2	NR	NR	<0.05	<0.5	30	NR	<0.5	<0.5	<0.5	30	20	NR	N/A
	GTC-B14-95	GTC-B14	95																											
	GTC-B17-95	GTC-B17	95																											
	GTC-B6-100	GTC-B6	100																											
	GTC-B14-100	GTC-B14	100																											
	GTC-B17-100	GTC-B17	100																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																						
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
			Unit (2)	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
			USEPA RSL - Industrial	470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
			ESL - Commerical (Table B)	40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
			ESL - Construction Workers (K-3)	120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
			CHHSLs - Commerical/Industrial	380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
			TTLC	500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
			10 x STLC	150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
			STLC	NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
			20 x TCLP	NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
			Shaklette and Boerngen	0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
			LBNL	< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
			Bradford et al.	0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.5 Max: 40 Ave: 2.9**	**Min: 0.95 Max: 51 Ave: 6**	**Min: 0.38 Max: 0.38**	**Min: 15 Max: 1500 Ave: 172**	**Min: 6.8 Max: 21**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.25 Max: 7.9 Ave: 0.53**	**Min: 17 Max: 390 Ave: 67**	**Min: <0.05 Max: 0.86**	**Min: <0.05 Max: <0.05**	**Min: 4.2 Max: 85 Ave: 11**	**Min: 3.9 Max: 3700 Ave: 136**	**Min: 0.36 Max: 510**	**Min: 1.2 Max: 39000 Ave: 988**	**Min: 0.46 Max: 20**	**Min: <0.2 Max: 92**	**Min: <0.05 Max: 1.5 Ave: 0.1**	**Min: <0.5 Max: 16 Ave: 1.3**	**Min: 16 Max: 1100 Ave: 89**	**Min: 1.9 Max: 8.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.5 Max: <5 Ave: 0.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: 26 Max: 110 Ave: 48**	**Min: 15 Max: 7000 Ave: 264**	**Min: 67 Max: 160**	**Min: 0 Max: <1**
Soil Samples (6)																														
Group 3: GTC-B8, GTC-B11 & GTC-B18																														
GTC-B8, B11 & B18 Comp 2.5	GTC-B8-2.5 GTC-B11-2.5 GTC-B18-2.5	GTC-B8 GTC-B11 GTC-B18	2.5 2.5 2.5	***8.4***	***14***	NR	***670***	NR	<0.5	<0.25	***17***	NR	NR	***8.8***	***120***	NR	***370***	***16***	***1.1***	***0.091***	***1.1***	***16***	NR	***0.87***	***1.7***	<0.5	***28***	***78***	NR	ND
GTC-B8, B11 & B18 Comp 5	GTC-B8-5 GTC-B11-5.5 GTC-B18-4.5	GTC-B8 GTC-B11 GTC-B18	5 5.5 4.5	***37***	***51***	***0.38***	***170***	NR	***1.3***	***2.2***	***190***	***0.7***	<0.05	***25***	***3700***	***510***	***230***	***7.1***	***0.54***	***0.13***	***16***	***140***	NR	<0.5	***1.9***	<0.5	***110***	***1100***	NR	ND
GTC-B8 & B11 Comp 10	GTC-B8-10.5 GTC-B11-11	GTC-B8 GTC-B11	10.5 11	***4.7***	***11***	NR	***690***	NR	***0.76***	***1.1***	***61***	***0.23***	NR	***19***	***180***	NR	***1100***	NR	***0.43***	***0.16***	***0.81***	***85***	NR	<0.5	***1.1***	<0.5	***65***	***650***	NR	ND
GTC-B8 & B11 Comp 15	GTC-B8-15.5 GTC-B11-15.5	GTC-B8 GTC-B11	15.5 15.5	<0.5	***11***	NR	***41***	NR	<0.5	***0.29***	***52***	***0.22***	NR	***7.9***	***36***	NR	***300***	***0.46***	<0.2	<0.05	***7.4***	***52***	NR	<0.5	<0.5	<0.5	***44***	***66***	NR	ND
GTC-B8 & B11 Comp 20	GTC-B8-22.5 GTC-B11-20.5	GTC-B8 GTC-B11	22.5 20.5	<0.5	***4.5***	NR	***31***	NR	<0.5	<0.25	***52***	***0.23***	NR	***7.8***	***18***	NR	***5.3***	NR	NR	<0.05	***0.74***	***48***	NR	<0.5	<0.5	<0.5	***43***	***46***	NR	ND
GTC-B8 & B11 Comp 25	GTC-B8-26.5 GTC-B11-25.5	GTC-B8 GTC-B11	26.5 25.5	<0.5	***3.3***	NR	***22***	NR	<0.5	<0.25	***54***	***0.25***	NR	***6.2***	***19***	NR	***2.7***	NR	NR	<0.05	***0.67***	***29***	NR	***0.72***	<0.5	<0.5	***81***	***31***	NR	ND
GTC-B8 & B11 Comp 30	GTC-B8-30.5 GTC-B11-31	GTC-B8 GTC-B11	30.5 31	<0.5	***2***	NR	***38***	NR	<0.5	<0.25	***66***	***0.2***	NR	***7.5***	***33***	NR	***4.5***	NR	NR	<0.05	***1.3***	***49***	NR	<0.5	<0.5	<0.5	***44***	***54***	NR	***0***
GTC-B8 & B11 Comp 35	GTC-B8-35.5 GTC-B11-35.5	GTC-B8 GTC-B11	35.5 35.5	<0.5	***0.98***	NR	***26***	NR	<0.5	<0.25	***41***	NR	NR	***4.2***	***4.2***	NR	***1.7***	NR	NR	<0.05	<0.5	***30***	NR	<0.5	<0.5	<0.5	***33***	***15***	NR	N/A
GTC-B8 & B11 Comp 40	GTC-B8-40.5 GTC-B11-40.5	GTC-B8 GTC-B11	40.5 40.5	<0.5	***1.4***	NR	***42***	NR	<0.5	<0.25	***84***	<0.05	NR	***11***	***21***	NR	***1.8***	NR	NR	<0.05	<0.5	***73***	NR	<0.5	<0.5	<0.5	***54***	***35***	NR	N/A
GTC-B8 & B11 Comp 45 & 50	GTC-B8-45.5 GTC-B11-45.5 GTC-B8-50.5 GTC-B11-50.5	GTC-B8 GTC-B11 GTC-B8 GTC-B11	45.5 45.5 50.5 50.5	<0.5	***1.3***	NR	***23***	NR	<0.5	<0.25	***66***	<0.05	NR	***6.5***	***5.2***	NR	***1.5***	NR	NR	<0.05	<0.5	***31***	NR	<0.5	<0.5	<0.5	***68***	***24***	NR	N/A
GTC-B8 & B11 Comp 55 & 60	GTC-B8-55 GTC-B11-55 GTC-B8-60.5 GTC-B11-60	GTC-B8 GTC-B11 GTC-B8 GTC-B11	55 55 60.5 60	<0.5	***1.1***	NR	***22***	NR	<0.5	<0.25	***49.6***	NR	NR	***5.7***	***8.9***	NR	***2***	NR	NR	<0.05	<0.5	***28***	NR	<0.5	<0.5	<0.5	***62***	***25***	NR	N/A
GTC-B8 & B11 Comp 65 & 70	GTC-B8-65.5 GTC-B11-65.5 GTC-B8-70.5 GTC-B11-70.5	GTC-B8 GTC-B11 GTC-B8 GTC-B11	65.5 65.5 70.5 70.5	<0.5	***3.2***	NR	***40***	NR	<0.5	<0.25	***59***	<0.05	NR	***8.2***	***12***	NR	***3.7***	NR	NR	<0.05	<0.5	***45***	NR	<0.5	<0.5	<0.5	***55***	***33***	NR	N/A

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
GTC-B8 & B11 Comp 75 & 80	GTC-B8-75.5	GTC-B8	75.5	<0.5	1.8	NR	50	NR	<0.5	<0.25	56	0.25	NR	8.2	7.2	NR	2.7	NR	NR	<0.05	<0.5	46	NR	<0.5	<0.5	<0.5	50	24	NR	N/A
	GTC-B11-75.5	GTC-B11	75.5																											
	GTC-B8-80.5	GTC-B8	80.5																											
	GTC-B11-80.5	GTC-B11	80.5																											
GTC-B8 & B11 Comp 85 & 90	GTC-B8-85	GTC-B8	85	<0.5	2.6	NR	30	NR	<0.5	<0.25	51	0.066	NR	6.3	6.4	NR	2.4	NR	NR	<0.05	<0.5	37	NR	<0.5	<0.5	<0.5	44	23	NR	N/A
	GTC-B11-85.5	GTC-B11	85.5																											
	GTC-B8-90	GTC-B8	90																											
	GTC-B11-90	GTC-B11	90																											
GTC-B8 & B11 Comp 95 & 100	GTC-B8-95.5	GTC-B8	95.5	<0.5	3.7	NR	23	NR	<0.5	<0.25	42	NR	NR	5.4	4.7	NR	1.7	NR	NR	<0.05	<0.5	36	NR	<0.5	<0.5	<0.5	41	18	NR	N/A
	GTC-B11-95.5	GTC-B11	95.5																											
	GTC-B8-100	GTC-B8	100																											
	GTC-B11-100	GTC-B11	100																											
Group 4a: GTC-B7, GTC-B12 & GTC-B15																														
GTC-B7, B12 & B15 Comp 2.5	GTC-B7-2.5	GTC-B7	2.5	4.9	4	NR	250	NR	<0.5	1.5	84	0.099	NR	26	2100	53	250	12	1.5	0.15	0.7	460	1.9	<0.5	<0.5	<0.5	34	1000	NR	<1
	GTC-B12-2.5	GTC-B12	2.5																											
	GTC-B15-2.5	GTC-B15	2.5																											
GTC-B7, B12 & B15 Comp 5	GTC-B7-5.5	GTC-B7	5.5	1.6	5	NR	320	NR	<0.5	0.33	390	0.79	<0.05	56	82	NR	270	6.2	0.45	0.87	<0.5	1100	8.7	<0.5	<0.5	<0.5	40	240	NR	<1
	GTC-B12-5.5	GTC-B12	5.5																											
	GTC-B15-5.5	GTC-B15	5.5																											
GTC-B7, B12 & B15 Comp 10	GTC-B7-10.5	GTC-B7	10.5	20	15	NR	360	NR	<0.5	7.9	310	0.71	<0.05	36	1300	85	39000	NR	92	0.24	1.3	680	3.2	<0.5	1.8	<0.5	30	3800	160	<1
	GTC-B12-10	GTC-B12	10																											
	GTC-B15-11	GTC-B15	11																											
GTC-B7, B12 & B15 Comp 15	GTC-B7-15.5	GTC-B7	15.5	0.51	5.1	NR	33	NR	<0.5	<0.25	53	0.23	NR	6.6	20	NR	98	5.7	NR	<0.05	2.3	46	NR	<0.5	<0.5	<0.5	42	80	NR	ND
	GTC-B12-15.5	GTC-B12	15.5																											
	GTC-B15-15.5	GTC-B15	15.5																											
GTC-B7, B12 & B15 Comp 20	GTC-B7-20.5	GTC-B7	20.5	<0.5	4.6	NR	28	NR	<0.5	<0.25	52	0.21	NR	8.2	20	NR	6.3	NR	NR	<0.05	0.53	54	NR	<0.5	<0.5	<0.5	41	52	NR	ND
	GTC-B12-20.5	GTC-B12	20.5																											
	GTC-B15-20.5	GTC-B15	20.5																											
GTC-B7, B12 & B15 Comp 25	GTC-B7-25.5	GTC-B7	25.5	<0.5	4.1	NR	21	NR	<0.5	<0.25	39	NR	NR	4.8	14	NR	3.4	NR	NR	<0.05	0.92	30	NR	<0.5	<0.5	<0.5	30	29	NR	ND
	GTC-B12-27.5	GTC-B12	27.5																											
	GTC-B15-25.5	GTC-B15	25.5																											
GTC-B7, B12 & B15 Comp 30	GTC-B7-30.5	GTC-B7	30.5	<0.5	1.1	NR	32	NR	<0.5	<0.25	67	0.5	NR	6.7	6	NR	2.3	NR	NR	<0.05	<0.5	32	NR	<0.5	<0.5	<0.5	59	19	NR	0
	GTC-B12-30.5	GTC-B12	30.5																											
	GTC-B15-30.5	GTC-B15	30.5																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.5 Max: 40 Ave: 2.9**	**Min: 0.95 Max: 51 Ave: 6**	**Min: 0.38 Max: 0.38**	**Min: 15 Max: 1500 Ave: 172**	**Min: 6.8 Max: 21**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.25 Max: 7.9 Ave: 0.53**	**Min: 17 Max: 390 Ave: 67**	**Min: <0.05 Max: 0.86**	**Min: <0.05 Max: <0.05**	**Min: 4.2 Max: 85 Ave: 11**	**Min: 3.9 Max: 3700 Ave: 136**	**Min: 0.36 Max: 510**	**Min: 1.2 Max: 39000 Ave: 988**	**Min: 0.46 Max: 20**	**Min: <0.2 Max: 92**	**Min: <0.05 Max: 1.5 Ave: 0.1**	**Min: <0.5 Max: 16 Ave: 1.3**	**Min: 16 Max: 1100 Ave: 89**	**Min: 1.9 Max: 8.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.5 Max: <5 Ave: 0.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: 26 Max: 110 Ave: 48**	**Min: 15 Max: 7000 Ave: 264**	**Min: 67 Max: 160**	**Min: 0 Max: <1**
Soil Samples (6)																														
GTC-B7, B12 & B15 Comp 35	GTC-B7-35.5	GTC-B7	35.5	<0.5	***1.5***	NR	***46***	NR	<0.5	<0.25	***66***	***0.14***	NR	***6.1***	***7.8***	NR	***2.1***	NR	NR	<0.05	<0.5	***34***	NR	<0.5	<0.5	<0.5	***33***	***24***	NR	N/A
	GTC-B12-35.5	GTC-B12	35.5																											
	GTC-B15-35.5	GTC-B15	35.5																											
GTC-B7, B12 & B15 Comp 40	GTC-B7-40.5	GTC-B7	40.5	<0.5	***1.4***	NR	***35***	NR	<0.5	<0.25	***54***	<0.05	NR	***6.4***	***17***	NR	***3.3***	NR	NR	<0.05	<0.5	***38***	NR	<0.5	<0.5	<0.5	***45***	***40***	NR	N/A
	GTC-B12-40.5	GTC-B12	40.5																											
	GTC-B15-40.5	GTC-B15	40.5																											
GTC-B7, B12 & B15 Comp 45 & 50	GTC-B7-45.5	GTC-B7	45.5	<0.5	***0.99***	NR	***19***	NR	<0.5	<0.25	***38***	NR	NR	***5.3***	***6.8***	NR	***1.2***	NR	NR	<0.05	<0.5	***24***	NR	<0.5	<0.5	<0.5	***43***	***23***	NR	N/A
	GTC-B12-45.5	GTC-B12	45.5																											
	GTC-B15-45.5	GTC-B15	45.5																											
	GTC-B7-50.5	GTC-B7	50.5																											
	GTC-B12-50.5	GTC-B12	50.5																											
	GTC-B15-50.5	GTC-B15	50.5																											
GTC-B7 & B15 Comp 55 & 60	GTC-B7-55	GTC-B7	55	<0.5	***0.95***	NR	***19***	NR	<0.5	<0.25	***51***	<0.05	NR	***5.3***	***15***	NR	***2.5***	NR	NR	<0.05	<0.5	***24***	NR	<0.5	<0.5	<0.5	***57***	***26***	NR	N/A
	GTC-B15-55	GTC-B15	55																											
	GTC-B7-60.5	GTC-B7	60.5																											
	GTC-B15-60.5	GTC-B15	60.5																											
GTC-B7 & B15 Comp 65 & 70	GTC-B7-65.5	GTC-B7	65.5	<0.5	*4.9*	NR	***55***	NR	<0.5	<0.25	***67***	<0.05	NR	***11***	***12***	NR	***3.9***	NR	NR	<0.05	<0.5	***49***	NR	<0.5	<0.5	<0.5	***74***	***36***	NR	N/A
	GTC-B15-65.5	GTC-B15	65.5																											
	GTC-B7-70.5	GTC-B7	70.5																											
	GTC-B15-70.5	GTC-B15	70.5																											
GTC-B7 & B15 Comp 75 & 80	GTC-B7-75.5	GTC-B7	75.5	<0.5	*3.7*	NR	***35***	NR	<0.5	<0.25	***47***	NR	NR	***7.6***	***13***	NR	***2.1***	NR	NR	<0.05	<0.5	***40***	NR	<0.5	<0.5	<0.5	***39***	***27***	NR	N/A
	GTC-B15-75.5	GTC-B15	75.5																											
	GTC-B7-80.5	GTC-B7	80.5																											
	GTC-B15-80.5	GTC-B15	80.5																											
GTC-B7 & B15 Comp 85 & 90	GTC-B7-85.5	GTC-B7	85.5	<0.5	***1.5***	NR	***18***	NR	<0.5	<0.25	***39***	NR	NR	***5.4***	***7.2***	NR	***1.9***	NR	NR	<0.05	<0.5	***31***	NR	<0.5	<0.5	<0.5	***27***	***20***	NR	N/A
	GTC-B15-85.5	GTC-B15	85.5																											
	GTC-B7-90.5	GTC-B7	90.5																											
	GTC-B15-90.5	GTC-B15	90.5																											
GTC-B7 & B15 Comp 95 & 100	GTC-B7-95.5	GTC-B7	95.5	<0.5	***1.4***	NR	***19***	NR	<0.5	<0.25	***35***	NR	NR	***5.7***	***10***	NR	***2.3***	NR	NR	<0.05	<0.5	***30***	NR	<0.5	<0.5	<0.5	***27***	***28***	NR	N/A
	GTC-B15-95.5	GTC-B15	95.5																											
	GTC-B7-100.5	GTC-B7	100.5																											
	GTC-B15-100.5	GTC-B15	100.5																											

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.5 Max: 40 Ave: 2.9**	**Min: 0.95 Max: 51 Ave: 6**	**Min: 0.38 Max: 0.38**	**Min: 15 Max: 1500 Ave: 172**	**Min: 6.8 Max: 21**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.25 Max: 7.9 Ave: 0.53**	**Min: 17 Max: 390 Ave: 67**	**Min: <0.05 Max: 0.86**	**Min: <0.05 Max: <0.05**	**Min: 4.2 Max: 85 Ave: 11**	**Min: 3.9 Max: 3700 Ave: 136**	**Min: 0.36 Max: 510**	**Min: 1.2 Max: 39000 Ave: 988**	**Min: 0.46 Max: 20**	**Min: <0.2 Max: 92**	**Min: <0.05 Max: 1.5 Ave: 0.1**	**Min: <0.5 Max: 16 Ave: 1.3**	**Min: 16 Max: 1100 Ave: 89**	**Min: 1.9 Max: 8.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: <0.5 Max: <5 Ave: 0.7**	**Min: <0.5 Max: <5 Ave: 0.6**	**Min: 26 Max: 110 Ave: 48**	**Min: 15 Max: 7000 Ave: 264**	**Min: 67 Max: 160**	**Min: 0 Max: <1**
Soil Samples (6)																														
Group 4b: GTC-B13																														
GTC-B13-2.5	GTC-B13-2.5	GTC-B13	2.5	1.7	9.5	NR	260	NR	<0.5	0.4	160	0.48	<0.05	25	61	NR	30	NR	NR	1.3	0.66	330	3	<0.5	<0.5	<0.5	57	100	NR	<1
GTC-B13-5	GTC-B13-5	GTC-B13	5	27	27	NR	990	NR	<5	<2.5	30	NR	NR	21	700	0.36	8200	NR	<0.2	<0.5	<5	84	NR	<5	<5	<5	26	1300	NR	<1
GTC-B13-10.5	GTC-B13-10.5	GTC-B13	10.5	40	14	NR	1500	16	<5	<2.5	31	NR	NR	11	570	21	26000	NR	6.4	<0.5	<5	50	NR	<5	<5	<5	27	2600	67	ND
GTC-B13-15	GTC-B13-15	GTC-B13	15	<0.5	6.4	NR	29	NR	<0.5	<0.25	52	0.18	NR	7.6	15	NR	6.2	NR	NR	<0.05	2.3	52	NR	<0.5	<0.5	<0.5	45	52	NR	ND
GTC-B13-20.5	GTC-B13-20.5	GTC-B13	20.5	<0.5	3.3	NR	28	NR	<0.5	<0.25	46	NR	NR	7.5	17	NR	5.1	NR	NR	<0.05	<0.5	46	NR	<0.5	<0.5	<0.5	38	48	NR	ND
GTC-B13 Comp 25, 30	GTC-B13-24.5 GTC-B13-29	GTC-B13 GTC-B13	24.5 29	<0.5	4.1	NR	30	NR	<0.5	<0.25	56	0.26	NR	7.1	13	NR	4.1	NR	NR	<0.05	0.92	41	NR	<0.5	<0.5	<0.5	36	36	NR	ND
GTC-B13 Comp 35, 40	GTC-B13-35.5 GTC-B13-40.59	GTC-B13 GTC-B13	35.5 40.5	<0.5	1.7	NR	29	NR	<0.5	<0.25	40	NR	NR	4.7	4.2	NR	1.5	NR	NR	<0.05	<0.5	34	NR	<0.5	<0.5	<0.5	31	28	NR	N/A
GTC-B13 Comp 45, 50	GTC-B13-45.5 GTC-B13-50	GTC-B13 GTC-B13	45.5 50	<0.5	1.7	NR	24	NR	<0.5	<0.25	61	<0.05	NR	6.6	5.2	NR	3.6	NR	NR	<0.05	<0.5	32	NR	<0.5	<0.5	<0.5	59	26	NR	N/A
GTC-B13 Comp 55, 60	GTC-B13-55 GTC-B13-60.5	GTC-B13 GTC-B13	55 60.5	<0.5	1.3	NR	19	NR	<0.5	<0.25	48	NR	NR	5.3	3.9	NR	2	NR	NR	<0.05	<0.5	23	NR	<0.5	<0.5	<0.5	57	22	NR	N/A
GTC-B13 Comp 65, 70	GTC-B13-65.5 GTC-B13-70.5	GTC-B13 GTC-B13	65.5 70.5	<0.5	3.5	NR	60	NR	<0.5	<0.25	70	0.13	NR	9.7	13	NR	5.3	NR	NR	<0.05	<0.5	57	NR	<0.5	<0.5	<0.5	61	44	NR	N/A
GTC-B13 Comp 75, 80	GTC-B13-75 GTC-B13-80.5	GTC-B13 GTC-B13	75 80.5	<0.5	2.3	NR	46	NR	<0.5	<0.25	60	0.072	NR	7.9	8.8	NR	3	NR	NR	<0.05	<0.5	45	NR	<0.5	<0.5	<0.5	47	30	NR	N/A
GTC-B13 Comp 85, 90	GTC-B13-85 GTC-B13-90.5	GTC-B13 GTC-B13	85 90.5	<0.5	1.9	NR	26	NR	<0.5	<0.25	44	NR	NR	5.6	4.8	NR	2.4	NR	NR	<0.05	<0.5	31	NR	<0.5	<0.5	<0.5	34	20	NR	N/A
GTC-B13 Comp 95, 100	GTC-B13-95 GTC-B13-100	GTC-B13 GTC-B13	95 100	<0.5	2.6	NR	24	NR	<0.5	<0.25	75	<0.05	NR	8.4	5	NR	2	NR	NR	<0.05	<0.5	41	NR	<0.5	<0.5	<0.5	69	35	NR	N/A
Group 5: GTC-B18B & GTC-B20																														
GTC-B18B & GTC-B20 Comp 2.5	GTC-B18B-2.5 GTC-B20-2.5	GTC-B18B GTC-B20	2.5 2.5	<0.5	1.5	NR	1100	18	<0.5	<0.25	26	NR	NR	85	130	NR	8.2	NR	NR	0.12	<0.5	31	NR	<0.5	<0.5	<0.5	36	79	NR	N/A
GTC-B18B & GTC-B20 Comp 5	GTC-B18B-5.5 GTC-B20-5.5	GTC-B18B GTC-B20	5.5 5.5	2.4	36	NR	1300	6.8	<0.5	<0.25	55	0.21	NR	13	140	NR	43	NR	NR	0.14	0.97	68	NR	<0.5	<0.5	<0.5	47	130	NR	N/A
GTC-B18B & GTC-B20 Comp 10	GTC-B18B-10.5 GTC-B20-10.5	GTC-B18B GTC-B20	10.5 10.5	2.2	5.1	NR	100	NR	<0.5	0.28	140	0.71	<0.05	24	42	NR	98	7.6	NR	0.36	2.9	500	5.1	<0.5	<0.5	<0.5	33	130	NR	N/A
GTC-B18B & GTC-B20 Comp 15	GTC-B18B-15.5 GTC-B20-15.5	GTC-B18B GTC-B20	15.5 15.5	6	14	NR	290	NR	0.51	<0.25	32	NR	NR	5.9	93	NR	420	20	0.33	0.21	2	53	NR	<0.5	0.64	<0.5	31	300	NR	N/A
GTC-B18B & GTC-B20 Comp 20	GTC-B18B-21.5 GTC-B20-21.5	GTC-B18B GTC-B20	21.5 21.5	<0.5	4.4	NR	38	NR	<0.5	<0.25	62	0.21	NR	9.7	23	NR	7.9	NR	NR	<0.05	0.83	62	NR	<0.5	<0.5	<0.5	51	62	NR	N/A

TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																										
				Sb	As	WET As	Ba	WET Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	WET Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	%
Risk Regulatory and Reference Criteria (3)																														
USEPA RSL - Industrial				470	3.0		220000		2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000		NA
ESL - Commerical (Table B)				40	1.6	NA	1500	NA	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA	NA
ESL - Construction Workers (K-3)				120	10	NA	61000	NA	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA	NA
CHHSLs - Commerical/Industrial				380	0.24	NA	63000	NA	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA	NA
Hazardous Waste Criteria (5)																														
TTLC				500	500	NA	10000	NA	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	NA	1
10 x STLC				150	50	NA	1000	NA	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA	NA
STLC				NA	NA	5	NA	100	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	250	NA
20 x TCLP				NA	100	NA	2000	NA	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																														
Shaklette and Boerngen				0.62	7.0	NA	670	NA	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA	NA
LBNL				< 6	24	NA	410	NA	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA	NA
Bradford et al.				0.60	3.5	NA	509	NA	1.28	0.36	122	NA	NA	14.9	28.7	NA	23.9	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 40 Ave: 2.9	Min: 0.95 Max: 51 Ave: 6	Min: 0.38 Max: 0.38	Min: 15 Max: 1500 Ave: 172	Min: 6.8 Max: 21	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.25 Max: 7.9 Ave: 0.53	Min: 17 Max: 390 Ave: 67	Min: <0.05 Max: 0.86	Min: <0.05 Max: <0.05	Min: 4.2 Max: 85 Ave: 11	Min: 3.9 Max: 3700 Ave: 136	Min: 0.36 Max: 510	Min: 1.2 Max: 39000 Ave: 988	Min: 0.46 Max: 20	Min: <0.2 Max: 92	Min: <0.05 Max: 1.5 Ave: 0.1	Min: <0.5 Max: 16 Ave: 1.3	Min: 16 Max: 1100 Ave: 89	Min: 1.9 Max: 8.7	Min: <0.5 Max: <5 Ave: 0.6	Min: <0.5 Max: <5 Ave: 0.7	Min: <0.5 Max: <5 Ave: 0.6	Min: 26 Max: 110 Ave: 48	Min: 15 Max: 7000 Ave: 264	Min: 67 Max: 160	Min: 0 Max: <1
Soil Samples (6)																														
Group 6: GTC-B21 & GTC-B22																														
GTC-B21 & GTC-B22 Comp 2.5	GTC-B-21-2.5	GTC-B21	2.5	***0.63***	***1.8***	NR	***1300***	***21***	***0.58***	<0.25	***19***	NR	NR	***22***	***160***	NR	***14***	NR	NR	***0.094***	<0.5	***28***	NR	<0.5	<0.5	<0.5	***50***	***49***	NR	N/A
	GTC-B22-2.5	GTC-B22	2.5																											
GTC-B21 & GTC-B22 Comp 5	GTC-B-21-5.5	GTC-B21	5.5	***0.65***	***3.4***	NR	***110***	NR	<0.5	***0.46***	***50***	***0.38***	NR	***15***	***54***	NR	***74***	***3***	NR	***0.21***	<0.5	***43***	NR	<0.5	<0.5	<0.5	***92***	***130***	NR	N/A
	GTC-B22-5.5	GTC-B22	5.5																											
GTC-B21 & GTC-B22 Comp 10	GTC-B-21-10.5	GTC-B21	10.5	***0.91***	***3.8***	NR	***89***	NR	<0.5	<0.25	***68***	***0.86***	NR	***10***	***16***	NR	***36***	NR	NR	***0.066***	***0.52***	***42***	NR	<0.5	<0.5	<0.5	***56***	***64***	NR	N/A
	GTC-B22-10.5	GTC-B22	10.5																											
GTC-B21 & GTC-B22 Comp 15	GTC-B-21-15.5	GTC-B21	15.5	***11***	***25***	NR	***1500***	***13***	<0.5	***6.2***	***36***	NR	NR	***6.1***	***260***	***0.57***	***3000***	NR	***2.2***	***0.39***	***1***	***42***	NR	<0.5	***2.9***	<0.5	***32***	***7000***	NR	N/A
	GTC-B22-15.5	GTC-B22	15.5																											
GTC-B21 & GTC-B22 Comp 20	GTC-B-21-20.5	GTC-B21	20.5	<0.5	***4.2***	NR	***27***	NR	<0.5	<0.25	***51***	***0.23***	NR	***8.2***	***19***	NR	***6***	NR	NR	<0.05	***0.63***	***54***	NR	<0.5	<0.5	<0.5	***41***	***52***	NR	N/A
	GTC-B22-20.5	GTC-B22	20.5																											

Notes :

1. Sb = Antimony, As = Arsenic, Ba = Barium, Be = Beryllium, Cd = Cadmium, Cr = Chromium, Cr VI = Chromium VI, Co = Cobalt, Cu = Copper, Pb = Lead, Hg = Mercury, Mo = Molybdenum, Ni = Nickel, Se = Selenium, Ag = Silver, Tl = Thallium, V = Vanadium, and Zn = Zinc. WET = California Waste Extraction Test. TCLP = United States Environmental Protection Agency Toxicity Characteristic Leaching Procedure.
2. mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; % - percent by volume.
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is not a current or potential source of drinking water) under commercial/industrial use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels under Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available; NR = Not required; ND = Not detected at concentrations above the respective detection limit(s); and - - = Not Analyzed (see Table 1 for explanation).
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
   Shaklette and Boerngen = The estimated arithmetic mean of Western United States in Table 2 of the "Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States" by Hansord T. Shacklette and Josephine G. Boerngen, U.S. Geological Survey Professional Paper 1270 and dated 1984.
   LBNL = Table 5 of the "Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory" by Diamond et al. and dated June 2002, Revised April 2009.
   Bradford et al. = Reported mean concentration of the "Background Concentrations of Trace and Major Elements in California Soils" by Bradford etal., Kearney Foundation of Soil Science, March 1996.
6. ***20*** denotes the respective concentration above the detected limit
   4.4 denotes the respective concentration above the respective ESL - Commercial value.
   5.9 denotes the respective concentration above the respective applicable hazardous criteria.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

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TABLE 5
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, MTBE, VOC, AND SVOC ANALYSES ON GROUNDWATER SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Total Petroleum Hydrocarbons, BTEX, and MTBE (1)								*VOCs (1)*														*Other Organics*
			TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE	Benzene	t-Butyl alcohol	n-Butyl benzene	sec-Butyl benzene	tert-Butyl benzene	Ethyl benzene	Isopropyl benzene	4-Isopropyl toluene	n-Propyl benzene	MTBE	Toluene	1,2,4-Tri methyl benzene	Xylenes, total	Other VOCs	SVOCs
Unit (2)			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Risk Regulatory Criteria (3)																									
ESL (Table F-1b)			500	640	640	27.0	43	130	100	1800	24	18000	NA	NA	NA	43	NA	NA	NA	1800	130	NA	100	NA	NA
San Francisco Wastewater Batch Discharge Limits (3)																									
SF Batch Discharge Limit			100000	100000	100000	500	NA	NA	NA	NA	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Min: <50 Max: 110000 Ave: 12110	Min: <50 Max: 3200000 Ave: 331959.9	Min: <250 Max: 4100000 Ave: 421820	Min: <0.5 Max: 53 Ave: 8.03	Min: <0.5 Max: <50 Ave: 5.64	Min: <0.5 Max: 400 Ave: 43.78	Min: <0.5 Max: 94 Ave: 10.52	Min: <5 Max: <500 Ave: 59.14	Min: <0.5 Max: 4.9 Ave: 1.59	Min: <2 Max: 33 Ave: 8	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: 480 Ave: 51.5	Min: <0.5 Max: <50 Ave: 5.7	Min: <0.5 Max: <50 Ave: 6.5	Min: <0.5 Max: 170 Ave: 19	Min: <0.5 Max: 220 Ave: 23	Min: <0.5 Max: <50 Ave: 8	Min: <0.5 Max: <50 Ave: 6	Min: <0.5 Max: <50 Ave: 6	Min: <0.5 Max: <50 Ave: 6		
Groundwater Samples - 2013 (5)																									
GTC-B6-W	GTC-B6-W	GTC-B6	<50	***89***	***450***	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND
GTC-B8-W	GTC-B8-W	GTC-B8	<50	***700***	***2200***	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND
GTC-B9-W	GTC-B9-W	GTC-B9	<50	***1000***	***3800***	<0.5	<0.5	<0.5	<0.5	***7.4***	<0.5	***13***	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	***7.0***	<0.5	<0.5	<0.5	ND	ND
GTC-B10-W	GTC-B10-W	GTC-B10	***620***	***33000***	***23000***	***4.4***	<0.5	***4.0***	***1.4***	<30	***4.4***	***33***	<0.5	***0.59***	***0.59***	***0.58***	<0.5	***0.82***	<0.5	***17***	***0.51***	***0.52***	***1.3***	ND	ND
GTC-B11-W	GTC-B11-W	GTC-B11	***5200***	***19000***	***20000***	***6.0***	<1.2	***9.0***	<1.2	<12	***4.9***	<10	***4.2***	***3.4***	***4.3***	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	***2.0***	ND	ND
GTC-B15-W	GTC-B15-W	GTC-B15	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	ND	ND
GTC-B16-W	GTC-B16-W	GTC-B16	***150***	***760***	***2500***	<0.5	<0.5	***5.6***	<0.5	<5	<0.5	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	***1.7***	<0.5	<0.5	ND	ND
GTC-B17-W	GTC-B17-W	GTC-B17	***330***	***45000***	***52000***	***2.4***	<0.5	***3.2***	***1.2***	<5	***1.9***	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	***0.75***	***1.2***	***0.78***	ND	ND
GTC-B21-W	GTC-B21-W	GTC-B21	***110000***	***3200000***	***4100000***	***53***	<50	***400***	***94***	<500	***1.7***		***58***	***1100***	***480***	<50	<50	***170***	***220***	<50	<50	<50	<50	ND	ND
GTC-B22-W	GTC-B22-W	GTC-B22	***4600***	***20000***	***14000***	***12***	<1.7	***14***	***4.9***	<17	<0.5	<2	***13***	***45***	***27***	<0.5	***8.7***	***9.5***	***5.1***	<0.5	***2.8***	<0.5	***5.6***	ND	ND

***Notes*:**

1. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
   Pesticides = Organochlorine Pesticides by USEPA Method 8080 series.
   PCBs = Polychlorinated Biphenyls by USEPA Method 8080 series.
2. µg/L = micrograms per Liter
3. RSL - Residential = MCL in USEPA's Regional Screening Levels under residential scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013.
   SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
5. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL - Residential value.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

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TABLE 6
RESULTS OF TITLE 22 METALS ON GROUNDWATER SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Title 22 17-Metals (1)																
			Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
		Unit (2)	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Risk Regulatory and Reference Criteria (3)																			
		ESL (Table F-1b)	30.0	36	1000	0.53	0.25	180	3.0	3.1	2.5	0.025	240	8.2	5.0	0.19	4.0	1.9	81
San Francisco Wastewater Batch Discharge Limits (3)																			
		SF Batch Discharge Limit	NA	4000	NA	NA	500	5000	NA	4000	1500	50	NA	2000	NA	600	NA	NA	7000
Laboratory ID	Sample ID	Boring ID	Min: 1.1 Max: 810	Min: 4 Max: 1700	Min: 210 Max: 52000	Min: <0.5 Max: <500	Min: <0.25 Max: <250	Min: <0.5 Max: 6800	Min: <0.5 Max: 1100	Min: <0.5 Max: 53000	Min: <0.5 Max: 190000	Min: <0.025 Max: <50	Min: <0.5 Max: <500	Min: 1.6 Max: 6100	Min: <0.5 Max: <500	Min: <0.19 Max: <500	Min: <0.5 Max: <500	Min: <0.5 Max: 2000	Min: <5 Max: 120000
Groundwater Samples - 2013 (5)																			
GTC-B6-W	GTC-B6-W	GTC-B6	100	110	9300	<50	<25	1600	810	4800	5800	6.4	<50	2600	<50	<19	<50	1700	6500
GTC-B6-W (DISSOLVED)	GTC-B6-W	GTC-B6	1.1	31	390	<0.5	<0.25	<0.5	9.6	1.2	<0.5	0.034	15	12	<0.5	<0.19	<0.5	2.6	6.2
GTC-B8-W	GTC-B8-W	GTC-B8	810	1700	30000	<500	<250	1700	<500	18000	96000	<50	<500	1700	<500	<500	<500	940	60000
GTC-B8-W (DISSOLVED)	GTC-B8-W	GTC-B8	6.5	41	330	<0.5	<0.25	<0.5	5.9	<0.5	1.3	<0.025	8.9	6.8	3.8	<0.19	<0.5	0.55	6.9
GTC-B9-W	GTC-B9-W	GTC-B9	96	840	52000	54	250	1700	1100	53000	190000	41	<50	4900	<50	320	<50	1500	120000
GTC-B9-W (DISSOLVED)	GTC-B9-W	GTC-B9	14	14	590	<0.5	<0.25	<0.5	8.6	<0.5	3	0.071	21	16	<0.5	<0.19	<0.5	<0.5	36
GTC-B10-W	GTC-B10-W	GTC-B10	64	930	46000	<50	160	2200	1100	26000	110000	40	130	3300	<50	210	<50	2000	81000
GTC-B10-W (DISSOLVED)	GTC-B10-W	GTC-B10	12	17	1800	<0.5	<0.25	<0.5	2.1	<0.5	5.1	0.063	37	55	<0.5	<0.19	<0.5	1.4	16
GTC-B11-W	GTC-B11-W	GTC-B11	20	110	11000	<10	19	240	110	5100	16000	4.4	<10	450	<10	21	<10	260	13000
GTC-B11-W (DISSOLVED)	GTC-B11-W	GTC-B11	4.5	7.2	680	<0.5	<0.25	<0.5	13	<0.5	4	<0.025	5.5	18	<0.5	<0.19	<0.5	0.57	46
GTC-B15-W	GTC-B15-W	GTC-B15	<50	1300	25000	<50	170	1800	570	24000	110000	41	<50	3600	<50	150	<50	910	110000
GTC-B15-W (DISSOLVED)	GTC-B15-W	GTC-B15	2	13	590	<0.5	<0.25	<0.5	2	<0.5	<0.5	0.039	5.9	4.2	<0.5	<0.19	<0.5	<0.5	<5
GTC-B16-W	GTC-B16-W	GTC-B16	<25	140	29000	63	66	6800	880	17000	43000	30	<25	6100	<25	100	<25	1800	3200
GTC-B16-W (DISSOLVED)	GTC-B16-W	GTC-B16	1.2	19	950	<0.5	<0.25	<0.5	<0.5	<0.5	<0.5	<0.025	5.6	1.6	<0.5	<0.19	<0.5	0.57	<5
GTC-B17-W	GTC-B17-W	GTC-B17	<100	<100	4200	<100	<50	<100	820	<100	870	<5	<100	1900	<100	<38	<100	<100	22000
GTC-B17-W (DISSOLVED)	GTC-B17-W	GTC-B17	16	18	700	<0.5	<0.25	<0.5	8.5	<0.5	1	0.041	38	28	0.76	<0.19	<0.5	0.8	35
GTC-B22-W	GTC-B22-W	GTC-B22	3.7	4	210	<0.5	<0.25	7.5	1.1	110	390	0.1	<0.5	8.0	<0.5	1.5	<0.5	4.9	370
GTC-B22-W (DISSOLVED)	BTC-B22-W	GTC-B22	3.6	23	2400	<0.5	<0.25	<0.5	2.5	0.86	7.6	0.045	9.1	7.9	<0.5	<0.19	<0.5	0.51	22

Notes:

1. Sb = Antimony, As = Arsenic, Ba = Barium, Be = Beryllium, Cd = Cadmium, Cr = Chromium, Cr VI = Chromium VI, Co = Cobalt, Cu = Copper, Pb = Lead, Hg = Mercury, Mo = Molybdenum, Ni = Nickel, Se = Selenium, Ag = Silver, Tl = Thallium, V = Vanadium, and Zn = Zinc.
2. µg/L = micrograms per Liter; MFL=Millions Fiber per Liter.
3. ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013.
   SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not Available;
5. ***20*** denotes the respective concentration above the detected limit
   4.4 denotes the respective concentration above the respective ESL - Residential value.
   5.9 denotes the respective concentration above the SF Batch Discharge Limit criteria.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

TABLE 7
RESULTS OF TSS, TS, O G, AND pH ANALYSES ON GROUNDWATER SAMPLES
1800 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Analytes (1)			
			O&G	TSS	TS	pH
		Unit (2)	mg/L	mg/L	mg/L	- -
Risk Regulatory Criteria (3)						
		ESL (Table F-1b)	NA	NA	NA	NA
San Francisco Wastewater Batch Discharge Limits (3)						
		SF Batch Discharge Limit	300	NA	NA	6 to 9.5
Laboratory ID	Sample ID	Boring ID	Min: <5 Max: 72	Min: 26400 Max: 215000	Min: 12000 Max: 237000	
Groundwater Samples - 2013 (5)						
GTC-B6-W	GTC-B6-W	GTC-B6	<5	***26400***	***24500***	***6.97***
GTC-B8-W	GTC-B8-W	GTC-B8	***20***	***199000***	***132000***	***7.1***
GTC-B9-W	GTC-B9-W	GTC-B9	***16***	***97200***	***105000***	***7.57***
GTC-B10-W	GTC-B10-W	GTC-B10	***72***	***91600***	***142000***	***7.95***
GTC-B11-W	GTC-B11-W	GTC-B11	***44***	***83800***	***12000***	***6.68***
GTC-B15-W	GTC-B15-W	GTC-B15	***20***	***66000***	***130000***	***7.59***
GTC-B16-W	GTC-B16-W	GTC-B16	<8.4	***80100***	***97700***	***7.42***
GTC-B17-W	GTC-B17-W	GTC-B17	<8.4	***215000***	***237000***	***7.28***
GTC-B21-W	GTC-B21-W	GTC-B21	--	--	--	--
GTC-B22-W	GTC-B22-W	GTC-B22	--	--	--	--

Notes :

1. O&G = Oil and Grease by USEPA Method 1664;
TSS & TS = Total susepended solids and total solids by USEPA Method 2540;
pH = pH analyses by USEPA Method 9040;
2. mg/L = milligrams per Liter
3. ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013
SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not available/not applicable, -- = Not analyzed
5. ***9.7*** denotes the respective concentration above the detected limit
detection limit was employed for the average estimation.
120 denotes the respective concentration above the respective ESL - Residential value.
Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

Attachment D: Tabulated Results of Chemical Analyses, 2013 and 2014 Site Investigations, 1801 Jerrold Avenue Property

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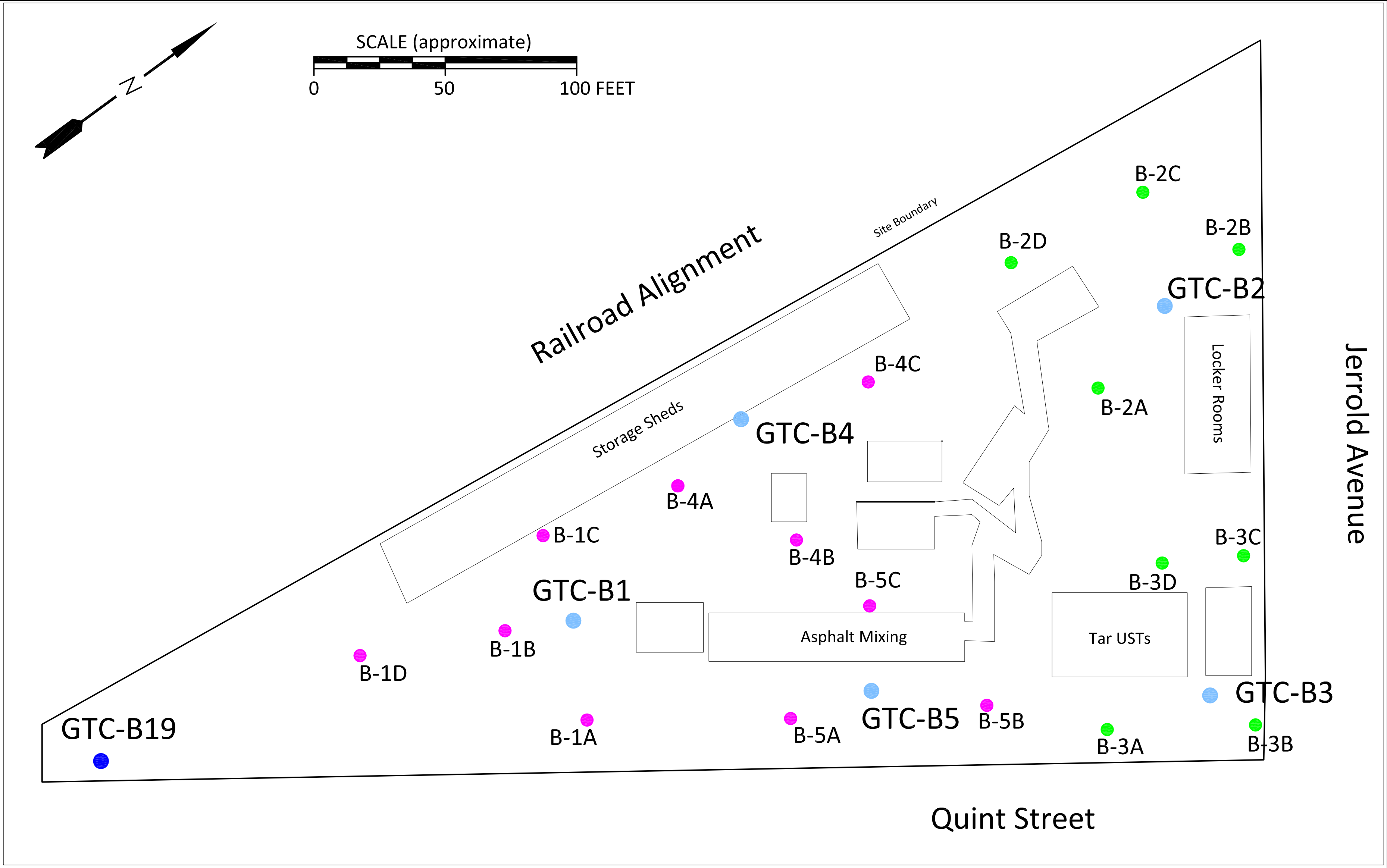

Geotechnical borings by GTC, 2013
Additional geotechnical boring by GTC, 2013
Geoprobe soil borings to approximately 4 feet below ground surface (bgs) by AEW, 2014
Geoprobe soil borings to approximately 13 feet bgs by AEW, 2014

Figure source: "Exploration Location Map", Geotechnical Consultants, Inc. October 2013

Brown AND Caldwell
ch2m
BLACK & VEATCH

AEW Engineering, Inc.
55 New Montgomery Street
Suite 722
San Francisco, CA 94105

Designed by: RY	*Drawn by: RNM*
Reviewed by: RY	*Approved by: RY*
Date: 8/18/2014	*Project No: 2013-024 Task 3*
Version Number: 0	*File Name: Fig3_addtl boring locations.dwg*

Boring Location Map
1801 Jerrold Ave
San Francisco, CA

Figure 2

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TABLE 1
LIST OF CHEMICAL ANALYSES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Chemical Analyses (Note 2)																
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**TPHs-G/ BTEX/ MTBE**	**TPHs-D**	**TPHs-MO**	**VOCs**	**SVOCs**	**Title-22 Metals**	**WET (2) Cr**	**TCLP Cr**	**Pb**	**WET Pb**	**TCLP Pb**	**WET Ni**	**Asbestos**	**pH**	**TSS**	**TS**	**TROG**
Soil Samples - 2013 Investigation																				
Group 1																				
GTC-B1, B4, B5 Comp 2.5	GTC-B1-3	GTC-B1	3	√	√	√	√	√	√	√	NR (3)	√	√	NR	√	√	--	--	--	--
	GTC-B4-2.5	GTC-B4	2.5																	
	GTC-B5-2.5	GTC-B5	2.5																	
GTC-B1, B4, B5 Comp 5	GTC-B1-5	GTC-B1	5	√	√	√	√	√	√	√	√	√	NR	NR	√	√	--	--	--	--
	GTC-B4-5	GTC-B4	5																	
	GTC-B5-5	GTC-B5	5																	
GTC-B1, B4, B5 Comp 10	GTC-B1-10	GTC-B1	10	√	√	√	√	√	√	√	√	√	√	NR	√	√	--	--	--	--
	GTC-B4-10	GTC-B4	10																	
	GTC-B5-9	GTC-B5	9																	
GTC-B1, B4, B5 Comp 15	GTC-B1-15	GTC-B1	15	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B4-15	GTC-B4	15																	
	GTC-B5-16	GTC-B5	16																	
GTC-B1, B4, B5 Comp 20	GTC-B1-20.5	GTC-B1	20.5	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B4-19.5	GTC-B4	19.5																	
	GTC-B5-19.5	GTC-B5	19.5																	
GTC-B1, B4, B5 Comp 25	GTC-B1-25	GTC-B1	25	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B4-24.5	GTC-B4	24.5																	
	GTC-B5-24.5	GTC-B5	24.5																	
GTC-B1, B4, B5 Comp 30	GTC-B1-30.5	GTC-B1	30.5	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B4-29.5	GTC-B4	29.5																	
	GTC-B5-29.5	GTC-B5	29.5																	
GTC-B1, B4, B5 Comp 35	GTC-B1-35.5	GTC-B1	35.5	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B4-35.5	GTC-B4	35.5																	
	GTC-B5-35.5	GTC-B5	35.5																	
GTC-B1, B4, B5 Comp 40	GTC-B1-40.5	GTC-B1	40.5	√	√	√	√	√	√	√	√	√	NR	NR	NR	--	--	--	--	--
	GTC-B4-40.5	GTC-B4	40.5																	
	GTC-B5-40.5	GTC-B5	40.5																	
GTC-B1, B4, B5 Comp 50	GTC-B1-50	GTC-B1	50	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B4-50	GTC-B4	50																	
	GTC-B5-50	GTC-B5	50																	

TABLE 1 (Con't.)
LIST OF CHEMICAL ANALYSES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET (2) Cr	TCLP Cr	Pb	WET Pb	TCLP Pb	WET Ni	Asbestos	pH	TSS	TS	TROG
Group 2																				
B2, B3 Comp 2.5	GTC-B2-3	GTC-B2	3	√	√	√	√	√	√	√	√	√	NR	√	√	√	--	--	--	--
	GTC-B3-2.5	GTC-B3	2.5																	
B2, B3 Comp 5	GTC-B2-5	GTC-B2	5	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B3-5.5	GTC-B3	5.5																	
B2, B3 Comp 10	GTC-B2-10	GTC-B2	10	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B3-10.5	GTC-B3	10.5																	
B2, B3 Comp 15	GTC-B2-16.5	GTC-B2	16.5	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B3-14.5	GTC-B3	14.5																	
B2, B3 Comp 20	GTC-B2-20	GTC-B2	20	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B3-19.5	GTC-B3	19.5																	
B2, B3 Comp 25	GTC-B2-25	GTC-B2	25	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B3-24.5	GTC-B3	24.5																	
B2, B3 Comp 30	GTC-B2-30	GTC-B2	30	√	√	√	√	√	√	√	NR	√	NR	NR	NR	√	--	--	--	--
	GTC-B3-29.5	GTC-B3	29.5																	
B2, B3 Comp 35	GTC-B2-35	GTC-B2	35	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B3-35.5	GTC-B3	35.5																	
B2, B3 Comp 40	GTC-B2-40	GTC-B2	40	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B3-40	GTC-B3	40																	
B2, B3 Comp 50	GTC-B2-50	GTC-B2	50	√	√	√	√	√	√	√	NR	√	NR	NR	NR	--	--	--	--	--
	GTC-B3-50	GTC-B3	50																	
GTC-B19																				
GTC-B19-2.5, 5.5, 10.5	GTC-B19-2.5	GTC-B19	2.5	√	√	√	--	--	--	--	--	√	√	NR	--	--	--	--	--	--
	GTC-B19-5.5	GTC-B19	5.5									√	NR	NR						
	GTC-B19-10.5	GTC-B19	10.5									√	NR	NR						
GTC-B19-15.5, 20.5	GTC-19-15.5	GTC-B19	15.5	√	√	√	--	--	--	--	--	√	NR	NR	--	--	--	--	--	--
	GTC-20.5	GTC-B19	20.5									√	NR	NR						
Groundwater Samples - 2013																				
GTC-B3-W	GTC-B3-W	GTC-B3	--	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	--	√	√	√	√
GTC-B4-W	GTC-B4-W	GTC-B4	--	√	√	√	√	√	√	NR	NR	√	NR	NR	NR	--	√	√	√	√

TABLE 1 (Con't.)
LIST OF CHEMICAL ANALYSES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	TPHs-G/ BTEX/ MTBE	TPHs-D	TPHs-MO	VOCs	SVOCs	Title-22 Metals	WET (2) Cr	TCLP Cr	Pb	WET Pb	TCLP Pb	WET Ni	Asbestos	pH	TSS	TS	TROG
Soil Samples - 2014 Supplemental Lead Analysis																				
B-1A-7.5	B-1A-7.5	B-1A	7.5									√	√	NR						
B-1A-10	B-1A-10	B-1A	10									√	√	√						
B-1A-12.5	B-1A-12.5	B-1A	12.5									√	√	NR						
B-1B-10	B-1B-10	B-1B	10									√	NR	NR						
B-1C-10	B-1C-10	B-1C	10									√	NR	NR						
B-1D-10	B-1D-10	B-1D	10									√	NR	NR						
B-4A-10	B-4A-10	B-4A	10									√	NR	NR						
B-4B-10	B-4B-10	B-4B	10									√	NR	NR						
B-4C-10	B-4C-10	B-4C	10									√	NR	NR						
B-5A-7.5	B-5A-7.5	B-5A	7.5									√	NR	√						
B-5A-10	B-5A-10	B-5A	10									√	√	NR						
B-5A-12.5	B-5A-12.5	B-5A	12.5									√	NR	NR						
B-5B-10	B-5B-10	B-5B	10									√	√	NR						
B-5C-10	B-5C-10	B-5C	10									√	NR	NR						
B-2A-2.5	B-2A-2.5	B-2A	2.5									√	NR	NR						
B-2B-2.5	B-2B-2.5	B-2B	2.5									√	NR	NR						
B-2C-2.5	B-2C-2.5	B-2C	2.5									√	NR	NR						
B-2D-2.5	B-2D-2.5	B-2D	2.5									√	NR	NR						
B-3A-2.5	B-3A-2.5	B-3A	2.5									√	√	NR						
B-3B-2.5	B-3B-2.5	B-3B	2.5									√	NR	NR						
B-3C-2.5	B-3C-2.5	B-3C	2.5									√	√	NR						
B-3D-2.5	B-3D-2.5	B-3D	2.5									√	NR	NR						

***Notes* :**

1. bgs = below existing ground surface.
2. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
   Title-22 Metals = 17 Metals as listed in Title 22 of the California Code of Regulations by USEPA Methods 6000/7000 series.
   Cr=Chromium, Pb=Lead, and Ni=Nickel
   WET = California Waste Extraction Test.
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure.
   Asbestos = Asbestos analyses by Air Resources Board's Method 435.
   pH = pH analyses by USEPA Method 9040.
   TSS & TS = Total susepended solids and total solids by USEPA Method 2540.
   TROG = Total Recoverable Oil and Grease by USEPA Method 1664.
3. - - = Not Analyzed, NR = Not Required.

TABLE 2

RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES

1801 JERROLD AVENUE

SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
			USEPA RSL Industrial	NA (4)	NA	NA	5.1	25	47000	2500	210
			ESL - Commerical (Table B)	500	110	500	1.2	4.7	9.3	11	8.4
			ESL - Construction Workers (K-3)	2700	900	28000	71	490	4300	2500	3800
			CHHSLs - Commercial/Industrial	NA	NA	NA	NA	NA	NA	NA	NA
			CHHSLs - Commerical	NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
			TTLC	NA	NA	NA	NA	NA	NA	NA	NA
			10 x STLC	NA	NA	NA	NA	NA	NA	NA	NA
			STLC	NA	NA	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	NA	NA	10	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <1 Max: 18 Ave: 2	Min: <1 Max: 890 Ave: 72.9	Min: <5 Max: 1700 Ave: 155.3	Min: <0.005 Max: 0.035 Ave: 0.006	Min: <0.005 Max: 0.015 Ave: 0.006	Min: <0.005 Max: 0.017 Ave: 0.01	Min: <0.005 Max: 0.083 Ave: 0.01	Min: <0.005 Max: <0.05 Ave: 0.05
Soil Samples - 2013 Investigation (6)											
Group 1											
GTC-B1, B4, B5 Comp 2.5	GTC-B1-3	GTC-B1	3	<1	***9.5***	***63***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-2.5	GTC-B4	2.5								
	GTC-B5-2.5	GTC-B5	2.5								
GTC-B1, B4, B5 Comp 5	GTC-B1-5	GTC-B1	5	<1	***4.7***	***8.7***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-5	GTC-B4	5								
	GTC-B5-5	GTC-B5	5								
GTC-B1, B4, B5 Comp 10	GTC-B1-10	GTC-B1	10	<1	***14***	***75***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-10	GTC-B4	10								
	GTC-B5-9	GTC-B5	9								
GTC-B1, B4, B5 Comp 15	GTC-B1-15	GTC-B1	15	<1	***2.2***	***26***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-15	GTC-B4	15								
	GTC-B5-16	GTC-B5	16								
GTC-B1, B4, B5 Comp 20	GTC-B1-20.5	GTC-B1	20.5	<1	***2.4***	***32***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-19.5	GTC-B4	19.5								
	GTC-B5-19.5	GTC-B5	19.5								
GTC-B1, B4, B5 Comp 25	GTC-B1-25	GTC-B1	25	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-24.5	GTC-B4	24.5								
	GTC-B5-24.5	GTC-B5	24.5								
GTC-B1, B4, B5 Comp 30	GTC-B1-30.5	GTC-B1	30.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-29.5	GTC-B4	29.5								
	GTC-B5-29.5	GTC-B5	29.5								
GTC-B1, B4, B5 Comp 35	GTC-B1-35.5	GTC-B1	35.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-35.5	GTC-B4	35.5								
	GTC-B5-35.5	GTC-B5	35.5								
GTC-B1, B4, B5 Comp 40	GTC-B1-40.5	GTC-B1	40.5	<1	***3.2***	***14***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-40.5	GTC-B4	40.5								
	GTC-B5-40.5	GTC-B5	40.5								
GTC-B1, B4, B5 Comp 50	GTC-B1-50	GTC-B1	50	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B4-50	GTC-B4	50								
	GTC-B5-50	GTC-B5	50								
Group 2											
B2, B3 Comp 2.5	GTC-B2-3	GTC-B2	3	<1	***14***	***110***	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-2.5	GTC-B3	2.5								
B2, B3 Comp 5	GTC-B2-5	GTC-B2	5	***18***	***650***	***1700***	***0.035***	***0.015***	***0.017***	***0.025***	<0.05
	GTC-B3-5.5	GTC-B3	5.5								
B2, B3 Comp 10	GTC-B2-10	GTC-B2	10	***10***	***890***	***1300***	***0.0058***	***0.011***	***0.016***	***0.083***	<0.05
	GTC-B3-10.5	GTC-B3	10.5								
B2, B3 Comp 15	GTC-B2-16.5	GTC-B2	16.5	<1	***1.1***	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-14.5	GTC-B3	14.5								
B2, B3 Comp 20	GTC-B2-20	GTC-B2	20	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-19.5	GTC-B3	19.5								

TABLE 2 (Con't.)
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, AND MTBE ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Total Petroleum Hydrocarbons, BTEX, and MTBE (1)							
				TPHs-G	TPHs-D	TPHs-MO	Benzene	Ethyl Benzene	Toluene	Total Xylenes	MTBE
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)											
USEPA RSL Industrial				NA (4)	NA	NA	5.1	25	47000	2500	210
ESL - Commerical (Table B)				500	110	500	1.2	4.7	9.3	11	8.4
ESL - Construction Workers (K-3)				2700	900	28000	71	490	4300	2500	3800
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA
CHHSLs - Commerical				NA	NA	NA	NA	NA	NA	NA	NA
Hazardous Waste Criteria (5)											
TTLC				NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	10	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <1 Max: 18 Ave: 2**	**Min: <1 Max: 890 Ave: 72.9**	**Min: <5 Max: 1700 Ave: 155.3**	**Min: <0.005 Max: 0.035 Ave: 0.006**	**Min: <0.005 Max: 0.015 Ave: 0.006**	**Min: <0.005 Max: 0.017 Ave: 0.01**	**Min: <0.005 Max: 0.083 Ave: 0.01**	**Min: <0.005 Max: <0.05 Ave: 0.05**
B2, B3 Comp 25	GTC-B2-25	GTC-B2	25	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-24.5	GTC-B3	24.5								
B2, B3 Comp 30	GTC-B2-30	GTC-B2	30	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-29.5	GTC-B3	29.5								
B2, B3 Comp 35	GTC-B2-35	GTC-B2	35	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-35.5	GTC-B3	35.5								
B2, B3 Comp 40	GTC-B2-40	GTC-B2	40	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-40	GTC-B3	40								
B2, B3 Comp 50	GTC-B2-50	GTC-B2	50	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.05
	GTC-B3-50	GTC-B3	50								
GTC-B19											
GTC-B19-2.5, 5.5, 10.5	GTC-B19-2.5	GTC-B19	2.5	<1	***1.8***	***28***	<0.005	<0.005	<0.005	<0.005	<0.005
	GTC-B19-5.5	GTC-B19	5.5								
	GTC-B19-10.5	GTC-B19	10.5								
GTC-B19-15.5, 20.5	GTC-19-15.5	GTC-B19	15.5	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.005
	GTC-20.5	GTC-B19	20.5								

***Notes*:**

1. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   bgs=below existing ground surface
2. mg/Kg = milligrams per Kilogram
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is a NOT a current or potential source of drinking water) under commercial/residential use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available.
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
6. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL - Commercial/Industrial value.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

TABLE 3
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				VOCs (1)									*SVOCs (1)*					
				Acetone	n-Butyl benzene	sec-Butyl benzene	Naphthalene	n-Propyl benzene	1,2,4-Trimethyl benzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Fluoranthene	Pyrene	Other SVOCs
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																		
USEPA RSL Industrial				670000	58000	120000	17	22000	240	12000	2500	NA	2.9	NA	0.29	30000	23000	NA
ESL - Commerical (Table B)				0.5	NA	NA	4.8	NA	NA	NA	11	NA	1.3	27	0.13	40	85	NA
ESL - Construction Workers (K-3)				240000	NA	NA	NA	NA	NA	NA	2500	NA	8.3	NA	0.83	5700	8600	NA
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA
Hazardous Waste Criteria (5)																		
TTLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.05 Max: 0.1 Ave: 0.05	Min: <0.005 Max: 0.018 Ave: 0.01	Min: <0.005 Max: 0.014 Ave: 0.01	Min: <0.005 Max: 0.15 Ave: 0.01	Min: <0.005 Max: 0.063 Ave: 0.01	Min: <0.005 Max: 0.021 Ave: 0.01	Min: <0.005 Max: 0.014 Ave: 0.01	Min: 0.005 Max: 0.024 Ave: 0.01		Min: <0.25 Max: 110 Ave: 9.7	Min: <0.25 Max: 120 Ave: 10.2	Min: <0.25 Max: 120 Ave: 10	Min: <0.25 Max: 280 Ave: 18	Min: <0.25 Max: 310 Ave: 19.7	
Soil Samples (6)																		
Group 1																		
GTC-B1, B4, B5 Comp 2.5	GTC-B1-3	GTC-B1	3	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<10	<10	<10	<10	<10	ND
	GTC-B4-2.5	GTC-B4	2.5															
	GTC-B5-2.5	GTC-B5	2.5															
GTC-B1, B4, B5 Comp 5	GTC-B1-5	GTC-B1	5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-5	GTC-B4	5															
	GTC-B5-5	GTC-B5	5															
GTC-B1, B4, B5 Comp 10	GTC-B1-10	GTC-B1	10	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<10	<10	<10	<10	<10	ND
	GTC-B4-10	GTC-B4	10															
	GTC-B5-9	GTC-B5	9															
GTC-B1, B4, B5 Comp 15	GTC-B1-15	GTC-B1	15	***0.1***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.5	<0.5	<0.5	<0.5	<0.5	ND
	GTC-B4-15	GTC-B4	15															
	GTC-B5-16	GTC-B5	16															
GTC-B1, B4, B5 Comp 20	GTC-B1-20.5	GTC-B1	20.5	***0.063***	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-19.5	GTC-B4	19.5															
	GTC-B5-19.5	GTC-B5	19.5															
GTC-B1, B4, B5 Comp 25	GTC-B1-25	GTC-B1	25	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-24.5	GTC-B4	24.5															
	GTC-B5-24.5	GTC-B5	24.5															
GTC-B1, B4, B5 Comp 30	GTC-B1-30.5	GTC-B1	30.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-29.5	GTC-B4	29.5															
	GTC-B5-29.5	GTC-B5	29.5															
GTC-B1, B4, B5 Comp 35	GTC-B1-35.5	GTC-B1	35.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-35.5	GTC-B4	35.5															
	GTC-B5-35.5	GTC-B5	35.5															
GTC-B1, B4, B5 Comp 40	GTC-B1-40.5	GTC-B1	40.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-40.5	GTC-B4	40.5															
	GTC-B5-40.5	GTC-B5	40.5															

TABLE 3 (Con't.)
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				VOCs (1)									SVOCs (1)					
				Acetone	n-Butyl benzene	sec-Butyl benzene	Naphthalene	n-Propyl benzene	1,2,4-Trimethyl benzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Fluoranthene	Pyrene	Other SVOCs
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																		
USEPA RSL Industrial				670000	58000	120000	17	22000	240	12000	2500	NA	2.9	NA	0.29	30000	23000	NA
ESL - Commerical (Table B)				0.5	NA	NA	4.8	NA	NA	NA	11	NA	1.3	27	0.13	40	85	NA
ESL - Construction Workers (K-3)				240000	NA	NA	NA	NA	NA	NA	2500	NA	8.3	NA	0.83	5700	8600	NA
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA
Hazardous Waste Criteria (5)																		
TTLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.05 Max: 0.1 Ave: 0.05**	**Min: <0.005 Max: 0.018 Ave: 0.01**	**Min: <0.005 Max: 0.014 Ave: 0.01**	**Min: <0.005 Max: 0.15 Ave: 0.01**	**Min: <0.005 Max: 0.063 Ave: 0.01**	**Min: <0.005 Max: 0.021 Ave: 0.01**	**Min: <0.005 Max: 0.014 Ave: 0.01**	**Min: 0.005 Max: 0.024 Ave: 0.01**		**Min: <0.25 Max: 110 Ave: 9.7**	**Min: <0.25 Max: 120 Ave: 10.2**	**Min: <0.25 Max: 120 Ave: 10**	**Min: <0.25 Max: 280 Ave: 18**	**Min: <0.25 Max: 310 Ave: 19.7**	
Soil Samples (6)																		
GTC-B1, B4, B5 Comp 50	GTC-B1-50	GTC-B1	50	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B4-50	GTC-B4	50															
	GTC-B5-50	GTC-B5	50															
Group 2																		
B2, B3 Comp 2.5	GTC-B2-3	GTC-B2	3	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<20	<20	<20	<20	<20	ND
	GTC-B3-2.5	GTC-B3	2.5															
B2, B3 Comp 5	GTC-B2-5	GTC-B2	5	<0.05	<0.005	<0.005	***0.15***	<0.005	***0.0086***	<0.005	<0.005	ND	***110***	***120***	***120***	***280***	***310***	ND
	GTC-B3-5.5	GTC-B3	5.5															
B2, B3 Comp 10	GTC-B2-10	GTC-B2	10	<0.05	***0.018***	***0.014***	<0.005	***0.063***	***0.021***	***0.014***	***0.024***	ND	<40	<40	<40	<40	<40	ND
	GTC-B3-10.5	GTC-B3	10.5															
B2, B3 Comp 15	GTC-B2-16.5	GTC-B2	16.5	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-14.5	GTC-B3	14.5															
B2, B3 Comp 20	GTC-B2-20	GTC-B2	20	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-19.5	GTC-B3	19.5															
B2, B3 Comp 25	GTC-B2-25	GTC-B2	25	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-24.5	GTC-B3	24.5															
B2, B3 Comp 30	GTC-B2-30	GTC-B2	30	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-29.5	GTC-B3	29.5															
B2, B3 Comp 35	GTC-B2-35	GTC-B2	35	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-35.5	GTC-B3	35.5															
B2, B3 Comp 40	GTC-B2-40	GTC-B2	40	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-40	GTC-B3	40															

TABLE 3 (Con't.)
RESULTS OF VOC AND SVOC ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				VOCs (1)									*SVOCs (1)*					
				Acetone	n-Butyl benzene	sec-Butyl benzene	Naphthalene	n-Propyl benzene	1,2,4-Trimethyl benzene	1,3,5-Trimethylbenzene	Xylenes, Total	Other VOCs	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (a) pyrene	Fluoranthene	Pyrene	Other SVOCs
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Risk Regulatory Criteria (3)																		
USEPA RSL Industrial				670000	58000	120000	17	22000	240	12000	2500	NA	2.9	NA	0.29	30000	23000	NA
ESL - Commerical (Table B)				0.5	NA	NA	4.8	NA	NA	NA	11	NA	1.3	27	0.13	40	85	NA
ESL - Construction Workers (K-3)				240000	NA	NA	NA	NA	NA	NA	2500	NA	8.3	NA	0.83	5700	8600	NA
CHHSLs - Commercial/Industrial				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.13	NA	NA	NA
Hazardous Waste Criteria (5)																		
TTLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10 x STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
STLC				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.05 Max: 0.1 Ave: 0.05	Min: <0.005 Max: 0.018 Ave: 0.01	Min: <0.005 Max: 0.014 Ave: 0.01	Min: <0.005 Max: 0.15 Ave: 0.01	Min: <0.005 Max: 0.063 Ave: 0.01	Min: <0.005 Max: 0.021 Ave: 0.01	Min: <0.005 Max: 0.014 Ave: 0.01	Min: 0.005 Max: 0.024 Ave: 0.01		Min: <0.25 Max: 110 Ave: 9.7	Min: <0.25 Max: 120 Ave: 10.2	Min: <0.25 Max: 120 Ave: 10	Min: <0.25 Max: 280 Ave: 18	Min: <0.25 Max: 310 Ave: 19.7	
Soil Samples (6)																		
B2, B3 Comp 50	GTC-B2-50	GTC-B2	50	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	ND	<0.25	<0.25	<0.25	<0.25	<0.25	ND
	GTC-B3-50	GTC-B3	50															

***Notes* :**

1. VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
   bgs=below existing ground surface
2. mg/Kg = milligrams per Kilogram
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is a NOT a current or potential source of drinking water) under commercial/residential use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
6. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL - Commercial/Industrial value.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

TABLE 4
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																							
				Sb	As	Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
Risk Regulatory and Reference Criteria (3)																											
USEPA RSL - Industrial				470	3.0	220000	2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000	NA
ESL - Commerical (Table B)				40	1.6	1500	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA
ESL - Construction Workers (K-3)				120	10	61000	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA
CHHSLs - Commerical/Industrial				380	0.24	63000	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA
Hazardous Waste Criteria (5)																											
TTLC				500	500	10000	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	1
10 x STLC				150	50	1000	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA
STLC				NA	NA	NA	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	100	2000	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																											
Shaklette and Boerngen				0.62	7.0	670	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA
LBNL				< 6	24	410	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA
Bradford et al.				0.60	3.5	509	1.28	0.36	122	NA	NA	14.9	28.7	NA	53	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.5 Max: 11 Ave: 1.3**	**Min: 1 Max: 22 Ave: 4.5**	**Min: 25 Max: 330 Ave: 72**	**Min: <0.5 Max: 0.78 Ave: 0.5**	**Min: <0.25 Max: 0.31 Ave: 0.25**	**Min: 30 Max: 180 Ave: 77**	**Min: <0.05 Max: 1.1**	**Min: <0.05 Max: <0.05**	**Min: 4.1 Max: 68 Ave: 16**	**Min: 4.5 Max: 260 Ave: 27**	**Min: 4.5 Max: 4.5**	**Min: 1.6 Max: 2600 Ave: 77**	**Min: 1.8 Max: 10**	**Min: <0.2 Max: 0.59**	**Min: <0.05 Max: 0.63 Ave: 0.1**	**Min: <0.5 Max: 4.4 Ave: 0.8**	**Min: 24 Max: 1800 Ave: 238**	**Min: 2.9 Max: 11**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: 21 Max: 100 Ave: 49**	**Min: 19 Max: 250 Ave: 67**	**Min: <1 Max: <1**
Soil Samples - 2013 Investigation (6)																											
Group 1																											
GTC-B1, B4, B5 Comp 2.5	GTC-B1-3	GTC-B1	3	***1.2***	***4.6***	***160***	<0.5	<0.25	***95***	***0.30***	NR	***68***	***43***	NR	***68***	***1.9***	NR	***0.54***	<0.5	***1000***	***10***	<0.5	<0.5	<0.5	***43***	***100***	<1
	GTC-B4-2.5	GTC-B4	2.5																								
	GTC-B5-2.5	GTC-B5	2.5																								
GTC-B1, B4, B5 Comp 5	GTC-B1-5	GTC-B1	5	<0.5	***4.3***	***180***	<0.5	<0.25	***170***	***0.37***	<0.05	***46***	***26***	NR	***24***	NR	NR	***0.16***	<0.5	***910***	***11***	<0.5	<0.5	<0.5	***42***	***59***	ND
	GTC-B4-5	GTC-B4	5																								
	GTC-B5-5	GTC-B5	5																								
GTC-B1, B4, B5 Comp 10	GTC-B1-10	GTC-B1	10	***11***	***6.6***	***73***	<0.5	***0.31***	***120***	***0.46***	<0.05	***55***	***28***	NR	***83***	***9.0***	NR	***0.55***	***0.75***	***1800***	***9.2***	<0.5	<0.5	<0.5	***21***	***180***	<1
	GTC-B4-10	GTC-B4	10																								
	GTC-B5-9	GTC-B5	9																								
GTC-B1, B4, B5 Comp 15	GTC-B1-15	GTC-B1	15	***0.91***	***22***	***56***	<0.5	<0.25	***30***	NR	NR	***7.1***	***20***	NR	***29***	NR	NR	***0.14***	***4.4***	***38***	NR	<0.5	<0.5	<0.5	***31***	***51***	ND
	GTC-B4-15	GTC-B4	15																								
	GTC-B5-16	GTC-B5	16																								
GTC-B1, B4, B5 Comp 20	GTC-B1-20.5	GTC-B1	20.5	<0.5	***4.8***	***26***	<0.5	<0.25	***56***	***0.46***	NR	***4.1***	***6.2***	NR	***3.8***	NR	NR	<0.05	<0.5	***24***	NR	<0.5	<0.5	<0.5	***31***	***19***	ND
	GTC-B4-19.5	GTC-B4	19.5																								
	GTC-B5-19.5	GTC-B5	19.5																								
GTC-B1, B4, B5 Comp 25	GTC-B1-25	GTC-B1	25	<0.5	***1.5***	***55***	<0.5	<0.25	***50***	***0.17***	NR	***5.0***	***5.0***	NR	***1.8***	NR	NR	<0.05	<0.5	***30***	NR	<0.5	<0.5	<0.5	***38***	***19***	--
	GTC-B4-24.5	GTC-B4	24.5																								
	GTC-B5-24.5	GTC-B5	24.5																								
GTC-B1, B4, B5 Comp 30	GTC-B1-30.5	GTC-B1	30.5	<0.5	***2.4***	***36***	<0.5	<0.25	***43***	NR	NR	***5.5***	***5.0***	NR	***1.8***	NR	NR	<0.05	<0.5	***30***	NR	<0.5	<0.5	<0.5	***32***	***20***	ND
	GTC-B4-29.5	GTC-B4	29.5																								
	GTC-B5-29.5	GTC-B5	29.5																								
GTC-B1, B4, B5 Comp 35	GTC-B1-35.5	GTC-B1	35.5	<0.5	***1.3***	***39***	<0.5	<0.25	***60***	<0.05	NR	***8.3***	***5.3***	NR	***1.8***	NR	NR	<0.05	<0.5	***43***	NR	<0.5	<0.5	<0.5	***42***	***25***	--
	GTC-B4-35.5	GTC-B4	35.5																								
	GTC-B5-35.5	GTC-B5	35.5																								
GTC-B1, B4, B5 Comp 40	GTC-B1-40.5	GTC-B1	40.5	<0.5	***3.8***	***55***	<0.5	<0.25	***110***	<0.05	<0.05	***12***	***8.0***	NR	***2.7***	NR	NR	<0.05	<0.5	***66***	NR	<0.5	<0.5	<0.5	***100***	***44***	--
	GTC-B4-40.5	GTC-B4	40.5																								
	GTC-B5-40.5	GTC-B5	40.5																								

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TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																							
				Sb	As	Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
Risk Regulatory and Reference Criteria (3)																											
USEPA RSL - Industrial				470	3.0	220000	2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000	NA
ESL - Commerical (Table B)				40	1.6	1500	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA
ESL - Construction Workers (K-3)				120	10	61000	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA
CHHSLs - Commerical/Industrial				380	0.24	63000	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA
Hazardous Waste Criteria (5)																											
TTLC				500	500	10000	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	1
10 x STLC				150	50	1000	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA
STLC				NA	NA	NA	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	100	2000	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																											
Shaklette and Boerngen				0.62	7.0	670	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA
LBNL				< 6	24	410	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA
Bradford et al.				0.60	3.5	509	1.28	0.36	122	NA	NA	14.9	28.7	NA	53	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 11 Ave: 1.3	Min: 1 Max: 22 Ave: 4.5	Min: 25 Max: 330 Ave: 72	Min: <0.5 Max: 0.78 Ave: 0.5	Min: <0.25 Max: 0.31 Ave: 0.25	Min: 30 Max: 180 Ave: 77	Min: <0.05 Max: 1.1	Min: <0.05 Max: <0.05	Min: 4.1 Max: 68 Ave: 16	Min: 4.5 Max: 260 Ave: 27	Min: 4.5 Max: 4.5	Min: 1.6 Max: 2600 Ave: 77	Min: 1.8 Max: 10	Min: <0.2 Max: 0.59	Min: <0.05 Max: 0.63 Ave: 0.1	Min: <0.5 Max: 4.4 Ave: 0.8	Min: 24 Max: 1800 Ave: 238	Min: 2.9 Max: 11	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: <0.5 Ave: 0.5	Min: 21 Max: 100 Ave: 49	Min: 19 Max: 250 Ave: 67	Min: <1 Max: <1
GTC-B1, B4, B5 Comp 50	GTC-B1-50	GTC-B1	50	<0.5	1.6	31	<0.5	<0.25	53	<0.05	NR	6.7	4.9	NR	2.5	NR	NR	<0.05	<0.5	29	NR	<0.5	<0.5	<0.5	64	25	--
	GTC-B4-50	GTC-B4	50																								
	GTC-B5-50	GTC-B5	50																								
Group 2																											
B2, B3 Comp 2.5	GTC-B2-3	GTC-B2	3	3.4	7	330	<0.5	<0.25	180	0.65	<0.05	15	38	NR	1500	NR	<0.2	0.13	0.87	230	2.9	<0.5	<0.5	<0.5	31	240	<1
	GTC-B3-2.5	GTC-B3	2.5																								
B2, B3 Comp 5	GTC-B2-5	GTC-B2	5	<0.5	2	42	<0.5	<0.25	60	0.38	NR	9	36	NR	18	NR	NR	0.14	<0.5	150	NR	<0.5	<0.5	<0.5	52	74	ND
	GTC-B3-5.5	GTC-B3	5.5																								
B2, B3 Comp 10	GTC-B2-10	GTC-B2	10	1	9.1	130	0.78	<0.25	87	1.1	NR	25	260	4.5	20	NR	NR	0.63	0.86	130	NR	<0.5	<0.5	<0.5	85	250	ND
	GTC-B3-10.5	GTC-B3	10.5																								
B2, B3 Comp 15	GTC-B2-16.5	GTC-B2	16.5	<0.5	5.5	33	<0.5	<0.25	54	0.16	NR	8.4	16	NR	5.7	NR	NR	<0.05	2.4	53	NR	<0.5	<0.5	<0.5	49	50	ND
	GTC-B3-14.5	GTC-B3	14.5																								
B2, B3 Comp 20	GTC-B2-20	GTC-B2	20	<0.5	5.7	37	<0.5	<0.25	55	0.16	NR	8.4	17	NR	5.3	NR	NR	<0.05	0.64	50	NR	<0.5	<0.5	<0.5	46	48	ND
	GTC-B3-19.5	GTC-B3	19.5																								
B2, B3 Comp 25	GTC-B2-25	GTC-B2	25	<0.5	2.2	25	<0.5	<0.25	62	0.48	NR	6	7.5	NR	2.2	NR	NR	<0.05	0.52	28	NR	<0.5	<0.5	<0.5	39	22	--
	GTC-B3-24.5	GTC-B3	24.5																								
B2, B3 Comp 30	GTC-B2-30	GTC-B2	30	<0.5	2	38	<0.5	<0.25	65	0.23	NR	5.2	4.5	NR	2.1	NR	NR	<0.05	<0.5	36	NR	<0.5	<0.5	<0.5	36	20	ND
	GTC-B3-29.5	GTC-B3	29.5																								
B2, B3 Comp 35	GTC-B2-35	GTC-B2	35	<0.5	1	31	<0.5	<0.25	55	<0.05	NR	8	4.6	NR	1.6	NR	NR	<0.05	<0.5	39	NR	<0.5	<0.5	<0.5	65	28	--
	GTC-B3-35.5	GTC-B3	35.5																								
B2, B3 Comp 40	GTC-B2-40	GTC-B2	40	<0.5	1.3	32	<0.5	<0.25	78	<0.05	NR	7.6	4.9	NR	1.6	NR	NR	<0.05	<0.5	40	NR	<0.5	<0.5	<0.5	70	28	--
	GTC-B3-40	GTC-B3	40																								
B2, B3 Comp 50	GTC-B2-50	GTC-B2	50	<0.5	2.2	37	<0.5	<0.25	59	<0.05	NR	8.6	7.2	NR	2.5	NR	NR	<0.05	<0.5	39	NR	<0.5	<0.5	<0.5	55	28	--
	GTC-B3-50	GTC-B3	50																								
GTC-B19																											
GTC-B19-2.5, 5.5, 10.5	GTC-B19-2.5	GTC-B19	2.5	--	--	--	--	--	--	--	--	--	--	--	71	1.8	NR	--	--	--	--	--	--	--	--	--	--
	GTC-B19-5.5	GTC-B19	5.5	--	--	--	--	--	--	--	--	--	--	--	5.8	NR	NR	--	--	--	--	--	--	--	--	--	--
	GTC-B19-10.5	GTC-B19	10.5	--	--	--	--	--	--	--	--	--	--	--	18	NR	NR	--	--	--	--	--	--	--	--	--	--
GTC-B19-15.5, 20.5	GTC-19-15.5	GTC-B19	15.5	--	--	--	--	--	--	--	--	--	--	--	<5.0	NR	NR	--	--	--	--	--	--	--	--	--	--
	GTC-20.5	GTC-B19	20.5	--	--	--	--	--	--	--	--	--	--	--	<5.0	NR	NR	--	--	--	--	--	--	--	--	--	--

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TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																			
				Sb	As	Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	Asbestos
Unit (2)				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
Risk Regulatory and Reference Criteria (3)																											
USEPA RSL - Industrial				470	3.0	220000	2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000	NA
ESL - Commerical (Table B)				40	1.6	1500	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA
ESL - Construction Workers (K-3)				120	10	61000	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA
CHHSLs - Commerical/Industrial				380	0.24	63000	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA
Hazardous Waste Criteria (5)																											
TTLC				500	500	10000	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	1
10 x STLC				150	50	1000	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA
STLC				NA	NA	NA	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA
20 x TCLP				NA	100	2000	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA
TCLP				NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																											
Shaklette and Boerngen				0.62	7.0	670	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA
LBNL				< 6	24	410	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA
Bradford et al.				0.60	3.5	509	1.28	0.36	122	NA	NA	14.9	28.7	NA	53	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA
Laboratory ID	Sample ID	Boring ID	Depth (Feet bgs)(1)	Min: <0.5 Max: 11 Ave: 1.3	Min: 1 Max: 22 Ave: 4.5	Min: 25 Max: 330 Ave: 72	Min: <0.5 Max: 0.78 Ave: 0.5	Min: <0.25 Max: 0.31 Ave: 0.25	Min: 30 Max: 180 Ave: 77	Min: <0.05 Max: 1.1	Min: <0.05 Max: <0.05	Min: 4.1 Max: 68 Ave: 16	Min: 4.5 Max: 260 Ave: 27	Min: 4.5 Max: 4.5	Min: 1.6 Max: 2600 Ave: 77	Min: 1.8 Max: 10	Min: <0.2 Max: 0.59	Min: <0.05 Max: 0.63 Ave: 0.1	Min: <0.5 Max: 4.4 Ave: 0.8	Min: 24 Max: 1800 Ave: 238	Min: 2.9 Max: 11	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: <0.5 Ave: 0.5	Min: <0.5 Max: <0.5 Ave: 0.5	Min: 21 Max: 100 Ave: 49	Min: 19 Max: 250 Ave: 67	Min: <1 Max: <1
2014 Supplemental Lead Analysis																											
B-1A-7.5	B-1A-7.5	B-1A	7.5												***57***	***7.1***	NR										
B-1A-10	B-1A-10	B-1A	10												***110***	***6.7***	<0.20										
B-1A-12.5	B-1A-12.5	B-1A	12.5												***97***	***7.2***	NR										
B-1B-10	B-1B-10	B-1B	10												<5.0	NR	NR										
B-1C-10	B-1C-10	B-1C	10												<5.0	NR	NR										
B-1D-10	B-1D-10	B-1D	10												<5.0	NR	NR										
B-4A-10	B-4A-10	B-4A	10												***25***	NR	NR										
B-4B-10	B-4B-10	B-4B	10												***48***	NR	NR										
B-4C-10	B-4C-10	B-4C	10												***41***	NR	NR										
B-5A-7.5	B-5A-7.5	B-5A	7.5												***2600***	NR	***0.59***										
B-5A-10	B-5A-10	B-5A	10												***88***	***10.0***	NR										
B-5A-12.5	B-5A-12.5	B-5A	12.5												***9.2***	NR	NR										
B-5B-10	B-5B-10	B-5B	10												***69***	***2.3***	NR										
B-5C-10	B-5C-10	B-5C	10												***21***	NR	NR										
B-2A-2.5	B-2A-2.5	B-2A	2.5												***15***	NR	NR										
B-2B-2.5	B-2B-2.5	B-2B	2.5												***12***	NR	NR										
B-2C-2.5	B-2C-2.5	B-2C	2.5												<5.0	NR	NR										
B-2D-2.5	B-2D-2.5	B-2D	2.5												***28***	NR	NR										
B-3A-2.5	B-3A-2.5	B-3A	2.5												***71***	***2.3***	NR										
B-3B-2.5	B-3B-2.5	B-3B	2.5												***45***	NR	NR										

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TABLE 4 (Con't.)
RESULTS OF TITLE 22 METALS AND ASBESTOS ANALYSES ON SOIL SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

				Title 22 17-Metals (1)																							
				Sb	As	Ba	Be	Cd	Cr	WET Cr	TCLP Cr	Co	Cu	WET Cu	Pb	WET Pb	TCLP Pb	Hg	Mo	Ni	WET Ni	Se	Ag	Tl	V	Zn	Asbestos
			Unit (2)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/L	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
Risk Regulatory and Reference Criteria (3)																											
			USEPA RSL - Industrial	470	3.0	220000	2300	980	1800000	NA (4)	NA	350	47000	NA	800	NA	NA	40	5800	22000	NA	58000	5800	12	58000	350000	NA
			ESL - Commerical (Table B)	40	1.6	1500	8	12	750	NA	NA	80	230	NA	320	NA	NA	10	40	150	NA	10	40	10	200	600	NA
			ESL - Construction Workers (K-3)	120	10	61000	180	110	460000	NA	NA	49	12000	NA	320	NA	NA	27	1500	6100	NA	1500	1500	3.1	1500	93000	NA
			CHHSLs - Commerical/Industrial	380	0.24	63000	190	7.5	100000	NA	NA	3200	38000	NA	320	NA	NA	180	4300	16000	NA	4800	4800	63	6700	100000	NA
Hazardous Waste Criteria (5)																											
			TTLC	500	500	10000	75	100	2500	NA	NA	8000	2500	NA	1000	NA	NA	20	3500	2000	NA	100	500	700	2400	5000	1
			10 x STLC	150	50	1000	7.5	10	50	NA	NA	800	250	NA	50	NA	NA	2	3500	200	NA	10	50	70	240	2500	NA
			STLC	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	25	NA	5	NA	NA	NA	NA	20	NA	NA	NA	NA	NA	NA
			20 x TCLP	NA	100	2000	NA	20	100	NA	NA	NA	NA	NA	100	NA	NA	4	NA	NA	NA	20	100	NA	NA	NA	NA
			TCLP	NA	NA	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Range of Potential Background Concentration (5)																											
			Shaklette and Boerngen	0.62	7.0	670	0.97	NA	56	NA	NA	9.0	27	NA	20	NA	NA	0.065	1.1	19	NA	0.34	NA	NA	88	65	NA
			LBNL	< 6	24	410	1.0	5.6	120	NA	NA	25	63	NA	43	NA	NA	0.42	4.8	272	NA	4.9	2.9	10	90	140	NA
			Bradford et al.	0.60	3.5	509	1.28	0.36	122	NA	NA	14.9	28.7	NA	53	NA	NA	0.26	1.3	57	NA	0.058	0.80	0.56	112	149	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Depth (Feet bgs)(1)**	**Min: <0.5 Max: 11 Ave: 1.3**	**Min: 1 Max: 22 Ave: 4.5**	**Min: 25 Max: 330 Ave: 72**	**Min: <0.5 Max: 0.78 Ave: 0.5**	**Min: <0.25 Max: 0.31 Ave: 0.25**	**Min: 30 Max: 180 Ave: 77**	**Min: <0.05 Max: 1.1**	**Min: <0.05 Max: <0.05**	**Min: 4.1 Max: 68 Ave: 16**	**Min: 4.5 Max: 260 Ave: 27**	**Min: 4.5 Max: 4.5**	**Min: 1.6 Max: 2600 Ave: 77**	**Min: 1.8 Max: 10**	**Min: <0.2 Max: 0.59**	**Min: <0.05 Max: 0.63 Ave: 0.1**	**Min: <0.5 Max: 4.4 Ave: 0.8**	**Min: 24 Max: 1800 Ave: 238**	**Min: 2.9 Max: 11**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: 21 Max: 100 Ave: 49**	**Min: 19 Max: 250 Ave: 67**	**Min: <1 Max: <1**
B-3C-2.5	B-3C-2.5	B-3C	2.5												***53***	***2.3***	NR										
B-3D-2.5	B-3D-2.5	B-3D	2.5												***11***	NR	NR										

***Notes*:**

1. Sb = Antimony, As = Arsenic, Ba = Barium, Be = Beryllium, Cd = Cadmium, Cr = Chromium, Cr VI = Chromium VI, Co = Cobalt, Cu = Copper, Pb = Lead, Hg = Mercury, Mo = Molybdenum, Ni = Nickel, Se = Selenium, Ag = Silver, Tl = Thallium, V = Vanadium, and Zn = Zinc. WET = California Waste Extraction Test. TCLP = United States Environmental Protection Agency Toxicity Characteristic Leaching Procedure.
2. mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; % - percent by volume.
3. RSL - Industrial = USEPA's Regional Screening Levels under industrial scenario, May 2014.
   ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table B (ESL for shallow soils and groundwater is not a current or potential source of drinking water) under commercial/industrial use scenario, December 2013.
   ESLs - Table K-3 Construction Worker = ESLs for Direct Exposure Soil Screening Levels under Construction/Trench Worker Exposure Scenario (Table K-3).
   CHHSLs = California Human Health Screening Levels (CHHSLs) for commercial/industrial scenario, September 2010
4. NA = Not Available; NR = Not required; ND = Not detected at concentrations above the respective detection limit(s); and - - = Not Analyzed (see Table 1 for explanation).
5. STLC = California Souble Threshold Limit Concentration
   TTLC = California Total Threshold Limit Concentration
   TCLP = United States Environmental Protection Agency's Toxicity Characteristic Leaching Procedure
   Shaklette and Boerngen = The estimated arithmetic mean of Western United States in Table 2 of the "Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States" by Hansord T. Shacklette and Josephine G. Boerngen, U.S. Geological Survey Professional Paper 1270 and dated 1984.
   LBNL = Table 5 of the "Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory" by Diamond et al. and dated June 2002, Revised April 2009.
   Bradford et al. = Reported mean concentration of the "Background Concentrations of Trace and Major Elements in California Soils" by Bradford etal., Kearney Foundation of Soil Science, March 1996.
6. ***20*** denotes the respective concentration above the detected limit
   4.4 denotes the respective concentration above the respective ESL - Commercial value.
   5.9 denotes the respective concentration above the respective applicable hazardous criteria.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

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TABLE 5
RESULTS OF TOTAL PETROLEUM HYDROCARBONS, BTEX, MTBE, VOC, AND SVOC ANALYSES ON GROUNDWATER SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Total Petroleum Hydrocarbons, BTEX, and MTBE (1)								***VOCs (1)***		***Other Organics (1)***
			TPHs-G	**TPHs-D**	**TPHs-MO**	**Benzene**	**Ethyl Benzene**	**Toluene**	**Total Xylenes**	**MTBE**	**Napthalene**	**Other VOCs**	**SVOCs**
		Unit (2)	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Risk Regulatory Criteria (3)													
		ESL (Table F-1b)	500	640	640	27.0	43	130	100	1800	24	NA	NA
San Francisco Wastewater Batch Discharge Limits (3)													
		SF Batch Discharge Limit	100000	100000	100000	500	NA (4)	NA	NA	NA	NA	NA	NA
Laboratory ID	**Sample ID**	**Boring ID**	**Min: <50 Max: <50 Ave: 50**	**Min: <50 Max: 12000 Ave: 6025**	**Min: <250 Max: 13000 Ave: 6625**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <0.5 Max: <0.5 Ave: 0.5**	**Min: <5 Max: <5 Ave: 5**	**Min: <0.5 Max: 1.7 Ave: 1.1**		
Groundwater Samples - 2013 (5)													
GTC-B3-W	GTC-B3-W	GTC-B3	<50	***12000***	***13000***	<0.5	<0.5	<0.5	<0.5	<5	***1.7***	ND (4)	ND
GTC-B4-W	GTC-B4-W	GTC-B4	<50	<50	<250	<0.5	<0.5	<0.5	<0.5	<5	<0.5	ND	ND

***Notes*:**

1. TPHs-G = Total Petroleum Hydrocarbons (TPHs) as Gasoline by United States Environmental Protection Agency (USEPA) Method 8015 modified.
   BTEX/MTBE = Benzene, Toluene, Ethylbenzene and Xylenes; and Methyl tert-Butyl Ether by USEPA Method 8020.
   TPHs-D and TPHs-MO = TPHs as Diesel and TPHs as Motor Oil by USEPA Method 8015 modified with silica gel cleanup.
   VOCs = Volatile Organic Compounds by USEPA Method 8260.
   SVOCs = Semi-Volatile Organic Compounds by USEPA Method 8270.
2. µg/L = micrograms per Liter
3. ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013.
   SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not Available; ND = Not detected at concentrations above the respective detection limit(s).
5. ***9.7*** denotes the respective concentration above the detected limit
   120 denotes the respective concentration above the respective ESL.
   Min = Minimum Concentration. Max = Maximum Concentration. Ave: Approximate Arithmetic Average Concentration (for concentration reported as below detection limit, the detection limit was employed for the average estimation.

TABLE 6
RESULTS OF TITLE 22 METALS ON GROUNDWATER SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Title 22 17-Metals (1)																
			Sb	**As**	**Ba**	**Be**	**Cd**	**Cr**	**Co**	**Cu**	**Pb**	**Hg**	**Mo**	**Ni**	**Se**	**Ag**	**Tl**	**V**	**Zn**
		Unit (2)	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
Risk Regulatory and Reference Criteria (3)																			
		ESL (Table F-1b)	30.0	36	1000	0.53	0.25	180	3.0	3.1	2.5	0.025	240	8.2	5.0	0.19	4.0	1.9	81
San Francisco Wastewater Batch Discharge Limits (3)																			
		SF Batch Discharge Limit	NA (4)	4000	NA	NA	500	5000	NA	4000	1500	50	NA	2000	NA	600	NA	NA	7000
Laboratory ID	**Sample ID**	**Boring ID**	**Min: 4 Max: <25**	**Min: 13 Max: 370**	**Min: 820 Max: 5000**	**Min: <0.5 Max: <25**	**Min: <0.25 Max: 390**	**Min: 0.88 Max: 1700**	**Min: 12 Max: 1300**	**Min: <0.5 Max: 1500**	**Min: 0.72 Max: 6300**	**Min: <0.025 Max: 8**	**Min: 2.9 Max: <25**	**Min: 39 Max: 18000**	**Min: 1.7 Max: <25**	**Min: <0.19 Max: 11**	**Min: <0.5 Max: <25**	**Min: 1.6 Max: 640**	**Min: 14 Max: 67000**
Groundwater Samples - 2013 (5)																			
GTC-B3-W	GTC-B3-W	GTC-B3	<5	***300***	***2300***	<5	<2.5	***310***	***150***	***1500***	***1600***	***1.9***	<5	***560***	<5	***2.66***	<5	***430***	***2700***
GTC-B3-W (DISSOLVED)	GTC-B3-W	GTC-B3	***4.8***	***25***	***540***	<0.5	<0.25	***0.62***	***16***	***3.2***	***0.93***	***0.12***	***2.4***	***40***	***2.3***	<0.19	<0.5	***7.2***	***64***
GTC-B4-W	GTC-B4-W	GTC-B4	<25	***370***	***5000***	<25	***390***	***1700***	***1300***	***1400***	***6300***	***8.0***	<25	***18000***	<25	***11***	<25	***640***	***67000***
GTC-B4-W (DISSOLVED)	BTC-B4-W	GTC-B4	***4.0***	***13***	***820***	<0.5	<0.25	***0.88***	***12***	<0.5	***0.72***	<0.025	***2.9***	***39***	***1.7***	<0.19	<0.5	***1.6***	***14***

Notes **:**

1. Sb = Antimony, As = Arsenic, Ba = Barium, Be = Beryllium, Cd = Cadmium, Cr = Chromium, Cr VI = Chromium VI, Co = Cobalt, Cu = Copper, Pb = Lead, Hg = Mercury, Mo = Molybdenum, Ni = Nickel, Se = Selenium, Ag = Silver, Tl = Thallium, V = Vanadium, and Zn = Zinc.
2. µg/L = micrograms per Liter; MFL=Millions Fiber per Liter.
3. ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013.
   SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not Available;
5. ***20*** denotes the respective concentration above the detected limit
   4.4 denotes the respective concentration above the respective ESL .
   5.9 denotes the respective concentration above the SF Batch Discharge Limit criteria.
   Min = Minimum Concentration. Max = Maximum Concentration.

TABLE 7
RESULTS OF TSS, TS, O G, AND pH ANALYSES ON GROUNDWATER SAMPLES
1801 JERROLD AVENUE
SAN FRANISCO, CALIFORNIA

			Analytes (1)			
			O&G	TSS	TS	pH
		Unit (2)	mg/L	mg/L	mg/L	- -
Risk Regulatory Criteria (3)						
		ESL (Table F-1b)	NA (4)	NA	NA	NA
San Francisco Wastewater Batch Discharge Limits (3)						
		SF Batch Discharge Limit	300	NA	NA	6 to 9.5
Laboratory ID	**Sample ID**	**Boring ID**	**Min: 12 Max: 160**	**Min: 4560 Max: 28100**	**Min: 2610 Max: 7430**	
Groundwater Samples - 2013 (5)						
GTC-B3-W	GTC-B3-W	GTC-B3	***160***	***4560***	***7430***	***7.09***
GTC-B4-W	GTC-B4-W	GTC-B4	***12***	***28100***	***2610***	***7.10***

***Notes*:**

1. O&G = Oil and Grease by USEPA Method 1664;
   TSS & TS = Total susepended solids and total solids by USEPA Method 2540;
   pH = pH analyses by USEPA Method 9040;
2. mg/L = milligrams per Liter
3. ESL = California Regional Water Quality Control Board - San Francisco Region's Environmental Screening Criteria as listed in Table F-1b (ESL for groundwater which is not a current or potential source of drinking water), December 2013
   SF Batch Discharge Limit = San Francisco Batch Wastewater Discharge Limit, May 18, 2012.
4. NA = Not available/not applicable.
5. ***9.7*** denotes the respective concentration above the detected limit
   detection limit was employed for the average estimation.
   120 denotes the respective concentration above the respective ESL .
   Min = Minimum Concentration. Max = Maximum Concentration.

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APPENDIX HYD

Water Quality Analysis for the SEP Biosolids Digester Facilities Project

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Technical Memorandum

SEP Biosolids Digester Facilities Project

Subject: Water Quality Analysis for the SEP Biosolids Digester Facilities Project

Prepared For: City and County of San Francisco Planning Department, Environmental Planning Division and San Francisco Public Utilities Commission (SFPUC)

Prepared by: Jennie Pang, Robin Cort, and Lauren Salberg, RMC Water and Environment

Reviewed by: Dave Richardson and Mary Cousins, RMC Water and Environment

Date: March 24, 2016

Reference: 0092-010.18

Table of Contents

List of Terms and Acronyms

AMEL	Average monthly effluent limit
Basin Plan	San Francisco Bay Basin (Region 2) Water Quality Control Plan
BACWA	Bay Area Clean Water Agencies
BDFP	Biosolids Digester Facilities Project, project
BOD	Biochemical oxygen demand
Cd	Cadmium
CEQA	California Environmental Quality Act
CIWQS	California Integrated Water Quality System
CTR	California Toxics Rules
Cu	Copper
EIR	Environmental Impact Report
MDEL	Maximum daily effluent limit
mg/L	Milligrams per liter
MGD	Million gallons per day
NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
PCBs	Polychlorinated biphenyls
Regional Water Board	San Francisco Bay Regional Water Quality Control Board
RMC	RMC Water and Environment
RWP	Eastside Recycled Water Project
SEP	Southeast Water Pollution Control Plant
SF Planning	San Francisco Planning Department
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SFPUC	San Francisco Public Utilities Commission
SWRCB	California State Water Resources Control Board
TM	Technical memorandum
TSS	Total suspended solids
USEPA	United States Environmental Protection Agency
WQOs	Water quality objectives

1 Introduction

The San Francisco Public Utilities Commission (SFPUC) is proposing to construct new solids treatment, odor control, energy recovery, and associated facilities as part of the Biosolids Digester Facilities Project (BDFP or project) at the Southeast Water Pollution Control Plant (SEP) in the Bayview District of San Francisco[1]. The San Francisco Planning Department (SF Planning) is the lead agency preparing the Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA) for the SEP BDFP.

This technical memorandum (TM) was prepared for the SF Planning in support of the BDFP EIR water quality analysis. The purpose of this memorandum is to summarize RMC Water and Environment's (RMC) investigation of the potential effects of the BDFP on the water quality of the effluent discharged through the SEP outfall to San Francisco Bay. The water quality analysis discussed in this TM will evaluate how the new facilities may affect SFPUC's ability to maintain regulatory compliance with its NPDES permit (also known as Waste Discharge Requirements for SEP) (NPDES No. CA0037664, Order No. R2-2013-0029).

1.1 Project Background

The SFPUC operates and maintains the City's combined sewer system, which collects and treats the majority of San Francisco's wastewater and stormwater. Since the existing solids treatment facilities at the SEP are operating well beyond their useful life, SFPUC is proposing to construct new facilities as part of the SFPUC's Sewer System Improvement Program. The BDFP would replace the outdated existing solids treatment facilities with more reliable, efficient, modern technologies and facilities. The project would replace the existing digesters with new, state-of-the art digesters and other new facilities that produce a higher quality biosolids, capture and treat odors more effectively and maximize biogas utilization and energy recovery for the production of heat and energy.

Undigested wastewater solids, under the proposed BDFP, would be heated with steam under pressure and when the pressure is rapidly reduced, microbial cells would be ruptured and the material would disintegrate. This process would make the solids more biodegradable and when the digested sludge is dewatered, the liquid removed from the biosolids dewatering process is expected to contain higher levels of nitrogen (predominantly ammonia) compared to current 2015 concentrations for the existing processes. The liquid removed from the dewatering process would be returned to the liquid processing facilities (hereinafter known as "dewatering return stream"), hence potentially resulting in higher effluent ammonia and nitrogen levels. The new facilities are anticipated to go online in 2023 and are designed to provide solids treatment through the projected year 2045[1].

1.2 Approach

This TM provides an analysis of effects based on two criteria specified in Appendix G, Environmental Checklist of the CEQA Guidelines. The approach includes scenarios that focus on future conditions with the BDFP and without the project ("no project") to distinguish between future changes occurring due to the project and future changes that may occur without the project (e.g., changes related to population growth and water conservation). The approach to evaluating the criteria in the CEQA checklist is shown in **Table 1.**

[1] SF Planning, 2015.

Table 1: CEQA Approach Strategy

Would the Project:	Approach:
CEQA checklist item IX.a) Violate (exceed) any water quality standards or waste discharge requirements?	Determine if the following could be exceeded: 1. Basin Plan Water Quality Objectives (WQOs) 2. NPDES Permit Limitations
CEQA checklist item IX.f) Otherwise substantially degrade water quality?	Quantify the percent change (increase) in constituents of concern due to the BDFP

This approach is similar to the approach taken in environmental documentation for four other projects throughout California:

- West County Wastewater District Recycled Water Reliability Upgrade Project,
- City of Carlsbad Precise Development Plan and Desalination Plant,
- City of Pinole Water Pollution Control Plant Improvement Project, and
- City and County of San Francisco Westside Recycled Water Project.

The projects examined were selected for their similarity in projected long-term operational impacts to those projected from the BDFP, such as changes in effluent volumes, increased constituent loading, and potential effects on their facilities' ability to meet water quality standards. The analyses evaluated the changes to the water quality of the effluent discharge from existing/ambient conditions and compared it to the applicable WQOs set in the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) or San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), March 2015 Basin Plan and NPDES permit limitations. If the project would not exceed these limitations and would not adversely affect beneficial uses of the receiving waters, then the impacts were considered less than significant. The results and environmental documentation for the four case studies are summarized in the Technical Memorandum *CEQA Water Quality Analysis Approaches*[2].

1.3 Constituents of Concern

The BDFP would replace the existing digesters with new, state-of-the art digesters and other new facilities, including a thermal hydrolysis process (THP) pretreatment step prior to digestion. In thermal hydrolysis, a high temperature and pressure treatment step is followed by rapid depressurization. This process increases the breakdown of cellular material and macromolecules, thereby increasing the rate of biodegradation during the subsequent digestion step and increasing the solubilization of some constituents. After digestion the biosolids are dewatered. This dewatering return stream (liquid removed during the dewatering process) is returned to the beginning of the wastewater treatment plant where it passes through primary and secondary wastewater treatment processes. The changes in THP/digestion performance may increase the concentrations of certain constituents in the dewatering stream, which may also result in concentration increases in the final effluent if those constituents are not otherwise removed by primary and/or secondary treatment.

Consequently, the constituents of concern for this analysis must be identified to assess the potential effects the BDFP may have on water quality. The discharge from SEP is regulated by the San Francisco

[2] RMC, 2015.

Bay Regional Water Quality Control Board (Regional Water Board) through the NPDES permit process. The SEP effluent, which receives dilution when discharged to Lower San Francisco Bay, is regulated for many pollutants, and there are effluent limitations for several pollutants to confirm adequate overall wastewater treatment. In addition, there are numerous parameters with applicable water quality criteria and objectives established in the Basin Plan or California Toxics Rule (CTR) to protect beneficial uses of the receiving water body (shown below in *italics*). (Some of the Basin Plan and CTR parameters also have effluent limitations based on reasonable potential.) A list of all the parameters is provided below:

- *Total Ammonia, as N*
- *126 CTR priority pollutants (metals, cyanide, organic compounds)*
- Biochemical Oxygen Demand (BOD)
- Total Suspended Solids (TSS)
- Oil and Grease
- pH
- Total Residual Chlorine
- *Acute Toxicity*
- *Chronic Toxicity*

Substantial increases in the final effluent concentrations of the above listed parameters are not expected due to the nature of both the thermal hydrolysis and SEP liquid treatment processes, and the fact that the dewatering return stream comprises a relatively small proportion of the final effluent discharge. Information on the changes to the final effluent as a result of thermal hydrolysis/digestion process, however, is limited, so some parameter investigations were performed. The following subsections discuss the process for determining which of the above water quality parameters are relevant for this water quality analysis (i.e., the constituents with concentrations that may increase in the final effluent due to the BDFP).

Ammonia and Total Nitrogen. Ammonia has been identified as a constituent with the potential to increase in the dewatering return stream because biological matter in wastewater contains substantial amounts of total nitrogen (of which ammonia is a component) and the THP pretreatment process may result in higher ammonia concentrations in the dewatering return stream than the current digestion process. Because SEP liquid treatment processes are not designed to remove or transform ammonia, any concentration increase in the dewatering return stream (which, based on existing SEP flow data, is typically less than one percent of raw plant flow) could result in a change in the concentration in the final effluent, depending on changes in the flow rate and mass loading of the dewatering stream.

Although there are neither effluent limitations nor applicable WQOs for total nitrogen, it is also of interest to evaluate total nitrogen levels because ammonia is a major component of total nitrogen in the SEP effluent. Nitrogen and ammonia are of emerging concern for the San Francisco Bay as indicated in the 2014 watershed permit[3], which requires monitoring for nutrient parameters (including ammonia and nitrogen) as well as nutrient studies.

Literature Investigation. A literature search was conducted by the SFPUC BDFP team to investigate the potential effects of THP/digestion on the water quality of the final effluent. Literature searches returned limited information. There are numerous studies dealing with the performance of thermal hydrolysis and effects on total nitrogen and biogas production, but very limited data regarding the effects on heavy metal partitioning to dewatered digested solids, and none found regarding the effects on other priority

[3] SFRWQCB, 2014b.

pollutants. In fact, only one piece of scientific literature returned relevant information, which focuses on heavy metal uptake by activated sludge[4].

The fate of heavy metals in solids processes is the result of complex interactions between metal cations and the surrounding medium. The thermal hydrolysis process has been used to improve anaerobic digestion performance and biogas production and reduce solids production. However, reducing solids production leads either to (1) an increase in the discharge of heavy metals in the environment through wastewater treatment plant effluent or (2) an increase in heavy metals concentration in the solids.

Laurent et al. studied solids characteristic modifications and their potential effects on cadmium (Cd) and copper (Cu) metal sorption by activated sludge using batch isotherms. The authors concluded that the concentrations of some heavy metals may increase in the reduced amount of residual solids whereas other heavy metals may be released in the liquid fraction of digested solids and reintroduced to the wastewater treatment process. The fate of heavy metals such as Cd and Cu should be greatly affected by solids pretreatment – Cd might be concentrated in a lower amount of waste-activated sludge whereas Cu might leak through treated effluent. It is important to note that only two metals were studied and other metals may behave differently according to their chemical properties. In this study, Cu uptake mechanisms at pH 7 were governed by precipitation whereas Cd uptake was more dependent on ion exchange interactions at the floc surface.

Because of the lack of information in the literature, a THP/digestion pilot study was performed to evaluate the effect of THP/digestion on priority pollutants.

THP/Digestion Pilot Project Assessment of Priority Pollutants. A wastewater treatment plant simulator, BioWin, has been used to predict the concentrations of ammonia and total nitrogen in SEP's final effluent (see Section 3.2). However, this process model cannot be used to accurately estimate fate and transport of priority pollutants like metals and cyanide in the final effluent. To support this water quality analysis, data from SEP's THP/digestion pilot project were used to evaluate the effect of THP/digestion on other constituents of concern. In October and November 2015, SFPUC staff collected data on metal and cyanide concentrations in the pilot dewatering return stream. Pilot concentrations and BDFP projected dewatering return stream flow rates were used to generate a conservative estimate of the anticipated project effects on the final effluent concentrations and compared to NPDES permit effluent limitations.

Organic compounds were not measured in pilot samples due to analytical limitations. The dewatering return stream contains an abundance of background organic interferences generated in the anaerobic digestion process. The high concentrations of these background interferences complicate or render infeasible the analytical methods used to analyze organic wastewater pollutants of concern, many of which are at the parts per billion (ppb, or μg/L) or lower levels. For example, organic compounds such as dioxins and furans and polychlorinated biphenyls [PCBs] are analyzed using gas chromatography with mass spectrometer and/or other detectors. Due to the heterogeneous and concentrated nature of the dewatering return stream, samples must be diluted prior to analysis to prevent the analytical instrument from being overwhelmed and damaged, but the large dilution results in an increased method detection limit above informative levels. Therefore, the data generated is of little value.

An SFPUC technical memorandum[5] summarizes the pilot THP/digestion data, including the estimated projected change in metal and cyanide concentrations for the BDFP. The estimated changes were added

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[4] Laurent et al., 2011.

[5] SFPUC, 2016.

to the maximum effluent concentrations observed for the last six years to estimate whether future final effluent (i.e., with BDFP) would exceed the applicable NPDES permit effluent limitations or WQOs for Lower San Francisco Bay specified in the Basin Plan. These estimates are provided below in **Table 2.**

Table 2: Estimated Future Metal and Cyanide Concentrations due to BDFP (μg/L)

Parameter	MEC	Estimated Incremental Change from THP/digestion Pilot		Expected Final Effluent Concentration		Most Stringent NPDES Permit Limit and Most Stringent Applicable WQO		Expected Concentration Exceeds NPDES Permit Limit / WQO?	
		2022	2045	2022	2045	Limit	WQO	2022	2045
Antimony	2.94	0.000522	0.000452	2.94	2.94	--	4300	No	No
Arsenic	3.7	0.17	0.192	3.9	3.9	--	36	No	No
Beryllium	0.29	-0.0055	-0.00648	0.28	0.28	--	None	No	No
Cadmium	1.3	0.0009	0.000992	1.3	1.3	--	9.36	No	No
Chromium	3.7	0.734	0.834	4.4	4.5	--	50	No	No
Copper	13	0.757	0.856	13.8	13.9	53	(Limit applies)	No	No
Lead	1.6	0.0814	0.0918	1.7	1.7	--	8.5	No	No
Mercury	0.0235	-0.00179	-0.00208	0.0217	0.0214	0.066	(Limit applies)	No	No
Nickel	6.5	0.364	0.412	6.9	6.9	--	13	No	No
Selenium	1.2	0.00357	0.0038	1.2	1.2	--	5	No	No
Silver	2.6	-0.00302	-0.00361	2.6	2.6	--	2.9	No	No
Thallium	0.18	-0.00138	-0.00162	0.18	0.18	--	6.3	No	No
Zinc	55	1.67	1.88	56.7	56.9	-	86	No	No
Cyanide	9.5	-0.0653	-0.0756	9.4	9.4	20	(Limit applies)	No	No

Acronyms:
MEC = Maximum Effluent Concentration observed in the SEP final effluent from October 2009 through November 2015.
μg/L = microgram per liter
WQO = Water Quality Objective

As shown in **Table 2**, the applicable limits and Basin Plan WQOs for metals and cyanide are not expected to be exceeded. Concentrations of beryllium, mercury, silver, thallium and cyanide are actually projected to be somewhat lower with implementation of the BDFP. Slight increases in other metals are not expected to result in any exceedance of effluent limits or WQOs. Because there is no evidence that the nature of the organics stream will change with the BDFP and because there is no practical method available to estimate future concentrations, these constituents were not further studied in the water quality analysis.

Conventional pollutants. The NPDES permit has effluent limitations for the following conventional pollutants: BOD, TSS, oil and grease, pH, and total residual chlorine. The thermal hydrolysis process is not expected to affect final effluent concentrations of BOD, TSS, or oil and grease because these constituents are removed by the liquid treatment processes (e.g., primary and secondary treatment), which are expected to remain unchanged after implementation of the BDFP. Similarly, pH and residual chlorine are controlled by the liquid treatment processes, and therefore any changes in the dewatering return stream are not expected to affect these final effluent characteristics.

Toxicity. In addition to chemical constituents, the NPDES permit for the SEP establishes effluent limitations and triggers for toxicity. Compliance is determined by conducting bioassays, which measure effects on test organisms exposed to SEP effluent. The methodology for conducting the bioassays is specified in the Monitoring and Reporting Program for the NPDES permit. Ammonia is the only toxic constituent expected to potentially impact toxicity as a result of the BDFP. Even at low concentrations, ammonia can be toxic to aquatic organisms. Because the existing liquid treatment process does not remove ammonia, effects of BDFP on final effluent ammonia concentrations could also impact toxicity.

The NPDES permit for the SEP also establishes effluent limitations, which implement narrative water quality standards for toxicity. For acute toxicity, the NPDES permit specifies (page F-37) that observed acute toxicity does not constitute a violation if SFPUC demonstrates that the two following conditions apply: (1) ammonia causes acute toxicity in excess of the acute toxicity limits, and (2) ammonia in the discharge complies with the ammonia effluent limits. For chronic toxicity, the permit includes a somewhat similar statement (page E-9) noting that compliance with the chronic toxicity limit may be determined after test samples are adjusted to remove substances if SFPUC demonstrates that the substances are rapidly rendered harmless upon discharge to the receiving water.

The NPDES permit indicates that the ammonia numeric effluent limitations in the permit are based on WQOs necessary to protect aquatic life against the toxic effects of ammonia so that compliance with that effluent limitation would provide protection against toxicity in the environment. Additionally, the permit recognizes that concentrations of the toxic form of ammonia – unionized ammonia (NH_3) – in laboratory toxicity tests can be elevated due to the pH in the test and that it is rapidly converted to the relatively non-toxic ammonium ion (NH_4^+) upon discharge. For acute toxicity, ammonia is specifically identified. For chronic toxicity, the Regional Water Board recently provided flexibility for SFPUC to perform ammonia removal during chronic toxicity testing[6] based on this rationale. So, if ammonia (which is rapidly rendered harmless upon discharge to the receiving water as assured by the effluent limits) causes a failure of SEP effluent toxicity tests and the ammonia concentrations comply with the ammonia effluent limits, SFPUC would not violate the toxicity limitations in the permit and thereby would not cause an exceedance in the toxicity water quality standards.

It is not expected that total nitrogen would cause toxicity because the other components of the total nitrogen parameter (i.e., components other than ammonia, such as nitrates, nitrites, and organically-bound nitrogen) are not recognized as parameters that cause toxicity to aquatic life. Moreover, ammonia is a major component of total nitrogen in SEP effluent so if toxicity occurred due to total nitrogen, the source of toxicity is likely ammonia.

Thus, as ammonia and nitrogen have been identified as the chemical water quality constituents of concern and the permit states that toxicity caused by ammonia and/or nitrogen would not result in an exceedance of water quality standards, acute and chronic toxicity were not studied for this analysis.

Identified Constituents for Analysis. For this analysis, ammonia and total nitrogen were selected as the two constituents of concern.

[6] SFBRWQCB, 2014a.

2 Existing Conditions

2.1 NPDES Permit Requirements

To address CEQA checklist item IX.a, current applicable water quality standards (most in the form of WQOs) were identified. Three regulatory documents contain applicable water quality standards:

- **San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan), March 2015.** The Basin Plan designates beneficial uses for water bodies in the Bay Area and their associated WQOs. The Basin Plan specifies numeric WQOs for 10 priority pollutants (including un-ionized ammonia) and narrative WQOs for toxicity and bioaccumulation.
- **California Toxics Rule (CTR) and National Toxics Rule (NTR).** The CTR and NTR specifies numeric aquatic life and human health criteria for numerous priority pollutants, including some metals and semivolatile organic compounds.

For this water quality analysis, the Basin Plan's WQO for un-ionized ammonia are pertinent because total nitrogen and total ammonia have been identified as the two main constituents of concern and no currently applicable water quality standards have been established for total nitrogen. The Basin Plan's WQO for un-ionized ammonia are as follows: an annual median of 0.025 milligram per liter (mg/L) as N and a maximum of 0.4 mg/L as N. The Regional Water Board implements this WQO to protect beneficial uses by issuing total ammonia effluent limitations in the NPDES permit. The NPDES permit specifies an average monthly effluent limit (AMEL) of 190 mg/L and a maximum daily effluent limit (MDEL) of 290 mg/L, as shown below in **Figure 1**. These limits are calculated with recognition given to the significant amount of dilution that the effluent receives in San Francisco Bay under dry weather conditions; ammonia limits only apply in dry weather conditions.

Basin Plan Water Quality Objective

Un-Ionized Ammonia WQO (mg/L as N):

Annual Median (AMEL)	0.025
Maximum, Lower San Francisco Bay (MDEL)	0.4

Implementation

NPDES Permit Limits

Total Ammonia Effluent Limitations (mg/L as N):

Average Monthly Effluent Limitation (AMEL)	190
Maximum Daily Effluent Limitation (MDEL)	290

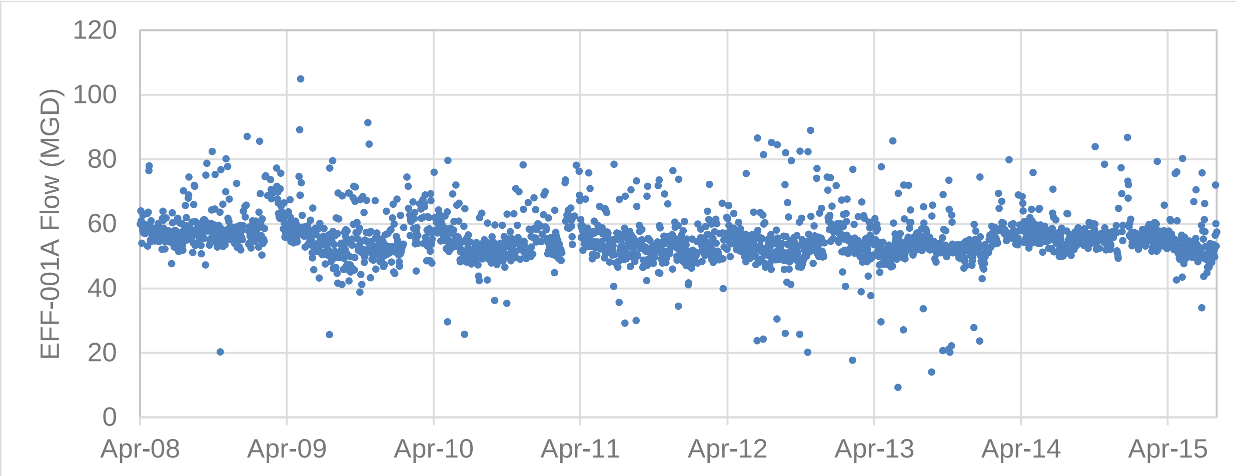
(Source: SFBRWQCB, 2013)

Figure 1: Effluent Limits in the SEP NPDES Permit as calculated based on the Basin Plan WQO for Un-Ionized Ammonia

2.2 Existing SEP Effluent Water Quality

Water quality data for the SEP effluent at monitoring location EFF-001A (effluent monitoring location as defined in NPDES permit[7]) were evaluated to identify water quality trends. From April 2008 to June 2015, the SEP effluent flow rate exhibited a somewhat variable, but fairly consistent trend with an average dry weather effluent flow of about 55 million gallons per day (MGD), as shown on **Figure 2**.

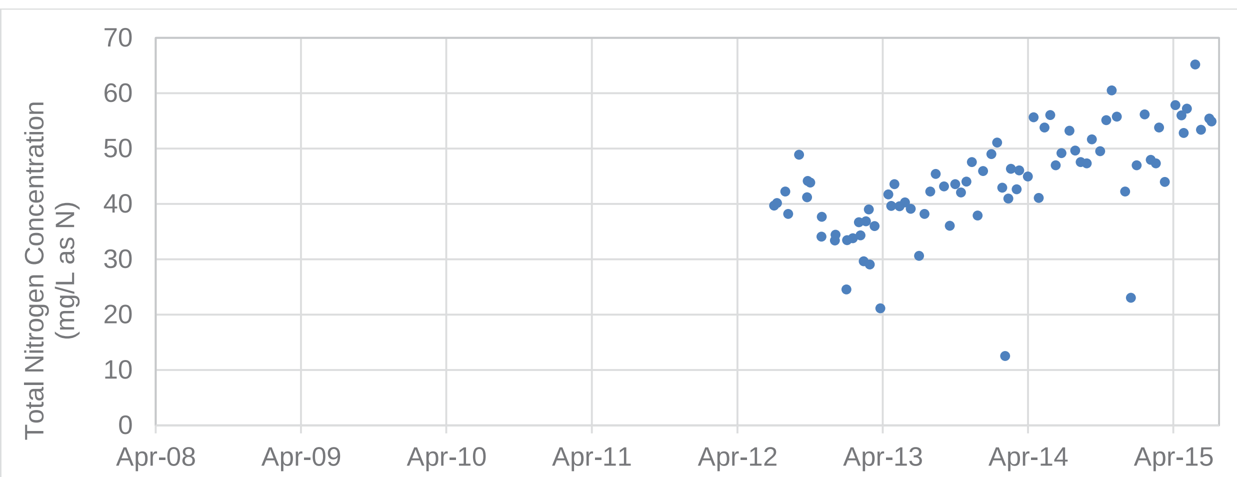
[7] EFF-001A is defined as any point at the SEP between the point at which all wastes have gone through complete secondary treatment including disinfection, and the deep water outfall.



(Source: CIWQS, 2015)

Figure 2: SEP Effluent Data for EFF-001A - Flow Rate (April 2008 – July 2015)

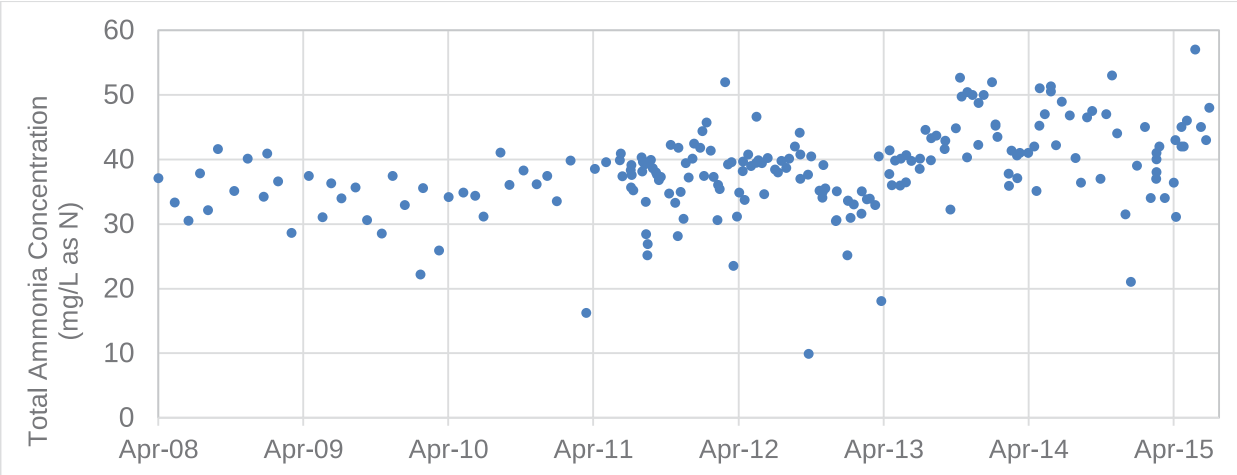
Monthly monitoring for total nitrogen concentration in the SEP effluent began in July 2012. From July 2012 to present, total nitrogen concentration in the SEP effluent appears to increase over time, as shown in **Figure 3**. (Although nitrogen data for April 2008 through June 2012 are not available, the figure uses the same time scale as shown above to provide a consistent time frame.)



(Source: CIWQS, 2015)

Figure 3: SEP Effluent Data for EFF-001A - Total Nitrogen Concentration (July 2012 – July 2015)

From April 2008 through July 2015, the SEP effluent data for the concentration of total ammonia demonstrates a slight upward trend with a fairly variable spread, as shown in **Figure 4.**



(Source: CIWQS, 2015)

Figure 4: SEP Effluent Data for EFF-001A - Total Ammonia Concentration (April 2008 – July 2015)

As shown in **Figure 3** and **Figure 4**, both total nitrogen and total ammonia concentrations have been increasing over the past few years. It is likely that this trend is occurring due to a combination of recent population increase and water conservation[8].

As both total nitrogen and total ammonia concentrations have been exhibiting upward trends, current water quality was investigated for this analysis. Calculations for the period July 2014 through June 2015 (2014/15) show an average total nitrogen concentration of 51.0 mg/L and a 95th percentile concentration of total nitrogen of 65.1 mg/L and an average total ammonia (as N) concentration of 41.3 mg/L and a 95th percentile concentration[9] of total ammonia (as N) of 53.7 mg/L. These data are summarized in **Table 3.**

Table 3: Average and 95th Percentile Concentration Data for SEP Effluent, July 2014 – June 2015

Constituent	Average Concentration (mg/L)	95th Percentile Concentration (mg/L)
Total Nitrogen (as N)	51	65
Total Ammonia (as N)	41	54

[8] SFPUC, 2014b.

[9] The 95th percentile value is the concentration that is above 95 percent of the estimated values based on a particular distribution.

3 Water Quality Analysis Approach

3.1 Scenarios Considered

To assess potential changes in water quality from the implementation of the BDFP, existing and future scenarios were identified; the current (no project, 2015) scenario and five future scenarios were identified, as summarized in **Table 4.**

Table 4: Scenarios Considered in BDFP Water Quality Analysis

Project Condition	2015 (Baseline)	2022	2045
No Project	⊗	⊗	⊗
With BDFP		⊗	⊗
With BDFP and Eastside Recycled Water Project (RWP)			⊗

The 2015 "Baseline" scenario reflects current conditions (flow rates, concentrations, and loads) based on data available as of the publication date of the Notice of Preparation for the EIR. The baseline analysis considers one year of data spanning July 2014 through June 2015 to reflect current trends (population growth and water conservation).

The 2022 scenarios reflect anticipated conditions for the year 2022 when the BDFP is complete and online. Two scenarios are modeled to determine the water quality contribution from the BDFP. These scenarios are:

- *No Project*: this scenario accounts for anticipated population growth and water conservation through 2022.
- *With BDFP*: this scenario accounts for implementation of the BDFP and anticipated population growth and water conservation through 2022.

The 2045 scenarios represent anticipated conditions for the year 2045, the year for which project design is based. Three scenarios are included:

- *No Project*: this scenario accounts for anticipated population growth and water conservation through 2045.
- *With BDFP:* this scenario accounts for implementation of the BDFP and anticipated population growth and water conservation through 2045.
- *With BDFP and Eastside RWP*: In 2045, another potential project – the Eastside Recycled Water Project (RWP)[10] – may also affect effluent water quality. This project is currently expected to

[10] The proposed Eastside RWP may deliver high quality recycled water to a variety of customers on the east side of the City for non-drinking uses such as irrigation and toilet flushing. The Eastside RWP may produce up to 2 MGD of recycled water using a reverse osmosis process. Reverse osmosis is a physical separation process that uses a membrane to separate the solvent portion of a solution from the solute portion by applying hydrostatic pressure.

come online in the year 2030. Consequently, the Eastside RWP is considered as a project that could contribute to cumulative water quality effects as both the BDFP and Eastside RWP have the potential to increase nitrogen and ammonia in lower San Francisco Bay. To be conservative, all total nitrogen and total ammonia resulting from the Eastside RWP were assumed to be rejected in the hypothetical reverse osmosis process. That is, for the average estimated 2045 SEP effluent flow of 69.2 MGD (calculated value from the BioWin modeling input, discussed below and included as Appendix B) and a 2 MGD production of recycled water from the Eastside RWP, this analysis assumes the SEP effluent is reduced by 2 MGD, which would increase concentration of these constituents. Thus, the SEP effluent concentrations were estimated to increase by 3.0% [Calculated as (69.1 MGD-67.1 MGD)/67.1 MGD $\times$ 100%].

3.2 BioWin Modeling Data (With and Without Project)

SFPUC developed and calibrated a BioWin model for SEP. BioWin is a wastewater treatment process simulator that ties together biological, chemical, and physical process models. The BDFP Consultant Team performed minor modifications to SFPUC's model to simulate the effect of the new BDFP facilities weith THP. The model inputs are based on SEP's projected flows and loads[11], (which are based on estimated population growth and per capita loading rates calculated using 2010-2012 SEP data for the model simulation year 2010, and more recent 2014-15 SEP data for the future year scenarios of 2022, 2033, and 2045).

Modeling was conducted separately from this water quality analysis to estimate the change in effluent water quality that would be expected with implementation of the BDFP. The modeling results (included as Appendix B) comprise both projected loadings and projected concentrations (which were calculated based on these projected loadings and the projected average dry weather flow rate for a given year). As discussed in Section 1.3, the modeling has demonstrated that the only constituents with a potential to exceed NPDES permit limitations, WQOs, or otherwise degrade water quality are ammonia and nitrogen. Projected average ammonia and nitrogen concentrations in 2015, 2022, 2033, and 2045, both with and without the project, are included in **Table 5.**

[11] The SSIP Wastewater Flow and Load Projections TM (SFPUC, 2014a) summarizes wastewater projected flows which were calculated by converting projected potable water demands into wastewater generation. Projected water demands account for future water conservation, resulting in decreasing per capita flows in the future; Appendix A.

Table 5: BioWin Modeling Influent Flow Rate Input and Average Concentration Results for No Project and With BDFP Scenarios

Parameter	Unit	2010	2015 (linearly interpolated)	2022	2033	2045
No Project Scenario						
Influent Average Dry Weather Flow Rate	MGD	60.6	----	63.6	66.4	69.4
Effluent Total Nitrogen	mg/L as N	37.5	41.3	46.6	49.6	52.6
Effluent Total Ammonia	mg/L as N	34.2	37.7	42.7	45.4	48.2
With BDFP Scenario						
Influent Average Dry Weather Flow Rate	MGD	--	----	63.6	66.4	69.4
Effluent Total Nitrogen	mg/L as N	--	----	47.5	50.8	54.1
Effluent Total Ammonia	mg/L as N	--	----	43.0	46.0	49.0

3.3 Conservative Assumptions for Concentrations

As stated in the previous section, the BioWin model results were based on average data. To contrast, in the water quality analysis described in this TM, 95th percentile concentration values (lognormal distribution) were compared to the most stringent ammonia effluent limit in the permit: the AMEL of 190 mg/L. As stated in the USEPA's *Technical Support Document For Water Quality-based Toxics Control*, the 95th percentile is used because the water quality-based AMELs in the NPDES permit are calculated based on the 95th percentile of the distribution of values, and have historically been used to determine whether compliance with an AMEL would be feasible. This approach is more conservative compared to using the average values; due to the variable concentrations of total ammonia and total nitrogen observed in the 2008-2015 SEP effluent data (shown in **Figure 3** and **Figure 4**), it is necessary to take a conservative approach. The lognormal distribution is used because of its practicality. Often, environmental data sets (such as effluent concentration data) possess basic lognormal characteristics. Additionally, a lognormal approach was used in this case because using the 95th percentile values based on the lognormal distribution is more conservative than a normal distribution.

3.4 Analysis Methodology

Information regarding the future scenarios to study, modeling results, and historic effluent data were gathered to develop a strategy to evaluate the two CEQA checklist items discussed in Section 1.1. This strategy is provided above in **Table 1.**

For each of the five future scenarios described in Section 3.1, both checklist items were evaluated. To address CEQA checklist item IX.a, future 95th percentile concentrations of both total nitrogen and total ammonia were estimated to compare with the Basin Plan WQOs and NPDES permit limitations. As stated in Section 2.1, the Regional Water Boards implement the numeric un-ionized ammonia WQO by issuing effluent limits for total ammonia in the NPDES permit. Thus, future total ammonia concentrations were estimated to make this comparison. Although there are currently no defined WQOs for nitrogen, ammonia is a major component of total nitrogen in SEP effluent, so future nitrogen concentrations were also estimated.

Two analyses were performed: one analysis (Analysis A) was based on the modeling results, and another (Analysis B) was based on both the modeling results and actual, drought-influenced data.

Analysis A. To estimate "no project" and "with BDFP" concentrations for 2022 and 2045, the ratio between the 95th percentile and average concentrations was first calculated based on the 2015 actual values (see **Table 3**). This ratio was the same for both total nitrogen and total ammonia: 1.3 (95th percentile to average value). Then the 2022 and 2045 average values from the modeling (see **Table 5**) were multiplied by this ratio to estimate corresponding 95th percentile concentrations. For the 2045 "with BDFP and Eastside RWP" scenario, the 2045 "with BDFP" scenario concentration was increased by 3.0% (as described in Section 3.1).

Analysis B. Furthermore, an additional analysis (**Analysis B**) was done to consider current drought conditions. In recent years, significant water conservation in San Francisco has been observed due to the California drought. In early 2014, the governor of California declared a drought State of Emergency and called for Californians to reduce their water usage by 20 percent[12]. In April 2015, the governor of California signed Executive Order B-29-15 requiring the State Water Resources Control Board to impose statewide restrictions to achieve 25% reduction in potable urban water usage through February 28, 2016. From June through November 2015, the City of San Francisco achieved a 15.1% water savings, almost twice SFPUC's 8% conservation requirement[13]. Significant water conservation in San Francisco has effectively caused concentrations of pollutants in the SEP influent to increase (i.e., less water is entering the wastewater collection system to dilute pollutants, resulting in increased concentrations). As stated, the SEP liquid treatment processes are not designed to remove or transform nitrogen and ammonia so a concentration increase in the influent will likely result in a concentration increase in the effluent. Accordingly, the observed 2015 SEP effluent concentrations for nitrogen and ammonia are somewhat greater than expected.

Because the SEP-observed nitrogen and ammonia concentrations in 2015 were greater than predicted from the BioWin model due to the exceptional drought, an additional analysis was performed to be even more conservative; this analysis was conducted to estimate future concentrations based on the 2015 SEP data ("actual data"), rather than the model results. In this analysis, the modeling results were first linearly interpolated to obtain 2015 concentrations (see **Table 5**). Then the percent change values between 2015 and 2022 model concentrations, and the percent change values between 2022 and 2045 model concentrations were calculated from the modeling results. Finally, the 95th percentile 2015 actual concentration data (**Table 3**) and percent change values were multiplied to estimate future 95th percentile concentrations based on actual data. As with the other analysis, for the 2045 "with BDFP and Eastside RWP" scenario, the 2045 "with BDFP" scenario concentration was increased by 3.0%.

To address CEQA checklist item IX.f, the percent change values were analyzed to determine whether the BDFP – cumulatively with the Eastside RWP – would substantially degrade water quality. As stated previously, the percent change values were estimated from the BioWin modeling results with an assumed conservative 3.0% increase in concentration for the 2045 "with BDFP and Eastside RWP" scenario.

[12] State of California, 2014.

[13] SWRCB, 2015.

4 Results & Discussion

As discussed in Section 3.4, two analyses were performed to address the two CEQA checklist items.

Using the modeling results and the calculated ratio between the 95th percentile and average concentrations (Analysis A), future concentrations for nitrogen and total ammonia were estimated for the six scenarios described in **Table 4.** As shown in the figures below, total nitrogen and total ammonia concentrations are estimated to increase regardless of whether the BDFP occurs.

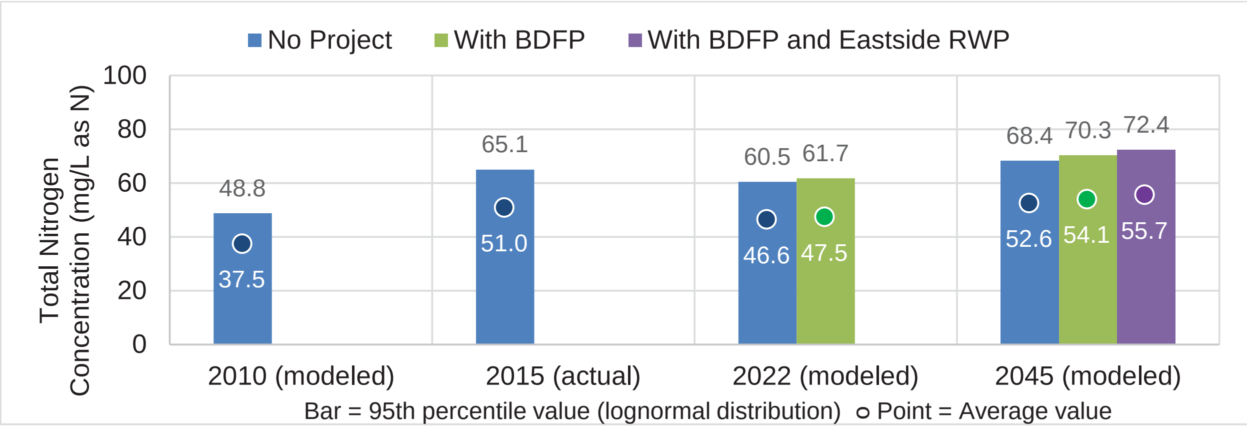


Figure 5: Current (2014/15) and Model-Estimated Total Nitrogen Effluent Concentrations, SEP (Analysis A)

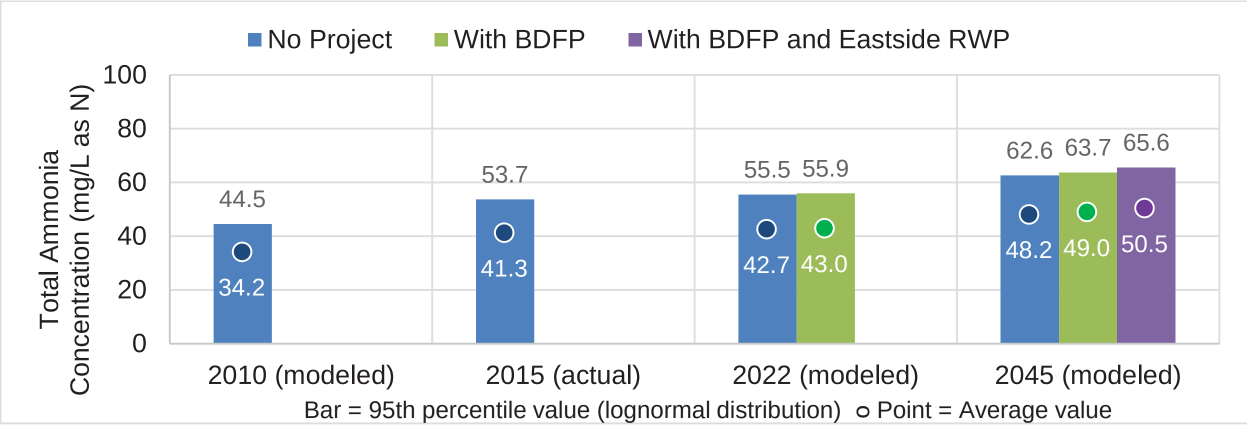


Figure 6: Current (2014/15) and Model-Estimated Total Ammonia Effluent Concentrations, SEP (Analysis A)

As part of the additional more conservative analysis (Analysis B), future concentrations for nitrogen and total ammonia were estimated for the six scenarios using the relative percent change information from the BioWin model results and 2014/15 SEP effluent data. Similar to the results shown for Analysis A, total nitrogen and ammonia concentrations would increase with or without the BDFP due to population growth as shown in **Figure 7** and **Figure 8**.

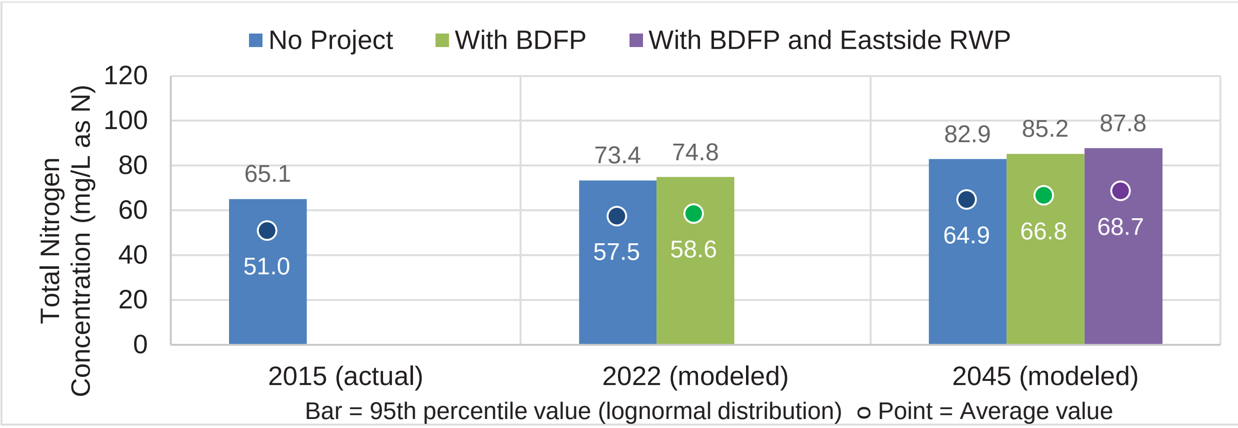


Figure 7: Current (2014/15) and Estimated Future Total Nitrogen Effluent Concentrations, SEP (Analysis B)

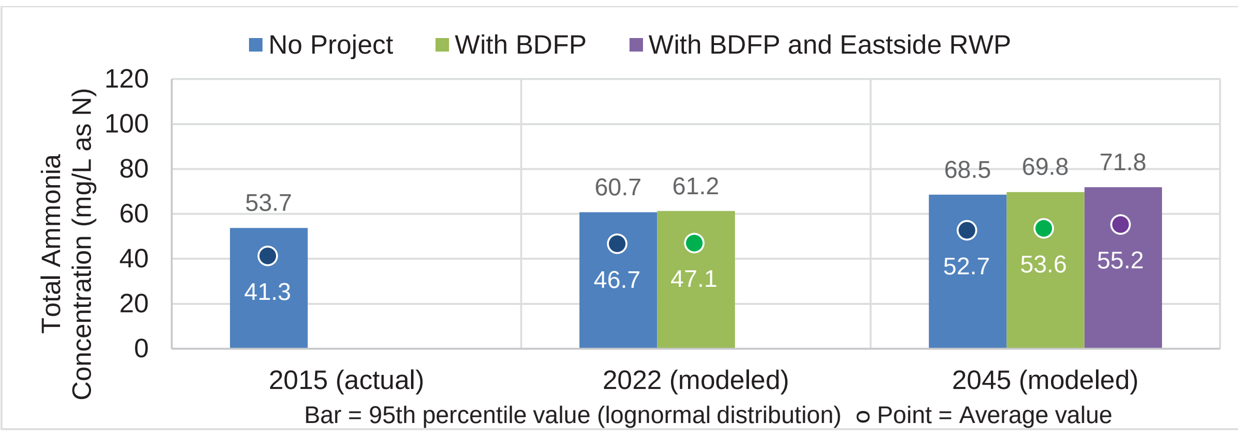


Figure 8: Current (2014/15) and Estimated Future Total Ammonia Effluent Concentrations, SEP (Analysis B)

The four figures above for both analyses indicate a slight increase between the "No Project" and "BDFP" cases for the years 2022 and 2045. For the 2045 case that includes both the BDFP and the Eastside RWP, another slight increase is estimated. Overall, results show that greater increases would occur regardless of the BDFP ("No Project" scenario), due to population growth and water conservation.

To determine whether current water quality standards may be exceeded, the total ammonia concentrations were compared to the effluent limits (as discussed in Section 2.1). As shown in both **Figure 6** and **Figure 8**, the conservatively predicted 95th percentile future values (including cumulative impacts from the Eastside RWP) are well below the NPDES permit's currently most stringent effluent limitation for total ammonia: 190 mg/L as N (AMEL). Thus, the BDFP is not expected to cause an exceedance of water quality standards or NPDES permit effluent limitations.

For the five scenarios and baseline, the estimated average concentrations as well as the percent change values discussed above are summarized in **Table 6**.

For the two 2022 scenarios -- no project and with BDFP -- it is estimated that total nitrogen concentrations may increase above the 2015 levels by about 12.8% and 15.0%, respectively. Similarly, it is estimated that ammonia concentrations may increase about 13.1% and 14.0%, respectively.

For the three 2045 scenarios -- no project, with BDFP, and with BDFP and the Eastside RWP -- it is estimated that total nitrogen concentrations may increase above the 2015 levels by about 27.4%, 31.0%, and 34.9%, respectively. Similarly, it is estimated that ammonia concentrations may increase about 27.6%, 29.9%, and 33.8%, respectively. The percent change in nitrogen and ammonia concentrations attributable to the BDFP is 3.6% and 2.3%, respectively.

The modeling indicates that the BDFP may cause a small increase in total nitrogen and ammonia concentrations. This increase, however, is small when compared to the increase projected from population increases and water conservation. Thus, the increase in concentrations of total nitrogen and total ammonia in the effluent that would be attributable to the BDFP is expected to be minor, and the BDFP would not otherwise substantially degrade water quality.

Table 6: Percent Change of Total Nitrogen and Total Ammonia Effluent Concentrations

Scenario	Total Nitrogen		Total Ammonia	
	Average (mg/L as N)	*% Change from 2015*	Average (mg/L as N)	*% Change from 2015*
2015 Linearly Interpolated from Table 5 Values				
No Project (Existing Plant)	41.3	--	37.7	--
2022 Modeled Estimate (Analysis A)				
No Project	46.6	*12.8%*	42.7	*13.1%*
With BDFP	47.5	*15.0%*	43.0	*14.0%*
Increment due to BDFP	*0.9*	***2.2%***	*0.4*	***1.0%***
2045 Modeled Estimate (Analysis A)				
No Project	52.6	*27.4%*	48.2	*27.6%*
With BDFP	54.1	*31.0%*	49.0	*29.9%*
With BDFP and Eastside RWP	55.7	*34.9%*	50.5	*33.8%*
Increment due to BDFP	*1.5*	***3.6%***	*0.9*	***2.3%***
Increment due to Eastside RWP	*1.6*	***3.9%***	*1.5*	***3.9%***
SEP NPDES Permit Effluent Limit	***N/A***	***--***	***190***	***--***

As shown, total nitrogen and ammonia effluent concentrations are expected to increase for all future cases due to decreases in per capita wastewater volumes discharged to the wastewater collection system as a result of future water conservation efforts. In addition, total nitrogen and ammonia loads would increase in the SEP influent and effluent for all future cases because of increased wastewater discharged to the collection system as a result of population growth and because SEP liquid treatment processes are not designed to remove or transform total nitrogen and ammonia. However, it is noted that these increases would occur with or without the BDFP; only slight increases in effluent mass loading and concentration are anticipated due to the BDFP. These increases would occur as a result of the slight process-related increases in ammonia and total nitrogen concentrations discussed above.

5 Conclusions

Total ammonia and total nitrogen have been identified as the two main water quality constituents of concerns for the BDFP. Modeling was conducted to estimate the quality of effluent that would be expected with implementation of the BDFP. The water quality of the effluent was projected using BioWin, a wastewater treatment process simulator that ties together biological, chemical, and physical process models. New processes that would be constructed as part of the BDFP were modeled to predict future plant performance. The model inputs accounted for population increases and water conservation in determining projected levels of constituents in effluent. Both total ammonia and total nitrogen were projected. Although the NPDES permit does not establish effluent limitations for nitrogen, since ammonia is one component of total nitrogen, it is of interest to evaluate total nitrogen levels in addition to total ammonia.

Two analyses were conducted to evaluate the changes to the water quality of the effluent discharge from existing baseline conditions compared to the applicable NPDES permit limitations. Using conservative assumptions (95^{th} percentile values) to estimate future effluent concentrations, the concentration increases for total nitrogen and total ammonia are expected to be minimal due to the BDFP, as shown in **Table 7** below. Estimated effluent changes due to the BDFP and the Eastside RWP are comparatively less than the estimated contribution from other factors, such as population increase and water conservation (shown in **Table 7** below).

Table 7: Percent Increase in Constituents due to BDFP and Other Factors

Constituent	Projected Effluent Concentration % Increase from 2015				
	2022 Scenarios		2045 Scenario		
	No Project (Increase due to Population Increase & Water Conservation)	Increment due to BDFP	No Project (Increase due to Population Increase & Water Conservation)	Increment due to BDFP	Increment due to BDFP and Eastside RWP
Total Nitrogen	12.8%	2.2%	27.4%	3.6%	3.9%
Total Ammonia	13.1%	1.0%	27.6%	2.3%	3.9%

Even with the contribution of 1) the BDFP, 2) population increase and water conservation, and 3) a cumulative project (Eastside RWP), effluent limitations for total ammonia in the NPDES permit are not expected to be exceeded (190 mg/L) (shown in **Table 8**).

Table 8: Comparison of Estimated Future Ammonia Concentrations with Effluent Limitations

Total Ammonia Effluent Limitations (mg/L as N)		Estimated 95th Percentile Ammonia Concentration (mg/L as N)	
		2045 Case with BDFP	2045 Case with BDFP and Eastside RWP
Average Monthly Effluent Limitation (AMEL)	190	63.7 (Analysis A)	65.6 (Analysis A)
		69.8 (Analysis B)	71.8 (Analysis B)

Therefore, based on the above analysis, the BDFP would comply with the existing NPDES permit limitations and would not result in substantial changes to receiving water quality.

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APPENDIX NOI

Noise Supporting Information

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TABLE 1
ESTIMATED COMBINED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

Project Component/ Receptor Location	Construction Schedule	Reference Hourly L_{eq} in dBA @ 50 feet[a]	Minimum Distance between Receptors and Project Site Boundary	Distance Adjustment	Noise Level (L_{eq}) Adjusted for Distance	Does Combined Project Noise Exceed 90 dBA FTA Threshold at Closest Residential Receptors?	Does Combined Project Noise Exceed 100 dBA FTA Threshold at Closest Com/Indus Receptor?	Leq Day Ambient Noise Level at Receptor (7 a.m. to 8 p.m.)	Ambient+10 dBA Threshold at Closest Sensitive Receptor	Does Project Noise Increase Ambient by More than 10 dB?
Location 1. Residential receptors on east side of Phelps Street (as represented by noise levels measured at 1796 La Salle Avenue and distances measured from 1700 Kirkwood)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	750	-24	62	No	-	67	77	No
2. Piles (Drilled) and Excavation	2018-2020	85	575	-21	63	No	-	67	77	No
3. Galleries and Pipe Chases	2018, 2020	88	900	-25	63	No	-	67	77	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	925	-25	57	No	-	67	77	No
5. Utilities and Roads	2020-2022	84	165	-10	74	No	-	67	77	No
6. Construction Staging Areas	2018-2023	81	70	-3	79	No	-	67	77	**Yes**
Location 1. Commercial receptors on east side of Phelps Street (as represented by noise measurements collected at 1796 La Salle Avenue)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	700	-23	62	-	No	-	-	-
2. Piles (Drilled) and Excavation	2018-2020	85	450	-19	65	-	No	-	-	-
3. Galleries and Pipe Chases	2018, 2020	88	700	-23	65	-	No	-	-	-
4. Digesters, Pre-THP, and GBT	2018-2022	82	875	-25	58	-	No	-	-	-
5. Utilities and Roads	2020-2022	84	70	-3	81	-	No	-	-	-
6. Construction Staging Areas	2018-2023	81	125	-8	74	-	No	-	-	-
Location 2. Residential receptors to the east, mid-block east of Phelps Street (1663 Kirkwood Avenue is representative receptor with possible direct lines-of-sight from upper floors)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	950	-26	60	No	-	61	71	No
2. Piles (Drilled) and Excavation	2018-2020	85	825	-24	60	No	-	61	71	No
3. Galleries and Pipe Chases	2018, 2020	88	1,150	-27	61	No	-	61	71	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	1,200	-28	55	No	-	61	71	No
5. Utilities and Roads	2020-2022	84	400	-18	66	No	-	61	71	No
6. Construction Staging Areas	2018-2023	81	500	-20	61	No	-	61	71	No
Location 3. 1200 Phelps Street (Southeast Community Facility includes City College of San Francisco Training/Education Center and San Francisco State University Head Start daycare facility with playground)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	850	-25	61	No	-	60	70	No
2. Piles (Drilled) and Excavation	2018-2020	85	975	-26	59	No	-	60	70	No
3. Galleries and Pipe Chases	2018, 2020	88	1,050	-26	62	No	-	60	70	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	1,500	-30	53	No	-	60	70	No
5. Utilities and Roads	2020-2022	84	700	-23	61	No	-	60	70	No
6. Construction Staging Areas	2018-2023	81	70	-3	79	No	-	60	70	**Yes**

TABLE 1 (Continued)
ESTIMATED COMBINED DAYTIME CONSTRUCTION-RELATED NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

Project Component/ Receptor Location	Construction Schedule	Reference Hourly L_{eq} in dBA @ 50 feet[a]	Minimum Distance between Receptors and Project Site Boundary	Distance Adjustment	Noise Level (L_{eq}) Adjusted for Distance	Does Combined Project Noise Exceed 90 dBA FTA Threshold at Closest Residential Receptors?	Does Combined Project Noise Exceed 100 dBA FTA Threshold at Closest Com/Indus Receptor?	Leq Day Ambient Noise Level at Receptor (7 a.m. to 8 p.m.)	Ambient+10 dBA Threshold at Closest Sensitive Receptor	Does Project Noise Increase Ambient by More than 10 dB?
Location 4. Residential receptors to the south, south of Oakdale Avenue (1901 Palou Avenue is a representative receptor, no direct line-of-sight)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	1,275	-28	57	No	-	65	75	No
2. Piles (Drilled) and Excavation	2018-2020	85	1,450	-29	55	No	-	65	75	No
3. Galleries and Pipe Chases	2018, 2020	88	1,525	-30	59	No	-	65	75	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	1,975	-32	51	No	-	65	75	No
5. Utilities and Roads	2020-2022	84	1,175	-27	57	No	-	65	75	No
6. Construction Staging Areas	2018-2023	81	800	-24	57	No	-	65	75	No
Location 5. Residential receptors to the south, mid elevations to the south (2000 Revere Avenue is a representative receptor with direct line-of-sight)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	1,850	-31	54	No	-	63	73	No
2. Piles (Drilled) and Excavation	2018-2020	85	2,000	-32	53	No	-	63	73	No
3. Galleries and Pipe Chases	2018, 2020	88	2,100	-32	56	No	-	63	73	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	2,250	-33	49	No	-	63	73	No
5. Utilities and Roads	2020-2022	84	1,775	-31	53	No	-	63	73	No
6. Construction Staging Areas	2018-2023	81	1,375	-29	53	No	-	63	73	No
Location 6. Residential receptors to the south, higher elevations to the south (296 Bayview Circle is a representative receptor with direct line-of-sight)										
1. Demolition, Site Offices Setup, Utilities Relocation Work	2018	85	2,150	-33	52	No	-	58	68	No
2. Piles (Drilled) and Excavation	2018-2020	85	2,200	-33	52	No	-	58	68	No
3. Galleries and Pipe Chases	2018, 2020	88	2,300	-33	55	No	-	58	68	No
4. Digesters, Pre-THP, and GBT	2018-2022	82	2,775	-35	48	No	-	58	68	No
5. Utilities and Roads	2020-2022	84	1,950	-32	52	No	-	58	68	No
6. Construction Staging Areas	2018-2023	81	1,450	-29	52	No	-	58	68	No

NOTES: dBA = A-weighted decibel; THP = Thermal Hydrolysis Process; GBT = Gravity Belt Thickener; n/a = not applicable threshold to receptor.

[a] See Table 4.7-6 for derivation of combined noise levels by construction activity, which are applied in this table to residential receptor locations.

SOURCE: Orion Environmental Associates, 2016.

TABLE 2
OPERATIONAL NOISE LEVELS FROM PROPOSED PROCESS FACILITIES

Equipment Name	Unit Process/Facility	Location	Noise Level (dBA)	Specified Distance (feet)	Reference (L_{eq}) Noise Level at 50 feet
Glycol Chiller/Chilled Water Pumps	Digester Gas (Biogas) Treatment	Outdoor	85	3	61
Multi-Stage Centrifugal Gas Blowers	Digester Gas (Biogas) Treatment	Outdoor	88	3	64
		(Motor)	92	3	68
Combined Noise Level	Digester Gas (Biogas) Treatment	Outdoor			**70**
Waste Gas Burner (Emergency Flare)	Waste Gas Burner (Emergency Flare)	Outdoor, Enclosed	85	3	61
Combined Noise Level	Waste Gas Burner (Emergency Flare)	Outdoor		(Two Flares)	**64**
Packaged AHU	Energy Recovery	Indoor	67	25	61
Packaged AHU	Energy Recovery	Indoor	67	25	61
Packaged AHU	Energy Recovery	Indoor	57	25	51
Standby Diesel Generator	Energy Recovery	Outdoor	85	25	79
Combined Noise Level at Vent Openings	Energy Recovery	Building Enclosure	70	25	64
Combined Noise Level	Energy Recovery	Vent Openings with All AHUS on Roof	**67**	AHUs Only	64
Digestion Cooling Tower	THS Cooling (Cooling Water System)	Outdoor	74	50	74
Digestion Cooling Water Recirc Pumps	THS Cooling (Cooling Water System)	Outdoor	65	50	65
Combined Noise Level	THS Cooling (Cooling Water System)	Outdoor			**77**
Packaged AHUs	Anaerobic Digestion	On Roof	67	25	61
Packaged AHUs	Anaerobic Digestion	On Roof	61	25	55
Packaged AHUs	Anaerobic Digestion	On Roof	57	25	51
Ventilation AHU	Anaerobic Digestion	On Roof	57	25	51
Ventilation AHU	Anaerobic Digestion	On Roof	57	25	51
Ventilation AHU	Anaerobic Digestion	On Roof	57	25	51
Combined Noise Level at Vent Openings	Anaerobic Digestion	Building Enclosure	70	25	64
Combined Noise Level	Anaerobic Digestion	Vent Openings with All AHUS on Roof	**68**	AHUs Only	67
Packaged AHU	Biosolids Dewatering	On Roof	61	25	55
Packaged AHU	Biosolids Dewatering	On Roof	57	25	51
Packaged AHU	Biosolids Dewatering	On Roof	57	25	51
Packaged AHU	Biosolids Dewatering	On Roof	57	25	51
Ventilation AHU	Biosolids Dewatering	On Roof	57	25	51
Ventilation AHU	Biosolids Dewatering	On Roof	67	25	61
Ventilation AHU	Biosolids Dewatering	On Roof	57	25	51
Combined Noise Level at Vent Openings	Biosolids Dewatering	Building Enclosure	70	25	64
Combined Noise Level	Biosolids Dewatering	Vent Openings with All AHUS on Roof	**68**	AHUs Only	66
Ventilation AHU	Pipe Galleries	On Roof	67	25	61
Ventilation AHU	Pipe Galleries	On Roof	67	25	61
Combined Noise Level at Vent Openings	Pipe Galleries	Indoor	70	25	64
Combined Noise Level	Pipe Galleries	Vent Openings with All AHUS on Roof	**69**	AHUs Only	67

TABLE 2 (Continued)
OPERATIONAL NOISE LEVELS FROM PROPOSED PROCESS FACILITIES

Equipment Name	Unit Process/Facility	Location	Noise Level (dBA)	Specified Distance (feet)	Reference (L_{eq}) Noise Level at 50 feet
Biofilter Cells	Solids Odor Control				
Biofilter Sump Pump	Solids Odor Control	Underground			
Carbon Vessels	Solids Odor Control				
Dewatered Cake Truck Loadout Fan	Solids Odor Control	Enclosed	88	25	82
Exhaust Fan	Solids Odor Control	Outdoor	76	25	70
Humidifier/Ammonia Scrubber Recirc Pump	Solids Odor Control	Outdoor			
Humidifier/Ammonia Scrubber Recirc Pump	Solids Odor Control	Outdoor	56	50	56
Odor Control Exhaust Fan	Solids Odor Control	Outdoor	95	1	61
Packaged AHU	Solids Odor Control	On Roof	57	25	51
Ventilation AHU	Solids Odor Control	On Roof	61	25	55
Ventilation AHU	Solids Odor Control	On Roof	57	25	51
Packaged AHU	Solids Odor Control	On Roof	57	25	51
Ventilation AHU	Solids Odor Control	On Roof	57	25	51
Ventilation AHU	Solids Odor Control	On Roof	61	25	55
Combined Noise Level at Vent Openings	Solids Odor Control	Indoor	70	25	**64**
Combined Noise Level	Solids Odor Control	Vent Openings with All AHUS on Roof	**85**	AHUs Only	**85**
Packaged AHU	Pre-Digestion Solids Processing - Pre-THP Dewatering	On Roof	57	25	51
Packaged AHU	Pre-Digestion Solids Processing - Pre-THP Dewatering	On Roof	61	25	55
Combined Noise Level at Vent Openings	Pre-Digestion Solids Processing - Pre-THP Dewatering	Indoor	70	25	64
Combined Noise Level	Pre-Digestion Solids Processing - Pre-THP Dewatering	Vent Openings with All AHUS on Roof	**65**	AHUs Only	59
Heated Ventilation AHU	Pre-Digestion Solids Processing - Sludge Screening	On Roof	61	25	55
Combined Noise Level at Vent Openings	Pre-Digestion Solids Processing - Sludge Screening	Indoor	70	25	64
Combined Noise Level	Pre-Digestion Solids Processing - Sludge Screening	Vent Openings with All AHUS on Roof	**66**	AHUs Only	63
Combined Noise Level	Pumped Plant Recycled Water Pumping	Indoor	70	25	**64**
Combined Noise Level	Pre-Digestion Solids Processing - Thickening	Indoor	70	25	**64**
THP Compact System B6 x 4 Reactor (includes pulper, reactors, flash tank, pulper recirculation & reactor feed pump, digester feed pumps, control panel)	THP	Packaged Product	80	3	56
Combined Noise Level	Pre-Digestion Soilds Processing - THP	Outdoor		(2 Duty Units)	**59**

NOTES: The above listed equipment only includes the equipment that those with contribute substantially to each process facility's combined noise levels. Process facilities that would be located indoors are assigned one combined noise level at vent openings. This level is based on a maximum design interior level of 85 dBA (Leq) which meets OSHA requirements and the building/enclosure reducing interior noise levels by at least 15 dBA at vent openings (a conservative assumption since most enclosures can provide at least 25 dB reductions). In addition, noise levels are only estimated for the total number of duty units that could operate simultaneously (standby units are not included). The number of duty units is accounted for in the combined noise level.

SOURCES: Biosolids Digester Facilities Project Consultant Team, *Contract CS-235 Biosolids Digester Facilities Project, CER Phase, Equipment List and Manufacturer's Specifications, Appendix G and Noise Info Package*, December 14, 2015; Orion Environmental Associates, 2016.

TABLE 3
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

Project Component/ Receptor Location	Outdoor or Enclosed	Reference Hourly L_{eq} or L_{90} in dBA @ 50 feet[a]	Minimum Distance between Receptor and Specified Project Component	Distance Adjustment	Adjusted Noise Level (L_{eq})	Section 2909(d) Review[b]: Lowest Applicable Ordinance Exterior Noise Limit in dBA (10 p.m. to 7 a.m.)	Section 2909(d) Review[b]: Does Project Noise Exceed Limit at Receptor?	Exceedance (dBA)
2. Residential receptors to the east, mid-block east of Phelps Street (1663 Kirkwood Avenue is representative receptor with possible direct lines-of-sight from upper floors)								
Energy Recovery - Digester Gas Treatment	Outdoor	70	950	-26	45	60	No	
Energy Recovery - Waste Gas Burners[c]	Outdoor	64	900	-25	39	60	No	
OR					OR			
Energy Recovery - Energy Recovery Facility[c]	Enclosed	67	950	-26	42	60	No	
THS Cooling	Outdoor	77	1,250	-28	49	60	No	
Anaerobic Digestion	Enclosed	68	1,350	-29	40	60	No	
Biosolids Dewatering	Enclosed	68	1,850	-31	37	60	No	
Pipe Galleries	Enclosed	69	1,275	-28	41	60	No	
Solids Odor Control	Mostly Outdoor	85	1,350	-29	57	60	No	
Pre-Digestion Solids Processing								
- Pre-THP Dewatering[d]	Enclosed	65	1,200	-28	38	60	No	
- Sludge Screening[d]	Enclosed	66	1,200	-28	39	60	No	
- Pumped Plant Recycled Water Pumping	Enclosed	64	1,325	-28	36	60	No	
- Thickening[d]	Enclosed	64	1,200	-28	36	60	No	
- THP	Outdoor	59	1,300	-28	31	60	No	
Combined Noise Level at this Receptor					**58**	60	No	**-2**

TABLE 3 (Continued)
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

Project Component/ Receptor Location	Outdoor or Enclosed	Reference Hourly L_{eq} or L_{90} in dBA at 50 feet[a]	Minimum Distance between Receptor and Specified Project Component	Distance Adjustment	Adjusted Noise Level (L_{eq})	Section 2909(d) Review[b]: Lowest Applicable Ordinance Exterior Noise Limit in dBA (7 a.m. to 10 p.m.)[g]	Section 2909(d) Review[b]: Does Project Noise Exceed Limit at Receptor?	Exceedance (dBA)
3. 1200 Phelps Street (Southeast Community Facility with City College of San Francisco Training/Education Center and San Francisco State University Head Start daycare facility with playground)								
Energy Recovery - Digester Gas Treatment	Outdoor	70	1,000	-26	44	70	No	
Energy Recovery - Waste Gas Burners[c]	Outdoor	64	750	-24	41	70	No	
OR					OR			
Energy Recovery - Energy Recovery Facility[c]	Enclosed	67	900	-25	42	70	No	
THS Cooling	Outdoor	77	1,450	-29	48	70	No	
Anaerobic Digestion	Enclosed	68	1,500	-30	39	70	No	
Biosolids Dewatering	Enclosed	68	2,125	-33	36	70	No	
Pipe Galleries	Enclosed	69	1,600	-30	39	70	No	
Solids Odor Control	Mostly Outdoor	85	1,650	-30	55	70	No	
Pre-Digestion Solids Processing								
- Pre-THP Dewatering[d]	Enclosed	65	1,525	-30	36	70	No	
- Sludge Screening[d]	Enclosed	66	1,525	-30	37	70	No	
- Pumped Plant Recycled Water Pumping	Enclosed	64	1,625	-30	34	70	No	
- Thickening[d]	Enclosed	64	1,525	-30	34	70	No	
- THP	Outdoor	59	1,525	-30	30	70	No	
Combined Noise Level at this Receptor					**57**	70	No	**-13**

TABLE 3 (Continued)
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

						Section 2909(d) Review[b]		
Project Component/ Receptor Location	Outdoor or Enclosed	Reference Hourly L_{eq} or L_{90} in dBA at 50 feet[a]	Minimum Distance between Receptor and Specified Project Component	Distance Adjustment	Adjusted Noise Level (L_{eq})	Lowest Applicable Ordinance Exterior Noise Limit in dBA (10 p.m. to 7 a.m.)	Does Project Noise Exceed Limit at Receptor?	Exceedance (dBA)
4. Residential receptors to the south, south of Oakdale Avenue (1901 Palou Avenue is a representative receptor, no direct line-of-sight)								
Energy Recovery - Digester Gas Treatment	Outdoor	70	1,550	-30	41	60	No	
Energy Recovery - Waste Gas Burners[c]	Outdoor	64	1,200	-28	37	60	No	
OR					OR			
Energy Recovery - Energy Recovery Facility[c]	Enclosed	67	1,400	-29	38	60	No	
THS Cooling	Outdoor	77	1,975	-32	45	60	No	
Anaerobic Digestion	Enclosed	68	1,975	-32	37	60	No	
Biosolids Dewatering	Enclosed	68	1,800	-31	37	60	No	
Pipe Galleries	Enclosed	69	2,050	-32	36	60	No	
Solids Odor Control	Mostly Outdoor	85	2,200	-33	53	60	No	
Pre-Digestion Solids Processing								
- Pre-THP Dewatering[d]	Enclosed	65	2,125	-33	33	60	No	
- Sludge Screening[d]	Enclosed	66	2,125	-33	34	60	No	
- Pumped Plant Recycled Water Pumping	Enclosed	64	2,175	-33	31	60	No	
- Thickening[d]	Enclosed	64	2,125	-33	31	60	No	
- THP	Outdoor	59	2,050	-32	27	60	No	
Combined Noise Level at this Receptor					**54**	60	No	**-6**

TABLE 3 (Continued)
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

						Section 2909(d) Review[b]		
Project Component/ Receptor Location	**Outdoor or Enclosed**	**Reference Hourly L_{eq} or L_{90} in dBA at 50 feet[a]**	**Minimum Distance between Receptor and Specified Project Component**	**Distance Adjustment**	**Adjusted Noise Level (L_{eq})**	**Lowest Applicable Ordinance Exterior Noise Limit in dBA (10 p.m. to 7 a.m.)**	**Does Project Noise Exceed Limit at Receptor?**	**Exceedance (dBA)**
5. Residential receptors to the south, areas midway up the hill to the south (2000 Revere Avenue is a representative receptor with direct line-of-sight)								
Energy Recovery - Digester Gas Treatment	Outdoor	70	2,100	-32	38	60	No	
Energy Recovery - Waste Gas Burners[c]	Outdoor	64	1,775	-31	33	60	No	
OR					OR			
Energy Recovery - Energy Recovery Facility[c]	Enclosed	67	1,950	-32	35	60	No	
THS Cooling	Outdoor	77	2,525	-34	43	60	No	
Anaerobic Digestion	Enclosed	68	2,525	-34	34	60	No	
Biosolids Dewatering	Enclosed	68	3,225	-36	32	60	No	
Pipe Galleries	Enclosed	69	2,625	-34	34	60	No	
Solids Odor Control	Mostly Outdoor	85	2,750	-35	51	60	No	
Pre-Digestion Solids Processing								
- Pre-THP Dewatering[d]	Enclosed	65	2,700	-35	31	60	No	
- Sludge Screening[d]	Enclosed	66	2,700	-35	32	60	No	
- Pumped Plant Recycled Water Pumping	Enclosed	64	2,750	-35	29	60	No	
- Thickening[d]	Enclosed	64	2,700	-35	29	60	No	
- THP	Outdoor	59	2,600	-34	25	60	No	
Combined Noise Level at this Receptor					**52**	60	No	**-8**

TABLE 3 (Continued)
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

Project Component/ Receptor Location	Outdoor or Enclosed	Reference Hourly L_{eq} or L_{90} in dBA at 50 feet[a]	Minimum Distance between Receptor and Specified Project Component	Distance Adjustment	Adjusted Noise Level (L_{eq})	Section 2909(d) Review[b]: Lowest Applicable Ordinance Exterior Noise Limit in dBA (10 p.m. to 7 a.m.)	Section 2909(d) Review[b]: Does Project Noise Exceed Limit at Receptor?	Exceedance (dBA)
6. Residential receptors to the south, highest areas on the hill to the south (296 Bayview Circle is a representative receptor with direct line-of-sight)								
Energy Recovery - Digester Gas Treatment	Outdoor	70	2,300	-33	37	60	No	
Energy Recovery - Waste Gas Burners[c] OR	Outdoor	64	1,950	-32	33 OR	60	No	
Energy Recovery - Energy Recovery Facility[c]	Enclosed	67	2,175	-33	34	60	No	
THS Cooling	Outdoor	77	2,750	-35	42	60	No	
Anaerobic Digestion	Enclosed	68	2,775	-35	34	60	No	
Biosolids Dewatering	Enclosed	68	3,475	-37	32	60	No	
Pipe Galleries	Enclosed	69	2,825	-35	34	60	No	
Solids Odor Control	Mostly Outdoor	85	3,200	-36	49	60	No	
Pre-Digestion Solids Processing								
- Pre-THP Dewatering[d]	Enclosed	65	2,875	-35	30	60	No	
- Sludge Screening[d]	Enclosed	66	2,875	-35	31	60	No	
- Pumped Plant Recycled Water Pumping	Enclosed	64	2,950	-35	29	60	No	
- Thickening[d]	Enclosed	64	2,875	-35	29	60	No	
- THP	Outdoor	59	2,825	-35	24	60	No	
Combined Noise Level at this Receptor					**51**	60	No	**-9**

TABLE 3 (Continued)
ESTIMATED OPERATIONAL NOISE LEVELS AT NEARBY SENSITIVE RECEPTORS

NOTES: The combined noise levels that exceed threshold levels, may not occur because this model applies very conservative assumptions. The model does not account for noise reductions from intervening buildings or topographic changes, and it assumes all noise sources for each project component are located at the closest distance between source and receptor. Noise sources within each component will actually be distributed over the entire footprint of that component and there are intervening structures that will partially or completely shield some receptors. Therefore, the combined noise level at each project facility will likely be lower than estimated. The “Exceedance” column indicates the number of decibels (dBA) by which the ordinance limit would either be exceeded or not exceeded.

[a] See Table 2 for derivation of reference noise levels.
[b] The San Francisco Noise Ordinance (Police Code Section 2909[d]) interior noise limits from fixed noise sources are 45 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m. with windows open. Assuming the building would attenuate exterior noise levels by 15 dBA with the windows open (World Health Organization (WHO), *Guidelines for Community Noise, Section 4.3.1. Dwellings,* page 61, 1999. Available online at http://www.who.int/docstore/peh/noise/guidelines2.html), these interior noise limits are equivalent to exterior noise limits of 60 dBA between 10:00 p.m. and 7:00 a.m. and 70 dBA between 7:00 a.m. and 10:00 p.m. at the closest residential receptors (windows open). However, for the Southeast Community Facility (Receptor 3), there is a training/education center and Head Start daycare facility and therefore, the ordinance's 70-dBA exterior daytime limit is applied at this receptor.
[c] Noise generated by the Energy Recovery Facility and waste gas burners are both listed in Table 2. However, they would not operate simultaneously so that only the highest noise level is added into the combined noise level at specified receptor locations.
[d] The same distance is applied to all of these facilities and based on the closest location of the Pre-THP facility and receptor.

SOURCE*:* Orion Environmental Associates, 2017.

APPENDIX NOP

Notice of Preparation

This appendix includes:

- Notice of Preparation
- Written responses to the Notice of Preparation
- Transcripts of comments received during scoping meeting held on July 23, 2015

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Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting

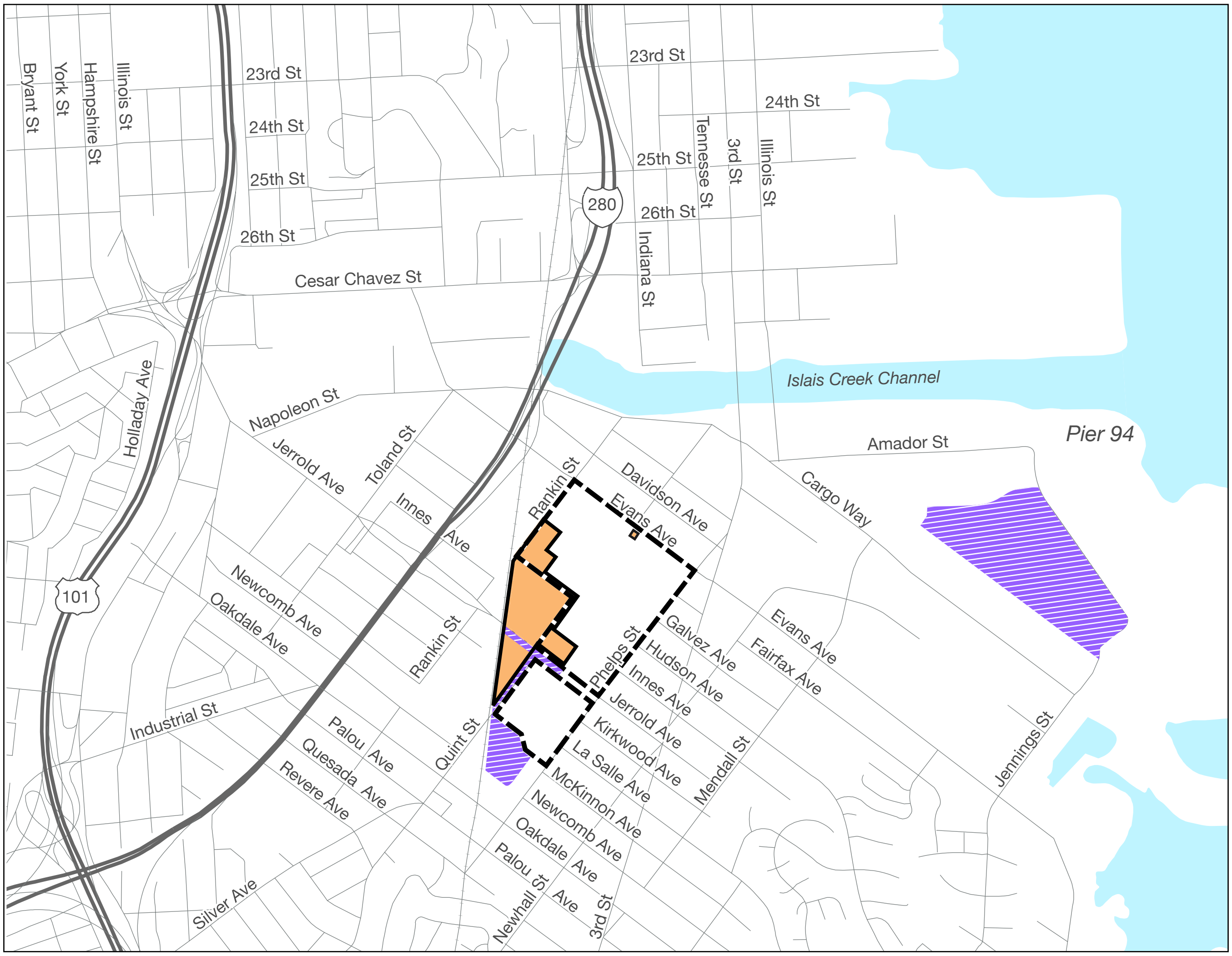
Date:	June 24, 2015
Case No.:	**2015-000644ENV**
Project Title:	**Biosolids Digester Facilities Project**
Location:	750 Phelps Street, 1700 Jerrold Avenue, 1800 Jerrold Avenue and 1801 Jerrold Avenue, San Francisco
BPA Nos.:	N/A
Zoning:	P (Public Facilities); M-1 (Light Industrial); and M-2 (Industrial) 65-J Height and Bulk District
Block/Lot:	5262/009; 5281/001
Lot Size:	1,607,292 square feet; 64,394 square feet
Project Sponsor:	San Francisco Public Utilities Commission Karen Frye (415) 554-1652
Lead Agency:	San Francisco Planning Department
Staff Contact:	Steven Smith – (415) 558-6373 Steve.smith@sfgov.org

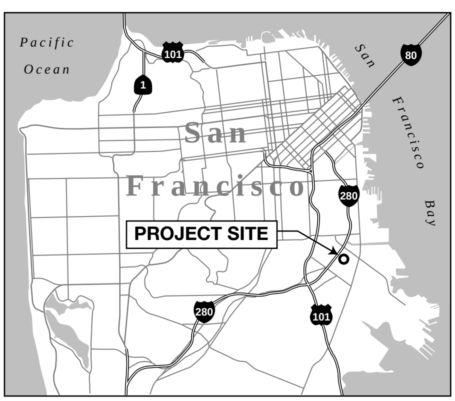
This Notice of Preparation (NOP) of an Environmental Impact Report (EIR) has been prepared by the San Francisco Planning Department in connection with the project listed above. The purpose of the EIR is to provide information about potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project in compliance with the California Environmental Quality Act (CEQA). The San Francisco Planning Department is issuing this NOP to inform the public, responsible agencies, and interested parties about the proposed project and the intent to prepare an EIR. This NOP is also available online at: http://www.sf-planning.org/puccases.

PROJECT SUMMARY

The Biosolids[1] Digester Facilities Project (the "project" or BDFP) would construct new solids treatment, odor control, energy recovery, and associated facilities at the San Francisco Public Utilities Commission's (SFPUC) Southeast Water Pollution Control Plant (SEP) located in the Bayview District of San Francisco (**Figure 1**). **Table 1** presents key features of the proposed project. The SFPUC is proposing new facilities to provide a modern and efficient solids treatment system to ensure treatment reliability, maintain regulatory compliance, protect public health and safety, meet current seismic standards, and provide advanced odor control. The BDFP would involve construction of new structures totaling approximately 200,000 square feet. To accommodate the proposed facilities, approximately 110,000 square feet of existing structures would be demolished.

[1] Biosolids are the recyclable organic product from the bacterial digestion of solids removed from wastewater.





SFPUC Southeast Plant (SEP) Boundary (Staging areas may be located within the SEP)

Project Site

Potential Off-Site Construction Staging Areas

0 2000 Feet

SOURCE: ESA+Orion

SFPUC Biosolids Digester Facilities

Figure 1
Project Location

TABLE 1
KEY FEATURES OF BIOSOLIDS DIGESTER FACILITIES PROJECT

Feature	Existing Conditions	Future with Project
SEP Size	~40 acres	~47 acres
Digesters	10 digesters – 2 million gallons each[a] Distance to Closest Residence: <100 feet	6 digesters – 1.33 million gallons each Distance to Closest Residence: ~1,000 feet
SEP Design Flow	250 million gallons per day (mgd) (wet weather)[b] 85 mgd (dry weather design average)[b]	No Change
Solids Load	182,700 lbs/day (2010); 280,000 lbs/day (2045)	No Change
Solids Treatment Process	Thickening Dewatering Anaerobic Digestion[c]	Screening Thickening Dewatering Thermal Hydrolysis[d] Anaerobic Digestion[c]
Biogas[e]	Production: ~1.3 million cubic feet per day Flaring: Routine	Production: ~2.0 million cubic feet per day Flaring: Emergency Only
Electricity Generated	2 Mega watts	5 Mega watts
Biosolids	Production: 16,360 dry tons (2010)[f] Classification: Class B[g]	Production: 24,000 dry tons (2045) Classification: Class A[g]
Daily Biosolids Haul trips (Annual Average)	7-9 per day	8-10 per day (2022-2045)[f]
Odor Control	Existing odor control does not contain odors from existing biosolids facilities to within the SEP property	Designed to limit odors from BDFP within SEP fenceline
SEP Staffing Levels (plant wide including biosolids)	280 staff	No Change

NOTES:

[a] The SEP has 10 digesters: 7 are active, 2 are used for storage, and one has been converted to a biogas storage facility.

[b] Flows at wastewater treatment plants are often expressed in terms of dry weather and wet weather since rainfall can substantially increase flows. At the SEP, during dry weather the combined sewer system flow is essentially domestic wastewater, with small contributions from industrial wastewater and urban runoff. During wet weather, the combined flow of wastewater and stormwater is governed by storm patterns and intensity.

[c] Anaerobic digestion is a method of treating wastewater solids using biological processes to inactivate bacteria and pathogens (a biological agent that causes disease or illness) and produce stabilized organic biosolids, biogas, and water.

[d] Thermal hydrolysis process (THP) provides sludge pretreatment prior to anaerobic digestion. Essentially, the sludge is heated with steam under pressure, held for a specified time in order to destroy pathogens, and then pressure is rapidly reduced to rupture microbial cells.

[e] Biogas is a byproduct of the bacterial digestion process and comprised mostly of methane and carbon dioxide.

[f] In the “no project” scenario, the production of biosolids would increase from existing conditions (2010) to 2045 due to projected future increases in wastewater flows and loads; however, production of biosolids without the project would result in approximately 27,700 dry tons compared to 24,000 dry tons with the project. Associated with the expected increase in biosolids under the "no project" scenario, the SEP daily biosolids truck trips would also increase from existing conditions (2010) to 2045, but the proposed processes under the BDFP would enable the SEP to reduce the number of biosolids truck trips compared to the projected future growth baseline.

[g] The Standards for the Use or Disposal of Sewage Sludge (Title 40 of the Code of Federal Regulations [CFR], Part 503), also known as the Part 503 rule, establish rules for biosolids application to land for different classes of biosolids. Class A biosolids contain no detectible levels of pathogens, low levels of metals, and do not attract vectors. According to the US Environmental Protection Agency Guide to Part 503 Rule, Class A biosolids are considered exceptional quality and have the fewest restrictions for land applications such as soil conditioning and fertilizer. Class B biosolids are treated but still contain detectible levels of pathogens. There are buffer requirements, public access, and crop harvesting restrictions for virtually all forms of Class B biosolids. Anticipated regulations may further restrict Class B biosolids use.

PUBLIC SCOPING PROCESS

Pursuant to the State of California Public Resources Code Section 21083.9 and CEQA Guidelines Section 15206, a public scoping meeting will be held to receive oral comments concerning the scope of the EIR. The meeting will be held on **Thursday, July 16, 2015 at 6:30 p.m.** in the Alex Pitcher Room at the **Southeast Community Facility, 1800 Oakdale Avenue, San Francisco**. The SFPUC will provide an informational open house from **5:30 to 6:30 p.m.** prior to the formal scoping meeting. To request a language interpreter or to accommodate persons with disabilities at the scoping meeting, please email or call the staff contact, Steven Smith, listed above at least 72 hours in advance of the meeting. Written comments will also be accepted at this meeting and until 5:00 p.m. on **Monday, July 27, 2015**. Written comments should be sent to Sarah B. Jones, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103; by fax to (415) 558-6409 (Attn: Sarah Jones); or by email to Sarah.B.Jones@sfgov.org.

If you work for a Responsible or Trustee agency, we need to know the views of your agency regarding the scope and content of the environmental information that are germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need the certified EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

Members of the public are not required to provide personal identifying information when they communicate with the Planning Commission or Department. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the Department's website or in other public documents.

PROJECT BACKGROUND

The SFPUC operates and maintains the City's combined sewer system, which collects and treats wastewater and stormwater at one of three San Francisco treatment facilities: the Southeast Water Pollution Control Plant (SEP), the Oceanside Water Pollution Control Plant, or the North Point Wet-Weather Facility.[2] The system is called a "combined system" because it conveys both wastewater and stormwater in the same network of pipes. The broad components of wastewater treatment include:

- Liquid treatment processes
- Solids treatment processes
- Discharge of treated water through deepwater outfalls

The wastewater treatment operation at SEP consists of a number of sequential processes to separate and treat liquid and solids in the wastewater in compliance with all dry- and wet-weather[3] regulatory discharge requirements (see below, under "Existing Southeast Water Pollution Control Plant" for further description of the SEP). The focus of the BDFP is on the solids treatment facilities at the SEP.

[2] The North Point plant operates only during wet weather (rainstorms).
[3] Flows at wastewater treatment plants are often expressed in terms of dry weather and wet weather since rainfall can substantially increase flows. At the SEP, during dry weather the combined sewer system flow is essentially domestic wastewater, with small contributions from industrial wastewater and urban runoff. During wet weather, the combined flow of wastewater and stormwater is governed by storm patterns and intensity.

The existing solids treatment facilities at the SEP are over 60 years old and are operating well beyond their useful life. Since the SEP facilities were constructed, newer and more efficient wastewater treatment technologies have been developed. These technologies produce a higher quality and reduced volume of biosolids, capture and treat odors more effectively, and maximize biogas[4] use for production of heat and energy. Because the aging solids treatment system is prone to wear and the existing system requires significant maintenance, the SFPUC is proposing the BDFP. The proposed project is identified in the SFPUC's Sewer System Improvement Program (SSIP), a 20-year, $6.9-billion dollar citywide investment to upgrade the aging sewer infrastructure to ensure a reliable and seismically safe system.

PROJECT DESCRIPTION

Project Location

The SEP is located at 750 Phelps Street and occupies approximately 40 acres bounded by Evans Avenue to the northeast; Quint and Rankin Streets to the northwest; Phelps Street to the southeast; and the Caltrain railroad tracks and other City-owned properties to the southwest. Figure 1 shows the location of the proposed project site, including potential off-site construction staging areas. **Figure 2** shows the project site and existing SEP facilities. The SEP is located in San Francisco's Bayview-Hunters Point community (Supervisor District 10), in an area with a mix of residential and light/heavy industrial zones. Residential land uses are located directly across Phelps Street along the southeast boundary of the SEP.

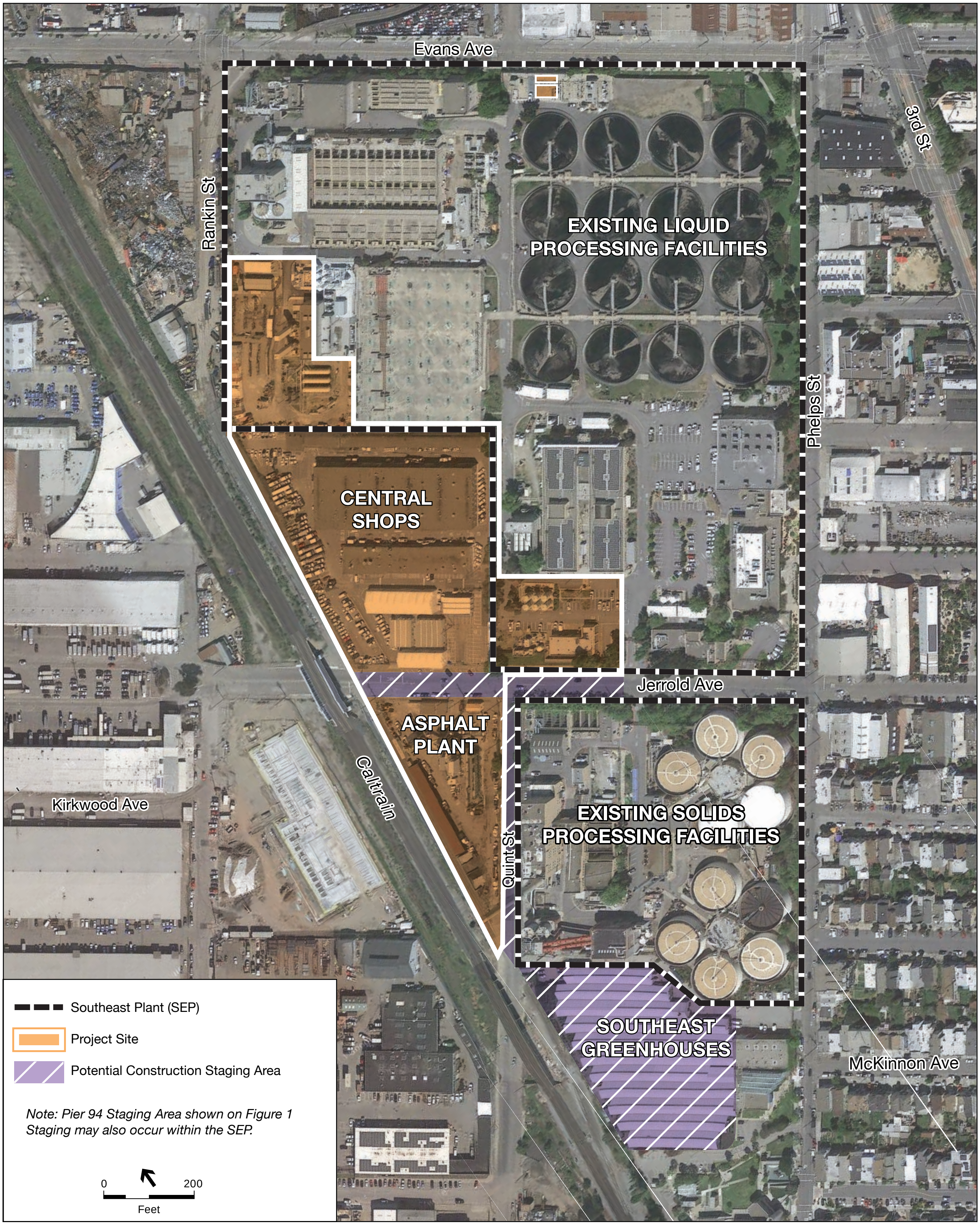
Project Site

Proposed facilities would be constructed on portions of the existing SEP property and on adjacent properties at 1800 Jerrold Avenue (the Central Shops facility) and 1801 Jerrold Avenue (the decommissioned Asphalt Plant facility). These sites total approximately 415,000 square feet. The Central Shops facility site is currently owned and operated by the City of San Francisco's General Services Agency (GSA), which provides vehicle and equipment maintenance services for multiple City agencies through the Fleet Management Department. Prior to BDFP construction, Central Shops would relocate and the existing site would be transferred to SFPUC; the location of the new Central Shops site has not yet been determined. The asphalt plant site, owned by the City of San Francisco's Department of Public Works, is non-operational and will also be transferred to SFPUC prior to project construction.

As shown on Figure 2, Jerrold Avenue bisects the SEP and the project site. During the project's five-year construction period, the SFPUC would temporarily close Jerrold Avenue to public through-traffic between the existing entrance to the SEP on Jerrold Avenue between Quint Street and Phelps Street and the Caltrain right-of-way to promote a safe construction work area. Truck deliveries needed for plant operations may be permitted access to the SEP via Jerrold Avenue.

In addition, the proposed project would require temporary use of other sites during the construction period. The BDFP will require up to 12 acres of construction staging area. The SFPUC is considering use of two off-site properties, shown on Figure 1, for a majority of the construction staging. In addition, several additional staging areas within and immediately adjacent to the SEP boundary have been identified as shown on Figure 2.

[4] Biogas is a byproduct of the bacterial digestion process and comprised mostly of methane and carbon dioxide.



SOURCE: ESA+Orion; Google Maps

SFPUC Biosolids Digester Facilities

Figure 2
Biosolids Digester Facilities Project Site

Description of Project Facilities

The new facilities would be designed to provide solids treatment for projected year 2045 wastewater flows and solids loads (the project's planning horizon) in accordance with the SSIP goals (see SSIP Goals and Levels of Service in Table 3 below). The project involves the replacement and relocation of the solids treatment facilities with more efficient, modern technologies and facilities designed to produce Class A biosolids[5], which have no detectable levels of pathogens[6] and expands options for beneficial reuse of these materials. The BDFP would require construction of new structures totaling approximately 200,000 square feet. To accommodate the proposed facilities, approximately 110,000 square feet of existing structures would be demolished. There would be a transition period of two to three years during which both old and new biosolids treatment systems would operate concurrently.

Figure 3 shows the sequence of individual processes (called "unit processes"), each of which accomplishes a specific function to prepare the solids for the next step. **Figure 4** shows the location of facilities that would house these processes within the project site, and **Table 2** shows the approximate size and height of each of the buildings or structures. The BDFP includes the following processes and associated facilities for handling and treatment of solids:

- ***Predigestion Solids Processing.*** Prior to digestion, solids would be mechanically screened, dewatered and sterilized. Processes used include screening, gravity belt thickening,[7] dewatering centrifuges, and thermal hydrolysis pretreatment (THP)[8] to sterilize the sludge and help produce Class A biosolids. The solids emerging from the THP would be cooled in a heat exchanger.

- ***Digestion and Biosolids Storage.*** In the digesters, anaerobic digestion[9] would occur, producing stabilized biosolids, biogas, and water. The digesters (a total of six tanks each 65 feet in diameter, positioned 65 feet above grade and 45 feet below grade) would be constructed in a linear layout parallel to the Caltrain right-of-way. This location is approximately 1,000 feet from the nearest residences.

- ***Final Dewatering, Storage and Load-out.*** Following digestion, digested sludge would be dewatered to produce Class A biosolids "cake" that would be trucked off-site. The final dewatering and associated Class A biosolids storage and loadout facilities would be located north of the proposed digesters, adjacent to Rankin Street.

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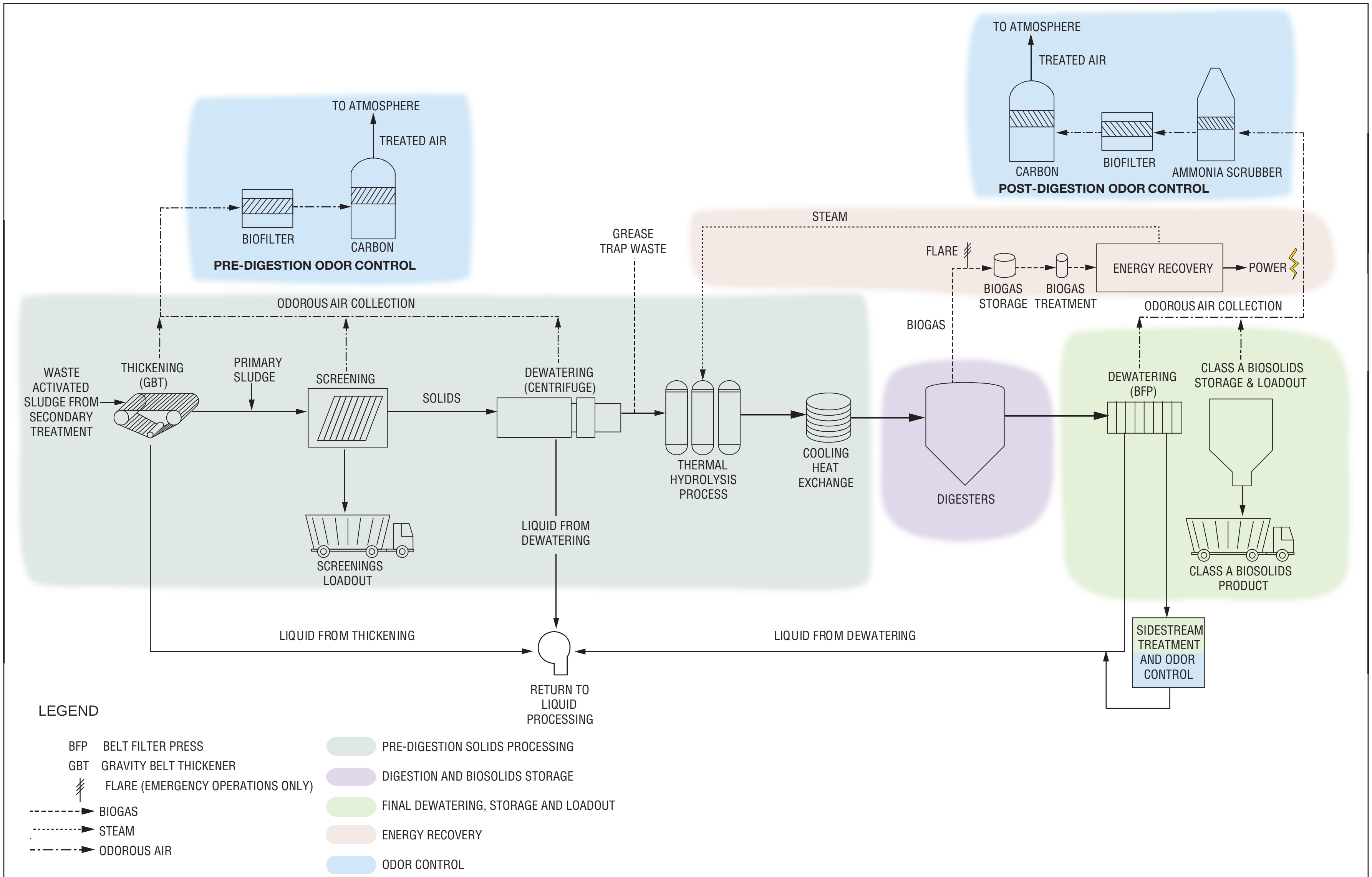
5 The Standards for the Use or Disposal of Sewage Sludge (Title 40 of the Code of Federal Regulations [CFR], Part 503), also known as the Part 503 rule, establish rules for biosolids application to land for different classes of biosolids. Class A biosolids contain no detectible levels of pathogens, low levels of metals, and do not attract vectors. According to the US Environmental Protection Agency Guide to Part 503 Rule, Class A biosolids are considered exceptional quality and have the fewest restrictions for land applications such as soil conditioning and fertilizer. Class B biosolids are treated but still contain detectible levels of pathogens. There are buffer requirements, public access, and crop harvesting restrictions for virtually all forms of Class B biosolids. Anticipated regulations may further restrict Class B biosolids use.

6 A pathogen is a biological agent that causes disease or illness.

7 Gravity Belt Thickeners are a method of condensing wastewater solids using gravity drainage of liquid through filter belt.

8 Thermal hydrolysis process (THP) provides sludge pretreatment prior to anaerobic digestion. Essentially, the sludge is heated with steam under pressure, held for a specified time in order to destroy pathogens, and then pressure is rapidly reduced to rupture microbial cells, prior to anaerobic digestion.

9 Anaerobic digestion is a method of treating wastewater solids using biological processes to inactivate bacteria and pathogens and produce stabilized organic biosolids, biogas and water.

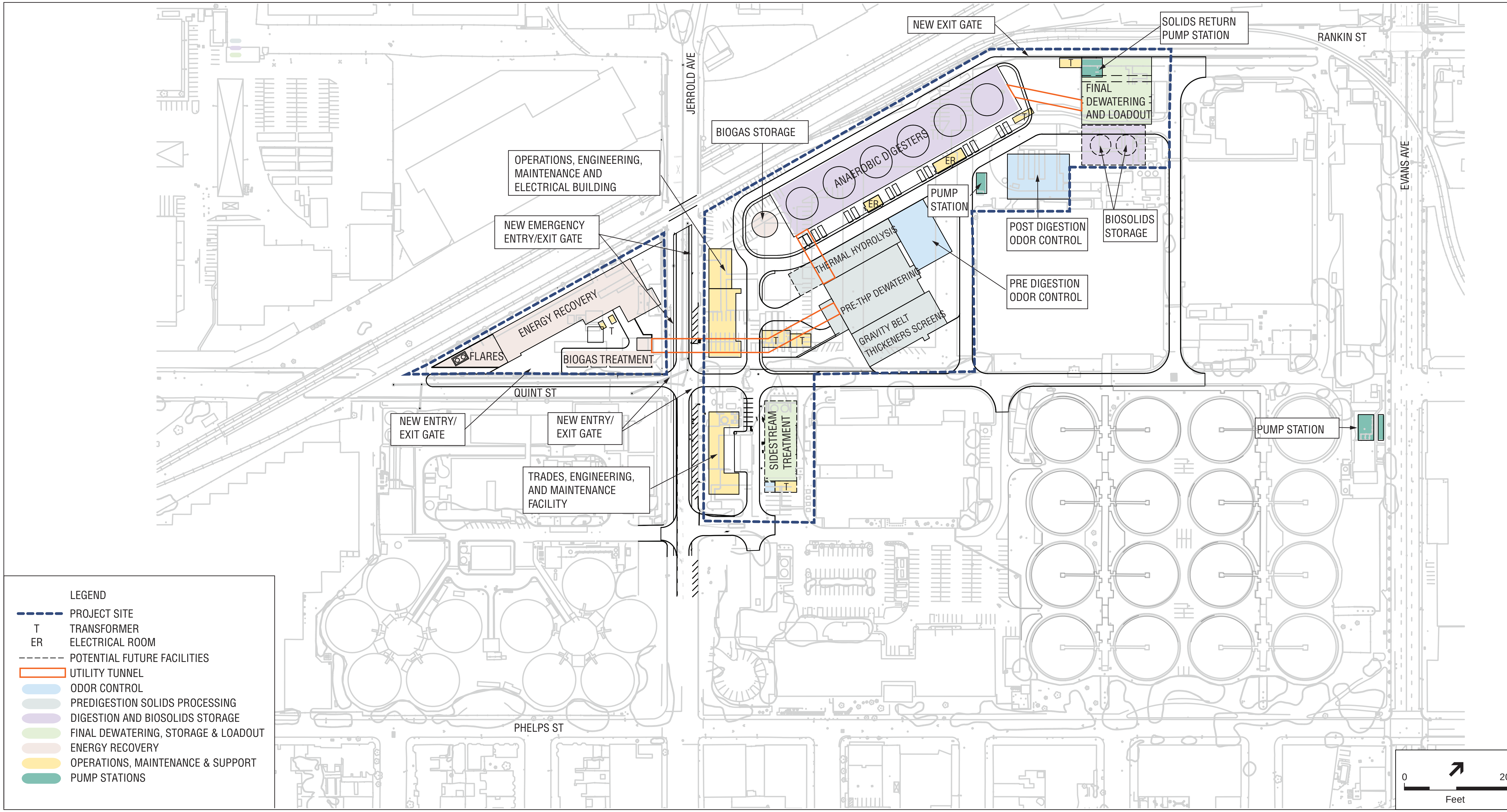


NOTE: Not shown: Non-potable water and polymer are added at many points in the solids treatment process.

SOURCE: Brown and Caldwell, CH2M, Black & Veatch; adapted by ESA + Orion

Biosolids Digester Facilities Project

Figure 3
Process Flow Diagram



SOURCE: Brown and Caldwell, CH2M, Black & Veatch; adapted by ESA + Orion

Biosolids Digester Facilities Project

Figure 4

Preliminary Site Plan

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TABLE 2
PROPOSED BIOSOLIDS DIGESTER FACILITIES

Purpose	Facility	Approximate Size (Square Ft; Diameter)	Maximum Height Above Grade (feet)[f]
Pre-digestion Solids Processing	Gravity Belt Thickeners/Screens[a]	12,500	Up to 65 feet
	Pre-Thermal Hydrolysis Dewatering	20,000	Up to 65 feet
	Thermal Hydrolysis Process (THP)[b]	8,700	25
Digestion and Biosolids Storage	Anaerobic Digesters (6)	Pad: 49,800 Diameter (each): 65 feet	65
	Potential Future Biosolids Storage (2)	Pad: 9,500 Diameter (each): 45 feet	45
Final Dewatering, Storage and Loadout	Final Dewatering and Loadout	17,600	65
	Potential Future Sidestream Treatment[c]	11,200	Up to 15
Energy Recovery	Energy Recovery	22,200	45
	Biogas Treatment	4,400	At Grade
	Biogas Storage	50 feet diameter	50
	Flares (2 units)	500	20
Odor Control	Pre-digestion Odor Control	8,900	25
	Post-digestion Odor Control	10,500	25
	Sidestream Odor Control	400	15
Operations, Maintenance, and Support	Operations, Engineering, Maintenance, and Electrical Building	10,700	Up to 45
	Trades, Engineering, and Maintenance Facility	6,700	Up to 45
	Digester Electric Rooms (2 units)	2,100	10
	Transformers (6 units)	5,400	10
Water Systems and Pumping	Plant Water System[d] Pump Stations	1,500	At Grade
	Pathogen-free Water System[e]	800	At Grade
	Solids Return Pump Station	1,500	At Grade

NOTES:

[a] Gravity Belt Thickeners are a method of condensing wastewater solids using gravity drainage of liquid through filter belt.

[b] THP is a pre-treatment of solids used in combination with anaerobic digestion to produce Class A biosolids. THP processes preheat, hydrolyze, and sterilize solids. Essentially, the solids are heated with steam under pressure, held for a specified time in order to destroy pathogens, and then pressure is rapidly reduced to rupture microbial cells and allow for better methane production during anaerobic digestion.

[c] Sludge dewatering can produce "sidestream" (reject) water, which contains elevated levels of nitrogen. The proposed process would remove nitrogen from the sidestream liquid through biological processes.

[d] The "W3" system would provide W3 water, defined as non-potable chlorinated plant effluent.

[e] The "W2" system would produce W2 water, defined as non-potable chlorinated plant effluent that is also filtered.

[f] Height exemptions permitted under Planning Code Section 260(b) may exceed the 65 foot height limit.

- ***Sidestream Treatment.***[10] The final dewatering process would produce a "sidestream" (reject) liquid stream, which would contain elevated levels of ammonia. Sidestream treatment, which may be included in the project, would remove nitrogen (the primary nutrient in ammonia) from the dewatering reject stream through biological processes, and the resultant effluent would be returned to the existing SEP facilities for liquid treatment.

- ***Energy Recovery.*** One hundred percent of the biogas generated by the digesters would be used to produce both heat and power. New cogeneration facilities proposed as part of the project include low emission gas turbines that would generate up to 5.3 megawatts of electricity from the biogas produced by the digesters. The project would also include enclosed combustion flares for safe disposal of biogas in an emergency situation. Gas treatment systems would remove hydrogen sulfide, siloxanes,[11] moisture, and other volatile organic compounds from the biogas. The proposed turbines would meet or exceed Best Available Control Technology emissions standards of the San Francisco Bay Area Air Quality Management District. A heat recovery system would capture excess heat from the gas turbines and supply process steam that would be used to heat the thermal hydrolysis and digestion processes.

- ***Odor Control.*** The project includes pre-digestion and post-digestion odor control systems to collect and treat odors. Proposed odor control processes include carbon biofilters and ammonia scrubbers.[12] Odor control facilities would be designed with the goal of limiting odors to within the SEP property. A separate odor control system would be provided for the sidestream treatment process.

- ***Operations and Maintenance, Support Facilities***. The project would include structures to house operations and maintenance staff, who will manage and maintain the existing and new treatment processes. In addition, miscellaneous support facilities (e.g., electrical buildings, transformers, yard piping) would be constructed, including a utility tunnel beneath Jerrold Avenue just west of Quint Street.

- ***Water Systems and Pump Stations.*** The project would construct two water systems for use in the biosolids treatment processes that would treat SEP plant effluent. One system ("W3") would provide non-potable water for predigestion dilution and washwater requirements, and the other system ("W2") would provide pathogen-free[13] water for all processes after THP to ensure Class A biosolids requirements are met. Excess water from solids treatment processes would be returned to the existing liquid processing facilities in the SEP via a new pump station.

Figure 5 presents a conceptual visual representation of the general massing of the proposed project structures. Although project design is still in progress and many aspects of the project have not been finalized (e.g., the shape of the digesters), this figure provides an indication of the general physical characteristics of the BDFP.

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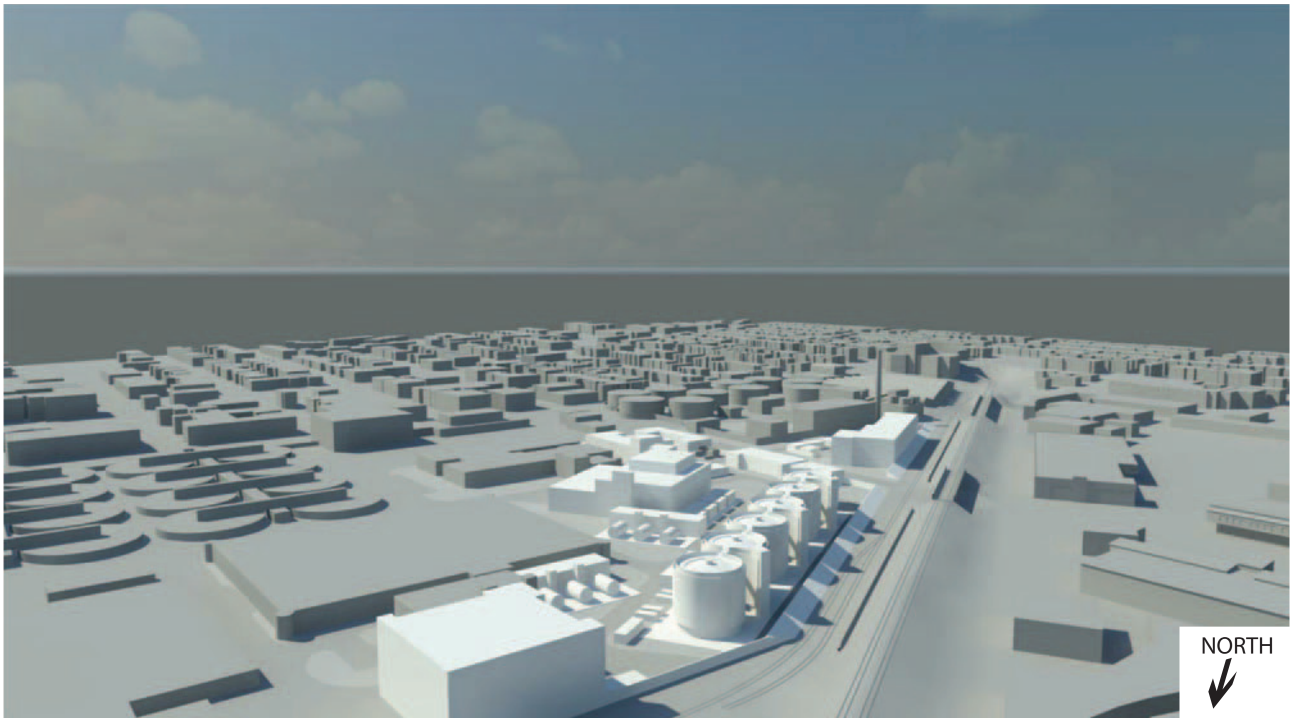
[10] The timing of implementing sidestream treatment could change. The BDFP would preserve space for a sidestream treatment facility.

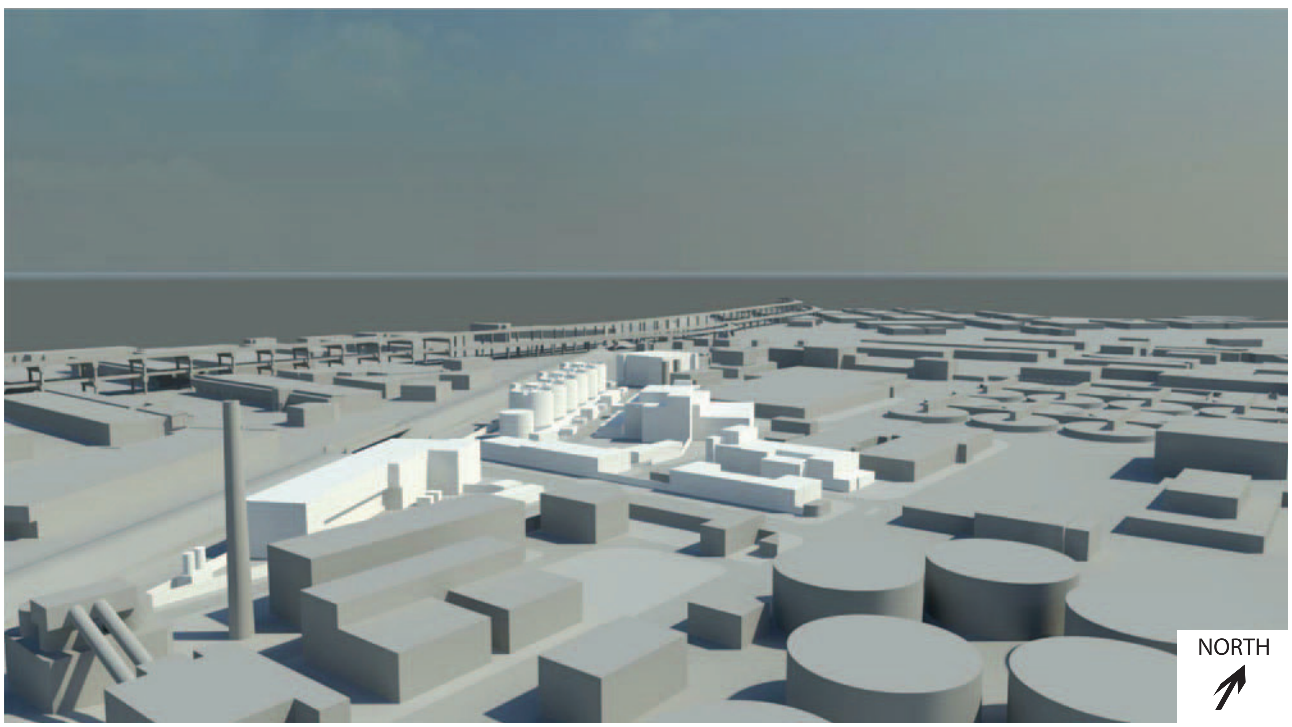
[11] Siloxanes are man-made organic compounds containing silicon, oxygen and methyl groups that are commonly used in personal hygiene, health care and industrial products, and consequently are found in wastewater. Removal of siloxanes from the biogas prior to combustion extends the life of the power generating equipment and reduces maintenance requirements.

[12] Biofilters and scrubbers are pollution control devices often used to remove odors from wastewater treatment plant operations.

[13] Because the thermal hydrolysis process kills pathogens, the water used in subsequent processes must be pathogen free in order to produce Class A (i.e., pathogen free) biosolids.



Oblique View, Northwest Perspective



Oblique View, Southeast Perspective

SOURCE: Brown and Caldwell, CH2M, Black & Veatch, Michael Willis Architects; adapted by ESA + Orion

Biosolids Digester Facilities Project

Figure 5
Preliminary Massing Diagrams

Other Project Features

The project would include development of a new vehicular entrance and exit from the SEP onto Rankin Street to facilitate truck deliveries and biosolids loadout, thereby relocating some truck trips away from Phelps Street and Jerrold Avenue, and shifting truck traffic away from nearby residences. Two new entrances on Jerrold Avenue (as well as emergency access gates) and one on Quint Street are also proposed (Figure 4). The project would include redesign of on-site vehicular circulation to accommodate the new entrances and exits, and the new facility layout.

Architecture and landscaping would be designed consistent with the San Francisco Planning Code, the San Francisco Arts Commission Civic Design Review process and the Public Art Program, and the Planning Department Better Streets Plan. The project would include landscaping and street improvements. Proposed improvements to Jerrold Avenue would occur in accordance with Better Street Plan guidelines, and could include traffic calming, curb extensions (road narrowing), sidewalk improvements, lighting, street trees, and safer pedestrian/worker crossings.

Street trees at the project site would be removed during construction. A tree survey would be conducted to determine the species, number, and size of trees to be removed. Preliminary estimates are that up to 50 trees would be removed. Trees removed would be replaced pursuant to Article 16 of the San Francisco Public Works Code Section 806(a) and other City requirements as applicable. Trees adjacent to construction areas that are not proposed for removal would be protected by establishing a Tree Protection Zone around any tree or group of trees to be retained.

EXISTING SOUTHEAST WATER POLLUTION CONTROL PLANT

SEP Service Area, Plant Capacity, and Existing Flows

Built originally in 1952, the SEP is the City's largest wastewater treatment facility, treating 80 percent of San Francisco's sewage and stormwater flows. In order to meet the mandates of the Federal Clean Water Act, SEP was expanded in the early 1980s to provide secondary treatment of all dry weather flows from the Bayside Watershed (generally the east side of the City), with an average design capacity of approximately 85 million gallons per day (mgd) and peak-hour design flow of 142 mgd. In 1996, the plant's wet weather capacity was increased to 250 mgd. During wet weather, the SEP provides secondary treatment to up to 150 mgd of combined sewage and stormwater, and an additional 100 mgd receives primary treatment prior to disinfection and discharge. The SEP operates 7 days a week, 24 hours a day and treats wastewater from the Bayside Watershed as well as flows from a limited area of Daly City and Brisbane (about 2.5 percent of the total flow currently treated at SEP). In 2014 the SEP produced a total of 58,100 wet tons of biosolids; the average dry weather flow for that year was approximately 58 mgd.

Existing SEP Facilities and Operations

The existing 40-acre SEP site is bisected by Jerrold Avenue, dividing it into SEP North (i.e., facilities north of Jerrold Avenue) and SEP South (facilities south of Jerrold Avenue). Facilities on SEP North are associated with processing the liquids portion of the wastewater. Facilities on SEP South (i.e., south of Jerrold Avenue) are associated with processing the solids portion of the wastewater, including the existing digesters and energy recovery facilities.

SEP provides secondary treatment using a pure oxygen activated sludge process prior to effluent disinfection. Treated plant effluent of up to 110 mgd is discharged into the San Francisco Bay through the

Pier 80 deepwater outfall. During wet weather, secondary effluent of up to 140 mgd also is discharged to the Bay through an additional outfall at the shoreline of Islais Creek (Quint Street Outfall).

The existing solids treatment process consists of: thickening to remove excess liquid; anaerobic digestion to stabilize the solids; production of biogas and biosolids; chemical conditioning and dewatering to produce a drier material; and off-hauling of the biosolids. The process produces Class B biosolids that are beneficially reused. Class B biosolids are currently trucked from the SEP to Sonoma County and Solano County during the dry season (May to October) for land application and to Hay Road Landfill (outside of Vacaville) during the wet season for beneficial reuse, including a small percentage that is composted. The digester biogas is captured on site and used to produce heat and power and/or combusted via flares. The biogas fuels a cogeneration engine that produces about 2 megawatts of electricity for on-site use. In addition, SEP also includes odor control facilities for select process areas.

PROGRAM GOALS AND PROJECT NEED

Sewer System Improvement Program Goals and Levels of Service

The BDFP is the largest and most critical project in the SFPUC's SSIP, which is a 20-year, 6.9 billion dollar citywide program to upgrade the aging sewer infrastructure to ensure a reliable and seismically safe system. Endorsed by the SFPUC Commission in August 2012, the SSIP goals and levels of service shown in **Table 3** were established to facilitate technical analysis, planning, design, and environmental review for all SSIP projects, including the BDFP.

TABLE 3
SEWER SYSTEM IMPROVEMENT PROGRAM GOALS AND LEVELS OF SERVICE

Goals	Levels of Service
Provide a compliant, reliable, resilient, and flexible system that can respond to catastrophic events	• Full compliance with state and federal regulatory requirements applicable to the treatment and disposal of sewage and stormwater. • Critical functions are built with redundant infrastructure. • Primary Treatment, with disinfection, must be online within 72 hours of a major earthquake.
Integrate green and grey infrastructure to manage stormwater and minimize flooding	• Control and manage flows from a storm of a three hour duration that delivers 1.3 inches of rain.
Provide benefits to impacted communities	• Limit odors to within the treatment facility's fence line. • Be a good neighbor. All projects will adhere to the Environmental Justice and Community Benefits policies.
Modify the system to adapt to climate change	• New infrastructure must accommodate expected sea level rise within the service life of the asset. • Existing infrastructure will be modified based on actual sea level rise.
Achieve economic and environmental sustainability	• Beneficial reuse of 100% biosolids. • Use nonpotable water sources to meet 100% of nonpotable water demands. • Beneficially use 100% of biogas generated by treatment facilities. • Stabilize lifecycle costs to achieve future economic stability.
Maintain ratepayer affordability	• Combined sewer and water bill will be less than 2.5% of average household income for a single family residence.

SOURCE: SFPUC. 2012. Sewer System Improvement Program Report, Table 9. Adopted August 28, 2012.

Project Need

The SEP digesters are over 60 years old and are operating well beyond their useful life. As indicated above, since the SEP facilities were constructed, newer and more efficient wastewater treatment technologies have emerged. Because the existing solids treatment system is prone to wear and requires significant maintenance, the SFPUC is proposing the BDFP to ensure treatment reliability, regulatory compliance and protect public health and safety.

The existing SEP appearance, odors and noise have a negative effect on the adjacent residential community. The digesters and other solids handling components are not built to current seismic standards and would not withstand the maximum credible earthquake. Furthermore, regulations are expected to become increasingly restrictive with regard to the use and land application of Class B biosolids currently generated at the SEP (Class B biosolids contain detectable levels of pathogens). For this reason, the SFPUC has proactively adopted a goal to produce Class A biosolids for additional beneficial reuse options,[14], which is an additional need for the project.

PROJECT CONSTRUCTION

Demolition, Earthwork, and Facility Construction

Overall, construction of the BDFP is anticipated to require five years (60 months). Site preparation for the BDFP would require the demolition of various structures within the project site to accommodate the proposed project facilities and associated operations. Existing structures to be demolished, including buildings at the Central Shops property, total about 110,000 square feet. Concrete, asphalt, and other demolition debris would be hauled off site for recycling or disposal as required by the San Francisco Construction and Demolition Debris Ordinance.

Following site clearing, secant retaining walls[15] would be installed to prevent groundwater intrusion and to provide a dry work area during construction. The project site would be excavated to a depth of 20 feet, and up to 48 feet at the location of the proposed digester tank structures. During the peak excavation period (roughly six months), up to 200 to 250 truck trips per day would be needed for hauling of debris, excavated soil, and backfill.

During the other four and a half years of construction, approximately 50 truck trips per day are anticipated for deliveries of equipment and materials. Construction of new project facilities would generally include: installation of foundations (using pile driving) and subsurface utility conduits, building construction, concrete placement, and interior work such as mechanical and electrical equipment installation.

Initial performance testing of the new biosolids digester facilities would be conducted for approximately six months to one year following construction completion and prior to full operation. Operation of the existing digesters would be phased out over a period of one to two years while the new facilities are brought on line and the new system is stabilized.

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14 Class A biosolids beneficial reuses include horticultural uses for products such as compost and blended soil used by landscapers, golf courses and nurseries, as well as agricultural uses as fertilizer or a fertilizer ingredient for crops that are not for human consumption.

15 Secant pile walls are formed by constructing a series of overlapping concrete-filled drill holes surrounding the area to be excavated to avoid the intrusion of groundwater into the excavated pit.

Construction Staging

Construction staging areas would be used for construction office trailers, construction equipment and materials, and parking for construction worker vehicles. Staging areas could also be used for temporary stockpiling of demolition debris and excavated soil prior to reuse or off-site disposal. Potential construction staging areas that have been identified include the following:

- ***Within SEP.*** Various available areas within the SEP may be used during construction for laydown of equipment and materials.

- ***Within Quint Street.*** Starting in October 2015, a Caltrain project[16] will construct a berm under the Quint Street overcrossing that will result in the permanent closure of through traffic on Quint Street. This will result in a dead-end segment of Quint Street adjacent to the project site between the Caltrain railroad tracks and Jerrold Avenue. This segment of Quint Street is proposed as a staging/parking area during construction.

- ***Within Jerrold Avenue.*** The SFPUC proposes a temporary closure of approximately 1.5 blocks of Jerrold Avenue to public through-traffic (between the entrance to the SEP west of Phelps Street and the Caltrain right-of-way) during the five-year project construction period, to promote a safe construction work area. During this time, the closed segment of Jerrold Avenue may be used as a staging/parking area. Truck deliveries needed for plant operations may be permitted access to the SEP via Jerrold Avenue.

- ***Offsite location at Pier 94 Backlands*** (refer to Figure 1). Another potential offsite staging area would include a portion of the Pier 94 Backlands property owned by the Port of San Francisco located approximately 0.75 mile northeast of the SEP. This larger staging area would be used for construction office trailers, construction equipment and materials, and parking for construction worker vehicles. If selected, a shuttle service would be provided to transport construction workers between Pier 94 and the project site.

  Offsite location adjacent to SEP at the Southeast Greenhouses (refer to Figure 2). A potential offsite staging area is the 4-acre site owned by the SFPUC and currently occupied by the Southeast Greenhouses (greenhouses), located southwest of the existing digester structures.[17] The SFPUC has not yet determined potential future uses of the greenhouses site. However, if the area becomes available, the greenhouses would first be demolished and the area would be used for materials staging, parking and/or office trailers.

Existing Digesters Decommissioning

Following the successful operational performance of the new digester facilities, the existing digester tanks and solids handling facilities at SEP, located south of Quint Street and Jerrold Avenue, would be decommissioned, cleaned, and sealed. Demolition and future use of these areas would be determined in the future Phase II of the SSIP (when authorized) and are not part of the proposed project.

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[16] The Caltrain Quint Street Project will permanently close Quint Street between Oakdale Avenue and the Caltrain tracks, starting in October 2015, for replacement of the existing Quint Street Bridge. http://www.caltrain.com/projectsplans/Projects/Caltrain_Capital_Program/Quint_Street_Project.html, access May 29, 2015.

[17] As part of a previously planned renovation process for the greenhouses, the SFPUC commissioned a due diligence study that recommended significant reconfiguration or demolition of the structures.

Construction Schedule

Table 4 provides the general duration of work for overall project construction. Project construction would occur for five years, from approximately summer of 2017 through summer of 2022. For most of the project construction period, construction is expected to occur Monday through Friday from 7:00 a.m. to 3:00 p.m. and Saturdays as needed, with work on Sundays and holidays and 24-hour work occurring only if needed for critical facility connections. The peak construction period in terms of vehicular traffic, when over 500 workers would be on-site, would last approximately 17 months and would be conducted in two work shifts Monday through Saturday from 7:00 a.m. to 11:00 p.m. The most intensive construction activities would occur at the Central Shops site for construction of the six digester tanks, which are the largest individual BDFP structures and require the deepest excavation (to 48 feet below ground surface); construction of ancillary facilities on other portions of the project site would be more limited in duration and intensity.

TABLE 4
CONSTRUCTION SCHEDULE AND DURATION BY ACTIVITY TYPE

Construction Activity	Expected Duration	Estimated Schedule
Site Preparation (e.g., demolition, excavation, utility relocation) Construction	6 months 54 months	July 2017 – Jan 2018 Jan 2018 – Jun 2022
Total Biosolids Digester Facilities Construction	***60 months***	***July 2017 – Jun 2022***
Startup and Testing	12 months	Dec 2021 – Dec 2022
Process Stabilization Period (no construction)	24 months	Jun 2022 – Jun 2024
Existing Digester Decommissioning	6 months	After 2024[a]

NOTE:

[a] Potential demolition of the existing digesters and solids handling facilities to be determined in Phase II of the SSIP.

OPERATIONS

Similar to current conditions, the new facilities constructed under the BDFP would operate 24 hours per day, seven days per week. No increase in existing operations staff levels (currently about 280 staff) is anticipated. The proposed project would not increase the wastewater treatment capacity of the SEP because the existing SEP design capacity is able to handle projected loads through 2045.

Proposed changes in entrances/exit locations and to on-site circulation would alter traffic patterns associated with the SEP's operations, shifting some truck traffic off of Jerrold Avenue and onto Rankin Street. The number of daily truck trips required for biosolids processing and disposal would remain substantially similar to existing conditions.

PERMITS AND APPROVALS REQUIRED

The permits and approvals needed for the project will be confirmed during EIR preparation. Below is a preliminary identification of potential approvals needed for project construction and operation. This list is not intended to be inclusive of all permits required.

- Bay Area Air Quality Management District – Authority to Construct and Permit to Operate

- State Water Resources Control Board:
  - Construction General Permit and Stormwater Pollution Prevention Plan, if more than one acre of land were disturbed[18]
  - State Revolving Fund (SRF) Loan Program requirements (e.g., consultation regarding Section 106 of the National Historic Preservation Act)
- San Francisco Port Commission – Approval of use of Pier 94 Backlands for construction staging
- San Francisco Bay Conservation and Development Commission – Potential approval of Pier 94 Backlands for construction staging if property is within 100 feet of the Bay shoreline (most of the Port Pier 94 property is not within BCDC jurisdiction)

ENVIRONMENTAL REVIEW PROCESS

The San Francisco Planning Department is preparing an EIR to evaluate the environmental effects of the proposed project on the environment. The EIR will be prepared in compliance with CEQA (California Public Resources Code, Sections 21000 *et seq.*), the *CEQA Guidelines*, and Chapter 31 of the San Francisco Administrative Code, and will address project-specific construction and operational impacts of the BDFP. The EIR is an informational document for use by governmental agencies and the public to aid in the planning and decision-making process. The EIR will disclose the physical environmental effects of the project and identify possible ways of reducing or avoiding potentially significant impacts.

Summary of Potential Environmental Issues

The proposed project could result in potentially significant environmental effects. The Planning Department will prepare an EIR to evaluate the physical environmental effects of the proposed project. As required by CEQA, the EIR will examine potentially significant effects, identify mitigation measures, and analyze whether the proposed mitigation measures would reduce the environmental effects to a less than significant level.

The EIR will address various environmental topics, each briefly summarized below.

Land Use and Land Use Planning

The topic of Land Use and Land Use Planning will describe existing land uses on and near the project site and analyze whether the proposed project would physically divide an established community or result in land use conflicts or with land use plans adopted in the project vicinity.

Aesthetics

Project construction and operation could affect aesthetics at the project site and surrounding areas. Potential impacts to be evaluated include impacts on scenic vistas or visual character.

Population and Housing

The topic of Population and Housing will include analysis of the proposed project's potential impact related to population, employment, and housing.

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[18] Applicable to areas that do not drain to the City's combined sewer system; therefore not applicable to the project site but potentially applicable to the Pier 94 Backlands staging area.

Cultural and Paleontological Resources

The EIR will assess the potential for the project to result in significant impacts to paleontological, archeological, and historical resources, including historic and prehistoric archeological deposits and historic buildings or structures ("historical resources"). The EIR will describe the historical resources and potential historical resources on the project site, assess the potential for subsurface archaeological resources to be present, and identify potential impacts of the project on these resources.

There are no known archaeological resources on the site surface. The three Central Shops buildings at 1800 Jerrold Avenue have been evaluated and two are considered historical resources under CEQA. The proposed project would demolish these buildings. The EIR will include an assessment of the significance of this impact.

The potential for effects of project-related excavation on subsurface paleontological resources (fossil plant or animal remains) also will be analyzed.

Transportation and Circulation

Once the proposed BDFP is in full operation, employee and truck trips associated with biosolids processing and disposal are expected to be substantially similar to existing conditions. During project construction, SFPUC would temporarily close Jerrold Avenue adjacent to the SEP, and also occupy a segment of Quint Street that is expected to be permanently closed to through traffic in October 2015. Project construction would generate new traffic to and from the project site, including off-site construction staging areas, and would increase transit ridership and parking and loading demand. A Transportation Impact Study will be prepared for the proposed project in accordance with the Planning Department's Transportation Guidelines for Environmental Review (October 2002). The study will include an analysis of specific transportation impacts and mitigation measures associated with the proposed facility's operations and construction-period impacts. The study will also analyze transit conditions, pedestrian and bicycle conditions, loading, and emergency access, and evaluate cumulative effects of anticipated development and changes in traffic circulation in the vicinity of the SEP. The EIR will summarize the findings of the transportation study.

Noise

The EIR will include analysis of noise compatibility standards for residential and other land uses, and discuss the long-term impacts of noise and groundborne vibration that could result from the proposed project. Short-term construction-related noise impacts also will be described, and the analysis will evaluate the potential for noise from the project to adversely affect nearby sensitive land uses.

Air Quality/Odor

The EIR will include analysis of consistency of the proposed project with applicable air quality plans and standards, the potential for the proposed project to result in emissions of criteria air pollutants and toxic air contaminants (TACs) at levels that may affect sensitive populations, as well as the potential for the project to result in sources of odors affecting a substantial number of people. The air quality analysis will include quantification of both construction-related and operational air pollutant emissions, and will evaluate potential health risk effects from emissions of TACs, including effects on residents near the project site. The air quality analysis will also include a discussion of the existing conditions at the project site, including the Air Pollutant Exposure Zone, and compliance with the Clean Construction Ordinance.

Greenhouse Gas Emissions

The topic of Greenhouse Gas Emissions will include an analysis of the proposed project's consistency with the City's Greenhouse Gas Reduction Strategy and the degree to which the proposed project's greenhouse gas emissions could result in a significant effect on the environment.

Wind and Shadow

Construction of aboveground project facilities could result in wind and shadow effects. Potential effects to be evaluated include alteration of wind in a manner that substantially affects public areas, and creation of new shadow in a manner that substantially affects outdoor recreation facilities or other public areas.

Recreation

The topic of Recreation will include an analysis of whether the proposed project could adversely affect existing parks and open spaces such that substantial physical deterioration of recreational facilities would occur or require the construction or expansion of recreational facilities.

Utilities and Service Systems

The proposed project involves improvements to the wastewater treatment system. The topic of Utilities and Service Systems will include an assessment of whether the proposed project would require the construction of new water supply and/or stormwater drainage facilities, and if so, whether that construction could result in adverse environmental effects. The analysis will also identify the potential for utility disruptions during construction. The topic will also discuss disposal of solid waste generated by the proposed project and potential effects on landfill capacity.

Public Services

The topic of Public Services will include analysis of whether existing public services (e.g., schools, police and fire protection, etc.) would be adversely affected by the proposed project during construction or operation. The analysis will determine whether project implementation would result in an inability of service providers to maintain adequate levels of service and/or a need for new or expanded facilities, the construction of which could result in adverse environmental effects.

Biological Resources

The topic of Biological Resources will include analysis of potential project effects on important biological resources or habitats, including tree removal, or the movement of any native resident or migratory bird species.

Geology, Soils, and Seismicity

The topic of Geology and Soils will include an analysis related to the susceptibility of the project site to seismic activity, liquefaction, landslides, erosion, soil stability, and consequent risks to life or property.

Hydrology and Water Quality

The topic of Hydrology and Water Quality will assess the potential for the proposed project to impact water quality standards or waste discharge requirements or result in adverse effects on groundwater. The analysis will also consider the degree to which the proposed project could affect drainage patterns or create water runoff that could affect stormwater drainage systems. Finally, the analysis will consider the potential of the project to expose people or structures to a significant risk of loss, injury or death involving flooding, including potential effects of sea level rise.

Hazards and Hazardous Materials

Studies prepared for the project site indicate the presence of contamination, including the potential for contaminated soils and groundwater. Project construction (mainly excavation) would result in the removal and cleanup of existing hazardous materials at the project site, but could temporarily expose people to those existing hazardous materials. Construction and operation of the proposed project would require the use of hazardous material, including fuels. Potential effects to be evaluated in the EIR include: creation of a significant hazard through the routine transport, use, or disposal of hazardous materials; creation of a significant hazard through upset or accident conditions involving the release of hazardous materials; emission of hazardous materials within the vicinity of a school; creation of a significant hazard associated with existing hazardous materials sites; conflict with adopted emergency response plan or evacuation plan; and exposure of people or structures to fires.

Mineral/Energy Resources

The EIR.will include analysis of potential project impacts on existing mineral and energy resources.

Agriculture and Forestry Resources

The EIR will address the potential for the project to affect existing agricultural and forest resources.

Alternatives

Pursuant to CEQA, the EIR also will analyze a range of alternatives that would reduce or avoid significant environmental impacts identified in the EIR, including a No Project Alternative, as described in CEQA Guidelines Section 15126.6.

Other CEQA Considerations

The EIR will address other topics required by CEQA, including growth-inducing impacts. The EIR will also analyze significant unavoidable impacts; significant irreversible impacts; any known controversy associated with environmental effects; issues to be resolved by the decision-makers; and the potential for the project to contribute to significant cumulative effects.

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State of California Environmental Quality Act (CEQA) Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and for the reasons documented in the above project description and description of potential environmental effects.

June 24, 2015
Date

Sarah B. Jones
Environmental Review Officer

CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

JUL 2 3 2015

Mr. Steve Smith
City and County of San Francisco
1650 Mission Street, Suite 400
San Francisco, CA 94103-2479

Dear Mr. Smith:

NOTICE OF PREPARATION (NOP) FOR THE CITY AND COUNTY OF SAN FRANCISCO (CITY AND COUNTY); BIOSOLIDS DIGESTER FACILITIES PROJECT (PROJECT); SAN FRANCISCO COUNTY; STATE CLEARINGHOUSE NO. 2015062073

We understand that the City and County are pursuing Clean Water State Revolving Fund (CWSRF) financing for this Project. As a funding agency and a state agency with jurisdiction by law to preserve, enhance, and restore the quality of California's water resources, the State Water Resources Control Board (State Water Board) is providing the following information on the NOP to be prepared for the Project.

The State Water Board, Division of Financial Assistance, is responsible for administering the CWSRF Program. The primary purpose for the CWSRF Program is to implement the Clean Water Act and various state laws by providing financial assistance for wastewater treatment facilities necessary to prevent water pollution, recycle water, correct nonpoint source and storm drainage pollution problems, provide for estuary enhancement, and thereby protect and promote health, safety and welfare of the inhabitants of the state. The CWSRF Program provides low-interest funding equal to one-half of the most recent State General Obligation Bond Rates with a 30-year term. Applications are accepted and processed continuously. Please refer to the State Water Board's CWSRF website at:
www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml.

The CWSRF Program is partially funded by the United States Environmental Protection Agency and requires additional "CEQA-Plus" environmental documentation and review. Three enclosures are included that further explain the CWSRF Program environmental review process and the additional federal requirements. For the complete environmental application package, please visit:
http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/srf_forms.shtml. The State Water Board is required to consult directly with agencies responsible for implementing federal environmental laws and regulations. Any environmental issues raised by federal agencies or their representatives will need to be resolved prior to State Water Board approval of a CWSRF financing commitment for the proposed Project. For further information on the CWSRF Program, please contact Mr. Ahmad Kashkoli, at (916) 341-5855.

It is important to note that prior to a CWSRF financing commitment, projects are subject to provisions of the Federal Endangered Species Act (ESA), and must obtain Section 7 clearance from the United States Department of the Interior, Fish and Wildlife Service (USFWS), and/or the United States Department of Commerce National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) for any potential effects to special-status species.

Please be advised that the State Water Board will consult with the USFWS, and/or the NMFS regarding all federal special-status species that the Project has the potential to impact if the Project is to be financed by the CWSRF Program. The City and County will need to identify whether the Project will involve any direct effects from construction activities, or indirect effects such as growth inducement, that may affect federally listed threatened, endangered, or candidate species that are known, or have a potential to occur in the Project site, in the surrounding areas, or in the service area, and to identify applicable conservation measures to reduce such effects.

In addition, CWSRF projects must comply with federal laws pertaining to cultural resources, specifically Section 106 of the National Historic Preservation Act (Section 106). The State Water Board has responsibility for ensuring compliance with Section 106, and must consult directly with the California State Historic Preservation Officer (SHPO). SHPO consultation is initiated when sufficient information is provided by the CWSRF applicant. If the City and County decides to pursue CWSRF financing, please retain a consultant that meets the Secretary of the Interior's Professional Qualifications Standards (http://www.nps.gov/history/local-law/arch_stnds_9.htm) to prepare a Section 106 compliance report.

Note that the City and County will need to identify the Area of Potential Effects (APE), including construction and staging areas, and the depth of any excavation. The APE is three-dimensional and includes all areas that may be affected by the Project. The APE includes the surface area and extends below ground to the depth of any Project excavations. The records search request should extend to a ½-mile beyond Project APE. The appropriate area varies for different projects but should be drawn large enough to provide information on what types of sites may exist in the vicinity.

Other federal environmental requirements pertinent to the Project under the CWSRF Program include the following (for a complete list of all federal requirements please visit: http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/forms/application_environmental_package.pdf):

A. Compliance with the Federal Clean Air Act: (a) Provide air quality studies that may have been done for the Project; and (b) if the Project is in a nonattainment area or attainment area subject to a maintenance plan; (i) provide a summary of the estimated emissions (in tons per year) that are expected from both the construction and operation of the Project for each federal criteria pollutant in a nonattainment or maintenance area, and indicate if the nonattainment designation is moderate, serious, or severe (if applicable); (ii) if emissions are above the federal de minimis levels, but the Project is sized to meet only the needs of current population projections that are used in the approved State Implementation Plan for air quality, quantitatively indicate how the proposed capacity increase was calculated using population projections.

B. Compliance with the Coastal Zone Management Act: Identify whether the Project is within a coastal zone and the status of any coordination with the California Coastal Commission.

C. Protection of Wetlands: Identify any portion of the proposed Project area that should be evaluated for wetlands or United States waters delineation by the United States Army Corps of Engineers (USACE), or requires a permit from the USACE, and identify the status of coordination with the USACE.

D. Compliance with the Farmland Protection Policy Act: Identify whether the Project will result in the conversion of farmland. State the status of farmland (Prime, Unique, or Local and Statewide Importance) in the Project area and determine if this area is under a Williamson Act Contract.

E. Compliance with the Migratory Bird Treaty Act: List any birds protected under this act that may be impacted by the Project and identify conservation measures to minimize impacts.

F. Compliance with the Flood Plain Management Act: Identify whether or not the Project is in a Flood Management Zone and include a copy of the Federal Emergency Management Agency flood zone maps for the area.

G. Compliance with the Wild and Scenic Rivers Act: Identify whether or not any Wild and Scenic Rivers would be potentially impacted by the Project and include conservation measures to minimize such impacts.

Following are specific comments on the City and County's NOP:

1. In Table 2 on page 11, in addition to a column indicating Maximum Height above Grade (feet), please provide an indication of the maximum depth below grade for excavations where applicable.
2. Information presented on the depth below grade for the digester tanks is not consistent. On page 7 under Digestion and Biosolids Storage 45 feet below grade is indicated, and structures in the fourth paragraph on page 16 up to 48 foot depth is indicated at the location of the proposed digester tank; please clarify which is correct, and provide an estimate of the cubic yards of soil to be removed.
3. On page 12 regarding Figure 5, please indicate an estimated percent design in reference to the figure illustrations.
4. On page 14 regarding removal and replacement of street trees in the EIR, please discuss the types of trees that will be used in the re-vegetation effort and a timetable for re-vegetation activities. Please provide a brief description of the Tree Protection Zone and how the trees that are adjacent to construction will be protected if they are not proposed for removal. Please address compliance measures to the Migratory Bird Treaty Act in removal of tree from the project area.

Please provide us with the following documents applicable to the proposed Project following the City and County's California Environmental Quality Act (CEQA) process: (1) one copy of the draft and final EIR, (2) the resolution adopting/certifying the EIR and making CEQA findings, (3) all comments received during the review period and the City and County's response to those comments, (4) the adopted Mitigation Monitoring and Reporting Program (MMRP), and (5) the Notice of Determination filed with the San Francisco County Clerk and the Governor's Office of Planning and Research, State Clearinghouse. In addition, we would appreciate notices of any hearings or meetings held regarding environmental review of any projects to be funded by the State Water Board.

Thank you for the opportunity to review the City and County's NOP. If you have any questions or concerns, please feel free to contact me at (916) 341-5879, or by email at Susan.Stewart@waterboards.ca.gov, or contact Ahmad Kashkoli at (916) 341-5855, or by email at AKashkoli@waterboards.ca.gov.

Sincerely,

Susan L. Stewart

Susan L. Stewart
Environmental Scientist

Enclosures (3)

1. Clean Water State Revolving Fund Environmental Review Requirements
2. Quick Reference Guide to CEQA Requirements for State Revolving Fund Loans
3. Basic Criteria for Cultural Resources Reports

cc: State Clearinghouse
(Re: SCH# 2015062073)
P.O. Box 3044
Sacramento, CA 95812-3044

DEPARTMENT OF TRANSPORTATION
DISTRICT 4
P.O. BOX 23660
OAKLAND, CA 94623-0660
PHONE (510) 286-5528
FAX (510) 286-5559
TTY 711
www.dot.ca.gov

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July 23, 2015

SFVAR018
SCH# 2015062073

Mr. Steve Smith
Planning Division
City and County of San Francisco
1650 Mission Street, Suite 400
San Francisco, CA 94103

SFPUC Biosolids Digester Facilities Project – Notice of Preparation

Dear Mr. Smith:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the project referenced above. The proposed Project would construct new solids treatment, odor control, energy recovery, and associated facilities at the San Francisco Public Utilities Commission's (SFPUC's) Southeast Water Pollution Control Plant located in the Bayview District. Regional access from Interstate 280 (I-280) and U.S. Highway 101 (U.S. 101) is provided approximately one mile northeast via Cesar Chavez Street. Our comments seek to promote the State's new mission, vision, and smart mobility goals for sustainability, livability, economy, safety and health. We have reviewed the Notice of Preparation and have the following comments to offer.

Transportation Impact Study
A Transportation Impact Study, as cited in the Notice of Preparation, should provide a thorough analysis of multi-modal travel demand generated by the proposed development. We are in the process of updating our *Guide for the Preparation of Traffic Impact Studies* (TIS Guide) for consistency with SB 743, but meanwhile recommend using the Caltrans TIS Guide for determining which scenarios and methodologies to use in the analysis, available at: http://dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf. We encourage early collaboration, such as submitting the traffic study prior to the environmental document, to provide Caltrans an opportunity to discuss appropriate methodology and lead to better outcomes for all stakeholders.

The Transportation Impact Study should include:

1. Vicinity map, regional location map, and a site plan clearly showing project access in relation to nearby State roadways. Ingress and egress for all project components on State right-of-way

(ROW) should be clearly identified. Project driveways, construction staging, local roads and intersections, car/bike parking, and transit facilities should be mapped.

2. Project-related trip generation, distribution, and assignment including per capita use of transit, rideshare or active transportation modes and VMT reduction factors. An assessment of 2035 Cumulative and 2035 Cumulative Plus Project conditions. Calculation of cumulative traffic volumes should consider all traffic-generating developments, both existing and future that would affect study area roadways and intersections. Potential safety issues for all road users during operation and construction-periods should be identified and fully mitigated. The assumptions and methodologies used to develop this information should be detailed in the study, utilize the latest place-based research, and be supported with appropriate documentation.

3. Schematic illustration of walking, biking and auto conditions at nearby State facilities and study area roadways, trip distribution percentages and volumes as well as intersection geometrics, i.e., lane configurations, for AM and PM peak periods.

4. The project site building potential as identified in the General Plan. The project's consistency with both the Circulation Element of the General Plan and the Congestion Management Agency's Congestion Management Plan should be evaluated.

Transportation Management Plan
A Transportation Management Plan (TMP) or construction TIS may be required of the City for approval by Caltrans prior to construction where traffic restrictions and detours affect State highways. TMPs must be prepared in accordance with California *Manual on Uniform Traffic Control Devices.* Please ensure that such plans are also prepared in accordance with the transportation management plan requirements of the corresponding jurisdictions. For further TMP assistance, please contact the Office of Traffic Management Plans/Operations Strategies at 510-286-4579. TMP Information is also available at the following web address: http://www.dot.ca.gov/hq/traffops/engineering/mutcd/pdf/camutcd2014/Part6.pdf.

Transportation Permit
Project work that requires movement of oversized or excessive load vehicles on State roadways requires a transportation permit that is issued by Caltrans. To apply, a completed transportation permit application with the determined specific route(s) for the shipper to follow from origin to destination must be submitted to: Caltrans Transportation Permits Office, 1823 14th Street, Sacramento, CA 95811-7119. See the following website for more information: http://www.dot.ca.gov/hq/traffops/permits.

Hazardous Materials
All motor carriers and drivers involved in transportation of hazardous materials must comply with the requirements contained in federal and State regulations, and must apply for and obtain a

hazardous materials transportation license from the California Highway Patrol (CHP). When transporting certain types of hazardous materials including inhalation hazards, safe routing and safe stopping places are required. A route map must be carried in the vehicle. More information is available on the following CHP website: http://www.chp.ca.gov/publications/#hazmat.

Mitigation Responsibility

As the lead agency, the City and County of San Francisco is responsible for identifying and ensuring the coordinated implementation of all project mitigations. The project's fair share contribution, financing, scheduling, implementation responsibilities associated with planned improvements on Caltrans ROW should be listed, in addition to identifying viable funding sources per General Plan Guidelines.

Should you have any questions regarding this letter or require additional information, please contact Sherie George at (510) 286-5535 or by email at: sherie.george@dot.ca.gov.

Sincerely,

Pat C.

PATRICIA MAURICE
District Branch Chief
Local Development - Intergovernmental Review

c: State Clearinghouse

From:	Jones, Sarah (CPC)
To:	Smith, Steve (CWP)
Subject:	FW: Biosolids Digester Facilities Project
Date:	Wednesday, July 22, 2015 3:47:19 PM
Attachments:	image005.png

Sarah Bernstein Jones
Environmental Review Officer
Director of Environmental Planning

Planning Department│City and County of San Francisco
1650 Mission Street, Suite 400, San Francisco, CA 94103
Direct: 415-575-9034│Fax: 415-558-6409
Email: sarah.b.jones@sfgov.org
Web: www.sfplanning.org

From: Mark Klaiman [mailto:Mark@petcamp.com]
Sent: Wednesday, July 22, 2015 3:46 PM
To: Jones, Sarah (CPC)
Subject: Biosolids Digester Facilities Project

Ms. Jones:

I am submitting comments on the Notice of Preparation of an Environmental Impact Report and Notice of Public Scoping Meeting for the Biolsolids Digester Facilities Project. Unfortunately I was unable to attend the Scoping Meeting on July 16, 2015.

For the past 18 years I have run Pet Camp, an overnight and day care facility for dogs and cats, at 525 Phelps Street. We are located directly across the street from the Southeast Treatment Facility. I am very concerned about the potential impact of massive increase in truck and other traffic associated with construction of the new digesters will have on my and other small business on Phelps Street as well as on the safety of my customers.

Pet Camp is a destination location for San Francisco's families with dogs and cats. Every day of the week, we are open 7 days a week, our customers arrive in their cars, often with children in tow, to pick up and drop off their pets. Phelps Street is a narrow street already designated as a bicycle route and is in no condition to safely handle an increase in traffic. There is no traffic calming on Phelps Street and not even a stop sign between Evans and Jerrold which results in traffic traveling at too high a rate of speed for our narrow street.

I highly encourage you to evaluate and select a route for trucks and other vehicles needed for this project that does not include the use of Phelps Street.

Respectfully,

Mark

San Francisco's Most Award Winning Pet Care Facility

2012 San Francisco Small Business Advocate of the Year
2015, 2014, 2013, 2012, 2011, 2010, 2008, 2007 & 2006 San Francisco's Best Overnight and Day Care Facility (no voting in 2009)
2008 San Francisco Green Business of the Year
2007 San Francisco Chamber of Commerce Excellence in Business Winner
2005 San Francisco Small Business of the Year

Mark Klaiman
Senior Counselor
Pet Camp
www.petcamp.com

Main Campground
525 Phelps Street
San Francisco, CA 94124
(415) 282-0700

Cat Safari
3233 Sacramento Street
San Francisco, CA 94115
(415) 567-0700

Mitigation by San Francisco Foliage makes a difference

CREATING JOBS FOR THE COMMUNITY

- Over 50% of employees are from Bayview-Hunter's Point (zip code 94124)
- Over 80% are people of color
- San Francisco Foliage has paid over $4 million in wages to resident employees

CREATING OPPORTUNITIES FOR YOUTH

- San Francisco Foliage funds an internship program for at risk youth
- SFF hosts a Five Keys Charter School on-site in the community greenhouse
- SFF pays intern wages 100%, and all program costs
- Interns work part-time while earning credit toward a diploma or GED
- Over 30 young people interned at San Francisco Foliage since 2009
- 9 interns earned high school diplomas or GED
- Currently, 10% of SFF employees are graduates of the internship program

THE FRONT LINES OF MITIGATION

- Over 28% of San Francisco Foliage employee are student interns
- 80% of interns were from Bayview-Hunter's Point (94124)
- 40% of employees are women
- 20% of employees are LGBT

THE COMMUNITY GREENHOUSES ARE A STAGING SITE FOR LIFE

- Three different languages are spoken at SF Foliage
- On-site ESL classes are free
- We offer on-site GED prep for all employees without a HS diploma
- 25% of full time employees are enrolled in onsite educational services

A RECORD OF MITIGATION ACHIEVEMENT AND AWARDS

San Francisco Foliage is:

- A certified Local Business Entity with the City of San Francisco
- Certified by the San Francisco Human Rights Commission
- A proud recipient of the 2015 Local Business Pioneer Award from the San Francisco Housing Development Corporation

IN CONCLUSION:

- **I SEE THE GREENHOUSE AS A SITE FOR LIFE WHERE PEOPLE AND FAUNA FLOURISH. IF THE GREENHOUSE IS DEMOLISHED, the continuity of a solemn accord with the people of Bayview will be broken. I ask is this necessary?**

san francisco foliage

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San Francisco, CA 94124

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(F) 415-648-4428
Sales@agreenplanet.com

SAN FRANCISCO PLANNING DEPARTMENT

PUBLIC SCOPING MEETING

ENVIRONMENTAL IMPACT REPORT

SOUTHEAST PLANT

BIOSOLIDS DIGESTER FACILITIES PROJECT

---o0o---

Thursday, July 16, 2015

Alex Pitcher Room

Southeast Community Facility

1800 Oakdale Avenue

San Francisco, California

REPORTED BY: DEBORAH FUQUA, CSR #12948

A P P E A R A N C E S

SAN FRANCISCO PLANNING COMMISSION:

Steven Smith, EIR Coordinator

SAN FRANCISCO PUBLIC UTILITIES

Carolyn Chiu, Project Engineer

Rosanna Tse, Project Manager

ESA

Leslie Moulton

Jill Hamilton

PUBLIC COMMENTS

Thursday, July 16, 2015 6:30 o'clock p.m.

---o0o---

P R O C E E D I N G S

STEVEN SMITH: Testing, testing.

Welcome, everybody, to tonight's scoping meeting for the San Francisco PUC's Biosolids Digester Facilities Project. My name is Steven Smith. I'm with the San Francisco Planning Department, and I'm the environmental coordinator for this project. And I'll also be the moderator for tonight's scoping meeting.

Just a couple reminders, if you haven't, we would love it if you would sign in at the table by the entrance there. There are some meeting materials that you might find helpful. The Notice of Preparation has a good project description, for example.

Uhmm, and if anybody would like to speak tonight, we'd ask you fill out a speaker card. And if you don't want to speak tonight, you can of course make written comments either tonight or by July 27th is the deadline when scoping period ends.

I also want to let people know that there's a court reporter here tonight that's transcribing everything I say and anything anybody else might say for public input. And that will become part of the administrative record for the project. And I would ask that, if people have comments, they hold off until the end of this presentation.

So after the introductions, I'll do a brief overview of the environmental review process, which hopefully will help inform your scoping comments tonight. Some staff from PUC will then present on the project description.

And then the reason why we're here is to take public comments. So that's the main portion of tonight. And then, following that, I'll have a few closing remarks to finish things up.

So, again, my name is Steven Smith. I'm with the San Francisco Planning Department. I'm the environmental review coordinator for the project. We have our consultants here tonight from ESA -- Jill Hamilton in the back there; Leslie Moulton is sitting at the table there. They're our -- we consider them an extension of our staff at the Planning Department and play a key role in the project as well.

From PUC Carolyn Chiu is the project manager. Rosanna Tse is here somewhere -- there she is. She's the project engineer.

Karen Frye is my counterpart at the PUC. She's actually not here tonight, but I did want to make note of her name. And then also Maureen Barry is the

PUC communication staff.

So I'll just talk a little bit about the environmental review process in these next few slides. And, again, my intention is to help kind of focus your comments tonight in terms of the scope of the environmental review process and explain the background of why we're here.

So the California Environmental Quality Act, or CEQA as it's usually referred to, is a state law, essentially requires the disclosure of environmental impacts prior to a public agency approving a project.

And in the City of San Francisco, the Planning Department is the lead agency for all CEQA projects. So we have the lead role in the environmental analysis required by CEQA. And in this case, the PUC is the project sponsor. So the Planning Department handles CEQA and the PUC is the sponsor of the project.

So essentially what CEQA's trying to achieve, as I mentioned, is a disclosure of environmental impacts. That's really kind of a primary objective of CEQA. Typically, in so doing, when we -- as we disclose environmental impacts and analyze them, we often find ways to avoid or reduce those impacts.

As well, the CEQA process is a good mechanism for promoting public participation, for example, tonight and also provides a good way to communicate and cooperate with the various agencies that might be involved with the project and might have, for example, a permit that needs to be issued for the project to proceed. They rely on our analysis, and also other agencies will provide input about our analysis.

So for this project, we will be preparing an environmental impact report or an EIR. And the EIR will provide a very detailed project description of the project, a thorough analysis of all the environmental effects. We'll identify ways to reduce or avoid the significant effects that are identified. And we'll also formulate a range of alternatives that could meet most or all of the project objectives but could also potentially reduce or avoid some of the significant effects associated with the proposed project.

So as you can see, this environmental impact report will cover pretty much the full gamut of issues that are included in the CEQA guidelines. So in that regard, any input you have in terms of the scoping meeting tonight, any environmental topic that might be of concern to you, each of these issue areas will be addressed in some fashion in the EIR that will be published.

So the schedule. The notice of preparation was issued on June 24th. So we're really just now at the beginning of the environmental review process. We're here tonight, of course, for the public scoping meeting. And I do want to note that July 27th is when the scoping period ends. So if you do decide to submit written comments, please keep that in mind. Close of business Monday, July 27th is our deadline.

Then following that, next summer we expect a Draft EIR to be published. And I would note also that's an additional opportunity for public comments. We'll circulate that Draft EIR for 45 days and solicit comments from the public and agencies.

We'll then create a responses to comments document and respond to all comments that we received, package that together with the Draft EIR, and then present that to the Planning Commission for final certification, we expect, in summer of 2017 is the current schedule.

So why we're here tonight really is to hear from you all. It's specifically on the scope of environmental review. And when I refer to the scope of environmental review, to be a little bit more clear what I'm referring to, for example, is environmental effects, you know, concerns you may have about noise, air quality, traffic, that kind of thing. You may have ideas or thoughts about the types of alternatives to the proposed project, the way we go about analyzing the impacts, mitigation measures that could be helpful to reduce or avoid some of the impacts. So these are the general categories that are most pertinent to tonight's scoping meeting. So keep that in mind when you're making your comments.

With that, I want to turn it over to Carolyn Chiu. She's going to provide an overview of the proposed project. And then I'll come back, and we can open things up for scoping comments.

CAROLYN CHIU: Thanks, Steve.

As we mentioned at the beginning, I'm Carolyn Chiu, and I'm the project manager for the biosolids digester facility project. So this project is one of the projects in the PUC Sewer System Improvement Program, also known as the SSIP.

This is a multi-billion, 20-year program to address wastewater infrastructure -- the aging infrastructure in our wastewater system and ensure a reliable and seismically safe infrastructure from now and going forward in the future.

So here is just a map of the project location, right here. So the orange represents the proposed project site, kind of in and adjacent to the existing southeast plant, which is outlined here in black. And the purple shaded areas is proposed staging areas at the SFPUC greenhouses and this Pier 94 backlands.

I also wanted to note, you know, at this backlands area, we are proposing off-site parking for, like, the construction worker personal vehicles, with the plan to shuttle them here, a little less than a mile to the plant during the construction phase.

So here's a kind of a closer look of that -- the project site. Once again, the orange represents the project site. This is 1800 Jerrold; this is 1801 and then obviously the parcels within the southeast plant. The purple again is the staging area. But I'd also want to point out this staging area along the -- that's also purple, the Jerrold Street, because we're proposing to temporarily close that portion of Jerrold during the construction to promote construction safety as well as public safety during the construction phase.

Also, you know, looking kind of -- this is a good place to actually talk about the southeast treatment plant. This kind of large, outlined in black, that is the existing southeast treatment plant. I think some of you know this is one of the two full-time facilities we have to treat the city's wastewater and storm water. But this treats 80 percent of the city's -- and meets 80 percent of the city's needs. So you can see that it's really essential to our system and pretty much the backbone of our wastewater infrastructure.

So the purpose of this biosolids project we're here to talk about tonight is to basically address the existing solids processing facility, which is what is outlined here in yellow. So basically that is the half of the plant that treats the wastewater solids, meaning the solids removed from the wastewater drain.

Through this process, we break down and neutralize the solids, thus producing biosolids. So basically, biosolids is treated wastewater solids.

So why do we need this project? Why are we doing this? The existing digesters are over 60 years old. They were built in 1952. So we need this project to ensure that we have a biosolids treatment facility that's operational and reliable, seismically robust to address city future needs, regulatory requirements, and obviously we want to utilize modern efficient technologies going forward.

We also want to promote sustainability by reusing resources wherever we can, ensuring 100 percent beneficial use of biosolids and then the biogas we produce at the southeast plant. You know, the biosolids, once treated, is a very nutrient-rich soil product, so very useful in agricultural and horticultural applications, soil amendments, compost, fertilizer.

Similarly biogas, which is a byproduct of the digestion process, is very energy rich. So it can be converted to energy or other heat sources. So it would really be a shame to waste it.

And then lastly, you know, we need to improve the odor and visual and noise quality, you know, as a part of this project, something -- at least improvements over what's there now.

So key features. You know, I talked about modern and efficient improvement technologies. Well, part of this project will include those types of technologies for screening, thickening, thermal hydrolysis, digestion, and dewatering.

Also, I mean, here's just a kind of a snapshot of some other features. There will be six digesters at 1.3 million gallons. I want you to understand that, right now, we have ten digesters at 2 million gallons each. So you can see with the technology that we're proposing, you get more -- better breakdown of the solids so that the digestion itself requires less volume.

Similarly, biosolids trucks are eight to ten per day in the new project. I want to remind people that currently we do seven to nine trucks per day. So it's not that much of a difference in the new facility.

Electricity, you know, through the biogas, we will generate five megawatts. Right now, we generate two.

And then odor control, you know, we had a goal to have no noticeable odors from this project at the fence line.

And then included were also architectural improvements within the southeast treatment plant at the new facility. And also we're looking at landscape and street improvements along Jerrold Avenue. And then we're also -- you know, a key note I also wanted to leave with is that we anticipate no change in the staffing levels at the treatment plant.

So this is a preliminary site plan. I won't go through all of it here, but I did want to point out a couple key features.

So right here at 1801 Jerrold, this is where -- at this triangle is where we're going to locate that energy recovery, where we're going to take biogas and make it into electricity for our use on the site.

Also this here is the location -- you'll see the digesters is proposed to line them up linearly, parallel to the railroad track. I want to note this is the farthest away you can get from the neighbors, probably over 1,000 feet. I think, right now, the current digesters are kind of down here, off the map; they are less than 100 feet away from the closest neighbors.

The other thing was, you know, I also wanted to point out, I talked about odors in the last slide. Here, you can't tell, but these are light blue, these two squares here. We have two distinct odor control systems to support this new facility to basically capture and treat the processed air.

One other thing, as part of our planning, we also looked at how vehicular traffic moves in and out of the plant. And one of the things we're proposing is to shift it where, you know, the main gate goes out of Rankin through Evans away from where it currently is, which is more along Jerrold and Phelps. So basically moving it away from the residents and directing it towards Evans Street, which is probably a better place to accommodate because it's more of an industrial street.

And here what I'm showing you is a kind of a preliminary aerial layout. Once again, here are those digesters parallel to the railroad track. And just to kind of orient you, you're standing with your back to Evans Street in this picture. Although, you know, these are shown as cylindrical now, right now we have not made a decision on digester shape. And height, as shown here, are all within the zoning limits within this area at 65 feet.

And project construction. The construction duration will take five years. And we anticipate starting in July 2017. We see that there's going -- we estimate about 200,000 square feet of new construction with 100,000 square feet of demolition.

I already mentioned that we are looking at having off-site parking of personal vehicles from the construction workers be at Pier 94. But just to kind of -- but on a typical, you know, construction day, we're looking at about 50 truck trips per day for deliveries of equipment and materials to support the construction. But during peak construction, meaning during when we're hauling debris, excavated soil, there could be up to 200 to 250 trucks per day from -- for probably about six months out of that five-year period.

Construction times, work periods, typically, we're looking at Monday through Friday, 7:00 a.m. to

3:00 with an occasional Saturday. And if we had to do any kind of Sunday or holiday or 24-hour work, it would be because we had critical facility connections. And we would notify neighbors if that did happen.

And then during -- then also -- oh, and then also during peak construction, you know, when we have very intense limited-duration-type work to do, we could have two work shifts going. And that would be Monday through Saturday, 7:00 to 11:00 p.m. And it would -- and that is obviously for a short duration out of that five years.

And here is just a brief summary of the construction schedule. I mentioned that we hope to start construction in 2017. Understanding that it's a five-year period but even after construction completion is done, there is a significant period where we need to start up and test the equipment. And then, you know, two months -- or, you know, up to two years with that to have that opportunity to stabilize the new treatment process and optimize it as well. And that takes us through 2024.

STEVEN SMITH: Thank you very much, Carolyn.

So we'll open for public comments now.

Again, if anybody's interested in speaking, we do ask you submit a speaker card. A couple ground rules here. Just, if you could state your name clearly, again, we have someone transcribing tonight, so it's good to know who's saying what. We want to be sure we're being accurate in terms of what we're noting from tonight's meeting.

UNIDENTIFIED SPEAKER: Are we able to ask questions as well?

STEVEN SMITH: Sorry, it's a one-way communication process.

Now, the comments you have and the questions you ask will be addressed in some fashion in the EIR. So that's the only question I'm going to answer tonight.

UNIDENTIFIED SPEAKER: Will they be inside the transcript?

STEVEN SMITH: Absolutely. So that I do want -- oh, I just want to note, too, of course you can submit written comments tonight and, again, up until July 27. And the last two slides I show after our public comments tonight will give the specifics regarding that. And also that information is available up at the table by the entrance there.

And two minutes is that what this slide says. We're going to say three minutes for tonight. We're not expecting a lot of speakers. So -- we're going to give a little reorientation so we can make sure that your comments are accurately --

LESLIE MOULTON: And we'll ask that you come up to the podium. And we have a few speaker cards. You're welcome to fill them out at any time, add any comment. Okay. So Jill is in the back. If you've filled out a speaker card, we've got Jill, we've got others who will pick them up and take them forward.

Our first speaker is going to be Siri Datta Khalsa. And second one up is Ace. So if you could be getting ready to make your comments. And then Karen Pierce, in that order. Take your time. If you feel that you want to fill out a speaker card, come forward. And it's also not required that you fill out speaker card. If you feel like you want to speak, then just raise your hand, and...

Go ahead. Thank you. State your name again when you come to the podium, and then we'll take your card.

SIRI DATTA KHALSA: Hello. My name is Siri Datta Khalsa. I'm the owner of San Francisco Foliage. For the last many years, since 1989, I have been a tenant at the greenhouses here.

The greenhouses were a part of the mitigation measures that were negotiated with the community when the facility was placed in the community.

We have tried quite diligently and persistently during that time to understand the needs of the community and to apply our efforts to a substantive mitigation. We are a small business. I would like to just read to you some of the factors that characterize our business.

Over 50 percent of our employees are from Bayview-Hunters Point; over 80 percent are people of color. We're a small business, but we have paid over $4 million in wages to residents.

I was aware -- made aware that in Bayview-Hunters Point there are some neighborhoods where youth unemployment is more than 75 percent. So we started to focus on youth employment. We offer an internship program for at-risk youth, and we partner with Five Keys Charter School. Five Keys Charter School was started -- is actually present now in the facility here.

It was started in the jails to provide educational opportunities for youth.

LESLIE MOULTON: You've got one minute.

SIRI DATTA KHALSA: We host a charter school inside the green house. We pay 100 percent of intern's wages and all program costs. Interns work part-time while earning credit towards their diploma. Over 30 young people have interned at San Francisco Foliage since 2009. Nine interns earned their high school diplomas. Currently, 10 percent of my full-time staff were former interns.

40 percent of our employees are women. 20 percent are LGBT. Three different languages are spoken at the greenhouse: Chinese, Spanish, and English. On-site ESL classes are offered free. We offer on-site GED prep for all employees without a high school diploma. 25 percent of our full-time employees are enrolled in the educational services.

We are a certified local business entity with San Francisco. We're certified by the San Francisco Human Rights Commission. And we are a proud recipient of the 2015 Local Business Pioneer award from the San Francisco Housing Development Corporation.

In conclusion, I see the greenhouse as a site for life where people and fauna flourish. If the greenhouse is to be demolished -- and that decision has been made -- and not replaced for the duration of construction -- five to 20 years, as I understand -- the continuity of a solemn promise, a solemn accord made with the people of Bayview when the facility was first placed here will be broken.

And I simply ask is this necessary? Thank you.

LESLIE MOULTON: Thank you. Ace is next; Karen Pierce, and then Steven Tiell will be after that.

ACE WASHINGTON: Good evening, members of the audience and the City and County. My name is Ace -- better known around here as Ace on the Case.

I'm not new to this. I'm -- truth is I'm just happy to be here because I read an article in my paper of Harlan Kelly and this wastewater issue. And I come in, as soon as I walk in the door, one of your handlers -- I'm asking them is this with the City Planning Department, and they're telling me no, it's something else.

And so right then, I'm all -- I'm insulted because I ain't new to this; I'm true to this. I've been coming to these community meetings over 20-something years. So after saying that, let me say this: We here for -- on an EIR. My name is A-C-E. I'm totally shocked and saddened as an African American black Negro, however you want to clarify me, that the things that's going to be affecting and impacting our community for the next ten years, I don't see them in account here, representing or being part of these procedures. So I'm really looking for people that I can recognize. I don't see that.

So after saying that, let me say this. Planning Commission -- this is the Planning Department, right? Is that what this department's about? Well, let me say on another parallel situation, on the planning. Because of the Planning Department is one of the issues I'm here. It goes back. It's a mystery to history on which me, as an African-American, may not even be around in the next five, ten years.

So that's why I am here and been having a platform at City Hall for a number of years since I've been involved with the outreach which has a lot to do with the Planning Department, which has a lot to do with each and every department in this city going forward on whatever five- or ten-year plan.

So I get emotional. I'm not up here because I'm -- I'm morally obligated. See, ladies and gentlemen, I'll finish with this. I represent three Cs, my children's children's childrens. So therefore, ladies and gentlemen, my name is Ace. I'm on the case. And I'm here because I am some way involved with this covering. I just thought I'd be here. And I'm just here for the procedures. Thank you much.

LESLIE MOULTON: Next up, Karen Pierce, and then

Steven Tiell, Anders & Anders.

KAREN PIERCE: Good evening. I'm Karen Pierce. I'm a native San Franciscan. I live in the 1700 block of Newcomb, which, when you drive out of the parking lot here, is right down the street.

I've lived in my house -- I bought my house 35, almost 36 years ago. So when I bought my house, this site was a wrecking yard. They were dismantling autos.

I saw -- I fought, before I moved here, with residents of this neighborhood to not allow this expansion to occur here because Bayview had more than enough burden, environmental burden already. And I didn't think that it was equitable that the expansion would occur.

There had been lots of discussion to move to the old American Can site in Potrero but Potrero Hill had more political clout than this neighborhood did. So we wound up with this, and we wound up with a benefits package that people were not completely happy with but it was something.

We have not yet received the benefit of that benefits package. This building was built with the promise that all of the space would be made available to the nonprofit organizations in the neighborhood at either free rent or very reduced rent in acknowledgement of the needs of the neighborhood.

And thank you, sir, for your talk about the greenhouses. The greenhouses were built with the promise that an extensive training program would be developed for community residents. And that would feed those residents into jobs that included gardening jobs, which at the time were -- there were a lot of City gardeners, and they were well-paid jobs.

As soon as the building was completed, we were told the City couldn't afford it, and so we had the choice. We could allow City College to come in and rent most of the space, or they didn't know what, but they were going to have to lease it.

And we lost the Skill Center, which was in an old school building at the top of the hill, which was a facility that was serving as the one and only educational opportunity for non-skilled workers. We were promised that, if the City College moved in, the kind of programs they were going to have would take the place of the Skill Center. Okay.

So we lost the building; we lost training. We got City College to come in. The programs that they offered -- that they said they were going to offer were never offered. We did not get the training. And now we understand that the activities that go on in this building are going to be moved down to Evans Street. And we understand that the -- the demolition of the greenhouses may mean the complete end of that. Okay.

So now we're talking about a new project. We're doing scoping. I have a list that I can read very quickly of the kinds of things that I want to be sure are looked at. But I also want to say that, in this discussion, there will be a discussion about mitigation and community benefits.

Community benefits package must acknowledge that we haven't been paid the first community benefits. We need to have PUC and the City acknowledge that and determine how we are going to get the neighborhood benefits from the first go round as well as take a look at what are the benefits that we should be getting from this because, frankly, no neighborhood wants a sewage plant. Okay?

My list: Transit. Okay? During the construction, they're going to close down Evans Street. What's going to happen to the 19 Polk? Air quality, not only the odor -- complete abatement of the odor is what we're looking for -- but dust mitigation during construction. Coordination with other construction projects because there are a number of large projects that are not just proposed, that are moving forward, that are all right in this area that are going to impact us.

The height of the digesters is a concern. And the aesthetics of the whole place is a concern. If we have to have a sewage plant, we don't have to have it pretend to be something else, but it also should not be such an eyesore that, when we look at it, it's just one more insult. Thank you.

LESLIE MOULTON: Steven Tiell. And then we have Terry Anders and David Pilpel.

STEVEN TIELL: Good evening. Thank you, SFPUC and fellow community members. My wife and I moved here after being no-fault evicted for our third time elsewhere in San Francisco. And we were finally able to buy a home here about a month and a half ago.

A week after that, our oldest son, who's four years old, told me, "Daddy, I don't like our new home because it smells like a potty." Imagine how heartbreaking that is. And I can't really argue with him. So I'm getting engaged.

And really, you know, I hear this idea that, you know, your goal is to make the odors end at the fence line. I've had great engagement with people at the PUC -- Maureen, Rosanna, Katie, George at the plant, Al at the PUC as well. And I'm really encouraged by the capabilities of the people that are at the table. But I really encourage you, please, don't lose sight of the community that's here.

I've lived in San Francisco for 12 years. I've consulted in cities all over the world. You know, and the social and economic justice issues that I see here have really opened my eyes to what's possible in a world class city. And I had no idea it was in my own backyard before I moved to the Bayview. And it's really astounding to me.

So the concerns that the community members are raising here today, really take to heart. You know, they're impassioned. You know, the first week we moved in, we met more neighbors than we met in four years in Bernal Heights, in five years next to Dolores Park.

The diversity is why we moved to the city to begin with. And the diversity that we saw leaving other parts of the city and why we discussed leaving the city ourselves is alive and well in Bayview. It's a community to really be cherished.

And the fact that we have this -- this -- you know, necessary piece of infrastructure for a city but really a blight on the neighborhood isn't just one item, but it's one on a whole list of things of the social and economic justice issues that this neighborhood is enduring. And I just ask that you be cognizant of that. You really focus on this idea that, you know, people in any neighborhood in any city in any part of the world should not be subject to things like your child telling you their new neighborhood smells like a potty. It's really a horrible thing.

So thank you. And I have a lot of confidence that the PUC will rectify this issue as you move forward with the project. Thanks.

LESLIE MOULTON: Thank you.

Terry Anders. And next David Pilpel.

TERRY ANDERS: Welcome. Glad to be here. I'm Terry Anders of Anders & Anders Foundation.

When the sewage plant was built, I was part of it. It was a four-year project. Men and women in this area had first priority to jobs, the opportunity to work.

I was a steward out there with the iron workers. We had over 50 iron workers. So when we talk about the economics and what this city is about, we still need to be talking about jobs. Regardless of what and how it smells, how many people are going to be put to work?

We have the highest crime rate, and that's no accident. So when we talk about who's going to work, every union is going to be part of this project. Historically, there's a lot of unions that keep people that look like me out of the trade.

So that's one of the benefits that we can get is an economic benefit. Every trade that's going to be part of this project should have X number of people from this neighborhood that's going to be part of the trade.

So the killings that's going on is economics. So you talking about how something smells; tell me how something looks; tell me how something feels. That people don't have the opportunity to get into a job. People don't have the opportunity to get into a trade, and they working all over this city.

How many people are in prison, stacked up like sardines? Tell me how that look. Tell me how that feels.

So when the opportunity and the economics is part of this neighborhood, we should be working. Doors open. No hesitation.

Tell me how many people is going to be making money off of this project? I want to be one of the monitors to see how many people that look like me are in these trades. That's how and why Anders & Anders was created. I work with ex-offenders to keep them out of prison. That's what I want to hear about. What kind of financial benefits is going to happen to this neighborhood? Let me see and be part of that process.

LESLIE MOULTON: Thank you. David Pilpel. After that, we have Tracy Zhu and Andrea Tacdol.

DAVID PILPEL: Good evening. I tried to be in costume tonight.

David Pilpel, former member of the PUC Citizens Advisory Committee and 10-year member of the Wastewater Subcommittee, longtime supporter of the project.

So my concerns for purpose of scoping are as follows. The project description and setting I think should include some black cart residual material from Recology. I was formerly a supporter of -- including food waste digestion here. I understand that's now better done at their Tunnel Road site, but they are looking at capturing some of the compostable material out of the black cart. And I think the project should consider some amount of that. I think -- are we calling that high-strength waste?

Anyway. Also, on the setting, I think the EIR needs to clearly identify other PUC and in particular southeast plant projects that are happening, the headworks and various other projects, so that a full understanding of all the related projects is included in the document.

In terms of impacts, the relocation of central shops is critical for real estate purposes. That may create its own secondary impact. Those should be identified and potentially mitigated. And, again, other southeast plant projects and potentially reorganizing certain functions on the site.

The cumulative impacts need to clearly define the area for purpose of cumulative impacts, both City and non-City projects. I suspect that will depend on the nature of the impacts but may go as far as Dog Patch, Cesar Chavez, probably over towards Bayshore and farther south.

In terms of mitigation, I understand from a meeting last week that the Palou Phelps open space area to the south of here the City could acquire. But that will cost some money. I think that's a potential mitigation, to acquire the rest of that private site for open space. I think the PUC should go back to free compost give-aways for residents, particularly those around the southeast site, probably Oceanside as well.

The PUC looked at a Cayuga diversion project several years ago to take the effluent from the Cayuga neighborhood. I'll wrap up.

Somebody's calling me here.

(Cell phone interruption)

DAVID PILPEL: I apologize.

Anyway, the Cayuga diversion I think should be looked at again to potentially shift some flow from southeast to Oceanside. That may or may not happen within this project time span, but it should be looked at for potential mitigation.

And finally rail haul options for sludge load-out and potentially other materials, particularly outbound but also potentially inbound to the plant, since we're right contiguous with the rail line.

Finally, as to alternative locations, some of the functions could be located at 1550 Evans, already owned by the PUC, and certainly the Pier 94 backlands, which was looked at by the Digester Task Force.

I don't know that those are the best alternatives, but I think they should be looked at to some degree in this study for purpose of screening alternatives.

Thanks for your time. Look forward to the document.

LESLIE MOULTON: Tracy, followed by Andrea.

That's all the speaker cards. Anybody else?

TRACY ZHU: Hi, my name is Tracy Zhu. I'm a longtime resident of the neighborhood. I sit in the Environmental Justice seat at the SFPUC Citizen Advisory Committee.

I'm here today for a couple of reasons. This location in Bayview has a significant impact as, you know, not just having negative impacts on the neighborhood but a hub for the neighborhood as well. And so I think there's a lot to be said on how this can be -- be designed to continue attracting people from the neighborhood as well as be a destination for folks outside the neighborhood for positive uses, such as City College, other training programs.

You know, this has a huge potential for being a great engine for the city in terms of, you know, what fleshes out as being the businesses that are in the greenhouses or the types of training that we could have here in this community facility.

So in the meantime, during the construction process, there's a lot of concerns that I'd like to make sure that the EIR addresses. And I think the traffic impact is going to be significant.

And potentially shutting down Evans Street where the 19 bus runs, it's one of the only buses that takes folks from Hunters Point and out of the neighborhood. And so that's a huge lifeline for the neighborhood. So definitely encourage some coordination with Muni in order to reduce the traffic impacts.

Second, along with traffic, the use of trucks to truck materials in and out, given the long-term operations of the biosolids, as I understand it, the Pier 94 is going to be the staging area. And so I'd really encourage you to make sure you define truck routes that minimize health impacts on the neighborhood.

And there's, you know, residential area right adjacent to this facility. So even if the trucks have to go along a route to avoid driving through the neighborhood, would be great. And as you know, going on this side of the campus on Oakdale -- yeah, Oakdale, also more residences. So any way it can go out the backside of the -- when I say "backside," I guess on the rail side of the footprint of the campus, on to Evans towards Pier 94 would be -- you know, for example. But definitely want to see some of those traffic alternatives for trucks as well as the public transportation.

And lastly, I think that -- yeah, the aesthetics can't be understated or overstated. There's a lot of eyesore in the neighborhood that has socioeconomic impacts on the neighborhood. And so definitely encourage early and often -- early feedback from the community by going out to meeting groups to gather that information on what aesthetics is culturally appropriate for this neighborhood. Thank you.

LESLIE MOULTON: Thank you. Andrea? And after Andrea, we have Diego Sanchez and Mindy Kener.

ANDREA TACDOL: Good evening. My name is Andrea Tacdol, and I'm a resident here in the Bayview. I'm raising my two children here in the community. So the environmental and health impacts of this project are really important to me.

I know that the community faces tremendous health and environmental disparities. And so similar to Tracy, I'm very interested in these trucks that are coming into our neighborhood and the increase, especially considering there's multiple projects, huge projects here in the community.

I'd like to know what truck routes will be used to minimize their impact.

I'd also like to know what -- what considerations have been made to ensure that the construction will minimize kind of the impacts on the community. I'm particularly interested in the lay down space for the greenhouses being so close to the community center right here and also a childcare center. Thank you.

I also would very much like to see, because there are so many EIRs happening in the community and multiple projects, what the impacts are cumulatively in our community. Two hundred trucks for one project might be -- might seem okay. But with so many other trucks or other construction happening, I want to know what those impacts are for the whole community during this time. Thank you.

LESLIE MOULTON: Thank you.

DIEGO SANCHEZ: I'm Diego Sanchez. I'm a neighbor of this facility, actually live almost immediately across the street.

I don't know if this pertains to the EIR or not, but I'm quite interested in what the process is and what the plans are for the existing biodigesters once they're undergoing the decommissioning phase. I think it was mentioned earlier by a speaker that the aesthetics are very important.

I think that in a community that's struggled with so many social justice issues over so many years that it's very important that you reach out to not only existing community groups but to actually the neighbors across the street.

I've lived there now seven years almost across the street, and I don't think I've been reached out to directly through a flyer or any other means, except for e-mail. But it would be nice to see a flyer about how to get involved in this process and what's happening, to be kept up to date.

There are a lot of folks here that may not be connected to the Internet or e-mail or whatnot. There are some immigrant populations here who may be on the other side of that digital divide.

Also concerned about truck traffic. These trucks, I will presume, are diesel trucks. And with the particulate that they emit, it's quite concerning. I mean, we're already suffering from the odors from the plant as well as just the dust when you burn off all that gas. It does collect on our homes. So if you could be sensitive to that.

Again, I thank you for your efforts here.

LESLIE MOULTON: Thank you.

Mindy Kener.

MINDY KENER: Good evening, Planning Commission. My name is Mindy Kener. I'm a senior job developer in the Bayview for Anders & Anders Foundation.

I hear a lot about the construction jobs, and that's great. I'm hoping that you will reach out to the small community-based organizations in Bayview, not just the big boxes. We are in the trenches. We have been here for many, many years. And Downtown forgets the small folks who help people in the Bayview with their GEDs and getting into the construction union trades, which is a great idea since we have so many people without GEDs.

However, my main point this evening is, once the digesters are built, community should have those jobs. They should be first in line if they have the correct specifications, skills. We should train them in those skills.

We need them to work when they're done with the construction and have full-time benefits. I guess they're union for the digesters. So these are excellent jobs for the community. It could be from clerical to learning how to work the chemicals.

We have many training facilities. And we have many young men and women who are willing to do it.

I thank you for your time.

LESLIE MOULTON: Thank you.

Would anyone else like to speak or make comments this evening?

(No response)

STEVEN SMITH: Thank you, everybody. Very much appreciate the comments.

I want to point out up here and also as well at the table there, there's information about how to submit your written comments, whether by e-mail or in writing. So you have until July 27th close of business is the deadline to submit written comments. So -- and then a few of us will be around after I close the hearing. If there's any follow-up questions, we may be able to answer those for you tonight.

So here's my contact information. I mentioned Karen Frye is my counterpart at PUC. Again, she's not here tonight, but she can help in terms of project-description type questions. Feel free to contact me. I'm mainly the contact in terms of the CEQA process and questions you have about CEQA.

But that's it. I'm going to close the hearing. Thank everybody for coming tonight and taking your comments. Thanks.

(Whereupon, the proceedings adjourned at 7:23 o'clock p.m.)

STATE OF CALIFORNIA)
) ss.
COUNTY OF MARIN)

I, DEBORAH FUQUA, a Certified Shorthand Reporter of the State of California, do hereby certify that the foregoing proceedings were reported by me, a disinterested person, and thereafter transcribed under my direction into typewriting and is a true and correct transcription of said proceedings.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing proceeding and caption named, nor in any way interested in the outcome of the cause named in said caption.

Dated the 6th day of November, 2015.

DEBORAH FUQUA

CSR NO. 12948

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APPENDIX SCM

Standard Construction Measures

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SFPUC Standard Construction Measures

1. SEISMIC AND GEOTECHNICAL STUDIES: All projects will prepare a characterization of the soil types and potential for liquefaction, subsidence, landslide, fault displacement, and other geological hazards at the project site and will be engineered and designed as necessary to minimize risks to safety and reliability due to such hazards. As necessary, geotechnical investigations will be performed.

2. AIR QUALITY: All projects within San Francisco City (the City) limits will comply with the Construction Dust Control Ordinance. All projects outside the City will comply with applicable local and State dust control regulations. All projects within City limits will comply with the Clean Construction Ordinance. Projects outside City limits will comply with San Francisco or other applicable thresholds for health risks. All projects, both within and outside of City limits, will comply with either San Francisco or other applicable thresholds for construction criteria air pollutants.

To meet air quality thresholds, all projects (as necessary) will implement air quality controls to be tailored to the project, such as using high tier engines, Verified Diesel Emissions Control Strategies (VDECS) such as diesel particulate filters, customized construction schedules and procedures, and low emissions fuel.

3. WATER QUALITY: All projects will implement erosion and sedimentation controls to be tailored to the project site such as, fiber rolls and/or gravel bags around stormdrain inlets, installation of silt fences, and other such measures sufficient to prevent discharges of sediment and other pollutants to storm drains and all surface waterways, such as San Francisco Bay, the Pacific Ocean, water supply reservoirs, wetlands, swales, and streams. As required based on project location and size, a Stormwater Control Plan (in most areas of San Francisco) or a Stormwater Pollution Prevention Plan (SWPPP) (outside of San Francisco and in certain areas of San Francisco) will be prepared. If uncontaminated groundwater is encountered during excavation activities, it will be discharged in compliance with applicable water quality standards and discharge permit requirements.

4. TRAFFIC: All projects will implement traffic control measures sufficient to maintain traffic and pedestrian circulation on streets affected by construction of the project. Traffic control measures may include, but not be limited to, flaggers and/or construction warning signage of work ahead; scheduling truck trips during non-peak hours to the extent feasible; maintaining access to driveways, private roads, and off-street commercial loading facilities by using steel trench plates or other such method; and coordination with local emergency responders to maintain emergency access. For projects in San Francisco, the measures will also, at a minimum, be consistent with the requirements of San Francisco Municipal Transportation Agency (SFMTA)'s Blue Book. Any temporary rerouting of transit vehicles or relocation of transit facilities would be coordinated with the applicable transit agency, such as SFMTA Muni Operations in San Francisco. All Projects will obtain encroachment permits from the applicable jurisdiction for work in public roadways.

5. NOISE: All projects will comply with local noise ordinances regulating construction noise. The SFPUC shall undertake measures to minimize noise disruption to nearby neighbors and sensitive receptors during construction. These efforts could include using best available noise control technologies on equipment (i.e., mufflers, ducts, and acoustically attenuating shields),

locating stationary noise sources (i.e., pumps and generators) away from sensitive receptors, erecting temporary noise barriers, and other such measures.

<u>6. HAZARDOUS MATERIALS:</u> Where there is reason to believe that site soil or groundwater that will be disturbed may contain hazardous materials, the SFPUC shall undertake an assessment of the site in accordance with any applicable local requirements (e.g., Maher Ordinance) or using reasonable commercial standards (e.g., Phase I and Phase II assessments, as needed). If hazardous materials will be disturbed, the SFPUC shall prepare a plan and implement the plan for treating, containing or removing the hazardous materials in accordance with any applicable local, State and federal regulations so as to avoid any adverse exposure to the material during and after construction. In addition, any unidentified hazardous materials encountered during construction likewise will be characterized and appropriately treated, contained or removed to avoid any adverse exposure. Measures will also be implemented to prevent the release of hazardous materials used during construction, such as storing them pursuant to manufacturer recommendation, maintaining spill kits onsite, and containing any spills that occur to the extent safe and feasible followed by collection and disposal in accordance with applicable laws. SFPUC will report spills of reportable quantity to applicable agencies (e.g., the Governor's Office of Emergency Services).

<u>7. BIOLOGICAL RESOURCES:</u> All project sites and the immediately surrounding area will be screened to determine whether biological resources may be affected by construction. A qualified biologist will also carry out a survey of the project site, as appropriate, to note the general resources and identify whether habitat for special-status species and/or migratory birds, are present. In the event further investigation is necessary, the SFPUC will comply with all local, State, and federal requirements for surveys, analysis, and protection of biological resources (e.g., Migratory Bird Treaty Act, federal and State Endangered Species Acts, etc.). If necessary, measures will be implemented to protect biological resources, such as installing wildlife exclusion fencing, establishing work buffer zones, installing bird deterrents, monitoring by a qualified biologist, and other such measures. If tree removal is required, the SFPUC would comply with any applicable tree protection ordinance.

<u>8. VISUAL AND AESTHETIC CONSIDERATIONS, PROJECT SITE:</u> All project sites will be maintained in a clean and orderly state. Construction staging areas will be sited away from public view where possible. Nighttime lighting will be directed away from residential areas and have shields to prevent light spillover effects. Upon project completion, project sites on SFPUC-owned lands will be returned to their general pre-project condition, including re-grading of the site and re-vegetation or re-paving of disturbed areas to the extent this is consistent with SFPUC's Integrated Vegetation Management Policy. However, where encroachment has occurred on SFPUC-owned lands, the encroaching features may not be restored if inconsistent with the SFPUC policies applicable to management of its property. Project sites on non-SFPUC land will be restored to their general pre-project condition so that the owner may return them to their prior use, unless otherwise arranged with the property owner.

<u>9. CULTURAL RESOURCES:</u> All projects that will alter a building or structure, produce vibrations, or include soil disturbance will be screened to assess whether cultural resources are or may be present and could be affected, as detailed below.

Archeological Resources. No archeological review is required for a project that will not entail ground disturbance. Projects involving ground disturbance will undergo screening for archeological sensitivity as described below and implement, as applicable, SFPUC's Standard Archeological Measures I (Discovery), II (Monitoring) and III (Testing/Data Recovery) per the Cultural Resources Attachments. Standard Construction Measure I will be implemented on all projects involving ground disturbance and Standard Archeological Measures II and III will be implemented based on the screening process described below for projects assessed as having the potential to encounter archeological sites and/or if an archeological discovery occurs during construction.

Projects involving ground disturbance will initially be screened to identify whether there is demonstrable evidence of prior ground disturbance in the project site to the maximum vertical and horizontal extent of the current project's planned disturbance. For projects where prior complete ground disturbance has occurred throughout areas of planned work, SFPUC will provide evidence of the previous disturbance in the Categorical Exemption application and no further archeological screening will be required.

For projects that are on previously undisturbed sites or where the depth/extent of prior ground disturbance cannot be documented, or where the planned project-related ground disturbance will extend beyond the depth/extent of prior ground disturbance, additional screening will be carried out as detailed below and shown on the attached flow chart titled "SFPUC Standard Construction Measure #9 Archeological Assessment Process". The additional screening will be conducted by the SFPUC's qualified archeologist (defined as meeting the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) and, if a consultant, selected in consultation with the San Francisco Planning Department's Environmental Review Officer (ERO) and meeting criteria or specialization required for the resource type as identified by the ERO.

1) The SFPUC qualified archeologist will conduct an archival review for the project site, including review of Environmental Planning's (EP's) archeological GIS data and/or a records search of the California Historical Resources Information System (CHRIS) and other archival sources as appropriate. The qualified archeologist will also conduct an archeological field survey of the project site if, in the archeologist's judgment, this is warranted by site conditions. Based on the results, the archeologist will complete and submit to EP a Preliminary Archeological Checklist (PAC) (version dated 4/2015, to be amended in consultation with the ERO as needed). The PAC will include recommendations for the need for archeological testing, additional research and/or treatment measures consistent with Archeological Measures I, II, and III, to be implemented by the project to protect and/or treat significant archeological resources identified as being present within the site and potentially affected by the project.

2) The EP Archeologist (for projects within the City) or the ERO's archeological designee (for projects outside the City) will then conduct a Preliminary Archeological Review (PAR) of the PAC and other sources as warranted; concur with the PAC recommendations; and/or amend the PAC in consultation with the SFPUC archeologist or archeological consultant to require additional research, reports, or treatment measures as warranted based on his/her professional opinion.

3) The SFPUC shall implement the PAC/PAR recommendations prior to and/or during project construction consistent with Standard Archeological Measures I, II, and III, and

shall consult with the EP Archeologist in selecting an archeological consultant, as needed, to implement these measures.

4) Ground disturbing activities in archeologically sensitive areas, as identified through the above screening, will not begin until required preconstruction archeological measures of the PAC/PAR (e.g., preparation of an Archeological Monitoring Plan, Archeological Treatment Plan, and/or an Archeological Research Design and Data Recovery Plan) have been implemented.

Historic (Built Environment) Resources. For projects within the City that include activities with the potential for direct or indirect effects to historic buildings or structures, initial CEQA screening will include a review, for the project footprint and up to one parcel surrounding the footprint of CCSF's online planning map, all relevant survey data, preservation address files, and other pertinent sources for previously-identified, historically significant buildings and building and structures more than 45 years old that have not been previously evaluated. For projects outside of the City, initial CEQA screening will include a records search of EP's CCSF historical resources data, CHRIS, and other pertinent sources for historically significant or potentially significant buildings and structures older than 45 years.

For projects that would modify an existing building or structure that has been determined by EP as being a significant historical resource (i.e., appears eligible to qualify for the CRHR), or that would introduce new aboveground facilities in the vicinity of a significant historical resource, or that would affect previously unevaluated buildings or structures more than 45 years old, the SFPUC will retain a qualified architectural historian (defined as meeting the Secretary of the Interior's Professional Qualification standards and, if a consultant, also selected in consultation with the ERO) to conduct a historical resource evaluation (HRE). SFPUC will submit the project description and the HRE to the CCSF Planning Department Preservation Planner or to the ERO's-designated qualified architectural historian to assess potential effects. Where the potential for the project to have adverse effects on historic buildings or structures is identified, the CCSF Planning Department Preservation Planner or the ERO's designee will consult with SFPUC to determine if the project can be conducted as planned or if the project design can be revised to avoid the significant impact, and will comply with applicable procedures set forth in Historic Architectural Resource Measure I. If these options are not feasible, the project will need to undergo further review with EP and mitigation may be required. If so, the project would not qualify for a Categorical Exemption from CEQA review.

Where construction will take place in proximity to a building or structure identified as a significant historical resource but would not otherwise directly affect it, the SFPUC will implement protective measures, such as but not limited to, the erection of temporary construction barriers to ensure that inadvertent impacts to such buildings or structures are avoided.

APPENDIX TR

Transportation Supporting Information

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1. Traffic Volume Data

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SFPUC Biosolids Digester Facilities Project

Daily Vehicle Trip Classification - Jerrold Avenue East of Rankin

August 13 through 19, 2016

		WESTBOUND					EASTBOUND					BOTH WAYS				
DATE	TIME	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL
DAILY DATA																
Average Weekday		**3,607**	**89**	**280**	**53**	**4,029**	**2,446**	**89**	**180**	**31**	**2,746**	**6,053**	**178**	**460**	**84**	**6,775**
		90%	***2%***	***7%***	***1%***	***100%***	***89%***	***3%***	***7%***	***1%***	***100%***	***89%***	***3%***	***7%***	***1%***	***100%***
Early AM	mid-7am	356	8	27	6	397	361	10	23	6	400	717	18	50	12	797
AM Peak	7-9 am	565	17	68	12	662	243	17	34	4	298	808	34	102	16	960
Midday	10am-4pm	1,630	41	147	33	1,851	1,074	39	104	19	1,236	2,704	80	251	52	3,087
PM Peak	4-6 pm	425	10	26	2	463	289	8	7	1	305	714	18	33	3	768
Late PM	6pm-mid	631	13	12	0	656	479	15	12	1	507	1,110	28	24	1	1,163
Early AM	peak hour	151	6	18	3	178	169	9	15	3	196	320	15	33	6	374
		85%	*3%*	*10%*	*2%*	*100%*	*86%*	*5%*	*8%*	*2%*	*100%*	*86%*	*4%*	*9%*	*2%*	*100%*
AM Peak	peak hour	294	9	43	8	354	128	9	21	2	160	422	18	64	10	514
		83%	*3%*	*12%*	*2%*	*100%*	*80%*	*6%*	*13%*	*1%*	*100%*	*82%*	*4%*	*12%*	*2%*	*100%*
Midday	peak hour	294	8	26	7	335	172	7	21	5	205	466	15	47	12	540
		88%	*2%*	*8%*	*2%*	*100%*	*84%*	*3%*	*10%*	*2%*	*100%*	*86%*	*3%*	*9%*	*2%*	*100%*
PM Peak	peak hour	218	6	18	1	243	146	4	4	1	155	364	10	22	2	398
		90%	*2%*	*7%*	*0%*	*100%*	*94%*	*3%*	*3%*	*1%*	*100%*	*91%*	*3%*	*6%*	*1%*	*100%*
Late PM	peak hour	164	3	4	0	171	113	4	5	1	123	277	7	9	1	294
		96%	*2%*	*2%*	*0%*	*100%*	*92%*	*3%*	*4%*	*1%*	*100%*	*94%*	*2%*	*3%*	*0%*	*100%*

SFPUC Biosolids Digester Facilities Project

Daily Vehicle Trip Classification - Jerrold Avenue East of Rankin

August 13 through 19, 2016

		WESTBOUND					EASTBOUND					BOTH WAYS				
DATE	TIME	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL	Mcycle, pax car, pick ups	Bus	Single Unit Truck	Multi-Unit Combo	TOTAL
DAILY DATA																
08/13/16	**Saturday**	**2,578**	**44**	**93**	**22**	**2,737**	**1,605**	**44**	**62**	**13**	**1,724**	**4,183**	**88**	**155**	**35**	**4,461**
Early AM	mid-7am	310	4	6	3	323	183	5	8	2	198	493	9	14	5	521
AM Peak	7-9 am	248	8	16	7	279	117	7	9	4	137	365	15	25	11	416
Midday	10am-4pm	1,180	15	61	11	1,267	704	16	36	6	762	1,884	31	97	17	2,029
PM Peak	4-6 pm	281	5	6	1	293	191	4	4	1	200	472	9	10	2	493
Late PM	6pm-mid	559	12	4	0	575	410	12	5	0	427	969	24	9	0	1,002
Early AM	peak hour	66	3	5	2	76	51	3	5	2	61	117	6	10	4	137
AM Peak	peak hour	130	5	10	5	150	61	4	5	2	72	191	9	15	7	222
Midday	peak hour	189	3	13	3	208	140	3	11	3	157	329	6	24	6	365
PM Peak	peak hour	143	3	4	1	151	102	2	4	1	109	245	5	8	2	260
Late PM	peak hour	116	2	1	0	119	87	3	2	0	92	203	5	3	0	211
08/14/16	**Sunday**	**2,147**	**35**	**41**	**5**	**2,228**	**1,355**	**35**	**31**	**4**	**1,425**	**3,502**	**70**	**72**	**9**	**3,653**
Early AM	mid-7am	226	1	4	1	232	157	2	3	1	163	383	3	7	2	395
AM Peak	7-9 am	184	4	6	0	194	70	4	4	0	78	254	8	10	0	272
Midday	10am-4pm	1,046	14	25	4	1,089	579	14	16	1	610	1,625	28	41	5	1,699
PM Peak	4-6 pm	238	4	1	0	243	180	4	1	0	185	418	8	2	0	428
Late PM	6pm-mid	453	12	5	0	470	369	11	7	2	389	822	23	12	2	859
Early AM	peak hour	58	1	2	1	62	52	1	2	1	56	110	2	4	2	118
AM Peak	peak hour	117	2	5	0	124	39	2	2	0	43	156	4	7	0	167
Midday	peak hour	172	2	6	2	182	103	2	3	1	109	275	4	9	3	291
PM Peak	peak hour	119	2	1	0	122	94	2	1	0	97	213	4	2	0	219
Late PM	peak hour	102	2	3	0	107	75	2	4	1	82	177	4	7	1	189
08/15/16	**Monday**	**3,527**	**97**	**277**	**60**	**3,961**	**2,350**	**86**	**191**	**33**	**2,660**	**5,877**	**183**	**468**	**93**	**6,621**
Early AM	mid-7am	329	12	19	7	367	340	11	27	10	388	669	23	46	17	755
AM Peak	7-9 am	539	14	64	17	634	231	15	35	4	285	770	29	99	21	919
Midday	10am-4pm	1,604	48	148	34	1,834	1,070	38	109	17	1,234	2,674	86	257	51	3,068
PM Peak	4-6 pm	423	10	29	2	464	280	6	8	1	295	703	16	37	3	759
Late PM	6pm-mid	632	13	17	0	662	429	16	12	1	458	1,061	29	29	1	1,120
Early AM	peak hour	132	8	11	4	155	167	10	16	6	199	299	18	27	10	354
AM Peak	peak hour	297	8	45	9	359	123	8	24	2	157	420	16	69	11	516
Midday	peak hour	278	8	32	8	326	186	9	20	6	221	464	17	52	14	547
PM Peak	peak hour	222	6	19	2	249	146	3	5	1	155	368	9	24	3	404
Late PM	peak hour	154	3	6	0	163	110	5	5	1	121	264	8	11	1	284
08/16/16	**Tuesday**	**3,587**	**92**	**284**	**59**	**4,022**	**2,487**	**95**	**176**	**37**	**2,795**	**6,074**	**187**	**460**	**96**	**6,817**
Early AM	(midn.-7 am)	348	8	19	12	387	325	12	22	6	365	673	20	41	18	752
AM Peak	(7-9 am)	576	19	71	11	677	245	17	33	6	301	821	36	104	17	978
Midday	(10 am-4 pm)	1,627	42	156	32	1,857	1,136	43	101	23	1,303	2,763	85	257	55	3,160
PM Peak	(4-6 pm)	415	9	27	2	453	313	9	8	0	330	728	18	35	2	783
Late PM	(6 pm-midn.)	621	14	11	2	648	468	14	12	2	496	1,089	28	23	4	1,144
Early AM	peak hour	151	6	14	5	176	156	10	14	4	184	307	16	28	9	360
AM Peak	peak hour	300	12	46	7	365	129	9	17	3	158	429	21	63	10	523
Midday	peak hour	318	10	27	8	363	182	9	19	6	216	500	19	46	14	579
PM Peak	peak hour	208	5	18	2	233	167	5	5	0	177	375	10	23	2	410
Late PM	peak hour	178	4	6	1	189	110	3	7	2	122	288	7	13	3	311

SFPUC Biosolids Digester Facilities Project

Daily Vehicle Trip Classification - Jerrold Avenue East of Rankin

August 13 through 19, 2016

DATE	TIME	WESTBOUND Mcycle, pax car, pick ups	WESTBOUND Bus	WESTBOUND Single Unit Truck	WESTBOUND Multi-Unit Combo	WESTBOUND TOTAL	EASTBOUND Mcycle, pax car, pick ups	EASTBOUND Bus	EASTBOUND Single Unit Truck	EASTBOUND Multi-Unit Combo	EASTBOUND TOTAL	BOTH WAYS Mcycle, pax car, pick ups	BOTH WAYS Bus	BOTH WAYS Single Unit Truck	BOTH WAYS Multi-Unit Combo	BOTH WAYS TOTAL
DAILY DATA																
08/17/16	**Wednesday**	**3,585**	**99**	**299**	**49**	**4,032**	**2,475**	**87**	**176**	**31**	**2,769**	**6,060**	**186**	**475**	**80**	**6,801**
Early AM	mid-7am	357	10	31	2	400	384	8	21	4	417	741	18	52	6	817
AM Peak	7-9 am	572	22	80	9	683	255	22	34	2	313	827	44	114	11	996
Midday	10am-4pm	1,648	46	158	34	1,886	1,084	33	104	24	1,245	2,732	79	262	58	3,131
PM Peak	4-6 pm	430	9	20	3	462	277	9	6	1	293	707	18	26	4	755
Late PM	6pm-mid	578	12	10	1	601	475	15	11	0	501	1,053	27	21	1	1,102
Early AM	peak hour	148	5	22	1	176	182	7	12	2	203	330	12	34	3	379
AM Peak	peak hour	287	13	43	5	348	138	12	22	1	173	425	25	65	6	521
Midday	peak hour	299	12	28	9	348	179	10	21	8	218	478	22	49	17	566
PM Peak	peak hour	227	6	14	2	249	153	5	4	1	163	380	11	18	3	412
Late PM	peak hour	145	3	4	1	153	113	3	8	0	124	258	6	12	1	277
08/18/16	**Thursday**	**3,633**	**88**	**271**	**46**	**4,038**	**2,467**	**87**	**182**	**29**	**2,765**	**6,100**	**175**	**453**	**75**	**6,803**
Early AM	mid-7am	339	10	30	8	387	373	13	25	6	417	712	23	55	14	804
AM Peak	7-9 am	602	17	73	5	697	245	16	36	3	300	847	33	109	8	997
Midday	10am-4pm	1,639	38	132	32	1,841	1,050	34	102	18	1,204	2,689	72	234	50	3,045
PM Peak	4-6 pm	424	10	24	1	459	280	7	7	1	295	704	17	31	2	754
Late PM	6pm-mid	629	13	12	0	654	519	17	12	1	549	1,148	30	24	1	1,203
Early AM	peak hour	160	7	18	5	190	177	10	16	2	205	337	17	34	7	395
AM Peak	peak hour	307	10	48	3	368	125	8	19	2	154	432	18	67	5	522
Midday	peak hour	283	9	25	7	324	173	7	28	6	214	456	16	53	13	538
PM Peak	peak hour	220	6	18	1	245	145	4	5	1	155	365	10	23	2	400
Late PM	peak hour	176	3	4	0	183	123	3	4	1	131	299	6	8	1	314
08/19/16	**Friday**	**3,714**	**80**	**279**	**53**	**4,126**	**2,444**	**89**	**182**	**31**	**2,746**	**6,158**	**169**	**461**	**84**	**6,872**
Early AM	mid-7am	406	7	39	2	454	380	8	22	7	417	786	15	61	9	871
AM Peak	7-9 am	539	13	54	18	624	239	14	32	2	287	778	27	86	20	911
Midday	10am-4pm	1,634	36	144	31	1,845	1,027	43	106	19	1,195	2,661	79	250	50	3,040
PM Peak	4-6 pm	431	11	31	2	475	295	9	9	1	314	726	20	40	3	789
Late PM	6pm-mid	704	13	11	0	728	503	15	13	2	533	1,207	28	24	2	1,261
Early AM	peak hour	165	6	25	1	197	162	6	17	4	189	327	12	42	5	386
AM Peak	peak hour	282	7	33	14	336	128	10	23	1	162	410	17	56	15	498
Midday	peak hour	294	9	29	11	343	167	10	20	6	203	461	19	49	17	546
PM Peak	peak hour	217	6	20	2	245	152	6	5	1	164	369	12	25	3	409
Late PM	peak hour	169	3	4	0	176	111	4	4	1	120	280	7	8	1	296

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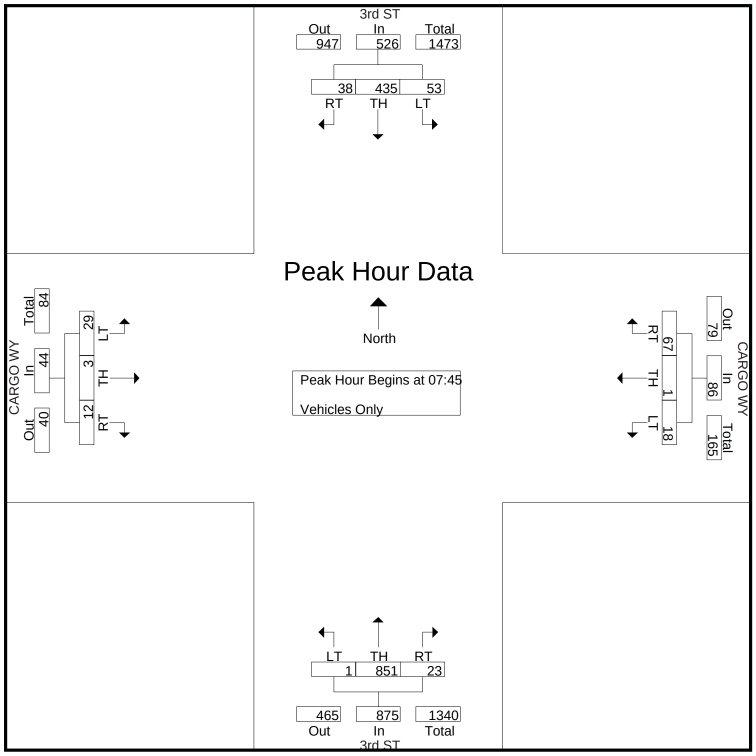

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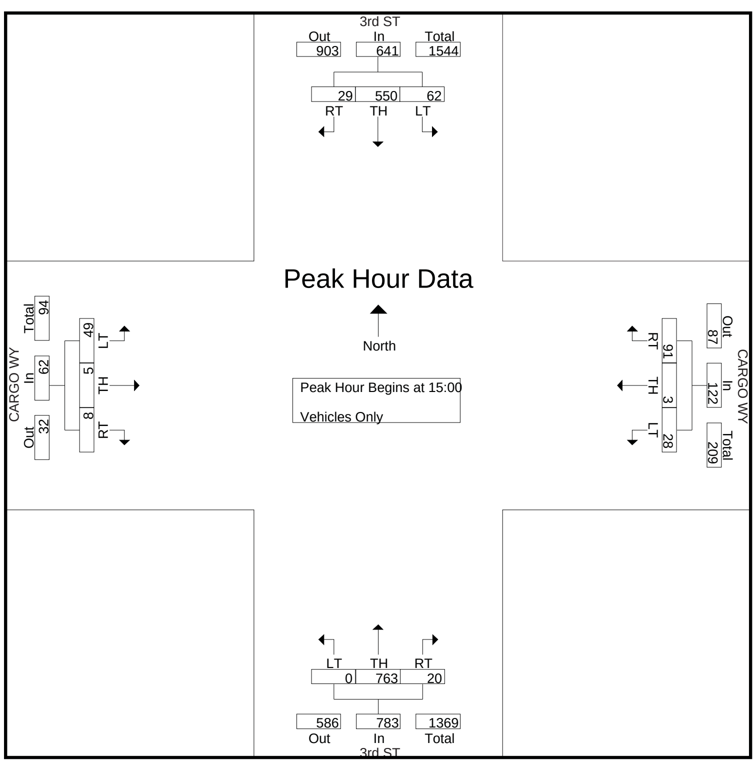

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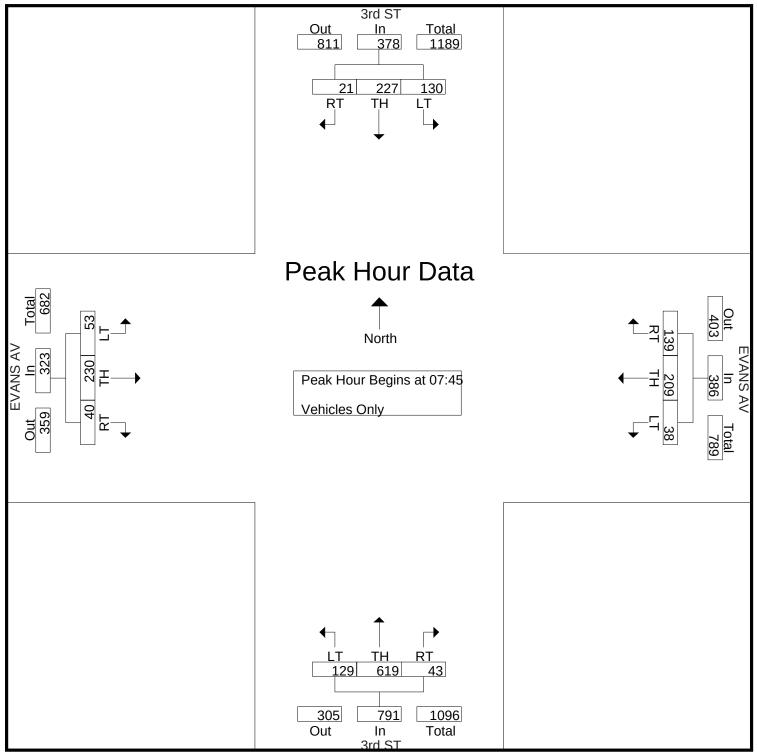

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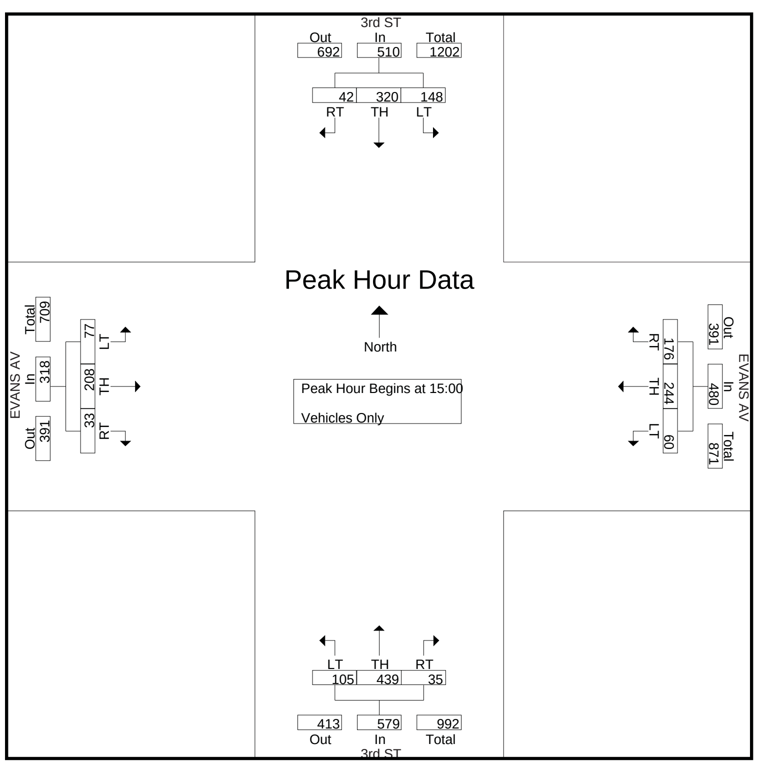

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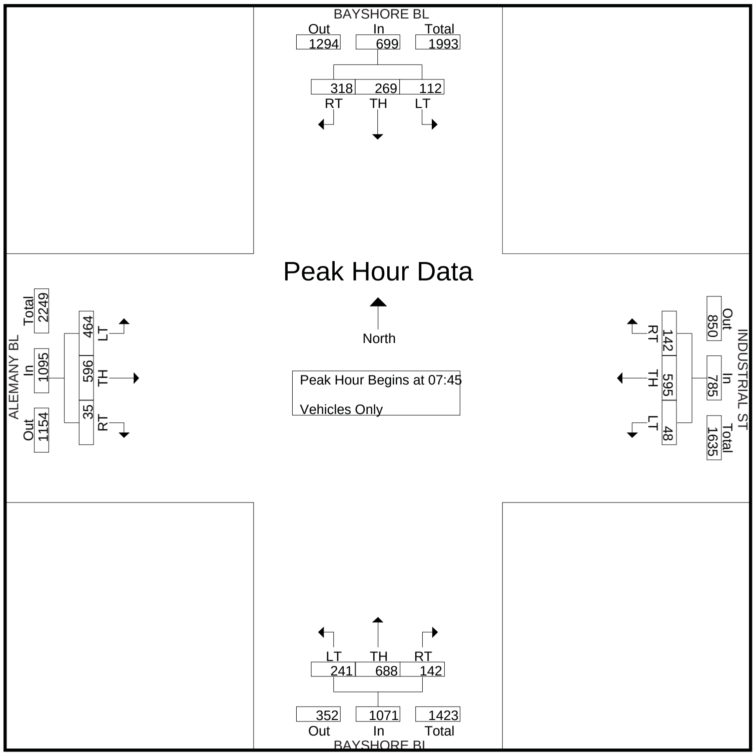

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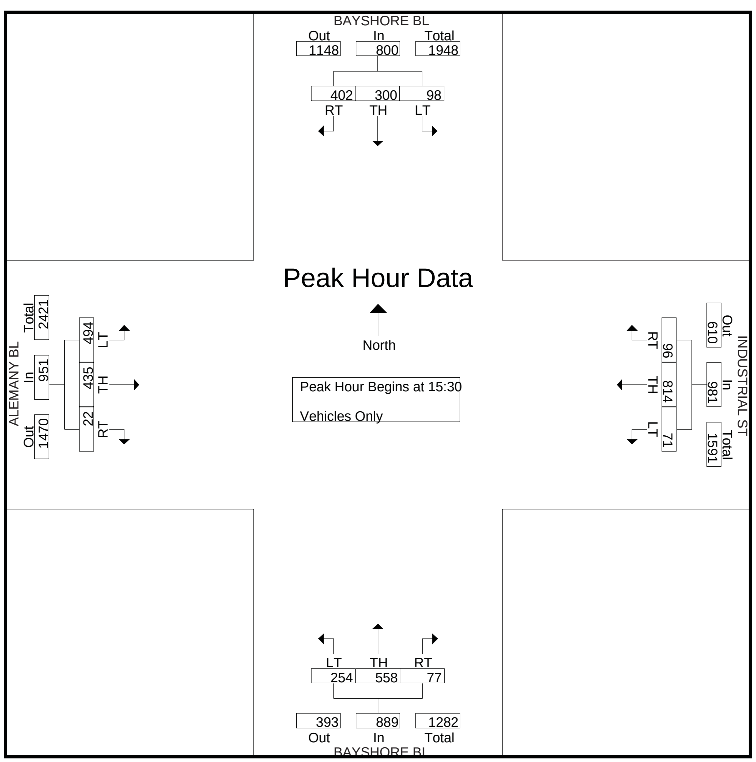

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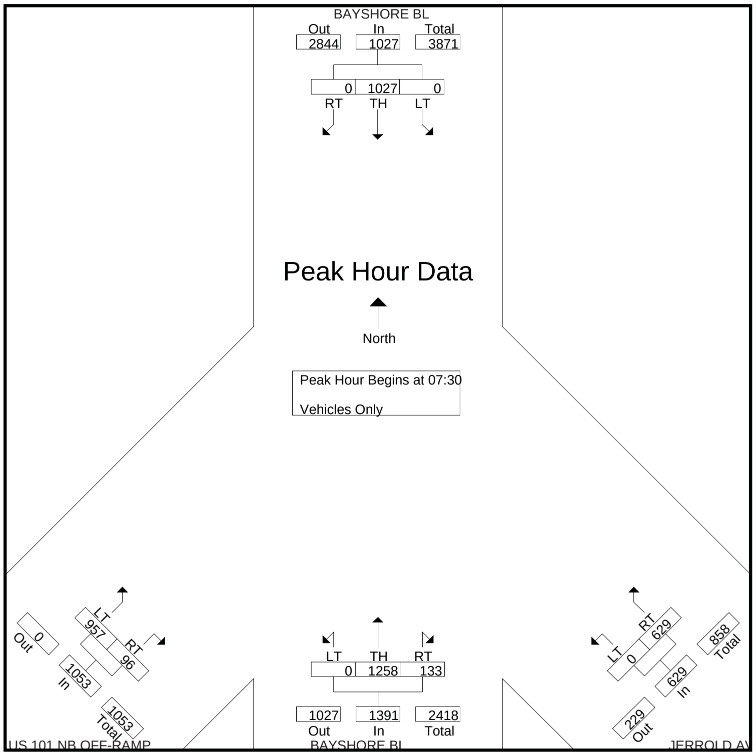

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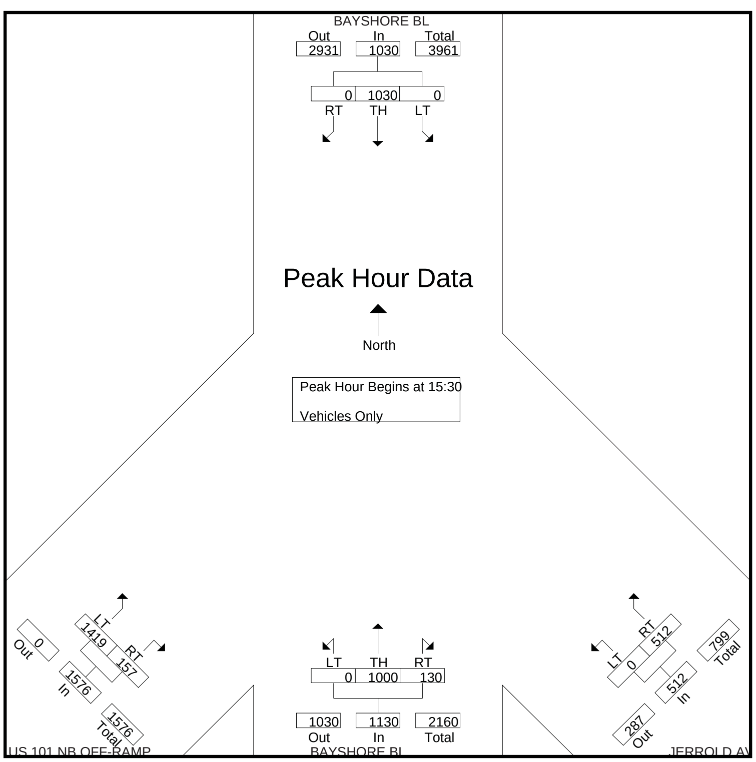

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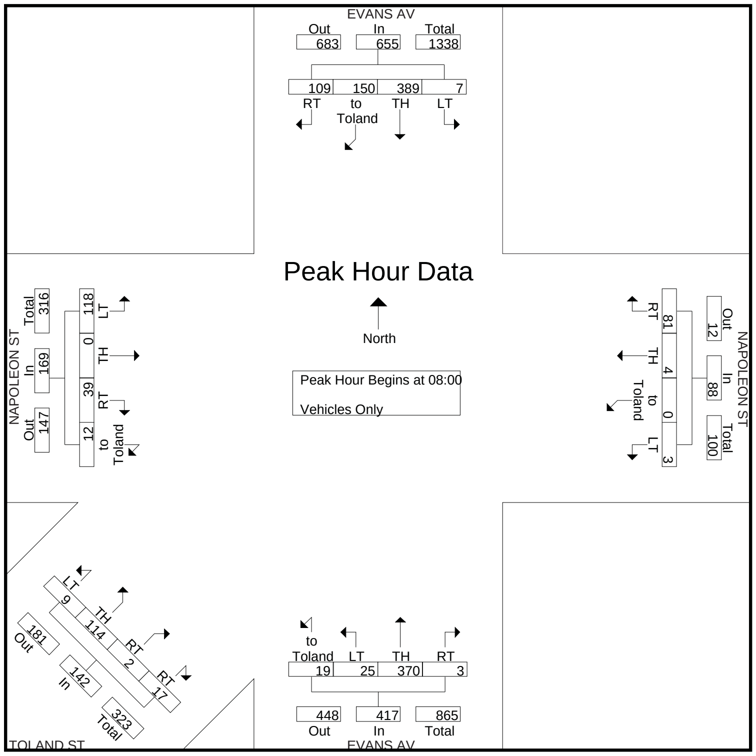

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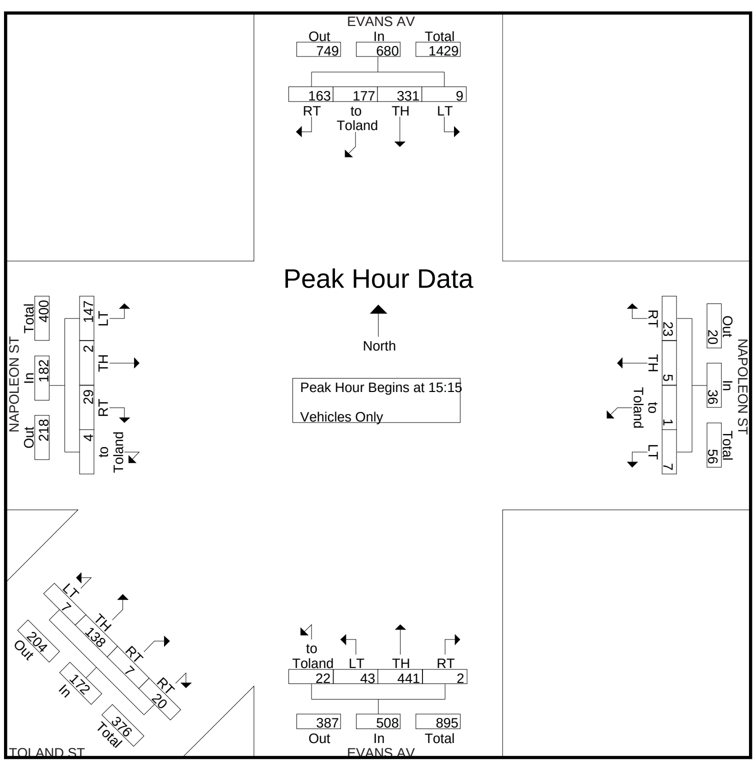

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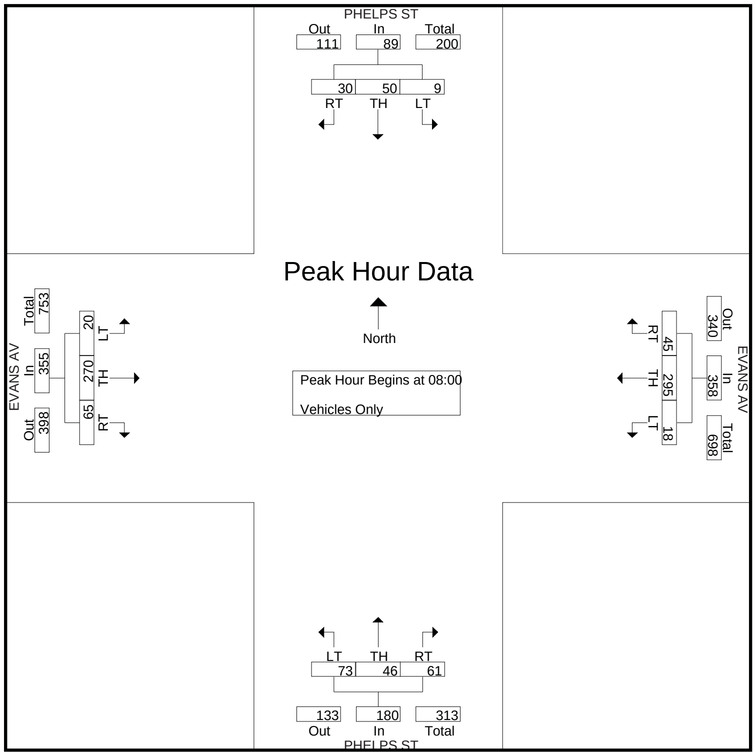

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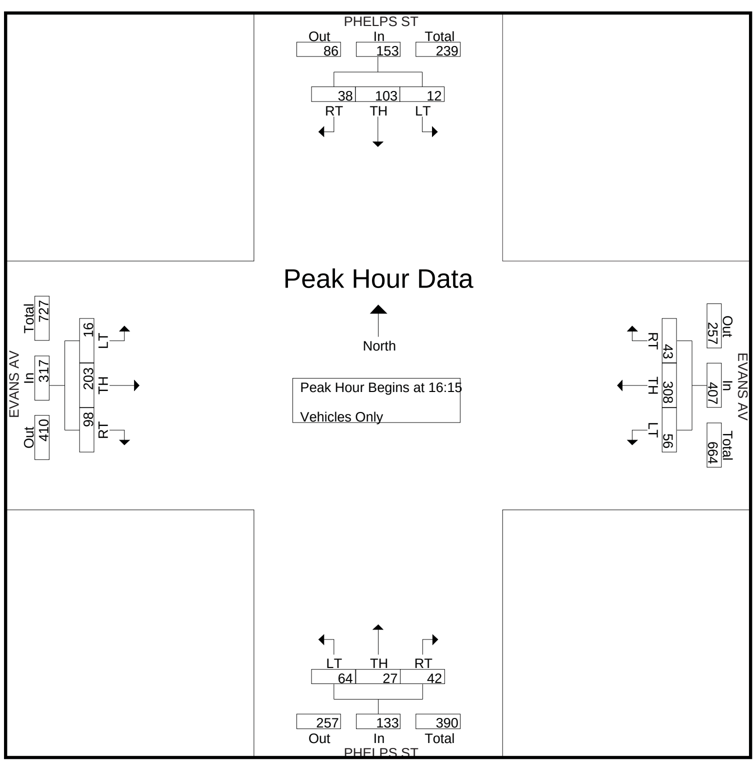

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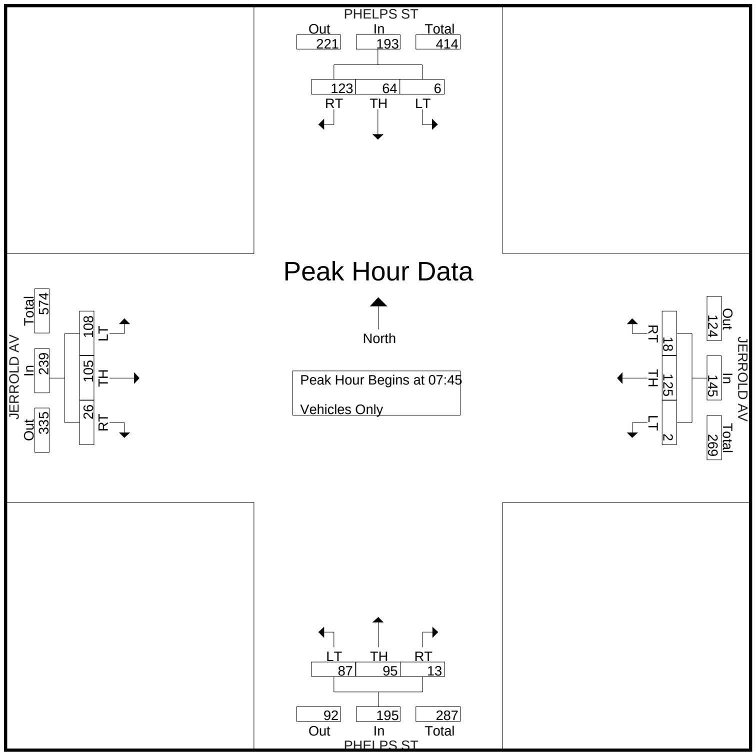

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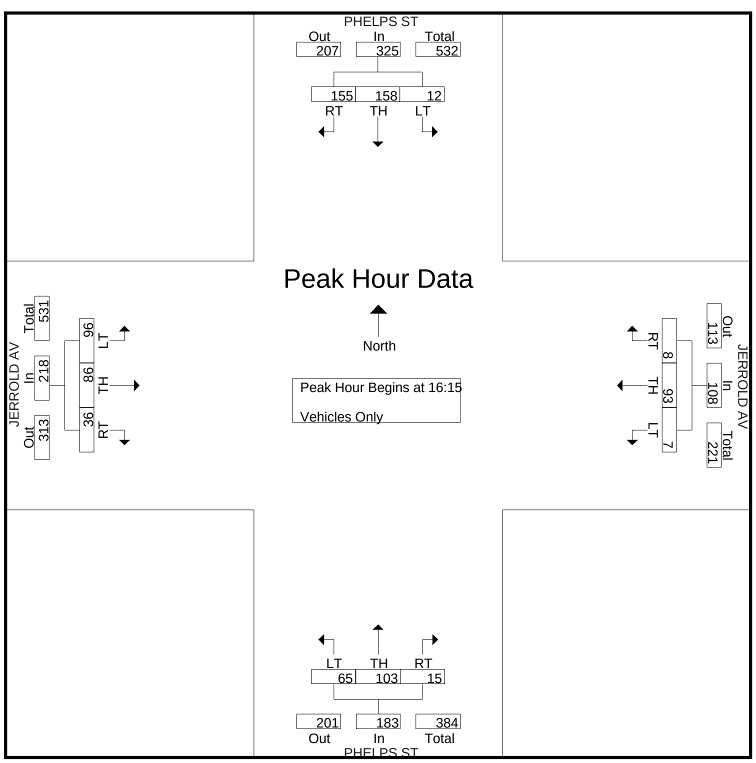

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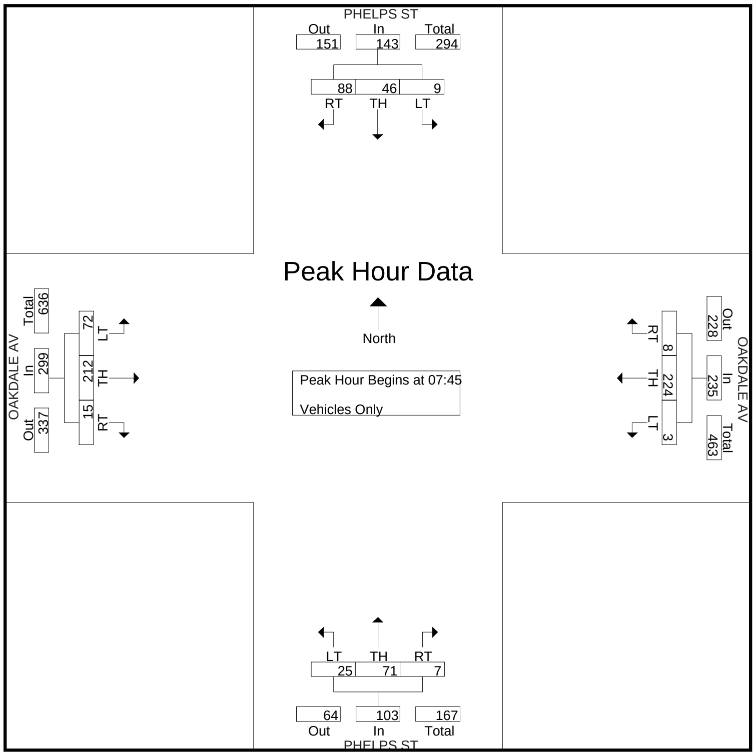

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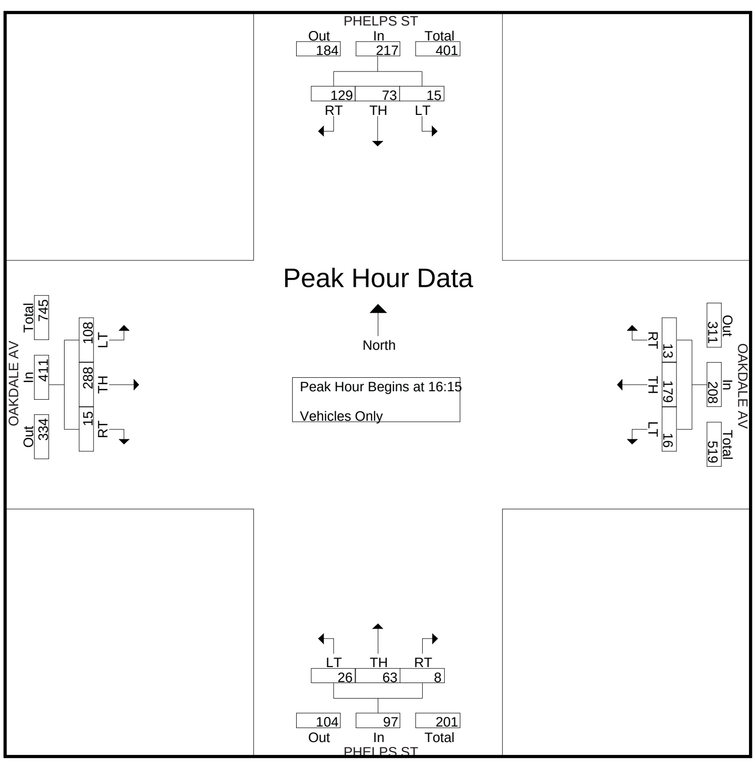

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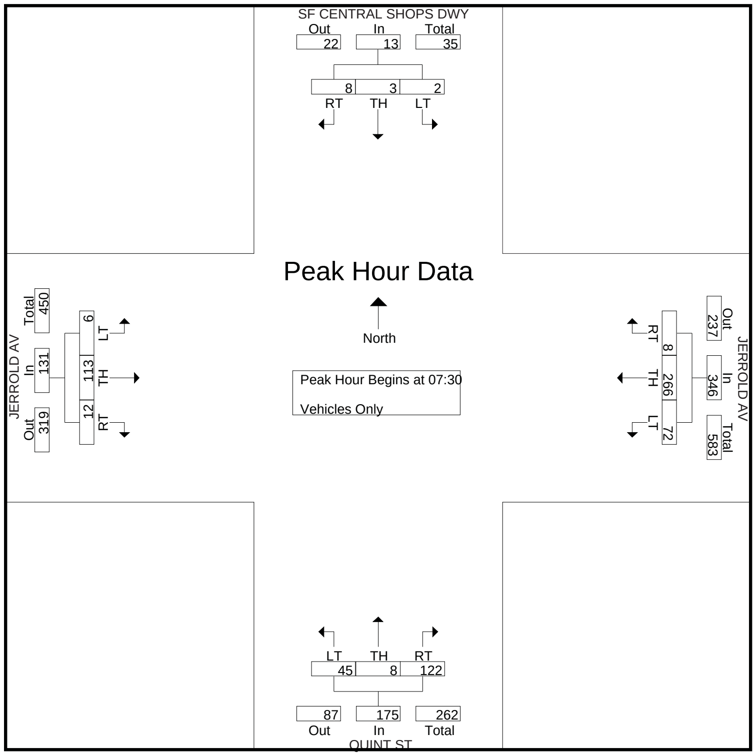

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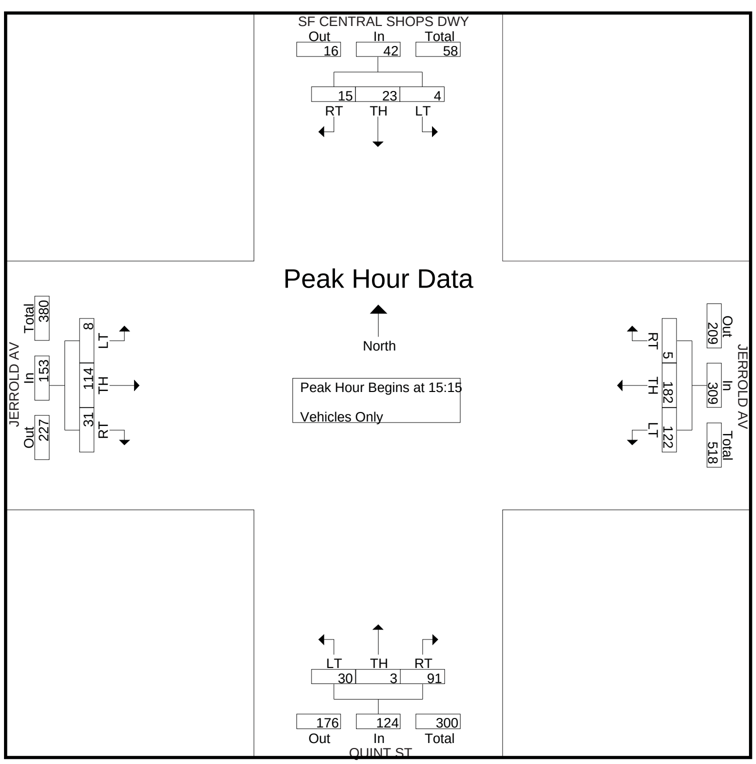

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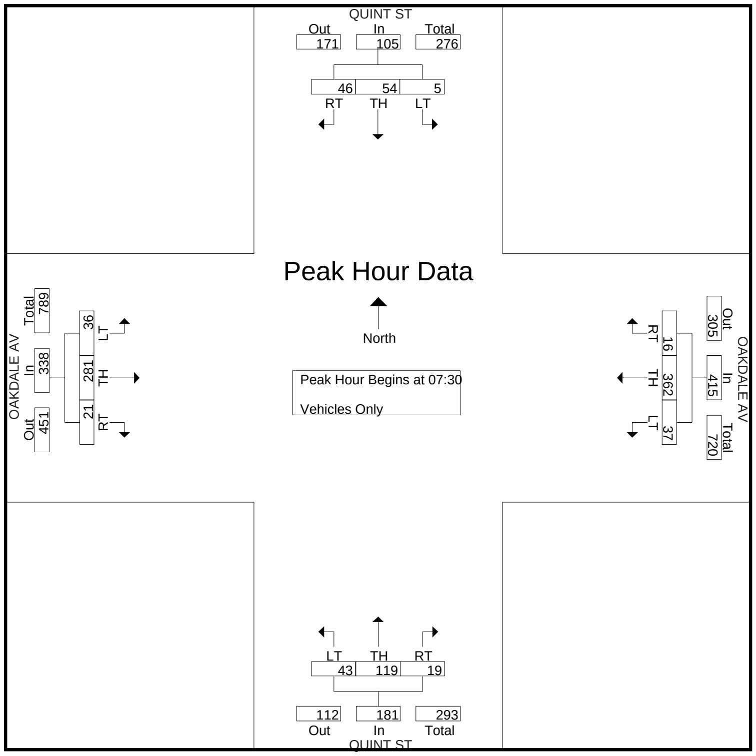

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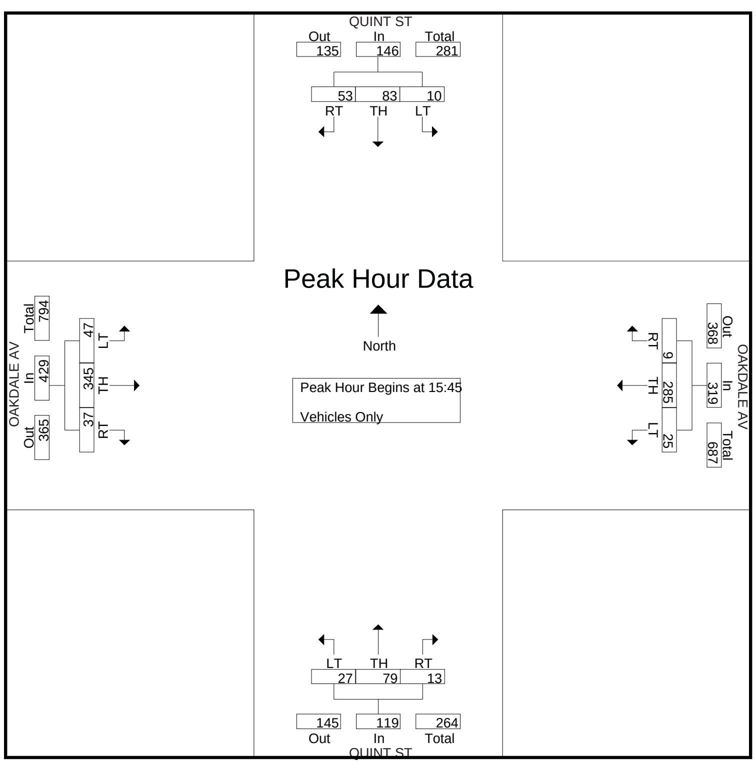

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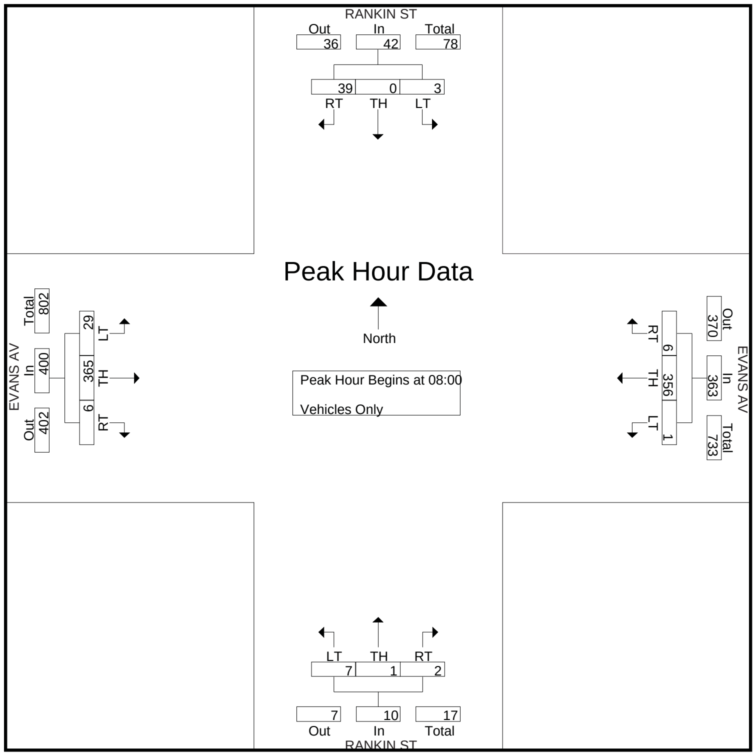

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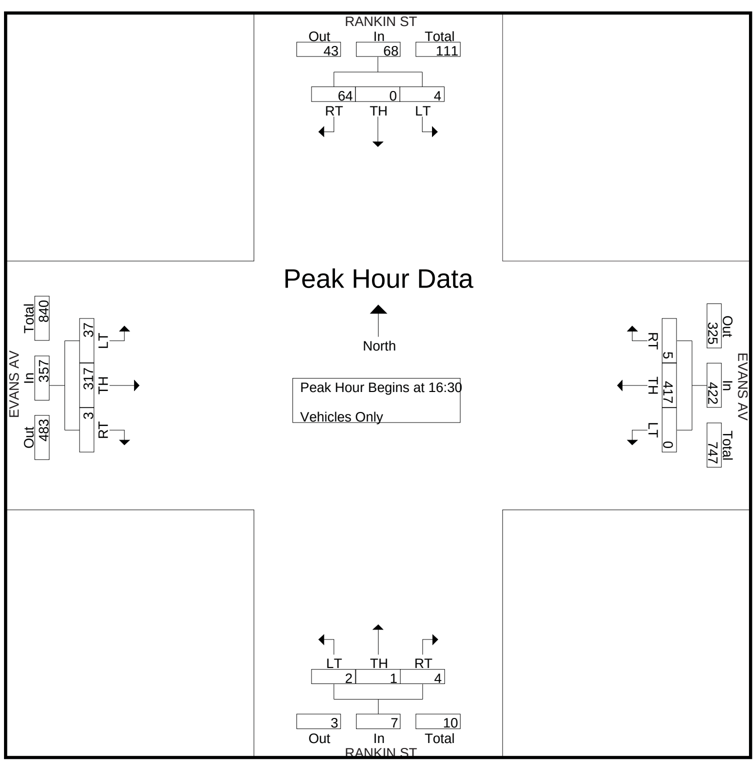
Page No : 2



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CITY OF SAN FRANCISCO

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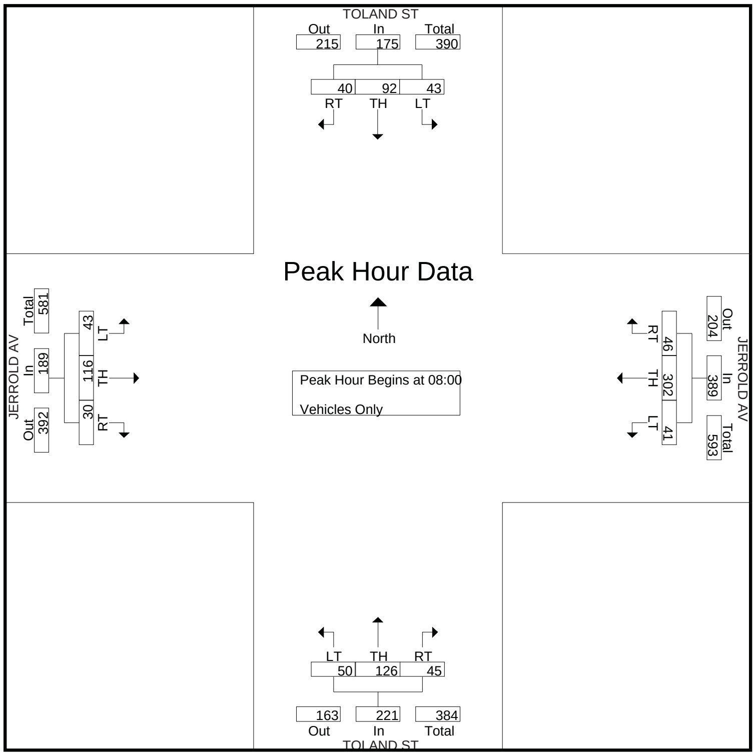
Start Date : 5/27/2015
Page No : 2



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CITY OF SAN FRANCISCO

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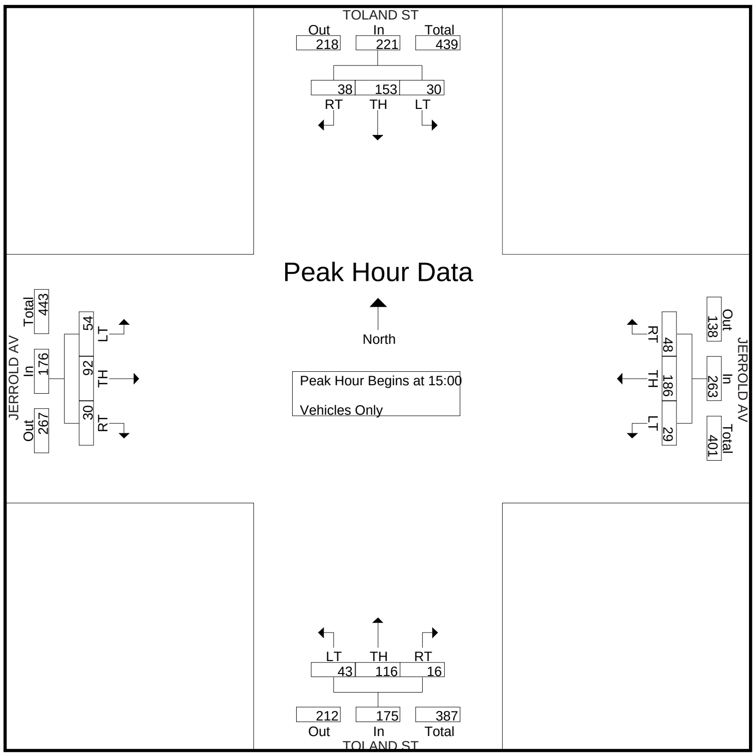
Page No : 2



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CITY OF SAN FRANCISCO

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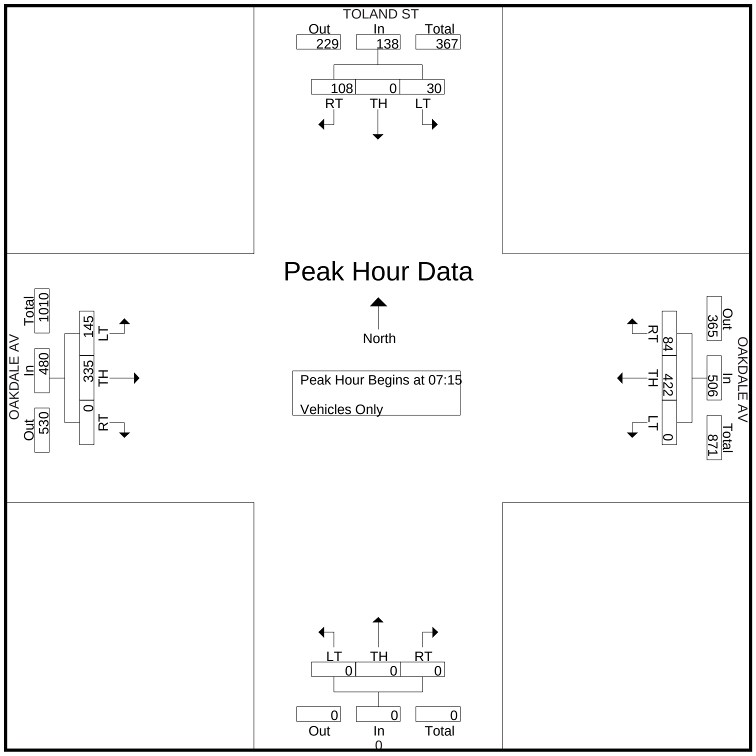
Page No : 2



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CITY OF SAN FRANCISCO

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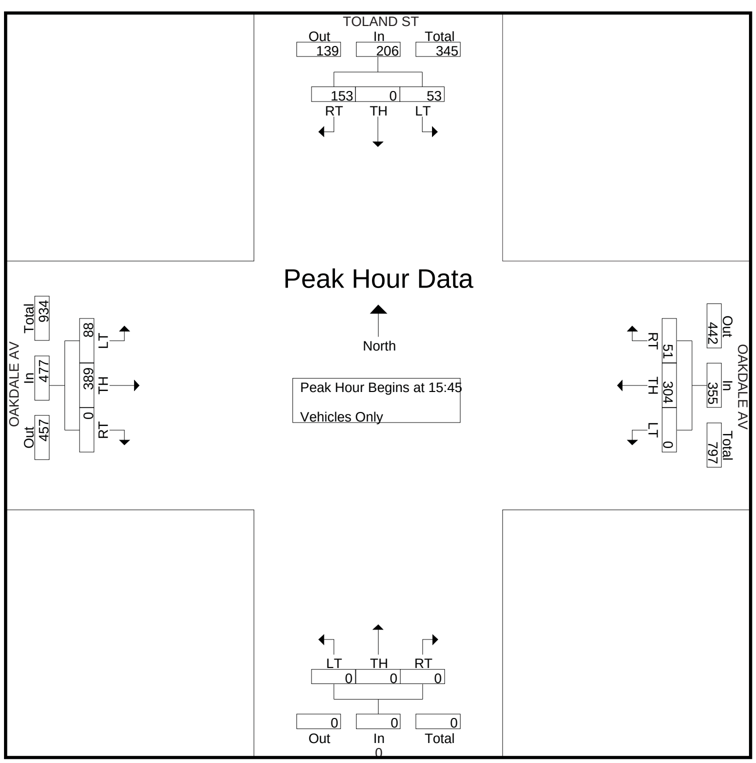
Start Date : 5/28/2015
Page No : 2



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CITY OF SAN FRANCISCO

File Name : vermont-chavez-a
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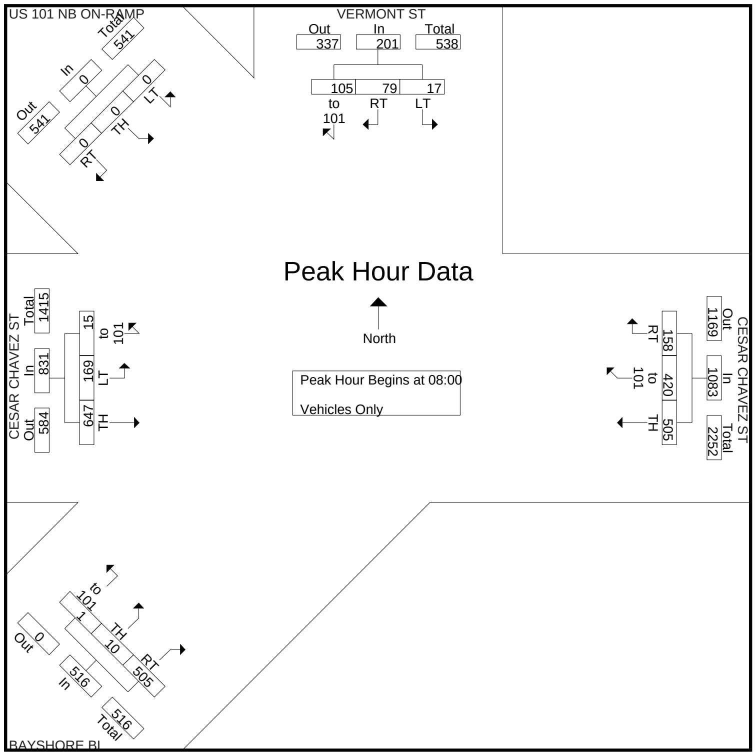
Start Date : 5/28/2015
Page No : 2



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CITY OF SAN FRANCISCO

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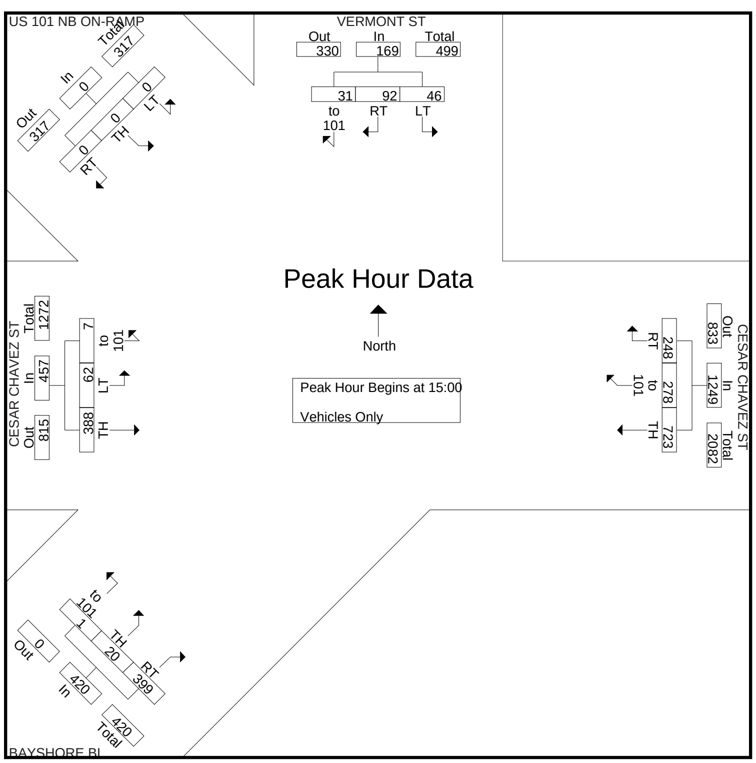
Page No : 2



2. Transit Data

Passenger Activity Report

23 MONTEREY

Weekday

To Bayview

Stop	Daily Total			AM Peak			Midday			School			PM Peak			Evening			Night		
	On	Off	Load	On	Off	Load	On	Off	Load	On	Off	Load	On	Off	Load	On	Off	Load	On	Off	Load
Sloat Blvd&47th Ave NW-FS/BZ	13	-	13	2	-	2										7	-	7	4	-	4
Great Hwy&Sloat Blvd W-MB	76	-	94	13	-	16	22	-	22	15	-	17	26	-	28	-	-	7	-	-	4
Sloat Blvd&47th Ave SE-FS/BZ	51	2	143	10	1	25	13	-	35	11	-	28	17	1	44	-	-	7	-	-	4
Sloat Blvd&45th Ave SE-FS/BZ	89	1	231	30	-	55	24	1	58	14	-	42	11	-	55	4	-	11	6	-	10
Sloat Blvd&43rd Ave S-FS	12	-	243	7	-	62	4	-	62	1	-	43	-	-	55	-	-	11	-	-	10
Sloat Blvd&41st Ave S-FS/BZ	18	1	260	8	-	70	1	-	63	4	-	47	2	1	56	1	-	12	2	-	12
Sloat Blvd&Skyline Blvd SW-NS/BZ	43	1	302	14	-	84	14	1	76	3	-	50	8	-	64	2	-	14	2	-	14
Sloat Blvd&37th Ave SW-NS	3	-	305	-	-	84	1	-	77	2	-	52	-	-	64	-	-	14	-	-	14
Sloat Blvd&36th Ave SW-NS	27	-	332	8	-	92	8	-	85	3	-	55	6	-	70	1	-	15	1	-	15
Sloat Blvd&Clearfield Dr SW-NS/BZ	80	7	405	17	1	108	28	5	108	14	-	69	17	1	86	2	-	17	2	-	17
Sloat Blvd&Everglade Dr S-MB/BZ	145	18	532	18	2	124	34	5	137	29	7	91	36	4	118	14	-	31	14	-	31
Sloat Blvd&Sylvan Dr SW-NS/BZ	72	1	603	13	1	136	11	-	148	35	-	126	9	-	127	1	-	32	3	-	34
Sloat Blvd&Forest View Dr SW-NS	111	10	704	11	2	145	12	2	158	51	4	173	34	1	160	2	1	33	1	-	35
Sloat Blvd&26th Ave SW-NS/BZ	23	3	724	10	2	153	6	-	164	5	-	178	2	1	161	-	-	33	-	-	35
Sloat Blvd&23rd Ave SW-NS/BZ	9	1	732	3	-	156	-	-	164	2	-	180	3	1	163	1	-	34	-	-	35
Sloat Blvd&21st Ave SW-NS/BZ	22	5	749	1	1	156	16	3	177	1	-	181	2	1	164	1	-	35	1	-	36
Sloat Blvd&19th Ave SW-NS/BZ	86	47	788	18	3	171	22	17	182	18	13	186	21	10	175	6	2	39	1	2	35
Sloat Blvd&West Portal Ave SW-NS	124	177	735	15	59	127	24	60	146	33	18	201	33	26	182	13	7	45	6	7	34
Saint Francis Blvd&San Fernando SW	7	-	742	1	-	128	-	-	146	3	-	204	1	-	183	1	-	46	1	-	35
Saint Francis Blvd&Santa Ana Ave W	4	1	745	-	-	128	-	-	146	3	-	207	1	-	184	-	1	45	-	-	35
Saint Francis Blvd&Santa Clara Ave	2	1	746	-	1	127	-	-	146	2	-	209	-	-	184	-	-	45	-	-	35
Santa Clara Ave&Monterey Blvd NW-NS	9	2	753	-	1	126	-	-	146	8	-	217	1	-	185	-	1	44	-	-	35
Monterey Blvd&San Aleso Ave W-NS	17	9	761	3	3	126	2	1	147	11	2	226	1	3	183	-	-	44	-	-	35
Monterey Blvd&Northgate Dr SW-NS	21	24	758	8	1	133	6	6	147	2	7	221	1	5	179	3	4	43	1	1	35
Monterey Blvd&Faxon Ave S-FS	3	4	757	3	1	135	-	1	146	-	-	221	-	1	178	-	1	42	-	-	35
Monterey Blvd&Plymouth Ave NS-NS	23	4	776	12	-	147	2	1	147	2	1	222	6	2	182	-	-	42	1	-	36
Monterey Blvd&Valdez Ave SW-NS	6	4	778	4	1	150	-	2	145	1	-	223	1	1	182	-	-	42	-	-	36
Monterey Blvd&Ridgewood Ave SE-FS	25	41	762	13	9	154	4	17	132	2	8	217	4	5	181	-	2	40	2	-	38
Monterey Blvd&Gennessee St	65	50	777	29	13	170	19	18	133	6	7	216	7	10	178	2	-	42	2	2	38
Monterey Blvd&Foerster St SE-FS	96	46	827	33	3	200	23	16	140	19	16	219	12	5	185	6	4	44	3	2	39
Monterey Blvd&Edna St SW-NS/BZ	36	12	851	15	2	213	10	2	148	4	5	218	4	3	186	1	-	45	2	-	41
Monterey Blvd&Detroit St SE-FS/BZ	24	19	856	12	-	225	9	1	156	2	12	208	-	3	183	1	1	45	-	2	39
Monterey Blvd&Congo St SW-NS	18	16	858	11	2	234	4	3	157	1	4	205	2	5	180	-	1	44	-	1	38
Monterey Blvd&Baden St SW-NS	11	19	850	2	2	234	7	2	162	1	7	199	1	7	174	-	1	43	-	-	38
Monterey Blvd&Acadia St S-FS	2	4	848	2	-	236	-	1	161	-	-	199	-	2	172	-	1	42	-	-	38
Diamond St&Bosworth St SE-NS/BZ	314	385	777	68	152	152	41	73	129	45	78	166	110	49	233	31	10	63	19	23	34
● Bosworth St&Milton St SW-NS	6	7	776	-	-	152	2	2	129	1	-	167	2	4	231	-	1	62	1	-	35
Bosworth St&Marsily St SW-NS	-	11	765	-	1	151	-	-	129	-	2	165	-	7	224	-	1	61	-	-	35
Mission St&Murray St NE-FS/BZ	32	92	705	16	13	154	6	20	115	3	25	143	4	26	202	2	6	57	1	2	34
Crescent Ave&College Ave SE-FS/BZ	102	61	746	25	8	171	21	6	130	16	16	143	28	20	210	10	8	59	2	3	33
Crescent Ave&Agnon Ave SE-FS	1	12	735	-	1	170	1	1	130	-	5	138	-	4	206	-	1	58	-	-	33
Crescent Ave&Arnold Ave SW-NS	9	26	718	2	1	171	1	2	129	3	6	135	3	11	198	-	5	53	-	1	32
Crescent Ave&Porter St SW-NS	-	17	701	-	1	170	-	3	126	-	6	129	-	6	192	-	1	52	-	-	32
Crescent Ave&Andover St SW-NS	7	53	655	2	2	170	2	7	121	2	9	122	1	27	166	-	5	47	-	3	29
Crescent Ave&Ellsworth St SW-NS	22	62	615	12	10	172	2	6	117	4	12	114	3	24	145	-	7	40	1	3	27
Crescent Ave&Folsom St SW-NS	9	34	590	-	4	168	2	7	112	3	8	109	3	11	137	1	4	37	-	-	27
Crescent Ave&Putnam St SW-NS	16	39	567	6	3	171	4	6	110	2	8	103	2	16	123	-	5	32	2	1	28
Bay Shore Blvd&Marengo St NE-FS	2	25	544	1	14	158	-	1	109	-	3	100	1	7	117	-	-	32	-	-	28
Bay Shore Blvd&Cortland Ave NE-FS	24	22	546	2	3	157	5	7	107	7	8	99	6	3	120	4	-	36	-	1	27
Bay Shore Blvd&Oakdale Ave S-NS	91	45	592	10	18	149	22	7	122	20	7	112	29	8	141	8	1	43	2	4	25
Oakdale Ave&Barneveld Ave SW-NS	6	25	573	-	22	127	1	-	123	3	3	112	2	-	143	-	-	43	-	-	25
Toland St&Newcomb Ave SE-NS	5	24	554	1	12	116	-	10	113	1	1	112	2	-	145	1	-	44	-	1	24
Toland St&Jerrold Ave SE-NS	6	41	519	3	19	100	1	8	106	1	6	107	1	-	146	-	2	42	-	6	18
Jerrold Ave&Selby St S-FS	1	24	496	-	14	86	-	3	103	-	-	107	-	2	144	1	4	39	-	1	17
Jerrold Ave&Rankin St S-FS/BZ	1	7	490	-	6	80	1	-	104	-	-	107	-	1	143	-	-	39	-	-	17
Jerrold Ave&Quint St S-FS	-	2	488	-	1	79	-	-	104	-	-	107	-	1	142	-	-	39	-	-	17
Jerrold Ave&Phelps St W-NS	3	37	454	-	7	72	1	6	99	2	11	98	-	9	133	-	3	36	-	1	16
Phelps St&Mckinnon Ave N-NS	1	42	413	-	8	64	-	9	90	-	9	89	-	11	122	1	3	34	-	2	14
Phelps St&Oakdale Ave N-NS	8	15	406	1	6	59	3	5	88	3	2	90	1	1	122	-	1	33	-	-	14
Phelps St&Palou Ave N-NS	7	21	392	2	1	60	2	4	86	1	7	84	2	7	117	-	1	32	-	1	13
Palou Ave&Newhall St E-NS/PS	2	16	378	-	-	60	1	3	84	-	4	80	1	7	111	-	2	30	-	-	13
Palou Ave&3rd St S-FS/BZ	146	68	457	21	9	72	35	17	102	25	17	88	44	20	135	8	4	34	13	1	26
Palou Ave&Lane St W-NS	16	30	443	1	2	71	5	5	102	2	7	83	3	12	126	4	3	35	1	1	26
Palou Ave&Keith St W-FS	8	50	401	2	8	65	-	10	92	2	10	75	1	17	110	2	5	32	1	-	27
Palou Ave&Jennings St W-NS	7	40	368	3	4	64	1	10	83	-	11	64	2	11	101	1	2	31	-	2	25
● Palou Ave&Ingalls St S-NS	8	58	318	1	7	58	1	9	75	2	11	55	3	25	79	1	6	26	-	-	25
Oakdale Ave&Ingalls St S-FS	11	37	292	4	4	58	2	9	68	3	7	51	1	10	70	1	4	23	-	3	22
Oakdale Ave&Baldwin Ct S-FS	26	74	244	12	8	62	9	25	52	1	14	38	4	21	53	-	2	21	-	4	18
Oakdale Ave&Griffith St W-NS	31	35	240	12	3	71	13	4	61	2	4	36	3	14	42	-	7	14	1	3	16
Palou Ave&Crisp Ave N-FS	24	42	222	4	28	47	5	3	63	7	2	41	-	2	40	2	-	16	6	7	15
Palou Ave&Hawes St E-NS	48	47	223	20	3	64	12	11	64	10	9	42	4	17	27	1	5	12	1	2	14
Palou Ave&Ingalls St N-MB	86	12	297	31	2	93	22	2	84	8	3	47	10	3	34	6	2	16	9	-	23
Palou Ave&Jennings St E-NS	2	-	299	-	-	93	-	-	84	-	-	47	-	-	34	-	-	16	2	-	25
Palou Ave&Keith St E-NS	-	-	299	-	-	93	-	-	84	-	-	47	-	-	34	-	-	16	-	-	25
Palou Ave&Lane St E-NS	-	1	298	-	-	93	-	-	84	-	-	47	-	-	34	-	-	16	-	1	24
Palou Ave&3rd St E-NS/BZ	-	241	57	-	71	22	-	75	9	-	36	11	-	26	8	-	12	4	-	21	3
Total Passenger Boardings	2,461	2,410		608	587		550	541		487	478		545	539		154	150		117	115	
Passenger Miles	5,424			1,210			1,105			1,207			1,302			341			259		
Average Passenger Trip Length	2.2			2.0			2.0			2.5			2.4			2.2			2.2		

● Stop selected in Loading Analysis Report

Passenger Activity Report

SFMTA | Municipal Transportation Agency

Weekday

To SF Zoo

23 MONTEREY

	Daily Total			AM Peak			Midday			School			PM Peak			Evening			Night		
Stop	**On**	**Off**	**Load**	**On**	**Off**	**Load**	**On**	**Off**	**Load**	**On**	**Off**	**Load**	**On**	**Off**	**Load**	**On**	**Off**	**Load**	**On**	**Off**	**Load**
Palou Ave&3rd St E-NS/BZ	268	-	324	80	-	94	85	-	95	39	-	39	41	-	64	13	-	19	10	-	13
Palou Ave&Newhall St E-NS/PS	34	4	354	8	-	102	12	-	107	-	-	39	10	3	71	3	-	22	1	1	13
Palou Ave&Phelps St E-NS	35	5	384	14	2	114	9	-	116	2	1	40	5	2	74	2	-	24	3	-	16
Phelps St&Oakdale Ave S-NS	17	16	385	5	8	111	3	5	114	2	2	40	3	1	76	1	-	25	3	-	19
Phelps St&Mckinnon Ave S-NS	32	4	413	16	1	126	6	1	119	3	-	43	4	1	79	1	1	25	2	-	21
Phelps St&Jerrold Ave S-NS	35	2	446	23	-	149	2	1	120	5	-	48	4	1	82	-	-	25	1	-	22
Jerrold Ave&Quint St E-NS	4	-	450	-	-	149	-	-	120	-	-	48	4	-	86	-	-	25	-	-	22
Jerrold Ave&Rankin St NE-MI	12	-	462	-	-	149	3	-	123	2	-	50	6	-	92	1	-	26	-	-	22
Jerrold Ave&Selby St N-FS	16	1	477	5	-	154	4	1	126	3	-	53	-	-	92	-	-	26	4	-	26
Toland St&Jerrold Ave W-FS/BZ	45	9	513	4	2	156	7	4	129	13	1	65	15	2	105	2	-	28	4	-	30
Toland St&Mckinnon Ave N-NS	6	2	517	-	-	156	1	-	130	2	2	65	2	-	107	-	-	28	1	-	31
Toland St&Oakdale Ave N-NS	27	1	543	1	1	156	6	-	136	12	-	77	7	-	114	-	-	28	1	-	32
Oakdale Ave&Loomis St NE-NS/BZ	30	87	486	5	29	132	3	27	112	1	5	73	19	16	117	2	6	24	-	4	28
380 Bay Shore Blvd N-NS	11	2	495	2	-	134	1	-	113	2	1	74	5	1	121	-	-	24	1	-	29
Bay Shore Blvd&Cortland Ave NW-NS	58	26	527	21	4	151	9	5	117	9	5	78	12	7	126	4	1	27	3	4	28
Bay Shore Blvd&Alemany Blvd NW-NS	13	-	540	2	-	153	3	-	120	4	-	82	2	-	128	-	-	27	2	-	30
Crescent Ave&Putnam St N-MB	54	8	586	26	1	178	12	4	128	-	-	82	5	3	130	-	-	27	11	-	41
Crescent Ave&Folsom St NE-NS	56	10	632	27	1	204	10	1	137	5	2	85	5	5	130	2	1	28	7	-	48
Crescent Ave&Ellsworth St NE-NS	84	21	695	45	4	245	12	3	146	10	3	92	9	6	133	2	3	27	6	2	52
Crescent Ave&Andover St NE-NS	71	7	759	39	2	282	14	2	158	4	2	94	8	1	140	2	-	29	4	-	56
Crescent Ave&Roscoe St NE-NS	8	2	765	7	-	289	1	1	158	-	-	94	-	-	140	-	-	29	-	1	55
Crescent Ave&Murray St NE-NS	25	6	784	14	2	301	4	1	161	3	1	96	3	2	141	-	-	29	1	-	56
Crescent Ave&Leese St NE-NS	7	2	789	6	-	307	1	1	161	-	-	96	-	1	140	-	-	29	-	-	56
Crescent Ave&Mission St NE-NS/BZ	68	162	695	29	51	285	16	38	139	11	25	82	9	29	120	2	6	25	1	13	44
Bosworth St&Mission St NW-FS	74	35	734	39	11	313	14	7	146	8	6	84	8	9	119	2	1	26	3	1	46
Bosworth St&Milton St NE-NS	12	1	745	8	-	321	2	-	148	2	1	85	-	-	119	-	-	26	-	-	46
Bosworth St&Rotteck St NW-FS	-	2	743	-	-	321	-	-	148	-	-	85	-	-	119	-	1	25	-	1	45
Diamond St&Bosworth St SW-FS/BZ	396	289	850	59	137	243	51	48	151	59	24	120	168	37	250	43	9	59	16	34	27
Monterey Blvd&Acadia St NW-FS/BZ	6	10	846	2	-	245	1	3	149	2	1	121	1	4	247	-	1	58	-	1	26
Monterey Blvd&Baden St NE-NS/BB	12	21	837	9	1	253	1	-	150	-	4	117	2	13	236	-	2	56	-	1	25
Monterey Blvd&Congo St NE-NS	11	47	801	6	4	255	1	9	142	1	4	114	3	22	217	-	7	49	-	1	24
Monterey Blvd&Detroit St NW-FS/BZ	16	56	761	6	-	261	4	4	142	1	17	98	2	27	192	2	7	44	1	1	24
Monterey Blvd&Edna St NE-NS	15	47	729	8	7	262	6	7	141	1	9	90	-	17	175	-	4	40	-	3	21
Monterey Blvd&Foerster St NW-FS	59	96	692	15	23	254	27	19	149	9	11	88	4	29	150	2	11	31	2	3	20
Monterey Blvd&Gennessee St	32	58	666	10	13	251	11	11	149	6	10	84	3	18	135	1	4	28	1	2	19
Monterey Blvd&Ridgewood Ave NE-NS	16	22	660	8	2	257	2	2	149	2	5	81	2	12	125	-	1	27	2	-	21
Monterey Blvd&Valdez Ave NE-NS	8	18	650	-	4	253	-	2	147	6	2	85	2	9	118	-	1	26	-	-	21
Monterey Blvd&Plymouth Ave NE-NS	11	20	641	5	3	255	4	2	149	1	5	81	1	6	113	-	2	24	-	2	19
Monterey Blvd&Saint Elmo Way NE-NS	1	7	635	-	-	255	-	-	149	-	-	81	1	6	108	-	1	23	-	-	19
Monterey Blvd&El Verano Way NE-NS	7	29	613	3	9	249	3	5	147	-	3	78	1	8	101	-	2	21	-	2	17
Monterey Blvd&San Jacinto Way E-NS	4	43	574	2	27	224	1	1	147	-	5	73	1	7	95	-	3	18	-	-	17
Santa Clara Ave&Saint Francis Blvd	2	2	574	1	-	225	1	2	146	-	-	73	-	-	95	-	-	18	-	-	17
Saint Francis Blvd&Santa Ana Ave NE	1	5	570	-	4	221	-	1	145	-	-	73	1	-	96	-	-	18	-	-	17
Saint Francis Blvd&San Fernando Way	4	7	567	-	5	216	3	-	148	-	1	72	1	1	96	-	-	18	-	-	17
Sloat Blvd&West Portal Ave NW-FS	172	97	642	19	42	193	57	28	177	40	11	101	44	11	129	10	2	26	2	3	16
Sloat Blvd&19th Ave NE-NS/BZ	38	113	567	5	51	147	14	37	154	7	10	98	9	9	129	3	2	27	-	4	12
Sloat Blvd&21st Ave NW-FS/BZ	6	7	566	-	-	147	1	3	152	3	1	100	2	3	128	-	-	27	-	-	12
Sloat Blvd&Crestlake Dr NW-FS/BZ	4	7	563	-	-	147	2	2	152	-	2	98	2	2	128	-	-	27	-	1	11
Sloat Blvd&Paraiso Pl NE-NS/BZ	2	22	543	1	9	139	1	2	151	-	4	94	-	4	124	-	2	25	-	1	10
Sloat Blvd&Vale Ave NE-NS/BZ	7	77	473	1	63	77	1	2	150	4	4	94	1	5	120	-	3	22	-	-	10
Sloat Blvd&El Mirasol Pl NW-FS/BZ	2	29	446	-	6	71	2	2	150	-	6	88	-	14	106	-	1	21	-	-	10
Sloat Blvd&Constanso Way NW-FS/BZ	4	100	350	-	10	61	1	46	105	2	22	68	1	16	91	-	3	18	-	3	7
Sloat Blvd&34th Ave NW-FS/BZ	12	50	312	2	6	57	3	17	91	4	10	62	2	12	81	1	5	14	-	-	7
Sloat Blvd&36th Ave NW-FS/BZ	-	28	284	-	6	51	-	5	86	-	5	57	-	12	69	-	-	14	-	-	7
Sloat Blvd&39th Ave NW-FS/BZ	-	40	244	-	9	42	-	8	78	-	8	49	-	10	59	-	4	10	-	1	6
Sloat Blvd&41st Ave N-FS/BZ	2	31	215	1	5	38	-	8	70	-	6	43	1	10	50	-	1	9	-	1	5
Sloat Blvd&43rd Ave N-FS/BZ	1	37	179	-	5	33	-	15	55	-	7	36	1	8	43	-	2	7	-	-	5
Sloat Blvd&45th Ave NW-FS/BZ	5	77	107	-	12	21	-	22	33	-	18	18	1	19	25	2	4	5	2	2	5
Sloat Blvd&47th Ave NW-FS/BZ	2	39	70	1	8	14	-	10	23	1	6	13	-	6	19	-	4	1	-	5	-
Great Hwy&Sloat Blvd W-MB	-	64	4	-	13	1	-	22	1	-	12	1	-	17	1						
Total Passenger Boardings	1,960	2,010		590	603		438	447		291	290		443	464		103	108		95	98	
Passenger Miles	4,405			1,434			1,035			607			935			207			187		
Average Passenger Trip Length	2.2			2.4			2.4			2.1			2.1			2.0			2.0		

Stop selected in Loading Analysis Report

Relocated Segment

To Bayview (eastbound)		**Daily Total** On	Off	Total
1	Toland & Newcomb	5	24	29
2	Toland & Jerrold	6	41	47
3	Jerrold & Selby	1	24	25
4	Jerrold & Rankin (BZ)	1	7	8
5	Jerrold & Quint	0	2	2
6	Jerrold & Phelps	3	37	40
7	Phelps & McKinnon	1	42	43
8	Phelps & Oakdale	8	15	23
9	Phelps & Palou	7	21	28
		32	213	245
	Route Daily Totals	2,461	2,410	4,871
	Segment as % of Route	1.3%	8.8%	5.0%

To SF Zoo (westbound)		**Daily Total** On	Off	Total
1	Phelps & Oakdale	17	16	33
2	Phelps & McKinnon	32	4	36
3	Phelps & Jerrold	35	2	37
4	Jerrold & Quint	4	0	4
5	Jerrold & Rankin (MI)	12	0	12
6	Jerrold & Selby	16	1	17
7	Toland & Jerrold (BZ)	45	9	54
8	Toland & McKinnon	6	2	8
9	Toland & Oakdale	27	1	28
		194	35	229
	Route Daily Totals	2,461	2,410	4,871
	Segment as % of Route	7.9%	1.5%	4.7%

Source: SFMTA TEP
Data Collected Fall 2006 - Spring 2007
SFMTA website

3. Pedestrian and Bicycle Data

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File Name: C:\Petra Pro\San Francisco\Adavant\sf puc\phelps-jerrold-a.ppd
Start Date: 5/27/2015
Start Time: 6:00:00 AM
Site Code: 9
Comment 1: CITY OF SAN FRANCISCO
Comment 2: Bicycle and Pedestrian Volumes
Comment 3: Phelps/Jerrold
Comment 4: AM Peak Period

	PHELPS ST Southbound					JERROLD AV Westbound					PHELPS ST Northbound					JERROLD AV Eastbound				
Start Time	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped
06:00	0	0	0	0	1	0	0	0	0	0	0	0	3	3	1	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	1	2	0
06:30	1	1	0	2	1	0	0	0	0	2	0	0	0	0	1	0	0	3	3	1
06:45	1	0	0	1	2	0	0	0	0	2	0	1	0	1	5	1	0	0	1	0
07:00	1	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0
07:15	0	0	0	0	0	0	0	0	0	3	0	3	0	3	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	1
07:45	0	0	0	0	1	0	0	0	0	4	0	1	0	1	0	0	0	0	0	5
08:00	0	0	0	0	0	0	1	0	1	1	0	0	0	0	2	0	0	1	1	1
08:15	0	0	0	0	1	0	0	0	0	3	1	1	0	2	0	0	0	2	2	2
08:30	1	1	0	2	1	0	0	0	0	1	0	0	0	0	1	0	2	1	3	0
08:45	0	0	0	0	2	0	0	0	0	2	0	1	0	1	3	0	0	1	1	2
6:00 - 7:00	2	1	0	3	4	0	0	0	0	5	0	1	4	5	7	2	0	4	6	1
6:15 - 7:15	3	2	0	5	4	0	0	0	0	6	0	1	1	2	6	2	1	4	7	1
6:30 - 7:30	3	2	0	5	4	0	0	0	0	8	0	4	0	4	6	1	1	3	5	1
6:45 - 7:45	2	1	0	3	3	0	0	0	0	7	0	5	0	5	5	1	1	0	2	1
7:00 - 8:00	1	1	0	2	2	0	0	0	0	9	0	5	0	5	0	0	1	0	1	6
7:15 - 8:15	0	0	0	0	1	0	1	0	1	9	0	5	0	5	2	0	0	1	1	7
7:30 - 8:30	0	0	0	0	2	0	1	0	1	9	1	3	0	4	2	0	0	3	3	9
7:45 - 8:45	1	1	0	2	3	0	1	0	1	9	1	2	0	3	3	0	2	4	6	8
8:00 - 9:00	1	1	0	2	4	0	1	0	1	7	1	2	0	3	6	0	2	5	7	5

File Name: C:\Petra Pro\San Francisco\Adavant\sf puc\phelps-jerrold-p.ppd
Start Date: 5/27/2015
Start Time: 3:00:00 PM
Site Code: 9
Comment 1: CITY OF SAN FRANCISCO
Comment 2: Bicycle and Pedestrian Volumes
Comment 3: Phelps/Jerrold
Comment 4: PM Peak Period

	PHELPS ST Southbound					JERROLD AV Westbound					PHELPS ST Northbound					JERROLD AV Eastbound				
Start Time	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped
15:00	0	0	0	0	0	0	1	0	1	1	0	0	0	0	2	0	0	0	0	1
15:15	0	1	0	1	1	0	0	0	0	2	0	0	0	0	1	0	0	2	2	3
15:30	1	0	0	1	0	0	0	0	0	1	0	0	0	0	3	0	1	0	1	1
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	2	0	0	1	1	0	0	0	0	0	3
16:15	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	1
16:30	0	1	0	1	0	0	1	0	1	1	0	6	0	6	1	0	0	0	0	3
16:45	0	0	0	0	0	0	1	0	1	3	0	1	0	1	0	1	0	0	1	2
17:00	0	1	0	1	0	0	1	0	1	0	0	0	1	1	3	0	0	0	0	4
17:15	2	3	1	6	2	0	1	0	1	2	0	0	1	1	2	0	2	1	3	4
17:30	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
17:45	0	0	0	0	2	0	1	0	1	2	0	0	0	0	0	1	0	1	2	0
3:00 - 4:00	1	1	0	2	1	0	1	0	1	4	0	0	0	0	7	0	1	2	3	5
3:15 - 4:15	1	1	0	2	1	0	0	0	0	5	0	0	1	1	5	0	1	2	3	7
3:30 - 4:30	1	0	0	1	0	0	1	0	1	5	0	0	1	1	4	0	1	0	1	5
3:45 - 4:45	0	1	0	1	0	0	2	0	2	5	0	6	1	7	2	0	0	0	0	7
4:00 - 5:00	0	1	0	1	0	0	3	0	3	8	0	7	1	8	1	1	0	0	1	9
4:15 - 5:15	0	2	0	2	0	0	4	0	4	6	0	7	1	8	4	1	0	0	1	10
4:30 - 5:30	2	5	1	8	2	0	4	0	4	6	0	7	2	9	6	1	2	1	4	13
4:45 - 5:45	2	4	1	7	3	0	3	0	3	6	0	1	2	3	6	1	2	1	4	10
5:00 - 6:00	2	4	1	7	5	0	3	0	3	5	0	0	2	2	6	1	2	2	5	8

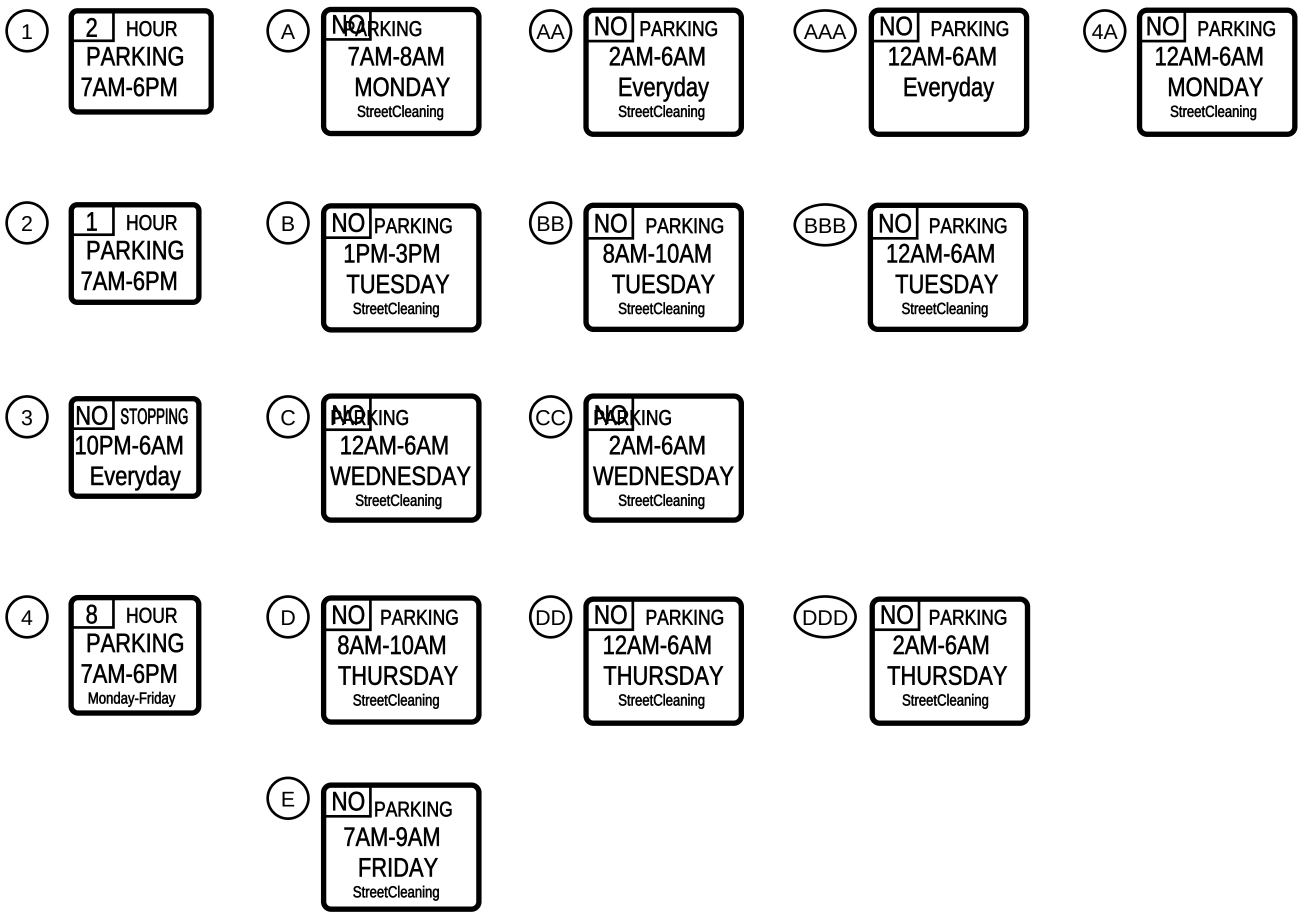
File Name: c:\petra pro\san francisco\adavant\sf puc\phelps-oakdale-a.ppd
Start Date: 5/27/2015
Start Time: 6:00:00 AM
Site Code: 12
Comment 1: CITY OF SAN FRANCISCO
Comment 2: Bicycle and Pedestrian Volumes
Comment 3: Phelps/Oakdale
Comment 4: AM Peak Period

	PHELPS ST Southbound					OAKDALE AV Westbound					PHELPS ST Northbound					OAKDALE AV Eastbound				
Start Time	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped
06:00	0	0	0	0	1	0	0	0	0	1	0	0	0	0	5	0	0	0	0	2
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
06:30	0	0	0	0	0	0	1	0	1	2	0	0	0	0	1	0	1	0	1	0
06:45	0	0	0	0	4	0	0	0	0	7	0	0	0	0	1	0	1	1	2	4
07:00	0	0	0	0	3	0	2	0	2	11	0	0	0	0	2	0	1	0	1	2
07:15	0	0	0	0	2	0	0	0	0	11	0	1	0	1	1	0	1	2	3	2
07:30	0	0	0	0	4	0	0	0	0	9	0	0	0	0	3	0	0	1	1	6
07:45	0	0	1	1	5	0	3	0	3	11	0	0	0	0	0	0	7	0	7	7
08:00	0	0	0	0	2	0	1	0	1	11	0	0	0	0	3	0	3	0	3	11
08:15	0	0	0	0	0	0	0	0	0	6	0	0	0	0	7	0	0	2	2	4
08:30	0	0	0	0	4	0	0	0	0	7	0	0	0	0	3	0	1	0	1	5
08:45	0	0	0	0	0	0	2	0	2	0	0	0	1	1	0	0	2	0	2	0
6:00 - 7:00	0	0	0	0	5	0	1	0	1	10	0	0	0	0	8	0	2	1	3	7
6:15 - 7:15	0	0	0	0	7	0	3	0	3	20	0	0	0	0	5	0	3	1	4	7
6:30 - 7:30	0	0	0	0	9	0	3	0	3	31	0	1	0	1	5	0	4	3	7	8
6:45 - 7:45	0	0	0	0	13	0	2	0	2	38	0	1	0	1	7	0	3	4	7	14
7:00 - 8:00	0	0	1	1	14	0	5	0	5	42	0	1	0	1	6	0	9	3	12	17
7:15 - 8:15	0	0	1	1	13	0	4	0	4	42	0	1	0	1	7	0	11	3	14	26
7:30 - 8:30	0	0	1	1	11	0	4	0	4	37	0	0	0	0	13	0	10	3	13	28
7:45 - 8:45	0	0	1	1	11	0	4	0	4	35	0	0	0	0	13	0	11	2	13	27
8:00 - 9:00	0	0	0	0	6	0	3	0	3	24	0	0	1	1	13	0	6	2	8	20

File Name: C:\Petra Pro\San Francisco\Adavant\sf puc\phelps-oakdale-p.ppd
Start Date: 5/27/2015
Start Time: 3:00:00 PM
Site Code: 12
Comment 1: CITY OF SAN FRANCISCO
Comment 2: Bicycle and Pedestrian Volumes
Comment 3: Phelps/Oakdale
Comment 4: PM Peak Period

	PHELPS ST Southbound					OAKDALE AV Westbound					PHELPS ST Northbound					OAKDALE AV Eastbound				
Start Time	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped	RT	TH	LT	total	Ped
15:00	0	0	0	0	4	0	0	0	0	4	0	0	0	0	3	0	1	0	1	11
15:15	1	0	0	1	5	0	2	0	2	3	0	0	0	0	5	0	1	0	1	3
15:30	1	0	0	1	4	0	1	0	1	6	0	0	0	0	3	0	2	1	3	5
15:45	0	0	0	0	2	0	5	0	5	1	0	0	0	0	3	0	1	0	1	4
16:00	0	0	0	0	6	0	0	0	0	3	0	0	0	0	4	0	1	0	1	13
16:15	0	0	0	0	1	0	2	0	2	4	0	0	0	0	0	0	0	0	0	7
16:30	0	1	0	1	4	5	2	0	7	4	0	0	0	0	5	0	0	0	0	8
16:45	0	0	0	0	8	0	4	0	4	8	0	0	0	0	6	0	0	0	0	16
17:00	0	0	0	0	6	0	1	0	1	7	0	0	0	0	8	0	0	0	0	12
17:15	0	0	0	0	3	0	2	0	2	3	0	0	1	1	6	0	5	1	6	6
17:30	0	0	1	1	10	0	0	0	0	5	0	0	0	0	2	0	0	0	0	7
17:45	0	0	1	1	2	0	0	0	0	5	0	1	0	1	4	0	7	0	7	3
3:00 - 4:00	2	0	0	2	15	0	8	0	8	14	0	0	0	0	14	0	5	1	6	23
3:15 - 4:15	2	0	0	2	17	0	8	0	8	13	0	0	0	0	15	0	5	1	6	25
3:30 - 4:30	1	0	0	1	13	0	8	0	8	14	0	0	0	0	10	0	4	1	5	29
3:45 - 4:45	0	1	0	1	13	5	9	0	14	12	0	0	0	0	12	0	2	0	2	32
4:00 - 5:00	0	1	0	1	19	5	8	0	13	19	0	0	0	0	15	0	1	0	1	44
4:15 - 5:15	0	1	0	1	19	5	9	0	14	23	0	0	0	0	19	0	0	0	0	43
4:30 - 5:30	0	1	0	1	21	5	9	0	14	22	0	0	1	1	25	0	5	1	6	42
4:45 - 5:45	0	0	1	1	27	0	7	0	7	23	0	0	1	1	22	0	5	1	6	41
5:00 - 6:00	0	0	2	2	21	0	3	0	3	20	0	1	1	2	20	0	12	1	13	28

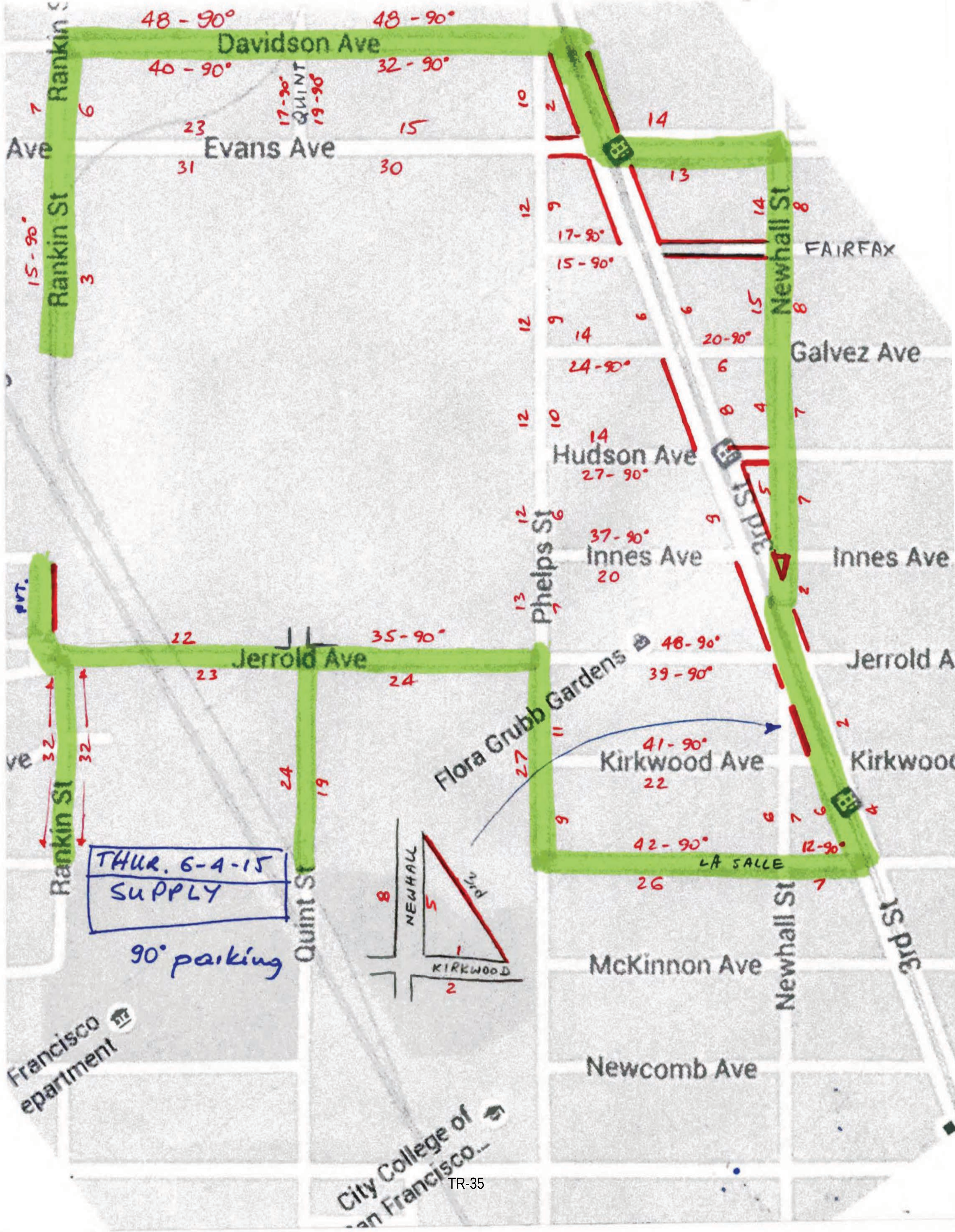
4. Parking Data



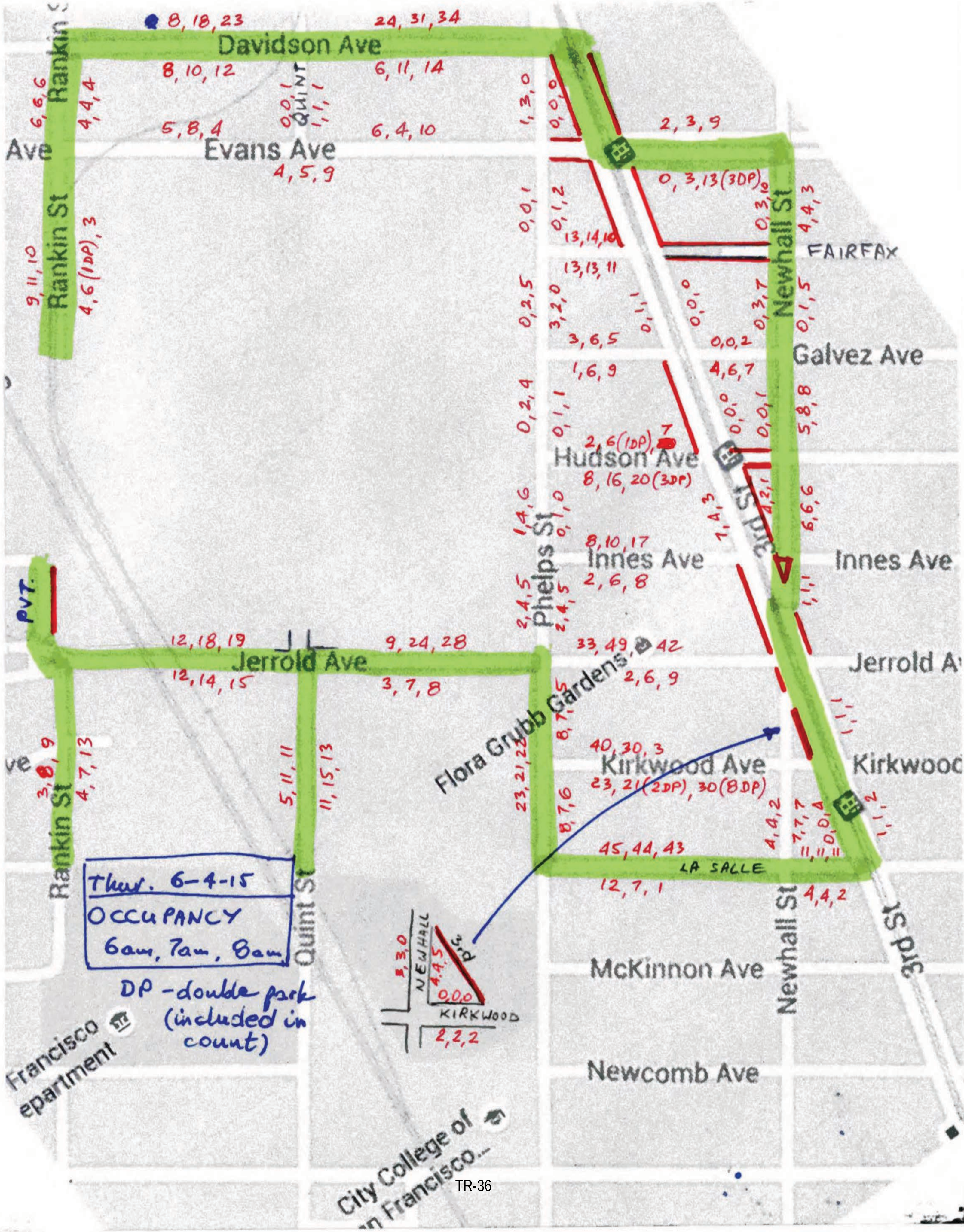
City of San Francisco

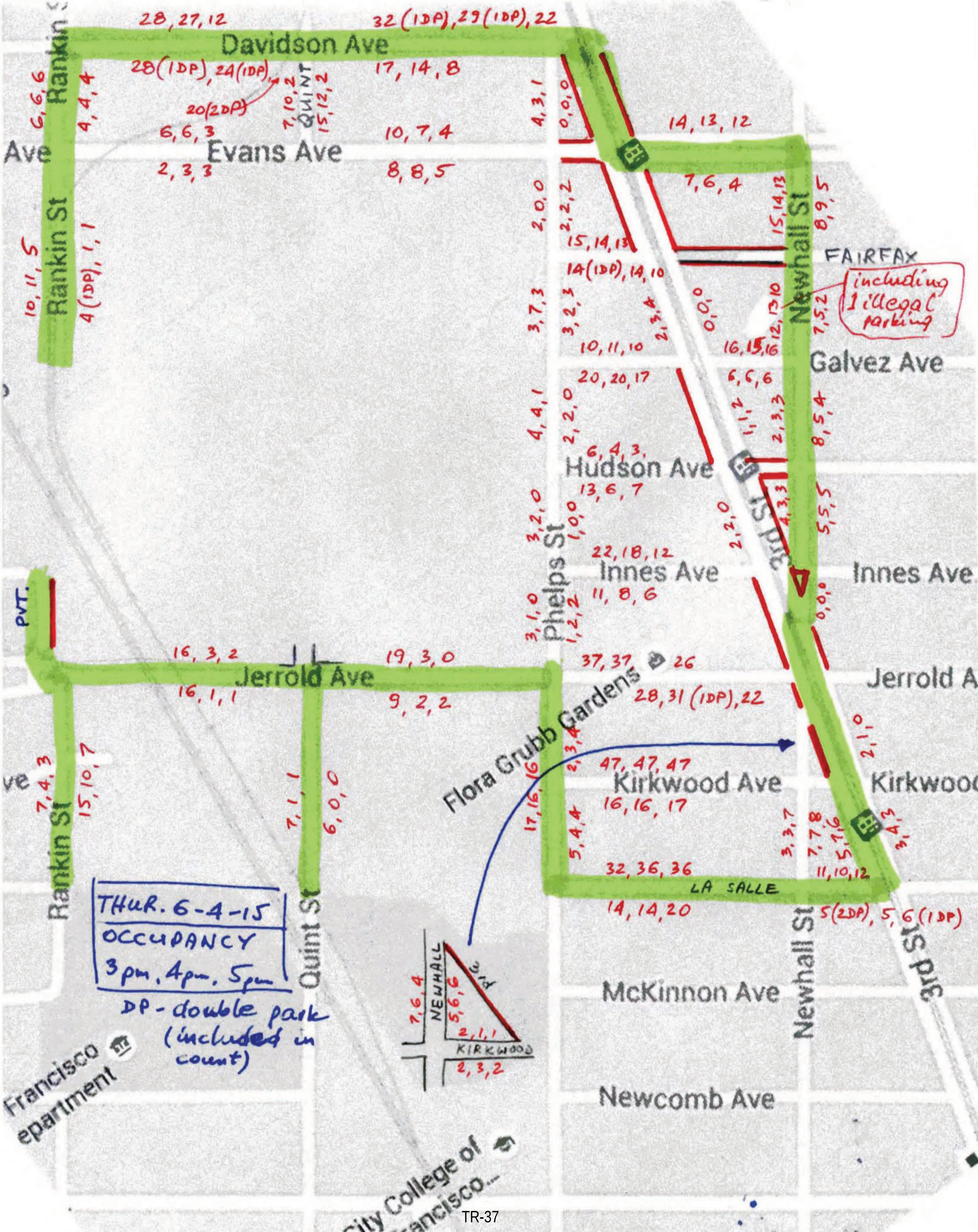
PUC Project

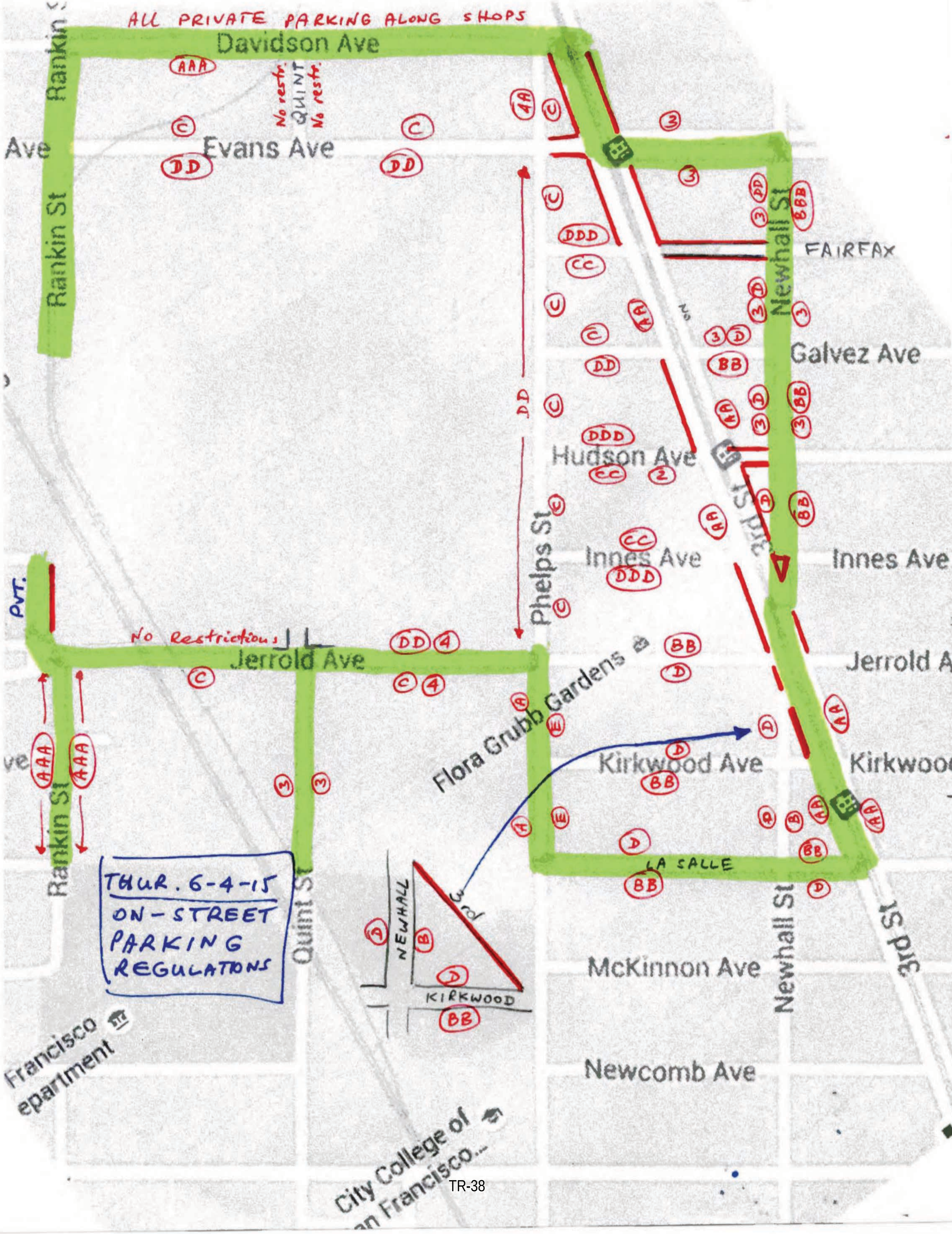
June 2015	Prepared by: MTD



Davidson Ave
48 - 90°
48 - 90°
40 - 90°
32 - 90°
QUINT
17-90°
19-90°
Rankin St
Evans Ave
23
15
31
30
14
13
FAIRFAX
17-90°
15-90°
15-90°
Newhall St
Galvez Ave
20-90°
24-90°
Hudson Ave
27-90°
3rd St
37-90°
Innes Ave
Innes Ave
20
Phelps St
Jerrold Ave
Jerrold A
35-90°
48-90°
39-90°
22
23
24
Flora Grubb Gardens
41-90°
Kirkwood Ave
Kirkwood
22
42-90°
12-90°
LA SALLE
26
Quint St
Rankin St
THUR. 6-4-15
SUPPLY
90° parking
NEWHALL
KIRKWOOD
McKinnon Ave
Newcomb Ave
Francisco
epartment
City College of
an Francisco...


Thur. 6-4-15
OCCUPANCY
6am, 7am, 8am
DP - double park (included in count)
Davidson Ave
Evans Ave
Rankin St
Quint St
Phelps St
Newhall St
3rd St
Galvez Ave
Hudson Ave
Innes Ave
Jerrold Ave
Kirkwood Ave
LA SALLE
McKinnon Ave
Newcomb Ave
FAIRFAX
PVT.
Flora Grubb Gardens
City College of San Francisco...
8, 18, 23
24, 31, 34
8, 10, 12
6, 11, 14
5, 8, 4
6, 4, 10
4, 5, 9
2, 3, 9
0, 3, 13(3DP)
13, 14, 16
13, 13, 11
3, 6, 5
1, 6, 9
0, 0, 2
4, 6, 7
2, 6(1DP), 7
8, 16, 20(3DP)
8, 10, 17
2, 6, 8
12, 18, 19
9, 24, 28
12, 14, 15
3, 7, 8
33, 49, 42
2, 6, 9
40, 30, 3
23, 21(2DP), 30(8DP)
45, 44, 43
12, 7, 1
4, 4, 2
4, 6(1DP), 3
9, 11, 10
NEWHALL
KIRKWOOD
2, 2, 2


THUR. 6-4-15
OCCUPANCY
3pm, 4pm, 5pm
DP - double park (included in count)
including 1 illegal parking
Davidson Ave
Evans Ave
Rankin St
Quint St
Phelps St
Newhall St
3rd St
FAIRFAX
Galvez Ave
Hudson Ave
Innes Ave
Jerrold Ave
Kirkwood Ave
LA SALLE
McKinnon Ave
Newcomb Ave
Flora Grubb Gardens
PVT.
NEWHALL
KIRKWOOD
28, 27, 12
32 (1DP), 29 (1DP), 22
28 (1DP), 24 (1DP)
20 (2DP)
17, 14, 8
14, 13, 12
6, 6, 3
10, 7, 4
2, 3, 3
8, 8, 5
7, 6, 4
15, 14, 13
14 (1DP), 14, 10
10, 11, 10
16, 15, 16
20, 20, 17
6, 6, 6
6, 4, 3
13, 6, 7
22, 18, 12
11, 8, 6
16, 3, 2
19, 3, 0
16, 1, 1
9, 2, 2
37, 37, 26
28, 31 (1DP), 22
47, 47, 47
16, 16, 17
32, 36, 36
14, 14, 20
11, 10, 12
5 (2DP), 5, 6 (1DP)
2, 1, 1
2, 3, 2
5, 6, 6
7, 6, 4



ALL PRIVATE PARKING ALONG SHOPS
Davidson Ave
Rankin St
Evans Ave
No restr.
QUINT
No restr.
Phelps St
FAIRFAX
Newhall St
Galvez Ave
Hudson Ave
3rd St
Innes Ave
Innes Ave
DD
No Restrictions
Jerrold Ave
Jerrold A
Flora Grubb Gardens
Kirkwood Ave
Kirkwood
LA SALLE
PVT.
Quint St
Rankin St
THUR. 6-4-15
ON-STREET
PARKING
REGULATIONS
NEWHALL
3rd
KIRKWOOD
McKinnon Ave
Newhall St
3rd St
Newcomb Ave
Francisco
epartment
City College of
an Francisco...
AAA
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DD
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							Occupancy					
	Supply			**3:00 PM**			**4:00 PM**			**5:00 PM**		
	North	**South**	**Total**	**North**	**South**	**Total**	**North**	**South**	**Total**	**North**	**South**	**Total**
Davidson Ave	96	72	168	60	45	105	56	38	94	34	28	62
Evans Avenue	52	74	126	30	17	47	26	17	43	19	12	31
Fairfax	17	15	32	15	14	29	14	14	28	13	10	23
Galvez Ave	44	30	74	26	26	52	26	26	52	26	23	49
Hudson Ave	14	27	41	6	13	19	4	6	10	3	7	10
Innes Ave	37	20	57	22	11	33	18	8	26	12	6	18
Jerrold Avenue	57	47	104	35	25	60	6	3	9	2	3	5
Jerrold Avenue	48	39	87	37	28	65	37	31	68	26	22	48
Kirkwood Avenue	42	22	64	49	18	67	48	19	67	48	19	67
LaSalle	54	33	87	43	19	62	46	19	65	48	26	74
	461	379	840	323	216	539	281	181	462	231	156	387
	East	**West**	**Total**	**East**	**West**	**Total**	**East**	**West**	**Total**	**East**	**West**	**Total**
Rankin Street	41	54	95	23	23	46	15	21	36	12	14	26
Quint Street	38	41	79	21	14	35	12	11	23	2	3	5
Phelps Street	63	98	161	16	36	52	15	33	48	15	21	36
Third Street	18	21	39	6	9	15	6	12	18	5	10	15
Newhall Street	44	52	96	40	43	83	37	42	79	30	40	70
	204	266	470	106	125	231	85	119	204	64	88	152
Davidson Ave				63%	63%	63%	58%	53%	56%	35%	39%	37%
Evans Avenue				58%	23%	37%	50%	23%	34%	37%	16%	25%
Fairfax				88%	93%	91%	82%	93%	88%	76%	67%	72%
Galvez Ave				59%	87%	70%	59%	87%	70%	59%	77%	66%
Hudson Ave				43%	48%	46%	29%	22%	24%	21%	26%	24%
Innes Ave				59%	55%	58%	49%	40%	46%	32%	30%	32%
Jerrold Avenue				61%	53%	58%	11%	6%	9%	4%	6%	5%
Jerrold Avenue				77%	72%	75%	77%	79%	78%	54%	56%	55%
Kirkwood Avenue				117%	82%	105%	114%	86%	105%	114%	86%	105%
LaSalle				80%	58%	71%	85%	58%	75%	89%	79%	85%
				70%	***57%***	***64%***	***61%***	***48%***	***55%***	***50%***	***41%***	***46%***
Rankin Street				56%	43%	48%	37%	39%	38%	29%	26%	27%
Quint Street				55%	34%	44%	32%	27%	29%	5%	7%	6%
Phelps Street				25%	37%	32%	24%	34%	30%	24%	21%	22%
Third Street				33%	43%	38%	33%	57%	46%	28%	48%	38%
Newhall Street				91%	83%	86%	84%	81%	82%	68%	77%	73%
				52%	***47%***	***49%***	***42%***	***45%***	***43%***	***31%***	***33%***	***32%***
Total Study Area	***665***	***645***	***1,310***	429	341	770	366	300	666	295	244	539
				65%	***53%***	***59%***	***55%***	***47%***	***51%***	***44%***	***38%***	***41%***
				65%	53%	59%	55%	47%	51%	44%	38%	41%

	Jerrold Ave Rankin-Phelps	Jerrold Ave Phelps-Third	Rest of Study Area	Total Study Area
Supply	104	87	1,119	1,310
Occupied Spaces				
AM Period				
6:00 AM	36	35	396	467
7:00 AM	63	55	476	594
8:00 AM	62	51	516	629
PM Period				
3:00 PM	60	65	645	770
4:00 PM	9	68	589	666
5:00 PM	5	48	486	539
Percent Occupied				
AM Period				
6:00 AM	35%	40%	35%	36%
7:00 AM	61%	63%	43%	45%
8:00 AM	60%	59%	46%	48%
PM Period				
3:00 PM	58%	75%	58%	59%
4:00 PM	9%	78%	53%	51%
5:00 PM	5%	55%	43%	41%

	Jerrold Ave Rankin-Phelps	Jerrold Ave Phelps-Third	Rest of Study Area	Total Study Area
Supply	21	87	1,119	1,227
	less 83 spaces			
Occupied Spaces				
AM Period				
6:00 AM	36	35	396	467
7:00 AM	63	55	476	594
8:00 AM	62	51	516	629
PM Period				
3:00 PM	60	65	645	770
4:00 PM	9	68	589	666
5:00 PM	5	48	486	539
Percent Occupied				
AM Period				
6:00 AM				38%
7:00 AM				48%
8:00 AM				51%
PM Period				
3:00 PM				63%
4:00 PM				54%
5:00 PM				44%

	Jerrold Ave Rankin-Phelps	Jerrold Ave Phelps-Third	Rest of Study Area	Total Study Area
Supply	84	87	1,119	1,290
	less 20 spaces			
Occupied Spaces				
AM Period				
6:00 AM	36	35	396	467
7:00 AM	63	55	476	594
8:00 AM	62	51	516	629
PM Period				
3:00 PM	60	65	645	770
4:00 PM	9	68	589	666
5:00 PM	5	48	486	539
Percent Occupied				
AM Period				
6:00 AM	43%	40%	35%	36%
7:00 AM	75%	63%	43%	46%
8:00 AM	74%	59%	46%	49%
PM Period				
3:00 PM	71%	75%	58%	60%
4:00 PM	11%	78%	53%	52%
5:00 PM	6%	55%	43%	42%

5. Field Survey Notes

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Transit Field Notes
LCW Consulting

DATE March 2016
PURPOSE

23 Monterey remove these stops - confirm

Toland / Oakdale SB	Toland / Newcomb NB
Toland / McKinnon SB	Jerrold / Selby EB
Toland / Jerrold SB	Jerrold / Rankin EB
Jerrold / Selby WB	Jerrold / Phelps EB
Jerrold / Rankin WB	Phelps / Oakdale SB
Jerrold / Quint WB	
Phelps / McKinnon ~~SB~~ NB	

loss of 2 to 5 parking spaces per stop

new stops - Oakdale / Toland EB WB

Toland → Ind = 634 feet
Ind. Oak - Palou 330 feet

942

634
330
964

loss 4 to 20

4 10
2 x 2 2 x 5
4 x 2 4 x 5
8 20

1 to 2 new bus stops in each direction

LCW Consulting

FIELD SURVEY - SEP SITE 10/9/16

SIDEWALK WIDTHS

Evans Avenue

15' ft W of Rankin

9', E of Rankin
8'
10'

ped signals on all approaches
8-10' E of Quint

Phelps Street

@ Evans Ave heading south

path 8'
8'

3' 7" @ curb for cars

11'

10'

10' 5" s. of path @ Hudson

Jerrold Avenue

10'

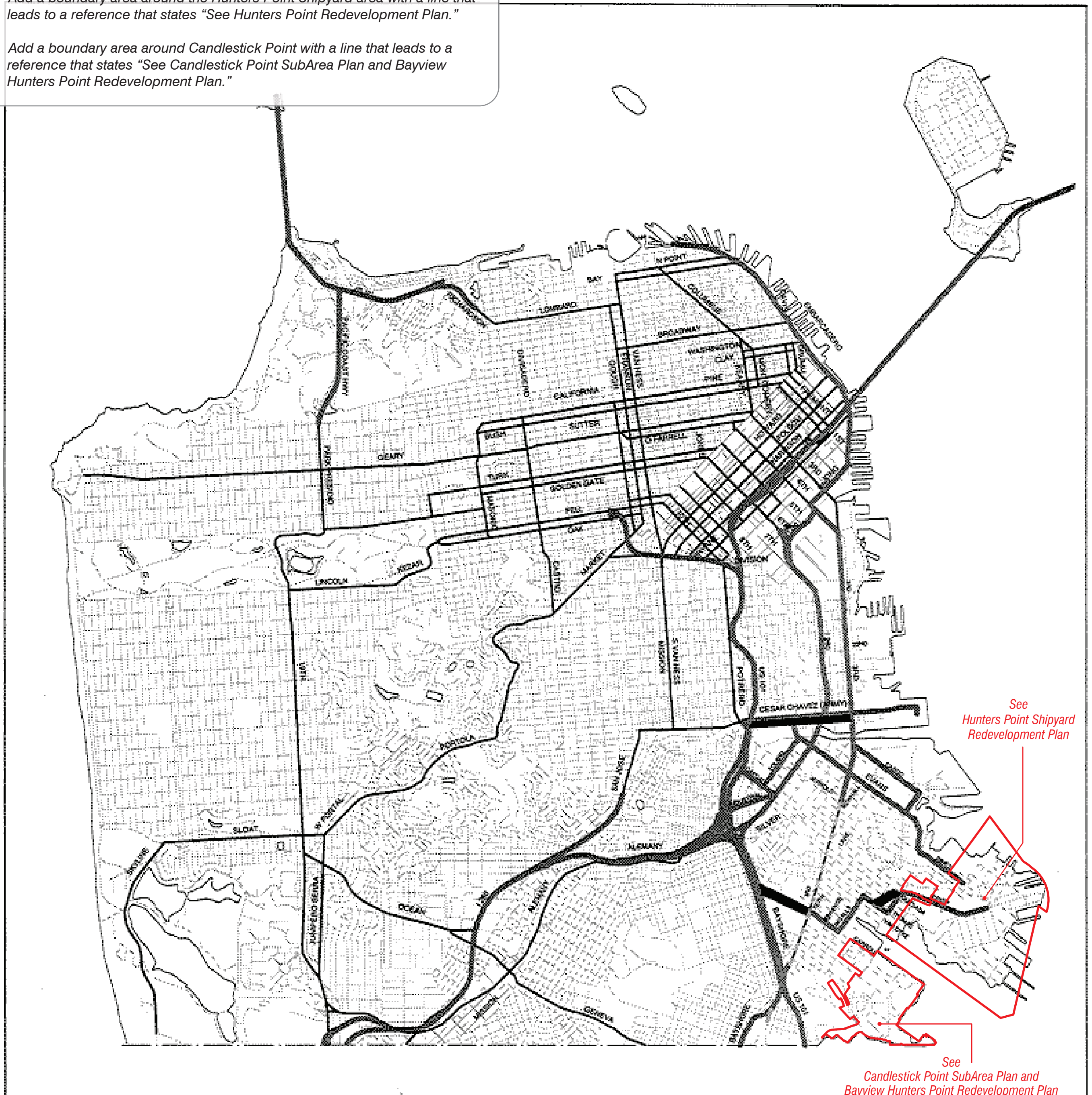
6. Truck Traffic Routes and Restrictions

MAP APPROVED BY THE BOARD OF SUPERVISORS

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

→ *Add a boundary area around the Hunters Point Shipyard area with a line that leads to a reference that states "See Hunters Point Redevelopment Plan."*

→ *Add a boundary area around Candlestick Point with a line that leads to a reference that states "See Candlestick Point SubArea Plan and Bayview Hunters Point Redevelopment Plan."*



FREIGHT TRAFFIC ROUTES

Map 15

Routes with significant truck traffic

Other Major Arterials

Certain traffic restrictions for trucks 11,000 lbs or more

area needing improved freight route connection

RESTRICTED TRAFFIC STREETS

- Weight Restriction Over 3 Tons Transportation Code Section 501(b)
- Weight Restriction Over 9 Tons Transportation Code Section 501(c)
- Buses and Vans With 8 or More Passengers Restricted
- Buses and Vans With 8 or More Passengers Restricted (Alamo Square Neighborhoud)

BASEMAP:
Department of Public Works

RESTRICTED STREETS LAYER:
SFMTA - SUSTAINABLE STREETS

Notes:

1) Certain vehicles exempt, including vehicles with business in that block, utility vehicles, emergency vehicles, school buses, and city vehicles.
2) Transportation code restricts the parking of commercial vehicles with gross weight over 10,000 pounds on residentially zoned areas.

For further information on restricted traffic streets, go to: www.sfgov.org and view the Municipal Codes Transportation Code

SFMTA
Municipal Transportation Agency

Disclaimer:
The City and County of San Francisco does not guarantee the accuracy or completeness of any information provided.

LAST MODIFIED: 05/12/2016

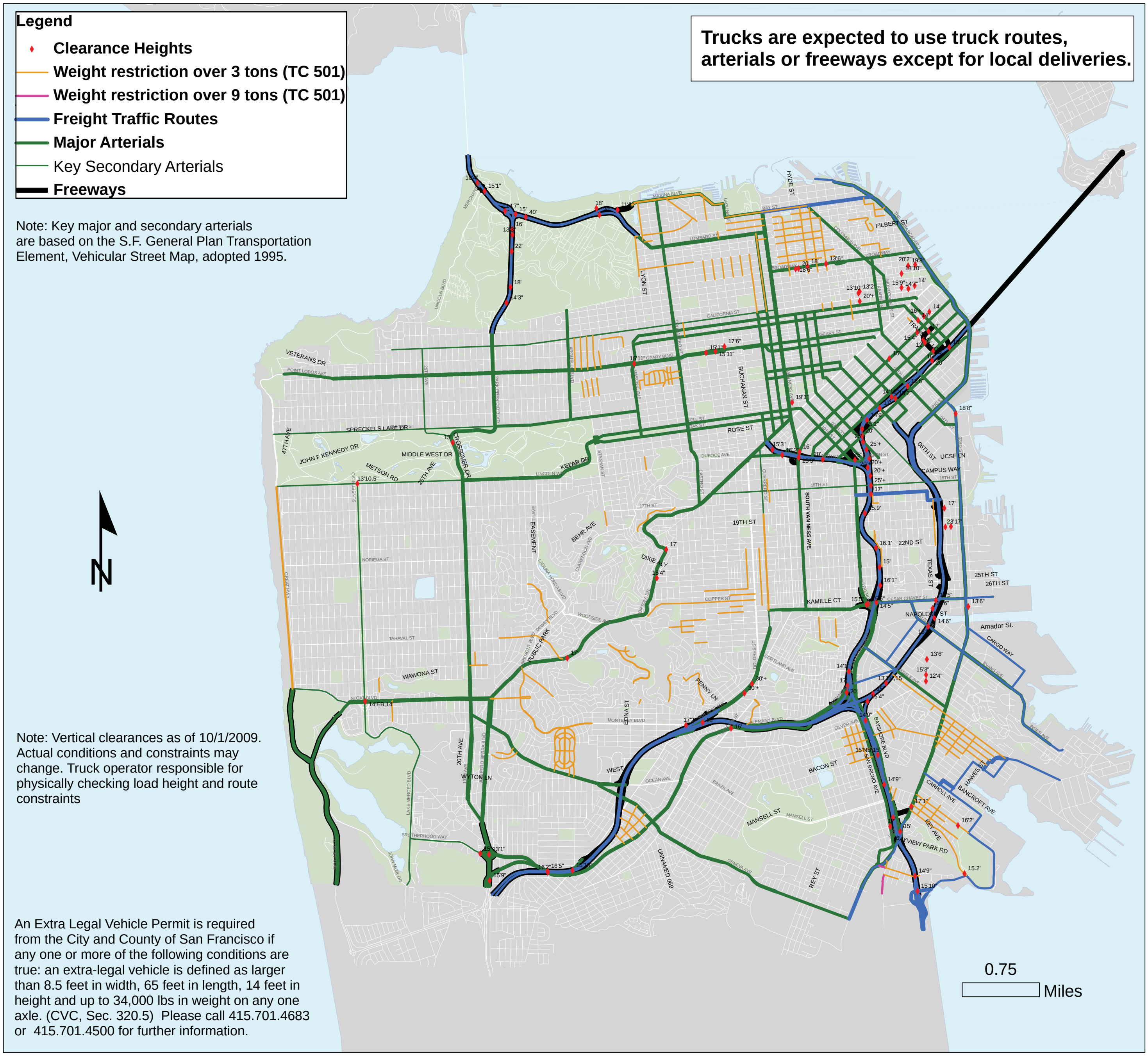
2 2 1
A

C 1

C 3

TR-49

San Francisco Truck Traffic Routes



SFMTA | Municipal Transportation Agency

The City and County of San Francisco does not guarantee the accuracy or completeness of any information in this map. Call 415.701.4500 for comments, questions or suggestions.

Sam Fielding
Jan. 29, 2010

7. Travel Demand

San Francisco Superdistrict Boundaries

The boundaries of the four San Francisco Superdistricts are based on the travel analysis zones established by the Metropolitan Transportation Commission (MTC). The four Superdistricts shown in this figure are aggregations of the MTC's 1454 Regional Travel Analysis Zones (May 2002) that encompasses the nine-county San Francisco Bay Area. MTC's 1454-zone system fits within the year 2000 U.S. Census tracts.

SEP Biosolids Project

DAILY VEHICLE-TRIPS AND VEHICLE-MILES OF TRAVEL SUMMARY	Existing 2015		Existing plus Construction: October 2018 [a]		Existing plus Construction: May 2022 [b]		2040 or 2045	
	Vehicle-trips	Vehicle-Miles	Vehicle-trips	Vehicle-Miles	Vehicle-trips	Vehicle-Miles	Vehicle-trips	Vehicle-Miles
PLANT STAFF AND RELATED VEHICLES TO/FROM SITE	488	16,524	488	16,524	488	16,524	488	16,524
DELIVERY TRUCKS TO/FROM SITE	60	3,000	60	3,000	60	3,000	60	3,000
CONSTRUCTION TRUCKS	----	----	142	4,440	56	1,652	----	----
CONSTRUCTION WORKERS	----	----	264	5,054	685	13,315	----	----
CONSTRUCTION WORKERS SHUTTLE BUS	----	----	----	----	8	12	----	----
TOTAL	548	19,524	954	29,018	1,297	34,503	548	19,524

[a] Month with Highest Construction Total Truck Traffic
[b] Month with Highest Number of Construction Workers

SEP Biosolids Project

PLANT STAFF AND RELATED VEHICLES TO/FROM SITE	Existing Average per weekday			Typical Work Hours	Existing Access Points	Average per weekday	Notes
PLANT STAFF					Jerrold Northside		154 parking spaces on-site
Operations on Watch 6am-6pm	13			6:00 am to 6:00 pm		13	(Includes some disabled and 3 motorcycle slots)
Operations on Watch 6pm-6am	13			6:00 pm to 6:00 am		13	
Operations (Training, Special Projects)	30			6:00 am to 2:30 pm		30	
Maintenance	124			6:00 am to 2:30 pm		124	
Engineering	34			7:00 am to 3:30 pm		34	
Laboratory	23			7:00 am to 3:30 pm		23	
Others (Admin, Safety, etc.)	20			7:00 am to 3:30 pm		20	
Total Plant Staff - Day	244					244	
Total Plant Staff - Night	13					13	
TOTAL DAILY PLANT STAFF	*257*					*257*	
Plant Day Staff by Mode of Travel			Veh. Occup				
Drive alone	180	74%	1.00			180	
Carpool	15	6%	7.50			15	2 veh (3 people in 1 car & 10 people in a van)
BART (vía shuttle)	30	12%	7.50			30	24th St BART(4 trips in AM & 4 trips in PM
SF Muni and other transit	19	8%				19	(shuttle seats 10 passenger and 1 driver)
Walk/Other modes	0	0%				0	
Total Plant Staff - Day	*244*	*100%*				*244*	
Plant Day Staff Vehicle-trips	380		1.69			380	
Plant Night Staff Vehicle-trips	26		1.00			26	
TOTAL PLANT STAFF VEHICLE TRIPS	*406*					*406*	
PLANT CITY VEHICLES				6:00 am to 6:00 pm	Jerrold Northside		45 parking spaces on-site
SEP City vehicles	20					20	
Other PUC Vehicles	0					0	
Total Plant City Vehicles	*20*					*20*	
Total Plant Staff Vehicle-trips	*40*					*40*	Assume 2 trips per vehicle per day
TOTAL STAFF AND PLANT VEHICLE-TRIPS	446					446	
VISITORS AND TOURS			Veh. Occup				
Plant visitors	20		1.00			20	
Plant tour attendees	25		25			25	
Total Plant Visitors and Tour Attendees	*45*					*45*	
Total Plant Visitor and Tours Vehicle-trips	*42*					42	
TOTAL PLANT STAFF & VISITORS VEHICLE TRIPS	488					488	
Total daytime-only plant staff & visitors vehicle trips	462					462	

SEP Biosolids Project

DAILY PLANT STAFF AND RELATED VEHICLES TO/FROM SITE

	Origin/Destination	Miles one-way	% of trips [a] Work	% of trips [a] Visitors	Number of Vehicles-trips Plant Staff	Plant Vehicles	Visitors & Tours	Total	Total No. of Vehicle-miles of Travel
SD1	Broadway / Columbus	5.5	8.3%	13.0%	34	7	7	48	528
SD2	Geary / Arguello	6.5	10.6%	14.0%	43	8	8	59	767
SD3	Guerrero / César Chávez	2.5	23.9%	44.0%	97	19	24	140	700
SD4	Taraval / 30th Av	10.5	7.9%	7.0%	32	6	3	41	861
EB	Walnut Creek	27	14.3%	9.0%	58			58	3,132
NB	Petaluma	43	5.6%	1.0%	23			23	1,978
SB	Palo Alto	31	26.9%	9.0%	109			109	6,758
Other	Sacramento	90	2.5%	3.0%	10			10	1,800
TOTAL			100.0%	100.0%	406	40	42	488	16,524

[a] Based on San Francisco Guidelines Tables E-5 Work Trips to SD3 (All) and E-15 Visitor Trips to SD-3 All Other

DAYTIME ONLY PLANT STAFF AND RELATED VEHICLES TO/FROM SITE

	Origin/Destination	Number of Daytime Vehicles-trips Plant Staff	Plant Vehicles	Visitors & Tours	Total
SD1	Broadway / Columbus	32	7	7	39
SD2	Geary / Arguello	40	8	8	53
SD3	Guerrero / César Chávez	91	19	24	137
SD4	Taraval / 30th Av	30	6	3	34
EB	Walnut Creek	54	0	0	38
NB	Petaluma	21	0	0	22
SB	Palo Alto	102	0	0	132
Other	Sacramento	10	0	0	7
TOTAL		380	40	42	462

HOURLY PLANT STAFF AND RELATED VEHICLES TO/FROM SITE

	Origin/Destination	AM PEAK HOUR Inbound	AM PEAK HOUR Outbound	AM PEAK HOUR Total	PM PEAK HOUR Inbound	PM PEAK HOUR Outbound	PM PEAK HOUR Total
SD1	Broadway / Columbus	20	4	23	4	20	23
SD2	Geary / Arguello	24	4	28	4	24	28
SD3	Guerrero / César Chávez	58	10	67	10	58	67
SD4	Taraval / 30th Av	17	3	20	3	17	20
EB	Walnut Creek	27	0	27	0	27	27
NB	Petaluma	11	0	11	0	11	11
SB	Palo Alto	51	0	51	0	51	51
Other	Sacramento	5	0	5	0	5	5
TOTAL		211	20	231	20	211	231

SEP Biosolids Project

TYPICAL NUMBER OF TRUCKS TO/FROM SITE	Existing Total Monday thru Friday	Existing Average per weekday	Typical Work Hours	Existing Access Points	2045 Average per weekday	Round trip miles per truck	Notes	Daily Vehicle-miles of Travel Existing	2040
CHEMICALS									
Bisulfite	2	< 1	Daytime (mainly morning)	Jerrold Northside	< 1	50	Richmond, CA (Chevron Facility)	< 50	< 50
Ferric Chloride	2	< 1	Daytime	Jerrold Southside	< 1	100	Based on existing ferric deliveries from Kemira Water Solutions Inc.(45051 Industrial Drive, Fremont, CA 9453	< 100	< 100
Hypochlorite	7	< 2	Daytime (mainly morning)	Jerrodl Northside	< 2	140	Tracy, CA	< 280	< 280
Oxygen	1	< 1		Jerrold Northside	< 1	130	Vacaville (50%), Pittsburg (30%), Sacramento (20%)	< 130	< 130
Polymer	3	< 1	Daytime	Jerrold Southside	< 1	800	Based on existing polymer deliveries from SNF Polydyne Inc. (4690 Worth St, Los Angeles, CA 90063)	< 800	< 800
Subtotal	*15*	< 6			< 6			< 1,360	< 1,360
GRIT	2	< 1	Before Noon	Jerrold Northside; exit to Rankin only on as-needed basis	< 1	60	Ox Mountain Landfill (Half Moon Bay)	< 60	< 60
SCREENINGS									
Coarse screenings (dumptruck)	4	< 1	Morning	Jerrold Northside	incl. below				
Fine screenings	2	< 1	Daytime	Jerrold Northside	incl. below				
	6	< 2			< 1	10	Recology Facility on Tunnel Road, in SF (final location in landfill not included).	< 20	< 10
TRASH, RECYCLE,COMPOST	4	1	Morning	Jerrold Northside;	1	10	Recology Facility on Tunnel Road	10	10
YELLOW GREASE LOADOUT	1	< 1	5:30-7:00	Quint (typically on Friday)	< 1	400	to biodiesel plant; Salem OR; Bakersfield, CA; Selma, CA	< 400	< 400
YELLOW GREASE DROP-OFF	20	4	Trucks leave early morning and return mid-afternoon		4	30	Throughout City (2 round trips)	120	120
BIOSOLIDS	50	10	Very early morning	Quint (in); Jerrold Southside (out)	14	100	To Bay Bridge - during dry weather to Solano and Sonoma Co. In wet weather, at landfill sites in the Bay Area. A small portion is sent to Synargro's Central Valley Compost Facility 13757 Harmon Rd, Dos Palos, CA 93620	1,000	1,400
RECYCLED WATER (for construction)	20	4	Anytime access; number of trucks can vary	Quint	4	30		120	120
OTHER DELIVERIES (from deliveries log, excludes chemicals)	20	4	Daytime		4	30	Throughout City	120	120
TOTAL	138	< 33			< 36			< 3,210	< 3,600

SEP Biosolids Project

CONSTRUCTION WORKERS - Daily

				Month with Highest Construction Total Trucks			October 2018	Month with Highest Construction Workers			May 2022
	Origin/Destination	Miles one-way	% of trips [b] Work	Number of Construction Workers [c]	Auto Person Trips [d] 79.8%	Vehicle Trips (Veh.Occ.) [b] 1.28	Workers Vehicle-miles of Travel	Number of Construction Workers [c]	Auto Person Trips [d] 79.8%	Vehicle Trips (Veh.Occ.) [b] 1.28	Workers Vehicle-miles of Travel
SD1	Broadway / Columbus	5.5	8.3%	18	29	22	123	46	73	57	315
SD2	Geary / Arguello	6.5	10.6%	22	35	27	178	58	93	72	470
SD3	Guerrero / César Chávez	2.5	23.9%	51	81	64	159	131	209	163	408
SD4	Taraval / 30th Av	10.5	7.9%	17	27	21	223	43	69	54	563
EB	Walnut Creek	27	14.3%	30	48	37	1,010	79	126	98	2,659
NB	Petaluma	43	5.6%	12	19	15	643	31	49	39	1,662
SB	Palo Alto	31	26.9%	57	91	71	2,203	148	236	185	5,720
Other	Sacramento	90	2.5%	5	7	6	515	14	22	17	1,518
TOTAL			100.0%	212	338	264	5,054	550	877	685	13,315

	Scenarios 2 & 6 Highest Construction Total Trucks October 2018					Scenarios 3 & 7 Highest Construction Total Trucks October 2018				
	Workers	Vehicle Trips	Peak Park Dmnd	Max Spaces	VMT	Workers	Vehicle Trips	Peak Park Dmnd	Max Spaces	VMT
Project Site	40	50	25	40	955	40	50	25	40	955
Greenhouses	172	214	107	215	4,108					0
1550 Evans St					0	172	214	107	340	4,108
Pier 94				385	0				260	0
Construction shuttle [e]		0			0		0			0
Total Workers - Daily	212	264	132	640	5,064	212	264	132	640	5,064

	Scenarios 4 & 8 Highest Construction Workers (1 shift) May 2022					Scenarios 5 & 9 Highest Construction Workers (1 shift) May 2022				
	Workers	Vehicle Trips	Peak Park Dmnd	Max Spaces	VMT	Workers	Vehicle Trips	Peak Park Dmnd	Max Spaces	VMT
Project Site	40	50	25	40	969	40	50	25	40	969
Greenhouses	310	386	193	215	7,511					0
1550 Evans St					0	510	636	318	340	12,357
Pier 94	200	249	125	385	4,846	0	0	0	260	0
Construction shuttle [e]		8			12		0			0
Total Workers - Daily	550	694	343	640	13,338	550	686	343	640	13,326

[b] Based on San Francisco Guidelines
[c] Includes construction workers and office staff
[d] Adapted from SF Guidelines; Walk and Other trip % moved to Auto.
[e] 50 passengers per bus; 1 mile from Pier 94 to project site

SEP Biosolids Project

CONSTRUCTION TRUCKS - Daily

Type of Truck	Origin/ Destination Location	Miles from Project Site	Round Trip (miles)	Month with Highest Construction Total Truck Traffic October 2018 site prep (incl. utility relocation) Number of trucks per day	Vehicle-miles of Travel	Month with Highest Number of Construction Workers May 2022 site prep (incl utility relocation) Number of trucks per day	Vehicle-miles of Travel
CONCRETE TRUCKS [a]							
- Cemex	500 Amador Street, San Francisco	0.7	1.4	5	7	0	0
- Bode Concrete	450 Amador Street, San Francisco	0.6	1.2	5	6	0	0
- Allied Redy Mix	450 Amador Street, San Francisco	0.6	1.2	4	5	0	0
Subtotal Concrete Trucks				*14*	*18*	*0*	*0*
DUMP TRUCKS							
- Backfill Soil	Assume 50 miles from construction site	50	100	0	0	0	0
- Contaminated Excavated Soil	Port Facility (Cargo Way)	1.1	2.2	12	26	2	4
- Unsuitable Excavated Soil	Altamont Landfill in Livermore	54	108	37	3,996	6	648
- Lead/Asbestos Building Materials	Recology Hay Road Landfill in Vacaville	65	130	0	0	0	0
- Recyclable Materials	Republic Ox Mountain Landfill in Half Moon Bay	24	48	0	0	0	0
- Unrecyclable Materials	Republic Ox Mountain Landfill in Half Moon Bay	24	48	0	0	0	0
Subtotal Dump Trucks				*49*	*4,022*	*8*	*652*
FLATBED TRUCKS							
- Equipment Deliveries to Pier 94	Origin unknown; assume 50 miles from site	50	100	2	200	5	500
- Equipment Deliveries to Greenhouses	Origin unknown; assume 50 miles from site	50	100	2	200	5	500
Subtotal Flatbed Trucks				*4*	*400*	*10*	*1,000*
SMALL DELIVERY TRUCKS							
- Equipment Deliveries	From Pier 94 to construction site (half size trucks)	1	2	4	8	10	20
TOTAL CONSTRUCTION TRUCKS - Daily				71	4,440	28	1,652

[a] Assume trucks are evenly distributed among three locations

SEP Biosolids Project

EXISTING VISITORS Month	Days	Visitors	Visitors per Day
April 2015	13	200	15.4
May 2015	20	377	18.9
June 2015	11	162	14.7
TOTAL	44	739	16.8

EXISTING DELIVERIES Month	Days	Deliveries	Deliveries per Day (including chemicals)
March 2015	21	217	10.3
April 2015	22	205	9.3
May 2015	20	176	8.8
TOTAL	63	598	9.5

EXISTING TOURS Month	Days	Tour Visitors	Visitors per Day	School Visits	Other Visits
January 2015	3	54	18.0	2	1
February 2015	9	191	21.2	8	1
March 2015	2	24	12.0	2	0
April 2015	8	187	23.4	7	1
May 2015	5	97	19.4	3	2
TOTAL	27	553	20.5	22	5

CONSTRUCTION TRUCKS - Daily

Month/Year	Concrete Trucks [a]	Dump Trucks (**20 CY, filled to 18 CY capacity to provide freeboard**)									Flatbed Trucks			Total Trucks
		Backfill Soil [b]	Contaminated Excavated Soil	Unsuitable Excavated Soil	Total Excavated Soil	Demolition Debris, Lead/Asbestos Building Materials [d]	Demolition Debris, Recycable Materials [d]	Demolition Debris, Un-recyclable Materials [d]	Total Demolition Debris	Total Dump Trucks	Equipment Deliveries			
	See locations below	*Assume 50 miles from construction site*	*Assume Port Facility then to Landfill in Utah*	*Assume Altamont Landfill in Livermore [54 miles from site]*		*Recology Hay Road Landfill in Vacaville [65 miles from site]*	*Republic Ox Mountain Landfill in Half Moon Bay [24 miles from site]*	*Republic Ox Mountain Landfill in Half Moon Bay [24 miles from site]*			Equipment Delivered to Pier 94	Equipment Delivered to Greenhouses	Total Equipment Deliveries (Undetermined Source) [e]	
February-18	0	0	0	0	0	8	8	8	24	24	0	0	0	24
March-18	0	0	0	0	0	6	6	6	18	18	1	1	2	20
April-18	0	0	0	0	0	7	7	7	21	21	1	1	2	23
May-18	2	0	0	0	0	6	6	6	18	18	1	1	2	22
June-18	8	0	0	0	0	0	0	0	0	0	3	3	6	14
July-18	9	0	0	0	0	0	0	0	0	0	3	3	6	15
August-18	3	0	14	45	59	0	0	0	0	59	2	2	4	66
September-18	2	0	15	46	61	0	0	0	0	61	1	1	2	65
October-18	14	0	12	37	49	0	0	0	0	49	2	2	4	67
November-18	17	0	11	34	45	0	0	0	0	45	2	2	4	66
December-18	0	0	15	47	62	0	0	0	0	62	2	2	4	66
January-19	18	0	0	0	0	0	0	0	0	0	2	2	4	22
February-19	17	0	0	0	0	0	0	0	0	0	2	2	4	21
March-19	16	0	0	0	0	0	0	0	0	0	2	2	4	20
April-19	18	0	0	0	0	0	0	0	0	0	2	2	4	22
May-19	15	0	0	0	0	0	0	0	0	0	2	2	4	19
June-19	18	0	0	0	0	0	0	0	0	0	2	2	4	22
July-19	16	0	0	0	0	0	0	0	0	0	2	2	4	20
August-19	15	0	0	0	0	0	0	0	0	0	2	2	4	19
September-19	14	0	0	0	0	0	0	0	0	0	2	2	4	18
October-19	10	0	1	1	2	0	0	0	0	2	2	2	4	16
November-19	12	0	1	1	2	0	0	0	0	2	3	3	6	20
December-19	14	0	1	1	2	0	0	0	0	2	3	3	6	22
January-20	14	0	0	1	1	0	0	0	0	1	3	3	6	21
February-20	13	0	0	0	0	0	0	0	0	0	3	3	6	19
March-20	12	0	0	0	0	0	0	0	0	0	3	3	6	18
April-20	11	0	1	1	2	0	0	0	0	2	3	3	6	19
May-20	12	0	1	4	5	0	0	0	0	5	3	3	6	23
June-20	13	0	4	12	16	0	0	0	0	16	3	3	6	35
July-20	11	0	3	10	13	0	0	0	0	13	3	3	6	30
August-20	13	0	4	11	15	0	0	0	0	15	4	4	8	36
September-20	7	0	5	16	21	0	0	0	0	21	3	3	6	34
October-20	3	0	6	17	23	0	0	0	0	23	4	4	8	34
November-20	5	0	5	15	20	0	0	0	0	20	4	4	8	33
December-20	5	0	6	19	25	0	0	0	0	25	4	4	8	38
January-21	4	0	6	18	24	0	0	0	0	24	4	4	8	36
February-21	1	0	5	14	19	0	0	0	0	19	3	3	6	26
March-21	1	0	3	9	12	0	0	0	0	12	3	3	6	19
April-21	0	0	3	9	12	0	0	0	0	12	3	3	6	18
May-21	8	0	1	3	4	0	0	0	0	4	5	5	10	22
June-21	1	0	0	0	0	0	0	0	0	0	4	4	8	9
July-21	0	0	0	0	0	0	0	0	0	0	4	4	8	8
August-21	0	0	0	0	0	0	0	0	0	0	3	3	6	6
September-21	0	0	0	0	0	0	0	0	0	0	3	3	6	6
October-21	0	0	0	0	0	0	0	0	0	0	4	4	8	8
November-21	0	0	0	0	0	0	0	0	0	0	4	4	8	8
December-21	0	0	0	0	0	0	0	0	0	0	4	4	8	8
January-22	0	0	0	0	0	0	0	0	0	0	4	4	8	8
February-22	0	0	0	0	0	0	0	0	0	0	4	4	8	8
March-22	0	0	0	0	0	0	0	0	0	0	4	4	8	8
April-22	0	0	0	0	0	0	0	0	0	0	4	4	8	8
May-22	0	0	2	6	8	0	0	0	0	8	5	5	10	18
June-22	0	0	3	10	13	0	0	0	0	13	5	5	10	23

CONSTRUCTION TRUCKS - Daily

Month/Year	Concrete Trucks [a]	Dump Trucks (**20 CY, filled to 18 CY capacity to provide freeboard**)									Flatbed Trucks			
		Backfill Soil [b]	Contaminated Excavated Soil	Unsuitable Excavated Soil	Total Excavated Soil	Demolition Debris, Lead/Asbestos Building Materials [d]	Demolition Debris, Recycable Materials [d]	Demolition Debris, Un-recycable Materials [d]	Total Demolition Debris	Total Dump Trucks	Equipment Deliveries			
	See locations below	*Assume 50 miles from construction site*	*Assume Port Facility then to Landfill in Utah*	*Assume Altamont Landfill in Livermore [54 miles from site]*		*Recology Hay Road Landfill in Vacaville [65 miles from site]*	*Republic Ox Mountain Landfill in Half Moon Bay [24 miles from site]*	*Republic Ox Mountain Landfill in Half Moon Bay [24 miles from site]*			Equipment Delivered to Pier 94	Equipment Delivered to Greenhouses	Total Equipment Deliveries (Undetermined Source) [e]	Total Trucks
July-22	0	0	3	9	12	0	0	0	0	12	4	4	8	20
August-22	0	0	3	10	13	0	0	0	0	13	3	3	6	19
September-22	0	0	3	8	11	0	0	0	0	11	3	3	6	17
October-22	0	0	2	4	6	0	0	0	0	6	3	3	6	12
November-22	0	0	0	0	0	0	0	0	0	0	2	2	4	4
December-22	0	0	0	0	0	0	0	0	0	0	1	1	2	2
January-23	0	0	0	0	0	0	0	0	0	0	1	1	2	2
Period Total	372	0	139	418	557	27	27	27	81	638	171	171	342	1,352
Maximum	18	0	15	47	62	8	8	8	24	62	5	5	10	67

a. Concrete deliveries:
Cemex – 500 Amador Street, San Francisco, CA – 0.7 miles
Bode Concrete – 450 Amador Street, San Francisco, CA – 0.6 miles
Allied Redy Mix – 450 Amador Street, San Francisco, CA – 0.6 miles

b. Clean material excavated from digester complex will be used for backfill.
c. Unsuitable soil (due to geotechnical or environmental reaons) will be excavated and hauled off-site. Unsuitable soil destination will depend on soil classification. Assume that contaminated soil will be transported to a landfill in Utah and the remainder will be transported to the Altamonte Landfill outside Livermore/T
d. Due to limited information, estimates of demolition debris material is assumed to be a third lead/asbestos materials, a third recycable materials and a third un-recycable materials. Potential locations are listed based on the type of material.
e. Source of equipment has not been determined yet. Assume equipment deliveries will be distributed between the two potential staging areas identified at this time: Pier 94 and Southeast Greenhouses.
f. All quantities and truckload estimates are rough order of magnitude, based on 10% design and class 4 cost estimate. These estimates will be refined during design development.
g. Truck capacity is assumed to be 20 CY, filled to 18 CY capacity (to provide freeboard).
h. The total excavation volumes (and breakdown for hazardous and non-hazardous materials) are based on the Final Environmental Site Investigation Report for San Francisco Department of Public Health (May 2016)

Source: SF PUC, August 2016

Construction Workers and Shuttle Bus [a]

Month	Construction Workers Per Day [b]	Parking stalls needed per day, number of vehickes/stalls [c] *(Calculation)*	Area needed for workforce parking off-site, in acres [d] *(Calculation)*	On-site Office Staff (40 people, 40 cars) [e]	Off-site Office Staff (175 max., 175 cars) [f]	Total Construction Office Staff	Area (175 general office staff and On-site Staff Parking at Greenhouses) [g] *(Calculation)*	Shuttles trips at each end of the work shift (construction workers, 50 pax bus) [h] *(Calculation)*	Total Construction Employees	Work Shifts
February-18	61	49	0.34	40	25	65	0.4	2	126	One shift: 7AM-3:30PM
March-18	75	60	0.41	40	25	65	0.4	2	140	
April-18	74	59	0.41	40	25	65	0.4	2	139	
May-18	77	61	0.42	40	25	65	0.4	2	142	
June-18	52	42	0.29	40	25	65	0.4	2	117	
July-18	46	37	0.25	40	50	90	0.6	1	136	
August-18	58	46	0.32	40	50	90	0.6	2	148	
September-18	88	70	0.48	40	50	90	0.6	2	178	
October-18	122	97	0.67	40	50	90	0.6	3	212	
November-18	149	119	0.82	40	50	90	0.6	3	239	
December-18	104	83	0.57	40	50	90	0.6	3	194	
January-19	99	79	0.54	40	50	90	0.6	2	189	
February-19	99	79	0.54	40	50	90	0.6	2	189	
March-19	109	87	0.60	40	50	90	0.6	3	199	
April-19	91	73	0.50	40	75	115	0.8	2	206	
May-19	110	88	0.61	40	100	140	1.0	3	250	
June-19	98	79	0.54	40	125	165	1.1	2	263	
July-19	113	90	0.62	40	125	165	1.1	3	278	
August-19	132	106	0.73	40	125	165	1.1	3	297	
September-19	137	110	0.76	40	125	165	1.1	3	302	
October-19	152	122	0.84	40	125	165	1.1	4	317	
November-19	167	134	0.92	40	125	165	1.1	4	332	
December-19	174	139	0.96	40	125	165	1.1	4	339	
January-20	160	128	0.88	40	125	165	1.1	4	325	
February-20	170	136	0.94	40	125	165	1.1	4	335	
March-20	183	146	1.01	40	125	165	1.1	4	348	
April-20	202	161	1.11	40	125	165	1.1	5	367	
May-20	210	168	1.16	40	125	165	1.1	5	375	
June-20	163	130	0.90	40	125	165	1.1	4	328	
July-20	175	140	0.96	40	150	190	1.3	4	365	
August-20	221	176	1.21	40	150	190	1.3	5	411	
September-20	155	124	0.85	40	150	190	1.3	4	345	
October-20	198	158	1.09	40	150	190	1.3	4	388	
November-20	181	145	1.00	40	150	190	1.3	4	371	
December-20	173	139	0.96	40	150	190	1.3	4	363	
January-21	185	148	1.02	40	150	190	1.3	4	375	
February-21	198	158	1.09	40	150	190	1.3	4	388	
March-21	193	154	1.06	40	150	190	1.3	4	383	
April-21	250	200	1.38	40	150	190	1.3	6	440	
May-21	319	255	1.76	40	175	215	1.5	7	534	Potentially 2 shifts: 7AM-3:30 PM & 2:30 PM-11 PM (see Note
June-21	327	262	1.80	40	175	215	1.5	7	542	See Note (a)
July-21	308	246	1.69	40	175	215	1.5	7	523	See Note (a)
August-21	224	179	1.23	40	175	215	1.5	5	439	See Note (a)
September-21	192	153	1.05	40	175	215	1.5	4	407	See Note (a)
October-21	234	187	1.29	40	175	215	1.5	5	449	See Note (a)
November-21	282	226	1.56	40	175	215	1.5	6	497	See Note (a)
December-21	280	224	1.54	40	175	215	1.5	6	495	See Note (a)
January-22	304	243	1.67	40	175	215	1.5	7	519	See Note (a)
February-22	255	204	1.40	40	175	215	1.5	6	470	See Note (a)
March-22	270	216	1.49	40	175	215	1.5	6	485	See Note (a)
April-22	304	243	1.67	40	175	215	1.5	7	519	See Note (a)

Month	Construction Workers Per Day [b]	Parking stalls needed per day, number of vehickes/stalls [c] *(Calculation)*	Area needed for workforce parking off-site, in acres [d] *(Calculation)*	On-site Office Staff (40 people, 40 cars) [e]	Off-site Office Staff (175 max., 175 cars) [f]	Total Construction Office Staff	Area (175 general office staff and On-site Staff Parking at Greenhouses) [g] *(Calculation)*	Shuttles trips at each end of the work shift (construction workers, 50 pax bus) [h] *(Calculation)*	Total Construction Employees	Work Shifts
May-22	335	268	1.85	40	175	215	1.5	7	550	See Note (a)
June-22	303	242	1.67	40	175	215	1.5	7	518	See Note (a)
July-22	292	234	1.61	40	175	215	1.5	6	507	See Note (a)
August-22	185	148	1.02	40	175	215	1.5	4	400	One shift: 7AM-3:30PM
September-22	146	117	0.81	40	175	215	1.5	3	361	
October-22	161	129	0.89	40	150	190	1.3	4	351	
November-22	83	67	0.46	40	125	165	1.1	2	248	
December-22	54	43	0.30	40	100	140	1.0	2	194	
January-23	23	19	0.13	40	90	130	0.9	1	153	
February-23	3	3	0.02	40	90	130	0.9	1	133	
March-23	3	3	0.02	40	90	130	0.9	1	133	
April-23	3	3	0.02	40	90	130	0.9	1	133	
May-23	3	3	0.02	40	90	130	0.9	1	133	
June-23	3	3	0.02	40	90	130	0.9	1	133	
July-23	3	3	0.02	40	90	130	0.9	1	133	
MAXIMUM	335	268	1.85	40	175	215	1.5	7	550	

Construction Workers and Shuttle Bus [a]

a. BDFP estimates for people per day and office staff as shown in Draft CER Construction Staging TM. Standard working hours are assumed (8.5 hours per day, 5 days per week).
While one work shift is assumed for VMT calculations, it is possible that two work shifts could occur during the shaded period shown above (May '21 to May '22). Workshifts are 8.5 hours, which include 1/2 hour lunch.
They are as follows: 7 am - 3:30 pm (1st shift) and 2:30 pm - 11 pm (2nd shift, if needed).

b. Contractor Work Force is based on base case or mid-point of probable range (direct cost plus 15 to 25 percent design contingency).

c. Work force parking in this table is calculated based on 1.25 vehicle occupancy ratio.

d. Work force parking area is calculated based on 300 sq.ft. parking stalls and the estimated number of vehicles.

e. A minimum of 0.5 acres for on-site office trailers is required to allow enough space for the design team field staff, general contractor, major subcontractors,
full-time inspectors and meeting rooms.throughout the period. This assumes 40 people (40 cars) will be on-site throughout the period.

f. Off-site office trailers are required to accommodate additional Contractor Manager and General Contractor staff. Estimates are based on 175 people (175 cars)
The car pool ratio was not appliedto the off-site office estimate.

g. Off-site office staff parking area is calculated based on 300 sq.ft. parking stalls and the estimated number of vehicles.

h. A shuttle bus with capacity for 50 passengers is assumed during peak of construction. A smaller shuttle bus could be used at other times.
Estimate does not include off-site office staff. (Approximaty calculation)

Source: Sue Chau, Project Manager, SF PUC, June 28, 2016

SEP Biosolids Project

Scenarios: Maximum Construction Trucks and Maximum Construction Workers
All Scenarios: Construction Worker Trips at Project Site
Office staff = 40 Construction employees = 0

Proposed Size:		40 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		80 person-trips	Total Person-trips:		40		40
Total Work Trips:	100%	80 person-trips	Work Person-trips:	100%	40	100%	40

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	4	3	2	2	2	2
	Transit	32.7%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		7	3	3	2	3	2
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	6	5	3	2	3	2
	Transit	26.4%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		8	5	4	2	4	2
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	15	12	8	6	8	6
	Transit	20.6%		4		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		19	12	10	6	10	6
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	5	3	2	2	2	2
	Transit	21.5%		1		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		6	3	3	2	3	2
East Bay 14.3%	Auto	70.3%	1.61	8	5	4	2	4	2
	Transit	29.7%		3		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		11	5	6	2	6	2
North Bay 5.6%	Auto	89.5%	1.44	4	3	2	1	2	1
	Transit	10.5%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		4	3	2	1	2	1
South Bay 26.9%	Auto	91.2%	1.13	20	17	10	9	10	9
	Transit	8.8%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		22	17	11	9	11	9
Out of Region 2.5%	Auto	64.7%	1.56	1	1	1	0	1	0
	Transit	35.3%		1		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		2	1	1	0	1	0
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**64**	**50**	**32**	**25**	**32**	**25**
	Transit	**20.2%**		**16**		**8**		**8**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**80**	**50**	**40**	**25**	**40**	**25**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the trips (inbound) occur in the AM and the other half (outbound) occur in the PM

SEP Biosolids Project

Scenario 2: Maximum Construction Trucks
Construction Worker Trips at Greenhouses
Office staff = 50 ########################

Proposed Size:		172 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		344 person-trips	Total Person-trips:		172		172
Total Work Trips:	100%	344 person-trips	Work Person-trips:	100%	172	100%	172

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	19	15	10	7	10	7
	Transit	32.7%		9		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		29	15	14	7	14	7
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	27	21	13	11	13	11
	Transit	26.4%		10		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		36	21	18	11	18	11
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	65	52	33	26	33	26
	Transit	20.6%		17		8		8	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		82	52	41	26	41	26
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	21	14	11	7	11	7
	Transit	21.5%		6		3		3	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		27	14	14	7	14	7
East Bay 14.3%	Auto	70.3%	1.61	35	21	17	11	17	11
	Transit	29.7%		15		7		7	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		49	21	25	11	25	11
North Bay 5.6%	Auto	89.5%	1.44	17	12	9	6	9	6
	Transit	10.5%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		19	12	10	6	10	6
South Bay 26.9%	Auto	91.2%	1.13	84	75	42	37	42	37
	Transit	8.8%		8		4		4	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		93	75	46	37	46	37
Out of Region 2.5%	Auto	64.7%	1.56	6	4	3	2	3	2
	Transit	35.3%		3		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		9	4	4	2	4	2
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**274**	**214**	**137**	**107**	**137**	**107**
	Transit	**20.2%**		**70**		**35**		**35**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**344**	**214**	**172**	**107**	**172**	**107**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the trips (inbound) occur in the AM and the other half (outbound) occur in the PM

SEP Biosolids Project

Scenario 3: Maximum Construction Trucks
Construction Worker Trips at 1550 Evans St
Office staff = 50 ########################

Proposed Size:		172 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		344 person-trips	Total Person-trips:		172		172
Total Work Trips:	100%	344 person-trips	Work Person-trips:	100%	172	100%	172

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	19	15	10	7	10	7
	Transit	32.7%		9		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		29	15	14	7	14	7
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	27	21	13	11	13	11
	Transit	26.4%		10		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		36	21	18	11	18	11
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	65	52	33	26	33	26
	Transit	20.6%		17		8		8	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		82	52	41	26	41	26
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	21	14	11	7	11	7
	Transit	21.5%		6		3		3	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		27	14	14	7	14	7
East Bay 14.3%	Auto	70.3%	1.61	35	21	17	11	17	11
	Transit	29.7%		15		7		7	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		49	21	25	11	25	11
North Bay 5.6%	Auto	89.5%	1.44	17	12	9	6	9	6
	Transit	10.5%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		19	12	10	6	10	6
South Bay 26.9%	Auto	91.2%	1.13	84	75	42	37	42	37
	Transit	8.8%		8		4		4	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		93	75	46	37	46	37
Out of Region 2.5%	Auto	64.7%	1.56	6	4	3	2	3	2
	Transit	35.3%		3		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		9	4	4	2	4	2
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**274**	**214**	**137**	**107**	**137**	**107**
	Transit	**20.2%**		**70**		**35**		**35**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**344**	**214**	**172**	**107**	**172**	**107**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the trips (inbound) occur in the AM and the other half (outbound) occur in the PM

SEP Biosolids Project

Scenario 4: Maximum Construction Workers (two shifts)
Construction Worker Trips at Greenhouses
Office staff = 175 ########################

Proposed Size:		310 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		620 person-trips	Total Person-trips:		310		310
Total Work Trips:	100%	620 person-trips	Work Person-trips:	100%	310	100%	310

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	35	27	17	13	17	13
	Transit	32.7%		17		8		8	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		51	27	26	13	26	13
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	48	38	24	19	24	19
	Transit	26.4%		17		9		9	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		66	38	33	19	33	19
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	118	94	59	47	59	47
	Transit	20.6%		31		15		15	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		148	94	74	47	74	47
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	38	26	19	13	19	13
	Transit	21.5%		11		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		49	26	24	13	24	13
East Bay 14.3%	Auto	70.3%	1.61	62	39	31	19	31	19
	Transit	29.7%		26		13		13	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		89	39	44	19	44	19
North Bay 5.6%	Auto	89.5%	1.44	31	22	16	11	16	11
	Transit	10.5%		4		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		35	22	17	11	17	11
South Bay 26.9%	Auto	91.2%	1.13	152	135	76	67	76	67
	Transit	8.8%		15		7		7	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		167	135	83	67	83	67
Out of Region 2.5%	Auto	64.7%	1.56	10	6	5	3	5	3
	Transit	35.3%		5		3		3	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		16	6	8	3	8	3
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**495**	**386**	**247**	**193**	**247**	**193**
	Transit	**20.2%**		**125**		**63**		**63**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**620**	**386**	**310**	**193**	**310**	**193**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the office staff trips (inbound) occur in the AM and the other half (outbound) occur in the PM;
One quarter of the construction employee trips (inbound) occur in the AM and the 50% (half inbound and half outbound) occur in the PM.

SEP Biosolids Project

Scenario 4: Maximum Construction Workers (two shifts)
Construction Worker Trips at Pier 94
Office staff = 0 ########################

Proposed Size:		200 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		400 person-trips	Total Person-trips:		200		200
Total Work Trips:	100%	400 person-trips	Work Person-trips:	100%	200	100%	200

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	22	17	11	9	11	9
	Transit	32.7%		11		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		33	17	17	9	17	9
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	31	25	16	12	16	12
	Transit	26.4%		11		6		6	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		42	25	21	12	21	12
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	76	61	38	30	38	30
	Transit	20.6%		20		10		10	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		96	61	48	30	48	30
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	25	17	12	8	12	8
	Transit	21.5%		7		3		3	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		32	17	16	8	16	8
East Bay 14.3%	Auto	70.3%	1.61	40	25	20	12	20	12
	Transit	29.7%		17		8		8	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		57	25	29	12	29	12
North Bay 5.6%	Auto	89.5%	1.44	20	14	10	7	10	7
	Transit	10.5%		2		1		1	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		22	14	11	7	11	7
South Bay 26.9%	Auto	91.2%	1.13	98	87	49	43	49	43
	Transit	8.8%		9		5		5	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		108	87	54	43	54	43
Out of Region 2.5%	Auto	64.7%	1.56	6	4	3	2	3	2
	Transit	35.3%		4		2		2	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		10	4	5	2	5	2
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**319**	**249**	**160**	**125**	**160**	**125**
	Transit	**20.2%**		**81**		**40**		**40**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**400**	**249**	**200**	**125**	**200**	**125**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the office staff trips (inbound) occur in the AM and the other half (outbound) occur in the PM;
One quarter of the construction employee trips (inbound) occur in the AM and the 50% (half inbound and half outbound) occur in the PM.

SEP Biosolids Project

Scenario 5: Maximum Construction Workers (two shifts)
Construction Worker Trips at 1550 Evans St
Office staff = 175 ########################

Proposed Size:		510 workers					
DAILY				AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0 trips/worker	Person-trip Gen Rate [4]:	50.0%	1.0	50.0%	1.0
Total Person Trips:		1,020 person-trips	Total Person-trips:		510		510
Total Work Trips:	100%	1,020 person-trips	Work Person-trips:	100%	510	100%	510

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
	Auto	67.3%	1.30	57	44	28	22	28	22
SF Superdistrict 1	Transit	32.7%		28		14		14	
8.3%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		85	44	42	22	42	22
	Auto	73.6%	1.26	80	63	40	32	40	32
SF Superdistrict 2	Transit	26.4%		29		14		14	
10.6%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		108	63	54	32	54	32
	Auto	79.4%	1.25	194	155	97	77	97	77
SF Superdistrict 3	Transit	20.6%		50		25		25	
23.9%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		244	155	122	77	122	77
	Auto	78.5%	1.48	63	43	32	21	32	21
SF Superdistrict 4	Transit	21.5%		17		9		9	
7.9%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		81	43	40	21	40	21
	Auto	70.3%	1.61	103	64	51	32	51	32
East Bay	Transit	29.7%		43		22		22	
14.3%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		146	64	73	32	73	32
	Auto	89.5%	1.44	51	36	26	18	26	18
North Bay	Transit	10.5%		6		3		3	
5.6%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		57	36	29	18	29	18
	Auto	91.2%	1.13	250	221	125	111	125	111
South Bay	Transit	8.8%		24		12		12	
26.9%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		274	221	137	111	137	111
	Auto	64.7%	1.56	16	11	8	5	8	5
Out of Region	Transit	35.3%		9		5		5	
2.5%	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		26	11	13	5	13	5
	Auto	**79.8%**	**1.28**	**814**	**636**	**407**	**318**	**407**	**318**
All Origins	**Transit**	**20.2%**		**206**		**103**		**103**	
100.0%	**Walk**	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**1,020**	**636**	**510**	**318**	**510**	**318**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the office staff trips (inbound) occur in the AM and the other half (outbound) occur in the PM;
One quarter of the construction employee trips (inbound) occur in the AM and the 50% (half inbound and half outbound) occur in the PM.

SEP Biosolids Project

Scenario 5: Maximum Construction Workers (two shifts)
Construction Worker Trips at Pier 94
Office staff = 0 Construction employees = 0

Proposed Size:		-	workers					
DAILY					AM PEAK HOUR		PM PEAK HOUR	
Person-trip Generation Rate [1]:		2.0	trips/worker	Person-trip Gen Rate [4]:	0.0%	0.0	0.0%	0.0
Total Person Trips:		0	person-trips	Total Person-trips:		0		0
Total Work Trips:	100%	0	person-trips	Work Person-trips:	100%	0	100%	0

Percent of Origin Distribution [2]	Mode of Travel	Percent Distribution [3]	Average Vehicle Occupancy [2]	Daily Person Trips	Daily Vehicle-Trips	AM Peak Hour Person Trips	AM Peak Hour Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
SF Superdistrict 1 8.3%	Auto	67.3%	1.30	0	0	0	0	0	0
	Transit	32.7%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
SF Superdistrict 2 10.6%	Auto	73.6%	1.26	0	0	0	0	0	0
	Transit	26.4%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
SF Superdistrict 3 23.9%	Auto	79.4%	1.25	0	0	0	0	0	0
	Transit	20.6%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
SF Superdistrict 4 7.9%	Auto	78.5%	1.48	0	0	0	0	0	0
	Transit	21.5%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
East Bay 14.3%	Auto	70.3%	1.61	0	0	0	0	0	0
	Transit	29.7%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
North Bay 5.6%	Auto	89.5%	1.44	0	0	0	0	0	0
	Transit	10.5%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
South Bay 26.9%	Auto	91.2%	1.13	0	0	0	0	0	0
	Transit	8.8%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
Out of Region 2.5%	Auto	64.7%	1.56	0	0	0	0	0	0
	Transit	35.3%		0		0		0	
	Walk			0		0		0	
	Other			0		0		0	
	All Modes	100.0%		0	0	0	0	0	0
All Origins 100.0%	**Auto**	**79.8%**	**1.28**	**0**	**0**	**0**	**0**	**0**	**0**
	Transit	**20.2%**		**0**		**0**		**0**	
	Walk	**0.0%**		**0**		**0**		**0**	
	Other	**0.0%**		**0**		**0**		**0**	
	All Modes	**100.0%**		**0**	**0**	**0**	**0**	**0**	**0**

Notes:
[1] One inbound plus one outbound trip per worker
[2] SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All)
[3] Adapted from SF Guidelines, Appendix E - Table E-5 Work Trips to SD3 (All); Walk and Other trip % moved to Auto.
[4] Half of the office staff trips (inbound) occur in the AM and the other half (outbound) occur in the PM;
One quarter of the construction employee trips (inbound) occur in the AM and the 50% (half inbound and half outbound) occur in the PM.

APPENDIX WS

Shadow Fan Diagram

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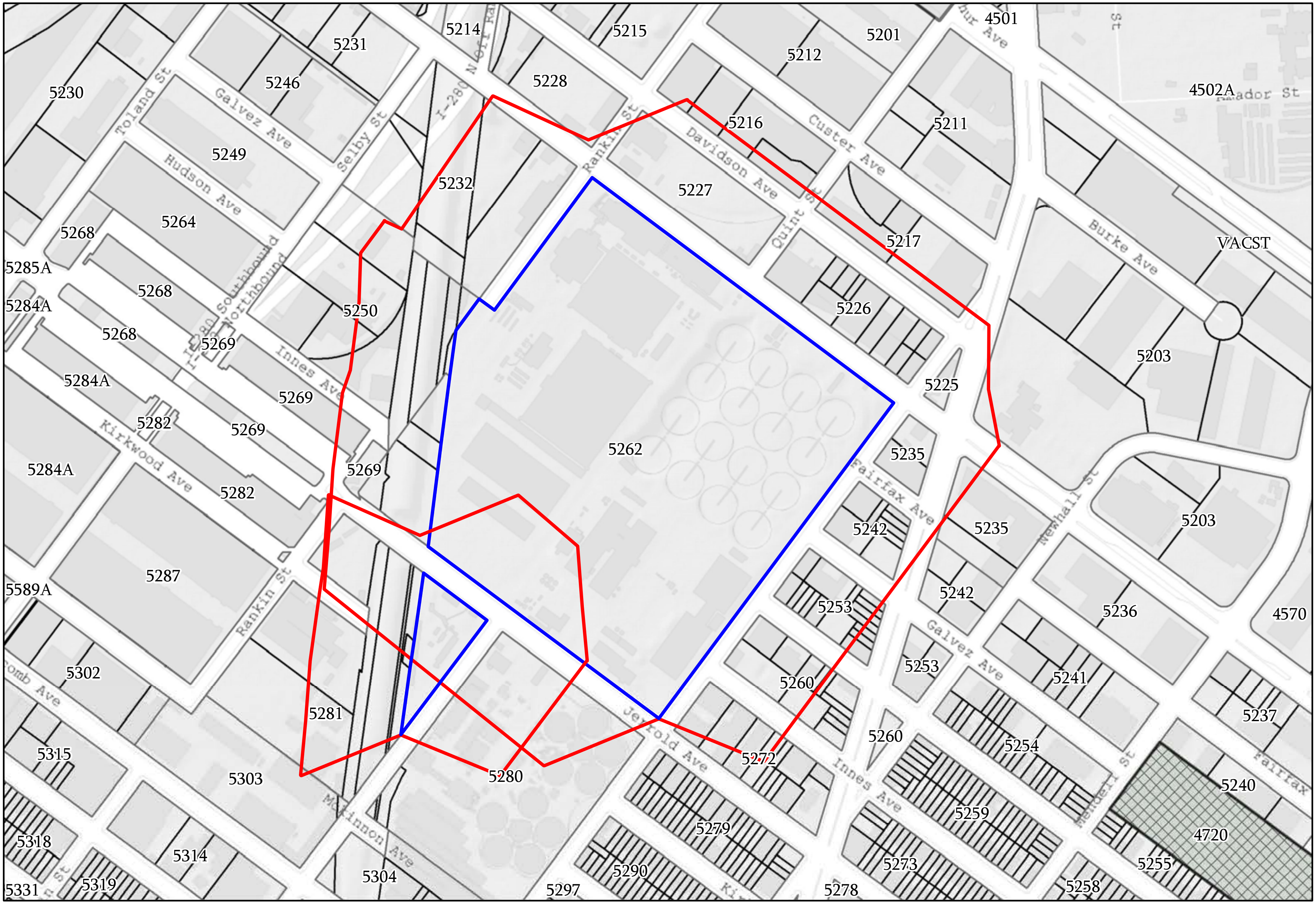

Title:	5262/009 and 5281/001
Comments:	No impact at 65 feet
Printed:	3 September, 2015

Feet
0 375 750 1,125 1,500

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APPENDIX WSA

Water Supply Assessment

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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

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San Francisco, CA 94102
T 415.554.3155
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February 16, 2017

TO: Commissioner Anson Moran, President
Commissioner Ike Kwon, Vice President
Commissioner Ann Moller Caen
Commissioner Francesca Vietor
Commissioner Vince Courtney

THROUGH: Harlan L. Kelly, Jr., General Manager HLK for

FROM: Steven R. Ritchie, Assistant General Manager, Water for SRR

RE: Water Supply Assessment for the Biosolids Digester Facilities Project

1.0 Summary

1.1 Introduction

Under the Water Supply Assessment law (Sections 10910 through 10915 of the California Water Code), urban water suppliers like the San Francisco Public Utilities Commission (SFPUC) must furnish a Water Supply Assessment (WSA) to the city or county that has jurisdiction to approve the environmental documentation for certain qualifying projects (as defined in Water Code Section 10912 (a)) subject to the California Environmental Quality Act (CEQA). The WSA process typically relies on information contained in a water supplier's Urban Water Management Plan (UWMP), and involves answering specific questions related to the estimated water demand of the proposed project. This memo serves as the WSA for the proposed Biosolids Digester Facilities Project ("proposed project"), for use in the preparation of an environmental impact report by the City and County of San Francisco Planning Department (case no. 2015-000644ENV, San Francisco Planning Department).

1.1.1 2015 Urban Water Management Plan

The SFPUC's most current UWMP is the UWMP update for 2015, which was adopted in June 2016. The water demand projections in the UWMP incorporated 2012 Land Use Allocation (LUA 2012) housing and employment growth projections from the San Francisco Planning Department.

The WSA for a qualifying project within the SFPUC's retail service area may use information from the UWMP. Therefore, ***the 2015 UWMP is incorporated via references throughout this WSA shown in bold, italicized text.*** The UWMP may be accessed at www.sfwater.org/uwmp.

1.1.2 Basis for Requiring a WSA for the Proposed Project

The proposed project has not been the subject of a previous WSA, nor has it been part of a larger project for which a WSA was completed. The proposed project qualifies for preparation of a WSA under Water Code Section 10912(a) because it would use more water than required by a 500 dwelling unit project (Water Code section 10912(a)(7)). The SFPUC previously determined that a 500 dwelling unit project would create retail water demand of 50,000 gallons per day (gpd) or 18.25 million gallons per year (gpy). The proposed project is characterized further in Section 1.2.

1.1.3 Conclusion of this WSA

In this WSA, the SFPUC concludes that there are adequate water supplies to serve the proposed project and cumulative retail water demands during normal years, single dry years, and multiple dry years over a 20-year planning horizon from 2020 through 2040. Additional information on supply sufficiency is provided in Section 4.2, Findings.

1.2 Proposed Project Description

The proposed project would construct new solids treatment, odor control, energy recovery, and associated facilities at the SFPUC's Southeast Water Pollution Control Plant (SEP) in San Francisco. Most of the existing SEP solids treatment facilities (including the digesters) are over 60 years old, were not built to withstand the maximum credible earthquake, require significant maintenance, and are operating well beyond their useful life. Newer, more efficient treatment technologies have since been developed that produce a higher quality of biosolids, capture and treat odors more effectively, and maximize biogas production for heat and energy. The proposed project would update and replace the aging SEP solids treatment system. Over the planning period for the proposed project (2045), projected increases in population will increase solids loads from about 187,000 dry pounds per day (2014) to about 280,000 dry pounds per day (2045).

The proposed project would be located on portions of the existing SEP property at 750 Phelps Street and 1700 Jerrold Avenue (Block and Lot 5262/009), and the adjacent properties at 1800 Jerrold Avenue (the Central Shops site, Block and Lot 5262/009), and 1801 Jerrold Avenue (the decommissioned Asphalt Plant site, Block and Lot 5281/001). The project site totals approximately 415,000 square feet. The project would involve the demolition of existing structures and installation of the following facilities:

- Solids Pretreatment Facility
- Thermal Hydrolysis Process (THS)
- Anaerobic Digestion
- THS Cooling Towers
- Biosolids Dewatering Facility
- Energy Recovery Facility
- Biogas Treatment
- Biogas Storage
- Waste Gas Burners
- Solids Odor Control
- Piping modifications and new pumps for existing pump stations
- Other ancillary facilities (electrical rooms, transformers, chemical storage, and diesel generator)

The proposed project would require construction of new structures totaling less than 215,000 square feet (footprint). No new staff would be needed to operate new facilities. Operation will begin as early as 2023 (startup/commissioning period).

2.0 Water Supply

This section reviews San Francisco's existing and planned water supplies.

2.1 Regional Water System

See ***Section 3.1 of the UWMP*** for descriptions of the Regional Water System (RWS) and ***Section 6.1 of the UWMP*** for water rights held by City and County of San Francisco and the SFPUC Water System Improvement Program (WSIP).

2.2 Existing Retail Supplies

Retail water supplies from the RWS are described in ***Section 6.1 of the UWMP***.

Local groundwater supplies, including the Westside Groundwater Basin, Central Groundwater Sub Basin, and Sunol Filter Gallery Subsurface Diversions, are described in ***Section 6.2.1 of the UWMP***.

Local recycled water supplies, including the Harding Park Recycled Water Project and Pacifica Recycled Water Project, are described in ***Section 6.2.1 of the UWMP***.

2.3 Planned Retail Water Supply Sources

The San Francisco Groundwater Supply Project is described in ***Section 6.2.2 of the UWMP***.

The proposed Westside and Eastside Recycled Water Projects, as well as non-potable water supplies associated with onsite water systems implemented in compliance with San Francisco's Non-potable Water Ordinance (Health Code Chapter 12C), are also described in ***Section 6.2.2 of the UWMP***.

2.4 Summary of Current and Future Retail Water Supplies

A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in normal years is provided in ***Section 6.2.5 of the UWMP***.

2.5 Dry-Year Water Supplies

A description of dry-year supplies developed under WSIP is provided in ***Section 7.2 of the UWMP***. Other water supply reliability projects and efforts that are currently underway or completed are described in ***Section 7.4 of the UWMP***. A breakdown of water supply sources for meeting SFPUC retail water demand through 2040 in multiple dry years are provided in ***Section 7.5 of the UWMP***. For a single dry year, the retail RWS allocation and, thus, the breakdown of water supply sources would be the same as those in a normal year.

3.0 Water Demand

This section reviews the climatic and demographic factors that may affect San Francisco's water use, projected retail water demands, and the demand associated with the proposed project.

3.1 Climate

San Francisco has a Mediterranean climate. Summers are cool and winters are mild with infrequent rainfall. Temperatures in the San Francisco area average 57 degrees Fahrenheit annually, ranging from the mid-40s in winter to the upper 60s in late summer. Strong onshore flow of wind in summer keeps the air cool, generating fog through September. The warmest temperatures generally occur in September and October. Rainfall in the San Francisco area averages about 22 inches per year and is generally confined to the "wet" season from late October to early May. Except for occasional light drizzles from thick marine stratus clouds, summers are nearly completely dry. A summary of the temperature and rainfall data for the City of San Francisco is included in Table 1.

Table 1: San Francisco Climate Summary

Month	Average Maximum Temperature (°F)	Average Minimum Temperature (°F)	Average Monthly Rainfall (inches)
January	58.0	45.7	4.36
February	60.3	47.3	4.41
March	61.4	48.1	2.98
April	62.3	49.1	1.38
May	63.2	50.9	0.68
June	64.8	52.7	0.18
July	65.6	54.3	0.02
August	66.6	55.3	0.06
September	68.1	55.0	0.19
October	67.8	53.3	1.04
November	61.2	48.1	2.85
December	58.3	45.9	4.33
Annual Average	**63.3**	**50.6**	**22.45**

Source: Western Regional Climate Center (www.wrcc.dri.edu), 1981-2010 data from two San Francisco monitoring stations (Mission Dolores/SF#047772 and Richmond/SF#047767).

3.2 Projected Growth

Projections of population growth in the retail service area through 2040 are presented in ***Section 3.2.2 of the UWMP***. The corresponding LUA 2012 projections for housing and employment in San Francisco, which are incorporated into the projected retail water demands, are provided in ***Appendix E of the UWMP***.

3.3 Projected Retail Water Demands

For the 2015 UWMP, the SFPUC developed a new set of models that incorporate socioeconomic factors to project retail demands through 2040. These models incorporate the latest housing and employment projections from LUA 2012. ***See Section 4.1 of the UWMP*** for tabulated retail water demand projections through 2040 and a description of the model methodology.

3.4 Proposed Project Water Demand

Water demand estimates for the proposed project are detailed in a memo prepared by the SFPUC project team, provided in Attachment A. The proposed project is not encompassed in the San Francisco Planning Department's LUA 2012 projections as it does not result in population or employment growth. Therefore, the demand that would be generated by the proposed project is not encompassed within the San Francisco retail water demands that are presented in the 2015 UWMP.

Water demand associated with the proposed project over the 20-year planning horizon is shown in the following table.

Table 2: Water Demand Based on Project Phasing

	2020	2025	2030	2035	2040
Total Average Demand of Proposed Project (mgd)	—	0.16	0.16	0.16	0.16

mgd = million gallons per day

Notes:
The demand shown in this table is the net increase in potable water demand (BDFP demand compared to existing solids processing facilities). Operation of the proposed project would begin as early as 2023 with the startup/commissioning period.

4.0 Conclusion

4.1 Comparison of Projected Supply and Demand

Section 7.5 of the UWMP compares the SFPUC's retail water supplies and demands through 2040 during normal year, single dry-, and multiple dry-year periods. See Table 3, below, which is adapted from the UWMP (Table 7-4) with the addition of water demands attributed to the proposed project. Although water demands associated with the proposed project are not already captured in the retail demand projections presented in the UWMP, the demands are incremental and would not substantiate the need for additional supplies.

With the addition of demands associated with the proposed project, total retail demand in 2035 is projected to be 86.1 mgd, which represents a 5.2 mgd, or 6 percent, increase over the 2035 demand projected in the 2010 UWMP. The ability to meet the demand of the retail customers is in large part due to development of 10 mgd of local WSIP supplies, including conservation, groundwater, and recycled water. These supplies are anticipated to be fully implemented over the next 10 to 15 years.

Table 3 shows projected shortfalls of 0.2-1.3 mgd resulting from the proposed project. In a normal year, single dry year, or multiple dry year 1, the SFPUC may draw up to 81 mgd from the RWS, thereby increasing the total retail supply beyond the volumes shown in Table 3 and eliminating the 0.2 mgd deficit. In years 2 and 3 of a multiple dry year event, the SFPUC may draw 79.5 mgd, which is already reflected the total retail supply shown in Table 3. The resulting deficit would be easily managed through voluntary conservation or rationing.

If planned future water supply projects (i.e., San Francisco Groundwater Supply Project, Westside Recycled Water Project, Eastside Recycled Water Project, and onsite non-potable supplies) are not implemented, normal-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during normal years, the SFPUC may import additional water from the RWS beyond the retail allocation of 81 mgd, with mitigation implemented by the SFPUC and potential environmental surcharges if RWS deliveries exceed the 265 mgd interim supply limitation.

If dry-year supply projects (i.e., Calaveras Dam Replacement Project, Lower Crystal Springs Dam Improvements Project, Alameda Creek Recapture, Regional Groundwater Storage and Recovery Project, and water transfers) are not implemented, existing dry year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during dry years, the SFPUC may reduce system deliveries and impose customer rationing.

Table 3: Projected Supply and Demand Comparison with Proposed Project (mgd)

		Normal Year	Single Dry Year[1]	Multiple Dry Years		
				Year 1[1]	Year 2[2]	Year 3[2]
2020	Total Retail Demand Excluding Proposed Project[3]	77.5	77.5	77.5	77.5	77.5
	Demand of Proposed Project	—	—	—	—	—
	Total Retail Demand Including Proposed Project	77.5	77.5	77.5	77.5	77.5
	Total Retail Supply[4]	77.5	77.5	77.5	77.5	77.5
	Surplus/(Deficit)	0	0	0	0	0
2025	Total Retail Demand Excluding Proposed Project[3]	79.0	79.0	79.0	79.0	79.0
	Demand of Proposed Project	0.16	0.16	0.16	0.16	0.16
	Total Retail Demand Including Proposed Project	79.2	79.2	79.9	79.2	79.2
	Total Retail Supply[4]	79.0	79.0	79.0	79.0	79.0
	Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
2030	Total Retail Demand Excluding Proposed Project[3]	82.3	82.3	82.3	82.3	82.3
	Demand of Proposed Project	0.16	0.16	0.16	0.16	0.16
	Total Retail Demand Including Proposed Project	82.5	82.5	82.5	82.5	82.5
	Total Retail Supply[4]	82.3	82.3	82.3	82.3	82.3
	Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
2035	Total Retail Demand Excluding Proposed Project[3]	85.9	85.9	85.9	85.9	85.9
	Demand of Proposed Project	0.16	0.16	0.16	0.16	0.16
	Total Retail Demand Including Proposed Project	86.1	86.1	86.1	86.1	86.1
	Total Retail Supply[4]	85.9	85.9	85.9	85.9	85.9
	Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)
2040	Total Retail Demand Excluding Proposed Project[3]	89.9	89.9	89.9	89.9	89.9
	Demand of Proposed Project	0.16	0.16	0.16	0.16	0.16
	Total Retail Demand Including Proposed Project	90.1	90.1	90.1	90.1	90.1
	Total Retail Supply[4]	89.9	89.9	89.9	88.8	88.8
	Surplus/(Deficit)	(0.2)	(0.2)	(0.2)	(1.3)	(1.3)

Notes:

1. During a single dry year and multiple dry year 1, a system-wide shortage of 10% is in effect. Under the Water Shortage Allocation Plan (WSAP), the retail supply allocation at this stage of shortage is 36.0% of available RWS supply, or 85.9 mgd. However, due to the Phased WSIP Variant, only 81 mgd of RWS supply can be delivered. RWS supply is capped at this amount.
2. During multiple dry years 2 and 3, a system-wide shortage of 20% is in effect. Under the WSAP, the retail supply allocation at this stage of shortage is 37.5% of available RWS supply, or 79.5 mgd. RWS supply is capped at this amount.
3. Total retail demands correspond to those in ***Table 4-1 of the UWMP***, and reflect both passive and active conservation, as well as water loss.
4. Total retail supplies correspond to those in ***Table 6-7 of the UWMP***. Procedures for RWS allocations and the WSAP are described in ***Section 8.3 of the UWMP***. Groundwater and recycled water are assumed to be used before RWS supplies to meet retail demand. However, if groundwater and recycled water supplies are not available, up to 81 mgd, or the corresponding capped amount in dry years, of RWS supply could be used.

The SFPUC remains committed to meeting the level of service goals and objectives outlined under WSIP. In addition, the SFPUC continues to explore other future supplies, including:

- Development of additional conservation and recycling.
- Development of additional groundwater supplies.
- Securing of additional water transfer volumes.
- Increasing Tuolumne River supply.

4.2 Findings

Regarding the availability of water supplies to serve the proposed project beginning as early as 2023, the SFPUC finds, based on the entire record before it, as follows:

- During normal years, single dry years, and multiple dry years, the SFPUC has sufficient water supplies to serve the proposed project.
- With the addition of planned retail supplies, the SFPUC has sufficient water supplies available to serve its retail customers, including the demands of the proposed project, existing customers, and foreseeable future development.

Approval of this WSA by the Commission is not equivalent to approval of the development project for which the WSA is prepared. A WSA is an informational document required to be prepared for use in the City's environmental review of a project under CEQA. It assesses the adequacy of water supplies to serve the proposed project and cumulative demand.

Furthermore, this WSA is not a "will serve" letter and does not verify the adequacy of existing distribution system capacity to serve the proposed project. A "will serve" letter and/or hydraulic analysis must be requested separately from the SFPUC City Distribution Division to verify hydraulic capacity.

If there are any questions or concerns, please contact Steve Ritchie at (415) 934-5736 or SRitchie@sfwater.org.

Attachment A –

Biosolids Digester Facilities Project Demand Memo

San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

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February 15, 2017

TO: Fan Lau, Water Resources Specialist

FROM: Carolyn Chiu, BDFP Project Manager

RE: Input to Water Supply Assessment for the Biosolids Digester Facilities Project

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This document provides information specified in the "Project Demand Memo for Preparation of WSA." Specifically, this document responds to the input requested for Items 1b (Introduction) and 3b (Project Demand).

Project Description (Item 1b)

The Biosolids Digester Facilities Project (the "project" or BDFP) would construct new solids treatment, odor control, energy recovery, and associated facilities at the San Francisco Public Utilities Commission's (SFPUC) Southeast Water Pollution Control Plant (SEP) in San Francisco. Most of the existing SEP solids treatment facilities (including the digesters) are over 60 years old, were not built to withstand the maximum credible earthquake, require significant maintenance, and are operating well beyond their useful life. Newer, more efficient treatment technologies have since been developed that produce a higher quality and reduced volume of biosolids, capture and treat odors more effectively, and maximize biogas production for heat and energy. The proposed BDFP would update and replace the aging SEP solids treatment system. Over the planning period for the BDFP (2045), projected increases in population will increase solids loads from about 187,000 pounds per day (2014) to about 280,000 pounds per day (2045) (SFPUC, 2016)[1].

The BDFP would be located on portions of the existing SEP property at 750 Phelps Street and 1700 Jerrold Avenue (Block and Lot 5262/009), and the adjacent properties at 1800 Jerrold Avenue (the Central Shops site, Block and Lot 5262/009) and 1801 Jerrold Avenue (the decommissioned Asphalt Plant site, Block and Lot 5281/001). The project site totals approximately 415,000 square feet. The project would involve the demolition of other onsite structures and installation of the following facilities:

- Solids Pretreatment Facility
- Thermal Hydrolysis Process (THS)
- Anaerobic Digestion
- THS Cooling Towers
- Biosolids Dewatering Facility
- Energy Recovery Facility

[1] SFPUC. March.. Final Conceptual Engineer Report. 2016.

- Biogas Treatment
- Biogas Storage
- Waste Gas Burners
- Solids Odor Control
- Piping modifications and new pumps for existing pump stations
- Maintenance Shops
- Other ancillary facilities (electrical rooms, transformers, chemical storage, and diesel generator)

The BDFP would require construction of new structures totaling less than 215,000 square feet (footprint). No new staff would be needed to operate new facilities.

Currently, the SEP uses supplies from three water systems, as follows:

- No. 1 water (W1): potable water
- No. 2 water (W2): non-potable, disinfected and filtered SEP effluent
- No. 3 water (W3): non-potable, chlorinated SEP effluent

The type of water used in the treatment system under the proposed project would depend on the process and required water quality. For example, W1, the highest quality water, would be used for the cooling tower and energy recovery facilities. W2 and W3 water would be used for wash water, chemical dissolution, dilution, and to maintain moisture for the odor control facilities.

Project Demand (Item 3b)

BDFP processes would increase overall water use. However, the BDFP has been designed to maximize use of SEP recycled water and/or other non-potable water, to the extent possible in its processes. Thus, the majority of the water needs (about 92 percent) would be supplied by the No. 2 and No. 3 water systems, while only about 8 percent would be associated with the No. 1 potable water system. **Table 1** presents the existing and projected future water demand (process and non-process water [administration / maintenance only] and irrigation) for the proposed project, including for W1, W2, and W3. W2 and W3 demand are shown to demonstrate how SFPUC would minimize potable water use and reduce treated effluent that would otherwise be discharged into the Bay.

As shown in **Tables 1** and **2**, the BDFP average demand for W1 is approximately 140 gallons per minute (gpm), or approximately 205,000 gallons per day (gpd). This would result in a net increase of approximately 162,000 gpd of potable water, above the 50,000 gpd that would trigger the preparation of a WSA. Nearly 100 percent of the W1 demand is associated with process needs.

Irrigation water demand, which is currently met by potable water, is also assumed to be supplied by potable water under the proposed project due to the higher salinity levels of the existing SEP effluent. This may likely change when recycled water or other viable non-potable water source is identified. At this time however, with selection of the right palette of salt tolerant plants and implementation of the appropriate irrigation strategies (e.g., avoid wetting leaves with recycled water, adjusting irrigation frequency to keep soils moist, leaching soils with gypsum periodically), existing recycled water that is currently produced at the SEP could likely be used. Other water sources may be available to meet the irrigation needs of the project, such as stormwater (captured during rainy events)[2] and greywater (captured from sinks). In addition, as discussed in the Final CER (SFPUC, 2016), landscape planting will reflect the strategies of the City's Water Efficient Irrigation Ordinance Requirements for Tier 2 projects and the Green Landscaping Ordinance, including consideration of irrigation with recycled water or harvested rain water, water-efficient/drought tolerant plantings, and automatic irrigation controllers equipped with climatological sensors.

Project design has not proceeded to a level in which the plant palette has been selected, associated water requirements have been evaluated, or the specific water supplies have been identified for irrigation. Thus, the values specified in **Table 2** are based on assumptions of the calculated landscape area, estimated water requirements of peak (71 gpm) irrigation, and hours of irrigation (6 hours) during the plant establishment period. Following the plant establishment period, it is expected that water demands would reduce to 10 gpm. By assuming the irrigation water needs would be supplied entirely by the use of potable water, the project is providing a conservative estimate of W1 use. As design progresses, the BDFP Team will determine the details to better gauge the water needs as well as investigate other alternatives to potable water that can be used for irrigation.

Potable water, which is necessary for certain processes that require the lowest level of salinity, could be further reduced in the future. SFPUC has identified the Eastside Recycled Water Project as a potential project that would deliver disinfected tertiary level treated recycled water to a variety of customers on the east side of the City for non-drinking uses such as irrigation and toilet flushing. Title 22 disinfected tertiary level treated recycled water provides a variety of reuse opportunities, including supply for cooling or air conditioning, toilet and urinal flushing, and irrigation (e.g., in public spaces). If available, this level of recycled water could be used to meet proposed biosolids facilities water demand (process and non-process) as well as irrigation demand. Although not yet formally in the planning stage, the Eastside Recycled Water Project may be available by 2030. In compliance with the City's Reclaimed Water Use Ordinance, SFPUC proposes that all Irrigation pipelines would be single-piped with a crossover/air gap connection such that recycled water (Title 22) could be used if and when it becomes available in the future. In addition, bathrooms in BDFP buildings would be dual plumbed for recycled water use if and when it becomes available.

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[2] As discussed in the Final CER, the BDFP will comply with SFPUC's Stormwater Design Guidelines, and thus would be required to decrease runoff rate and volume using low-impact development (LID) or other green infrastructure approaches. Examples of LID measures that could be implemented include flow-through stormwater planters, and rain barrels / oversized downsprouts. The use of LID measures would offset potable water use (SFPUC, 2016). Since the publication of the Final CER, SFPUC replaced the SFPUC's Stormwater Design Guidelines with the San Francisco Stormwater Management Requirements (SMR) and Design Guidelines in 2016. The BDFP would be in compliance with the SMR.

The water demands provided in Tables 1 and 2 are for the horizon year 2045. The BDFP would be installed with the majority of the major facilities (e.g., all five proposed digesters) that would be needed during the horizon year. As such, water demand is not expected to change substantially between the start of operation (startup/commissioning period to begin as early as 2023) and the horizon year, and demand is not broken down by phases. In addition, water demand based on water year type is not provided as THP processes do not change depending on the hydrologic water type; thus a breakdown based on the hydrologic water type is also not provided.

Attachment A

Table 1: Existing and Proposed Water Demand

Facility	Potable Water (W1)		Non-potable, Chlorinated and Filtered Water (W2)		Non-potable and Chlorinated Water (W3)		Total (W1+W2+W3)	
	Max (Peak Hour) Demand), gpm	Avg Day Demand gpm	Max (Peak Hour) Demand gpm	Avg Day Demand gpm	Max (Peak Hour) Demand, gpm	Avg Day Demand gpm	Max Demand gpm	Avg Demand gpm
	(1)	(2)	(3)	(4)	(5)	(6)	(1)+(3)+(5)	(2)+(4)+(6)
Existing Overall SEP[1] (Liquid and Bisolids Facilities)	300	70	600	250	5,550	3,000	6,450	3,320
Existing Biosolids Facilities[1,2,3]	110	30	280	120	1,420	770	1,810	920
Project BDFP Facilities								
Process only[3]	144	138	2,070	1,600	360	150	2,574	1,888
Irrigation only[3,4]	7	4	--	--	--	--	7	4
Non-process[3,5]	116	0.5	--	--	--	--	116	0.5
Total Projected BDFP Facilities demand	***267***	***143***	***2,070***	***1,600***	***360***	***150***	***2,697***	***1,893***
Increase in Biosolids Facilities Avg demand (gpm)	**157**	**113**	**1,790**	**1,480**	**-1,060**	**-620**	**887**	**973**
Increase in Biosolids Facilities Avg demand (gpd)[6]	**226,080**	**162,058**	**2,577,600**	**2,131,200**	**-1,526,400**	**-892,800**	**1,277,280**	**1,400,458**

NOTES

[1] Peak values from SFPUC, Final CER, March 2016.
[2] Average values from SFPUC, Draft Site Logistics Plan, March 2016.
[3] Values from Brown and Caldwell (December 2016).
[4] It is assumed irrigation is intermittent and would be up to 71 gpm (or 7 gpm when a 10% diversity factor is applied for intermittent use). The irrigation demand is based on calculated landscape area, estimated water requirements of peak (71 gpm) irrigation, and hours of irrigation (6 hours) during the plant establishment period. Following the plant establishment period, it is expected that water demands would reduce to 10 gpm, but this is not reflected above in order to provide a conservative estimate..
[5] Based on an occupancy of 110 people/day. Note that there is no increase in staffing at SEP due to the project, these people will be existing staff at SEP who will move from one building to another.
[6] SFPUC staff has clarified that secondary effluent demands (W2 and W3 system water) are nonpotable demands that would otherwise be discharged into the Bay if it were not reused for proposed operations. Thus, they're not included in the determination of whether a WSA is needed.

Definitions: Max = maximum; Avg = average; gpm = gallons per minute; gpd = gallons per day; and NA = not applicable

Table 2. SFPUC SEP BDFP No. 1 Water (W1) Demands

Functional Area	Average (gpd)	Peak Hour (gpm)	Average (mgd)
Existing Demands			
Existing Biosolids Water Demands	**43,200**	**110**	**0.04**
New Biosolids Demands (2045)			
Biosolids process facilities (Cooling Tower and Boiler Makeup Water Feed)	198,720	144	0.20
Biosolids Irrigation[a]	5,760	7	0.01
Biosolids facilities fixtures (bathrooms, locker rooms) [b]	778	116	0.001
Total new biosolids demands (2045)	**205,258**	**267**	**0.21**
Net W1 Demand Increase from BDFP Project	**162,058**	**157**	**0.16**

Source: Brown and Caldwell, December 2016.

a. Based on calculated area and estimated water requirements, at 71 gpm (peak) irrigation would be accomplished in 6 hours during plant establishment. Estimates will be revisited during design. Following the plant establishment period, it is expected that water demands would reduce to 10 gpm.

b. Based on an occupancy of 110 people/day.

Definitions: gpd = gallons per day; gpm = gallons per minute; mgd = million gallons per day.