



SAN FRANCISCO PLANNING DEPARTMENT

Notice of Preparation of an Environmental Impact Report

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

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Date: July 16, 2014
Case No.: 2008.0091E
Project Title: **San Francisco Westside Recycled Water Project**
Location: The proposed project is located in the western portion of San Francisco. Proposed facilities would be constructed at the Oceanside Water Pollution Control Plant and the Central Reservoir in Golden Gate Park with a transmission pipeline between these facilities. Transmission pipelines also would be constructed between the Central Reservoir, Lincoln Park and the Presidio, and adjacent to the Golden Gate Park Panhandle.
BPA Nos.: Not Applicable
Zoning: Various
Block/Lot: Various
Lot Size: Various
Project Sponsor: San Francisco Public Utilities Commission
Scott MacPherson
smacpherson@sfgov.org
Lead Agency: San Francisco Planning Department
Staff Contact: Steven H. Smith
(415) 558-6373
Steve.Smith@sfgov.org

PROJECT DESCRIPTION

The primary purpose of the San Francisco Westside Recycled Water Project (the project) is to reduce the City and County of San Francisco's (CCSF's) reliance on potable water for nonpotable uses such as irrigation through the production and distribution of highly treated recycled water. The San Francisco Public Utilities Commission (SFPUC) initially proposed the project as described in a Notice of Preparation (NOP) published by the San Francisco Planning Department in June 2008; SFPUC subsequently revised the project and the San Francisco Planning Department published a second NOP in September 2010. The SFPUC has again modified the proposed project, as described in this revised NOP; key features of the project as revised are summarized below:

- The proposed recycled water treatment plant would be located at the SFPUC's Oceanside Water Pollution Control Plant (WPCP), and within a portion of the adjacent California Army National Guard site.
- Recycled water produced at this facility would be used in Golden Gate Park (including the Panhandle portion of the park and fill for Golden Gate Park Lakes), Lincoln Park Golf Course, and various areas of the Presidio, primarily for landscape irrigation. Storage and distribution facilities at the former Richmond/Sunset WPCP in Golden Gate Park and a storage facility within the Presidio are no longer proposed. Instead, the existing Central Reservoir and pump station in Golden Gate Park would be expanded to include additional storage and pumping capacity.

- A transmission pipeline would be constructed between the proposed recycled water treatment plant at the Oceanside WPCP and the existing Central Reservoir in Golden Gate Park, primarily along 36th Avenue; transmission pipelines also would be constructed between the Central Reservoir and Lincoln Park and the Presidio, as well as adjacent to the Golden Gate Park Panhandle. Pipelines would not be constructed along the Great Highway between the Oceanside WPCP and the former Richmond-Sunset WPCP site.

The project is a component of the SFPUC's Water System Improvement Program (WSIP), which includes facility improvement projects designed to: (1) maintain high-quality water; (2) reduce vulnerability to earthquakes; (3) increase delivery reliability and improve the ability to maintain the system; (4) meet customer purchase requests in nondrought and drought periods; (5) enhance sustainability in all system activities; and (6) achieve a cost-effective, fully operational system. Implementation of this project would contribute to meeting the overall WSIP goals and objectives.¹

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report (EIR) is required. This determination is based upon the criteria of the State 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 Environmental Evaluation (Initial Study) for the project, which is attached.

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 **July 29, 2014 at 6:30 PM at the Ortega Branch Library,² 3223 Ortega Street, San Francisco, California, 94122.** Meeting location access and restrooms are compliant with the Americans with Disabilities Act. To request a language interpreter or to accommodate persons with disabilities at the scoping meeting, please contact the staff contact 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 **August 15, 2014.** Written comments should be sent to Sarah Jones, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

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

July 16, 2014
Date


Sarah B. Jones, Environmental Review Officer
for
John Rahaim, Director of Planning

¹ San Francisco Planning Department, *Program Environmental Impact Report for the San Francisco Public Utilities Commission's Water System Improvement Program*, October 2008.

² Note: This is not a Library sponsored program.

INITIAL STUDY

Case Number 2008.0091E San Francisco Westside Recycled Water Project

Table of Contents

	<i>Page</i>
A. Project Description	1
A.1 Project Background and Overview	1
A.2 Project History and Development	3
A.3 Project Sponsor’s Objectives.....	6
A.4 Project Location.....	7
A.5 Existing Uses on the Project Sites	8
A.6 Project Characteristics	12
A.7 Approvals Required	21
B. Project Setting	22
C. Compatibility With Existing Zoning and Plans	23
C.1 San Francisco Planning Code	23
C.2 Use District	23
C.3 Height and Bulk District	23
C.4 Parking	24
C.5 Loading	24
C.6 Plans and Policies	24
C.7 SFPUC Plans and Policies.....	26
C.8 San Francisco Recreation and Park Department Plans and Policies.....	26
C.9 Regional Plans and Policies.....	27
C.10 Approvals and Permits	28
D. Summary of Environmental Effects	28
E. Evaluation of Environmental Effects	28
Approach to Cumulative Impact Analysis	28
1. Land Use and Land Use Planning.....	31
2. Aesthetics.....	33
3. Population and Housing	35
4. Cultural and Paleontological Resources.....	37
5. Transportation and Circulation.....	38
6. Noise	39
7. Air Quality.....	45
8. Greenhouse Gas Emissions	46
9. Wind and Shadow	49
10. Recreation	51
11. Utilities and Service Systems	53
12. Public Services	59

13. Biological Resources.....	60
14. Geology and Soils.....	78
15. Hydrology and Water Quality.....	85
16. Hazards and Hazardous Materials.....	97
17. Mineral and Energy Resources.....	112
18. Agricultural and Forest Resources.....	115
19. Mandatory Findings of Significance.....	116
F. Mitigation Measures and Improvement Measures.....	117
G. Determination.....	120
H. Initial Study Preparers.....	121

Appendices

Appendix 1 Special-status Species with Potential to Occur in SFPUC Recycled Water Project Area.....	A1-1
Appendix 2 Hazardous Materials Database Search Results.....	A2-1

List of Figures

Figure 1 Project Location.....	2
Figure 2 Existing Conditions – Oceanside WPCP.....	9
Figure 3 Existing Conditions – Golden Gate Park Central Reservoir.....	11

List of Tables

Table 1 Summary of Proposed recycled water customers.....	6
Table 2 Vibration Levels for Construction Equipment.....	41
Table 3 Estimated Operational Noise Levels at the Closest Sensitive Receptors and Consistency with Significance Criteria.....	43
Table 4 Ambient Noise Level Increase from Emergency Generator Use.....	44

INITIAL STUDY

San Francisco Westside Recycled Water Project Planning Department Case No. 2008.0091E

A. PROJECT DESCRIPTION

A.1 Project Background and Overview

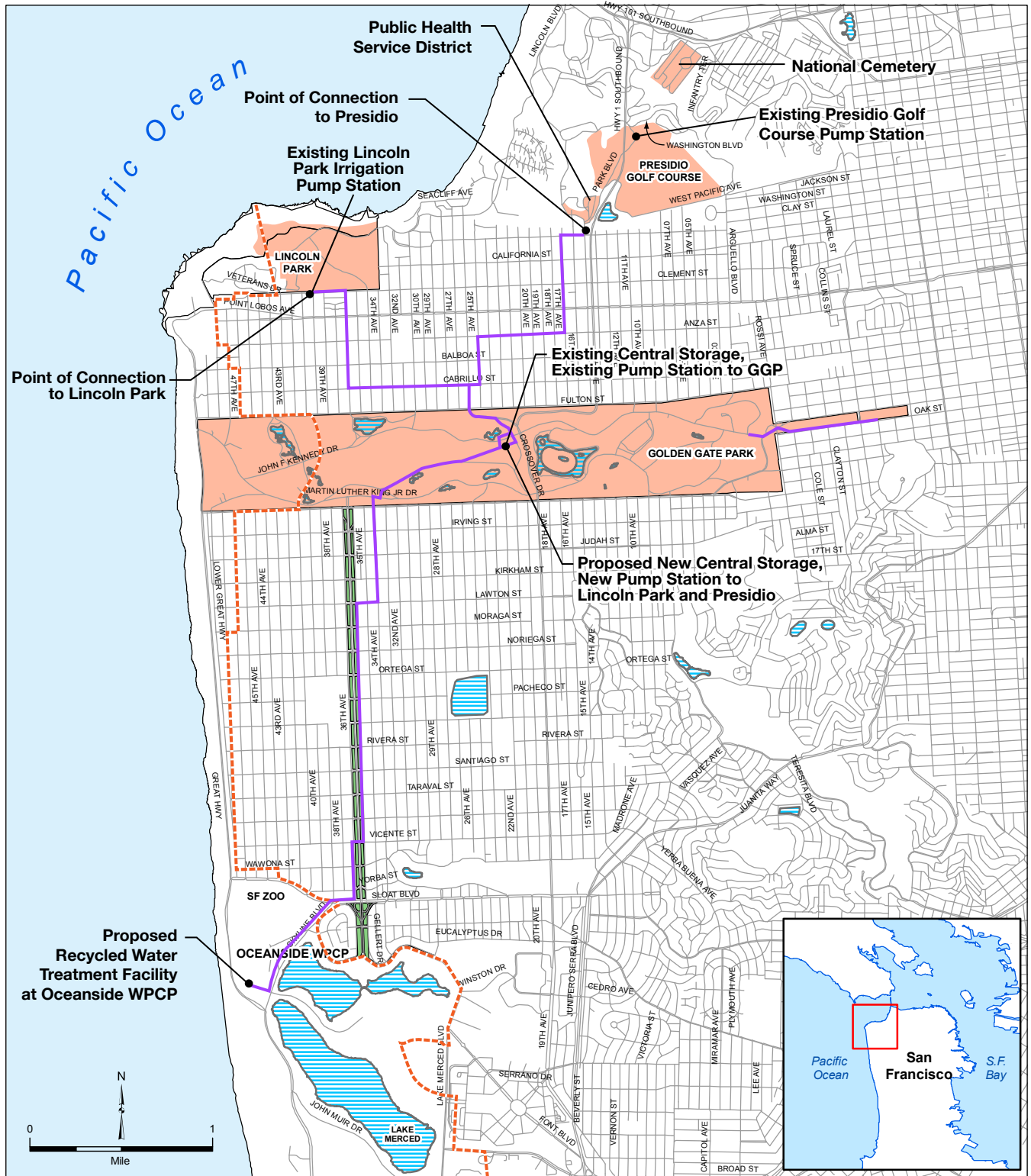
The San Francisco Public Utilities Commission (SFPUC) is proposing the San Francisco Westside Recycled Water Project (the project). To meet California Environmental Quality Act (CEQA) requirements, the San Francisco Planning Department will prepare and distribute an Environmental Impact Report (EIR) to describe and analyze the environmental effects of the project.

The primary purpose of the project is to reduce the City and County of San Francisco's (CCSF) reliance on potable water for nonpotable uses such as irrigation through the production and distribution of highly treated recycled water. The project would meet the current water demands of several SFPUC customers that have substantial irrigation needs, including Golden Gate Park, Lincoln Park/Lincoln Park Golf Course (Lincoln Park), the Presidio Golf Course, and other irrigated areas within the Presidio. The project would involve the construction of a recycled water treatment plant and underground storage, as well as construction of and/or upgrades to distribution facilities (pipelines and pumping facilities) for service to these existing customers (see **Figure 1**). The project is described in detail in Section A.5, Project Characteristics.

The project is a component of the SFPUC's Water System Improvement Program (WSIP), which includes facility improvement projects designed to: (1) maintain high-quality water; (2) reduce vulnerability to earthquakes; (3) increase delivery reliability and improve the ability to maintain the system; (4) meet customer purchase requests in nondrought and drought periods; (5) enhance sustainability in all system activities; and (6) achieve a cost-effective, fully operational system. Implementation of this project would contribute to meeting the overall WSIP goals and objectives.³

This San Francisco Planning Department Notice of Preparation (NOP) for the project has been preceded by two previous NOPs for the project, issued June 5, 2008, and September 8, 2010. These prior NOPs resulted in scoping meetings held on June 16 and 17, 2008, and September 23, 2010, after which the SFPUC decided to

³ San Francisco Planning Department, *Program Environmental Impact Report for the San Francisco Public Utilities Commission's Water System Improvement Program*, October 2008. Recycled water projects were evaluated at a program-level of detail in the Program EIR, which addressed the potential environmental impacts of constructing and operating the facility improvement projects, as well as the impacts of the proposed systemwide water supply and operations strategy. Because the proposed project is a component of the WSIP, the project would also contribute to the WSIP's systemwide water supply and operations impacts. The EIR as described in this Notice of Preparation (NOP) will address the same issues as the Program EIR for the San Francisco Westside Recycled Water Project but at a project level of detail; that is, this analysis will provide more project-specific and site-specific descriptions and analysis of project effects based on a much more detailed project description and more information about the project area than was described in the Program EIR.



- Proposed Pipeline Alignment
- - - Coastal Zone Boundary
- Customer Area Served

SOURCE: SFPUC, 2007; 2010; DOA, 2005; ESRI, 2008; ESA, 2013; CCSF, 2006. San Francisco Westside Recycled Water Project

Figure 1
Project Location

further revise the project. For information on the previous proposals see Section A.2, Project History and Development, below. This NOP and Initial Study describes the project as now proposed by the SFPUC and announces the date of a scoping meeting to receive public comment.

A.2 Project History and Development

The project would contribute to meeting the level-of-service goals and system performance objectives identified in the WSIP. These goals include providing a total of 10 million gallons per day (mgd) of water supply from recycled water, groundwater, and conservation projects to meet retail demand in San Francisco. The original WSIP project description indicated that approximately 4 of the 10 mgd would come from recycled water projects in San Francisco, consisting of two components: the Westside Baseline and Harding Park/Lake Merced projects. Originally, the Westside Baseline Project proposed to deliver 2.8 mgd of recycled water to irrigation customers in western San Francisco, and the Harding Park/Lake Merced Project proposed to deliver 1.3 mgd of recycled water for irrigation of the Harding Park Golf Course and recharge of Lake Merced. The project described in this NOP includes only the components of the Westside Baseline Project, and is now referred to as the San Francisco Westside Recycled Water Project. The SFPUC has constructed a project that provides recycled water to Harding Park and is exploring the use of treated stormwater and groundwater to maintain lake levels at Lake Merced. Both of these projects are described briefly below. Also discussed in this section are the various changes to the proposed project since 2008 and the projected demand for recycled water use on the west side of San Francisco.

Although the SFPUC has revised the recycled water projects that it originally proposed in the WSIP, the SFPUC is still committed to meeting the 10 mgd of demand through conservation, recycled water, and groundwater projects.

A.2.1 Harding Park Recycled Water Project

The SFPUC has completed the construction of the Harding Park Recycled Water Project. This project involved constructing the necessary infrastructure—recycled water pipeline, underground storage reservoir, and irrigation pump station—to allow conveyance of recycled water produced by the North San Mateo County Sanitation District (at the Daly City treatment facility) to irrigate the TPC Harding Park and Fleming public golf courses, which are under the jurisdiction of the San Francisco Recreation and Park Department (SFRPD). Daly City certified the Harding Park Recycled Water Project EIR (State Clearinghouse No. 2009-012004) in 2009; construction began in November 2010 and was completed in October 2012. The project is meeting all of TPC Harding Park's irrigation water needs, estimated now at approximately 0.23 mgd on an average annual basis.

A.2.2 Vista Grande Drainage Basin Improvement Project

The WSIP includes the Lake Merced Project, which would raise the level of Lake Merced in San Francisco using a supplemental source of water, such as treated stormwater, recycled water, groundwater, or SFPUC system water. However, that project is not proceeding at this time, in light of Daly City's proposed Vista Grande Drainage Basin Improvement Project. Daly City is in the initial stages of engineering design and

environmental compliance for the Vista Grande Drainage Basin Improvement Project.⁴ The South Lake Merced Alternative, which is currently identified as the proposed Vista Grande Drainage Basin Improvement Project, would divert some stormwater (and authorized non-storm water) flows from the Vista Grande Canal to South Lake Merced, which would also help to fulfill the goals of the WSIP Lake Merced Project.

A.2.3 San Francisco Westside Recycled Water Project

Prior Proposals

The SFPUC first proposed the San Francisco Westside Recycled Water Project in June 2008 with the release of an NOP and scoping meetings by the San Francisco Planning Department. This first proposal was to construct a recycled water treatment plant at the Oceanside Water Pollution Control Plant (WPCP) that would supply recycled water to Golden Gate Park, Lincoln Park, the San Francisco Zoo, and other smaller parks. The project did not include reverse osmosis treatment of the water. The SFPUC subsequently determine that (1) reverse osmosis was a necessary component of the project, and (2) the original site location at the Oceanside WPCP was too small to include reverse osmosis treatment. The SFPUC then proposed to construct the recycled water treatment plant at the site of the former Richmond-Sunset WPCP within Golden Gate Park that would supply recycled water to Golden Gate Park, Lincoln Park, and the Presidio Golf Course. The San Francisco Planning Department issued a second NOP in September 2010 and held scoping meetings on this second proposal. Substantial public comment was received following the release of the 2010 NOP, with many commenters expressing concern about the proposed location of the recycled water treatment plant at the site of the former Richmond-Sunset WPCP within Golden Gate Park. Following the NOP scoping period, the SFPUC held a series of public workshops to inform the public of the planning process that led to the 2010 proposed project description and to solicit feedback on other potential project sites. As a result of that process, the SFPUC identified five sites as technically feasible, including the proposed Golden Gate Park site. Over the following year, the SFPUC evaluated the feasibility of the five potential project sites. This evaluation process resulted in the project as now proposed.

Current Proposal

The new proposal would locate the recycled water treatment plant at the Oceanside WPCP and within a portion of the adjacent area leased by CCSF to the California Army National Guard. Effluent (treated to secondary treatment⁵ standards at the existing WPCP) would be conveyed to the recycled water treatment plant to be processed to advanced tertiary standards using reverse osmosis. The project would provide recycled water to Golden Gate Park (including the Panhandle portion of the park), Lincoln Park, and various uses in the Presidio. The main components of the project as now proposed include the following:

⁴ The Vista Grande Project is currently in environmental review. On February 28, 2013 the City of Daly City and the National Park Service published a Notice of Preparation/Notice of Intent that an environmental impact report/environmental impact statement would be prepared for this project (http://www.dalycity.org/City_Hall/Departments/public_works/Reports_1119/vistagrande_alts.htm).

⁵ Secondary effluent treatment is a process that *reduces suspended solids and biological oxygen demand* in wastewater by approximately 90 percent.

- The recycled water treatment plant would be located at the SFPUC's Oceanside WPCP and on a portion of the adjacent area leased by CCSF to the California Army National Guard site.
- The project would provide recycled water to Golden Gate Park, Lincoln Park, and the Presidio. Recycled water would be used within the Presidio at the golf course, and potentially the National Cemetery and the Public Service Housing District. The SFPUC is no longer proposing to construct facilities at the former WPCP in Golden Gate Park; nor would this project include distribution facilities within the Presidio. Instead, the SFPUC would expand the existing Central Reservoir and pump station in Golden Gate Park to increase storage and pumping capacity.
- The project includes a transmission pipeline to be constructed between the proposed new recycled water treatment plant at the Oceanside WPCP and the existing Central Reservoir in Golden Gate Park, primarily along 36th Avenue. Pipelines would not be constructed along the Great Highway between the Oceanside WPCP and the former Richmond-Sunset WPCP site.
- The project also includes transmission pipelines to be constructed primarily in City streets between the Central Reservoir in Golden Gate Park and Lincoln Park and the Presidio, and adjacent to the Golden Gate Park Panhandle.

The proposed siting of the recycled water treatment plant within the existing Oceanside WPCP would allow for the sharing of critical facilities, including the plant access road and chemical storage and offloading facilities, and would thereby reduce the space requirements for the new recycled water treatment plant.

A.2.4 Related Projects

Implementation of the project is related to the SFPUC's San Francisco Groundwater Supply Project, which involves the development of local groundwater supply and the blending of that supply with potable surface water supply. The San Francisco Groundwater Supply Project would convert two existing irrigation wells in Golden Gate Park to potable use; however, before those wells could be used to supply municipal water, the proposed project would first need to be implemented so that the recycled water could provide a replacement source of irrigation water. Alternatively, another landscaping water source could be identified to replace the irrigation water currently provided by these wells. The San Francisco Planning Commission certified the Groundwater Supply Project EIR (San Francisco Planning Department Case No. 2008.1122E, available online at <http://www.sf-planning.org/index.aspx?page=1829>) on December 19, 2013.

Implementation of the project is also related to potential future actions by customers that would need to retrofit irrigation facilities to accommodate the recycled water. This could include bringing systems into compliance with California Department of Public Health Services requirements, and adding distribution systems for use of recycled water (e.g., the Presidio would install a distribution pipeline to serve irrigated areas).

A.2.5 Recycled Water Demand

As stated above, the WSIP originally projected that the Westside Baseline Project would serve a recycled water demand of 2.8 mgd. The SFPUC has since refined the recycled water demand estimate for users on the west side of San Francisco and has identified three major recycled water customers for the project: Golden Gate Park, Lincoln Park/Lincoln Park Golf Course, and the Presidio Golf Course (as well as other areas within the Presidio). Together, the recycled water demand for these customers is estimated at 1.6 mgd

(annual average) or 4.0 mgd peak-day demand. The project would be sized to accommodate an additional 0.4 mgd annual average (additional 1.0 mgd peak-demand) for a total capacity to serve peak-day demands of up to 5.0 mgd (or 2.0 mgd annual average), in anticipation that the facility could also provide future service to other nearby parks or irrigated medians. These future customers are not known with specificity at this time. **Table 1** summarizes the proposed customers and their respective demands that would be served by the project, as currently known.

**TABLE 1
SUMMARY OF PROPOSED RECYCLED WATER CUSTOMERS**

End User	Average Annual Demand (mgd)	Peak-Day Demand (mgd)
<i>Golden Gate Park</i>		
Irrigation/California Academy of Sciences	0.94	2.41
Lake Fill	0.4	0.4
<i>Lincoln Park Golf Course</i>		
Irrigation	0.11	0.30
<i>Presidio (ALL)</i>		
Irrigation	0.18	0.89
<i>Capacity for Potential Future Users</i>		
Irrigation	0.4	1.0
Total (rounded)	2.0	5.0

mgd = million gallons per day

SOURCES: RMC Water and Environment (RMC), *Technical Memorandum, Westside Recycled Water Project Description*, June 17, 2009; San Francisco Public Utilities Commission (SFPUC), *WSIP Westside Recycled Water Project CUW302-01, Second Addendum to Project Description TM*, July 2, 2010.

A.3 Project Sponsor’s Objectives

On October 30, 2008, the SFPUC adopted the WSIP (known as the “Phased WSIP Variant”) to improve the regional water system with respect to water quality, seismic response, and water delivery based on a planning horizon through the year 2030. The WSIP was also adopted to improve the regional system with respect to water supply to meet water delivery needs in the SFPUC service area through the year 2018. The WSIP area spans seven counties—Tuolumne, Stanislaus, San Joaquin, Alameda, Santa Clara, San Mateo, and San Francisco.

One of the WSIP goals is to meet customer water needs during both nondrought and drought periods, and two of the WSIP system performance objectives are to: (1) diversify water supply options during nondrought and drought periods; and (2) improve the use of new water sources and drought management strategies, including use of groundwater, recycled water, conservation, and transfers. The adopted WSIP includes the development of 20 mgd of conservation, recycled water, and groundwater within the SFPUC service area (10 mgd in the retail service area [i.e., within San Francisco] and 10 mgd in the wholesale service area [i.e., beyond San Francisco]).

The proposed project would contribute to these WSIP goals through the development of recycled water as an alternative water supply for nonpotable uses in the SFPUC's retail service area within San Francisco, thereby benefiting the regional system by reducing demands for potable water. The specific objectives of the project are to:

- Diversify the SFPUC's water supplies by developing recycled water
- Develop a new water supply in San Francisco that is both reliable and drought resistant
- Reduce the use of potable water and groundwater for irrigation and other nonpotable uses by supplying those demands with recycled water

A.4 Project Location

Facilities associated with the project would be constructed at several locations throughout western San Francisco (see Figure 1), including the SFPUC's Oceanside WPCP near Lake Merced; the Central Reservoir in Golden Gate Park; the Panhandle portion of Golden Gate Park; and pipelines connecting the WPCP to Golden Gate Park, the Presidio, and Lincoln Park.

A.4.1 Oceanside WPCP

As described in Section A.1.4, the recycled water treatment plant would be located at the existing SFPUC Oceanside WPCP, which is at 3500 Great Highway adjacent to North Lake Merced and the Pacific Ocean. The WPCP covers approximately 12 acres, and contains a number of buildings and structures. As described further under Section C, the site is located within the Public Use district and the Open Space height and bulk district.

A.4.2 Golden Gate Park

Golden Gate Park, managed by the SFRPD, is located in western San Francisco; it is bounded on the west by the Great Highway, on the north by Fulton Street, on the east by Stanyan Street, and on the south by Lincoln Way. Proposed facility sites within Golden Gate Park include the existing Central Reservoir and the existing booster pumps in the Panhandle portion of the park. The Central Reservoir, which covers approximately 5 acres, is located near the southwest quadrant of the intersection of John F. Kennedy Drive and Transverse Drive. The existing booster pump stations are located within the Panhandle area of Golden Gate Park. As described further under Section C, per the San Francisco Planning Code, both of these sites are located within the Public Use district and the Open Space height and bulk district.

A.4.3 Presidio of San Francisco

The Presidio of San Francisco is located on the northern end of the San Francisco peninsula. The Presidio is generally bounded on the north by San Francisco Bay, on the east by Lyon Street, on the south by Pacific Avenue and Lake Street, and on the west by the Pacific Ocean. The Presidio is within the Golden Gate National Recreation Area and contains a variety of historical and cultural features, including the San Francisco National Cemetery, the Presidio Golf Course, and the Public Health Services District. The proposed recycled water pipelines would connect to the Presidio boundary at approximately Lake Street and 14th Avenue, adjacent to the Presidio.

A.4.4 Lincoln Park

The Lincoln Park Golf Course is located in northwest San Francisco, at 300 34th Avenue at Clement Street. The course covers approximately 112 acres. The proposed recycled water pipelines would connect to an existing irrigation pump station north of the intersection of Clement Street and 39th Avenue.

A.4.5 Proposed Pipeline Routes

The proposed new transmission pipelines would run through the Sunset District from the proposed treatment plant at the Oceanside WPCP to the existing Central Reservoir in Golden Gate Park (both described above), then from the Central Reservoir through the Richmond District to proposed customers in Lincoln Park and the Presidio, and along Oak Street to serve the Panhandle. The majority of the pipeline between the Oceanside WPCP and the Central Reservoir would run along Skyline Boulevard and 36th Avenue. Pipelines between the Central Reservoir and Lincoln Park Golf Course and the Presidio would, for the most part, be routed along Cabrillo Street, 36th Avenue, 24th Avenue, Anza Street, and 16th Avenue.

A.5 Existing Uses on the Project Sites

A.5.1 Oceanside WPCP

The Oceanside WPCP, shown on **Figure 2**, is operated by the SFPUC and was constructed in 1994. The WPCP currently treats about 20 percent of the average annual wastewater flows for San Francisco. The site contains approximately seven buildings associated with the wastewater treatment processes, including headworks, primary treatment, secondary treatment, solids handling, and support facilities.⁶ Entrances to the WPCP are located along Skyline Boulevard and the Great Highway. The WPCP is located within a bermed area, and, with the exception of the existing facility entrances, lighting structures and fencing, and a retaining wall at the top of the berm in the vicinity of the Great Highway entrance, the WPCP facilities are not visible from public areas. The San Francisco Zoo is located to the north and the California Army National Guard is located to the east. The portion of the California Army National Guard site included in the proposed project is currently used as a landscaped berm and parking lot.

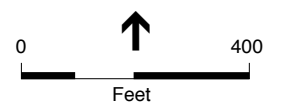
A.5.2 Golden Gate Park Central Reservoir

The Central Reservoir site is in a fenced maintenance area, which currently contains an underground reservoir, an above-ground pump station, and wood waste and composting areas (see **Figure 3**). The site is accessed by a road (Overlook Drive) that is primarily used by maintenance vehicles, and some bicyclists and pedestrians. The underground reservoir at the site is a buried 2,000,000-gallon reservoir, with a connected aboveground pump station used to serve the park's irrigation system. The existing above ground pump station is approximately 40 feet by 60 feet and 19 feet tall, with a connecting cement wall that is approximately 25 feet tall and 120 feet long.

⁶ San Francisco Public Utilities Commission (SFPUC), San Francisco Sewer System Master Plan, June 15, 2010. Available online at <http://www.sfwater.org/modules/showdocument.aspx?documentid=723>. Accessed October 29, 2013.



- Existing Oceanside WPCP
- Proposed Off-Site Staging Area
- Proposed Limit of Construction
- Proposed On-Site Staging Area
- Coastal Zone Boundary
- Area Appealable to the California Coastal Commission
- Jurisdiction Retained by the California Coastal Commission
- Local Coastal Zone Permit Area



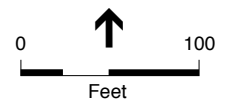
SOURCE: ESA, 2013; EMB, 2013.

San Francisco Westside Recycled Water Project
Figure 2
 Existing Conditions – Oceanside WPCP

This page intentionally left blank



- Existing Central Reservoir Facility
- Proposed Limit of Construction



SOURCE: ESA, 2014

San Francisco Westside Recycled Water Project

Figure 3
Existing Conditions – Golden Gate Park Central Reservoir

A.5.3 Pipeline Routes

The proposed pipeline routes (see Figure 1) are primarily located within existing roadways and within trails/pathways in Golden Gate Park.

A.6 Project Characteristics

A.6.1 Project Components

The project would include the components listed below, which are described in greater detail in the following sections.

Treatment and Storage. The recycled water treatment facilities would include:

1. Proposed approximately 30,000 square foot (40 feet in height) treatment plant at the Oceanside WPCP with annual average production capacity of up to 2.0 mgd, but sized to meet peak-day demands (during summer months) of up to 5.0mgd
2. Reconfiguration of the existing chemical storage building at the Oceanside WPCP to house the additional chemicals required for the recycled water treatment process
3. New secondary effluent pumps at the Oceanside WPCP.
4. Proposed reconfiguration of the existing chlorine contact channels within the Oceanside WPCP to provide 760,000 gallons of secondary effluent equalization storage
5. Proposed 50,000-gallon reservoir underneath the recycled water treatment plant used during the treatment process
6. Proposed 840,000-gallon buried storage reservoir adjacent to the existing Central Reservoir in Golden Gate Park

Distribution. The distribution facilities would include:

1. Proposed recycled water transmission pump station (approximately 50 by 100 feet and 20 feet high) at the recycled water treatment plant, including a proposed 40,000 gallon recycled water pump wet well used to submerge pumps.
2. Use and potential modification (within existing footprint) of the existing pump station and Central Reservoir at the Golden Gate Park Central Reservoir site
3. Proposed recycled water distribution pump station adjacent to the existing Central Pump Station in Golden Gate Park. The new pump station would be about 50 feet by 100 feet and 20 feet tall.
4. Upgrade or replacement of the existing irrigation booster pumps in the Panhandle
5. Use of the existing irrigation pump station at Lincoln Park
6. Approximately 3 miles of proposed pipeline (16 to 20 inches in diameter) from the recycled water treatment plant at Oceanside WPCP to the Central Reservoir in Golden Gate Park

7. Approximately 5 miles of proposed pipeline (8 to 16 inches in diameter) from the Central Reservoir to proposed customers in Lincoln Park, the Presidio, and the Panhandle

Recycled Water Treatment Plant Facilities at the Oceanside WPCP Site

The proposed recycled water treatment plant would be constructed at the existing Oceanside WPCP complex, and partially within the California Army National Guard property (see **Figure 2**). The existing Oceanside WPCP is an approximately 5.5 acre facility, which includes several structures that are up to approximately 45 feet tall, located within a bermed area. A two-story treatment building (approximately 30,000 square feet total area) would be constructed to house water treatment equipment, electrical controls, pumping equipment, and other appurtenant equipment required for the proposed treatment process summarized below. The treatment building would also contain an electrical substation, operations room, and motor control center. The proposed building would be approximately 40 to 45 feet high.

The interior of the existing chemical building at the Oceanside WPCP (Building 510) would be reconfigured to house the chemical storage tanks and feed systems needed for the recycled water treatment processes. In addition, the existing chlorine contact channel at the Oceanside WPCP would be configured to provide secondary effluent equalization storage, which would provide for steady flow to the recycled water treatment plant during periods of low flow to the WPCP. Two underground storage reservoirs would be constructed beneath the treatment plant, including a 50,000-gallon reservoir used during the treatment process and a 40,000-gallon wet well used to submerge pumps.

Treatment Process

The recycled water treatment plant would treat secondary effluent from the Oceanside WPCP to remove suspended and dissolved solids, bacteria, viruses, organic materials, and other constituents, resulting in treated water that meets and/or exceeds the regulatory requirements of the California Department of Public Health for disinfected tertiary recycled water.⁷ The proposed recycled water treatment process includes microfiltration/ultrafiltration (MF), reverse osmosis (RO), and ultraviolet light (UV) disinfection. The MF membrane system would remove suspended solids. From the MF system, the treated water would be pumped to an RO membrane system to reduce dissolved salts, ammonia, and nutrients. The advanced treated recycled water would be disinfected with UV disinfection.

⁷ The water quality criteria, treatment process requirements, and treatment reliability criteria for water recycling operations established by the California Department of Health Services are set forth in Title 22, Division 4, Chapter 3, of the California Code of Regulations. Under this regulation, “disinfected tertiary recycled water” means filtered and subsequently disinfected wastewater that meets the following criteria:

- (a) The filtered wastewater has been disinfected by either: (1) a chlorine disinfection process following filtration that provides a CT value (the product of total chlorine residual and modal contact time measured at the same point) of not less than 450 milligram-minutes per liter at all times, with a modal contact time of at least 90 minutes, based on peak dry-weather design flow; or (2) a disinfection process that, when combined with the filtration process, has been demonstrated to inactivate and/or remove 99.999 percent of the plaque-forming units of F-specific bacteriophage MS2, or polio virus, in the wastewater. A virus that is at least as resistant to disinfection as polio virus may be used for the demonstration.
- (b) The median concentration of total coliform bacteria measured in the disinfected effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters (mL) utilizing the bacteriological results of the past 7 days for which analyses have been completed, and the number of total coliform bacteria does not exceed a MPN of 23 per 100 mL in more than one sample in any 30-day period. No sample shall exceed a MPN of 240 total coliform bacteria per 100 mL.

The recycled water treatment plant would also contain chemical feed systems for coagulant, acid, and base, as well as other chemicals used in the treatment process. Typically, a chlorine residual is introduced into recycled water to prevent biological growth in the proposed distribution systems and in the existing irrigation distribution and sprinkler systems, and could be included as part of the project.

Recycled Water Distribution System

Distribution Pumps

Transmission pumps would be installed at the recycled water treatment plant to convey recycled water from the facility to the Central Reservoir in Golden Gate Park. Three transmission pumps (two duty and one standby) with motors of up to 200 horsepower (1,400-gallons-per-minute capacity) would be installed at the treatment plant. Space would be available for the future addition of two pumps (one duty and one standby, with motors of up to 75 horsepower and 700 gallons per minute) to serve potential future users. At the Central Reservoir, the existing pump station would pump recycled water into the Golden Gate Park irrigation system. A new pump station would be constructed adjacent to the existing facility and would house four distribution pumps (three duty and one standby) with motors of up to 150 horsepower (833 gallons per minute), as well as two hydropneumatic tanks to pump recycled water from storage to serve Lincoln Park and the Presidio. This new pump station would be enclosed inside a structure with concrete walls. The existing booster pump stations in the Panhandle would be upgraded to provide the required pressure to the Panhandle irrigation system. The existing Lincoln Park pump station would be used to distribute recycled water to the golf course irrigation system, and could require some upgrade of pump system controls to optimize system operation.

Distribution Pipelines

Approximately 8 miles of pipeline would be constructed to connect the recycled water treatment plant to the proposed customers in Lincoln Park, the Presidio, and the Panhandle. The pipes would be built primarily in public rights-of-way (streets). Pipe diameters would range from 8 to 20 inches. Figure 1 shows the proposed pipeline network, which is described below.

Recycled Water Treatment Plant to Golden Gate Park. The distribution pipeline running from the recycled water treatment plant at Oceanside WPCP to the Central Reservoir in Golden Gate Park would be routed as follows:

- From the recycled water treatment plant east either via the existing vehicle tunnel connecting the Oceanside WPCP to Skyline Boulevard, or through a berm to the east of the tunnel and along the west edge of the Armory parking lot
- Northeast along Skyline Boulevard to Sloat Boulevard
- East along Sloat Boulevard to 37th Avenue
- North along 37th Avenue to Vicente Street
- East along Vicente Street to 36th Avenue
- North along 36th Avenue to Lawton Street

- East along Lawton Street to 34th Avenue
- North along 34th Avenue to Lincoln Way
- Along a Golden Gate Park trail north from 34th Avenue/Lincoln Way to Middle Drive West
- Northeast along Middle Drive West to Overlook Drive
- Northeast along Overlook Drive to the Central Reservoir

The distribution pipeline would connect to the existing Central Reservoir and the proposed new reservoir.

Central Reservoir to Lincoln Park Golf Course. The distribution pipeline would continue from the Central Reservoir to Lincoln Park Golf Course as follows:

- North from Central Reservoir either to Overlook Drive or John F. Kennedy Drive
- East along Overlook Drive or John F. Kennedy Drive to Transverse Drive
- Northwest along Transverse Drive to Crossover Drive
- Northwest along Crossover Drive to 25th Avenue
- North along 25th Avenue to Cabrillo Street
- West along Cabrillo Street to 36th Avenue
- North along 36th Avenue to Clement Street
- West along Clement Street to the Lincoln Park point of connection at 39th Avenue and Clement Street

Central Reservoir to the Presidio. The distribution pipeline would continue from the Central Reservoir to the Presidio as described above to Cabrillo Street, and then as follows:

- East along Cabrillo Street from Cabrillo Street/25th Avenue to 24th Avenue
- North along 24th Avenue to Anza Street
- East along Anza Street to 16th Avenue
- North along 16th Avenue to Lake Street
- East along Lake Street to 14th Avenue
- North along 14th Avenue to a proposed turnout at 14th Avenue north of Lake Street

Panhandle Distribution System. The existing Golden Gate Park irrigation system pipeline loop in John F. Kennedy Drive and other roads within the park is connected to the existing Golden Gate Park Central Reservoir and pump station. However, the Panhandle portion of Golden Gate Park is currently served by municipal water supply and is not connected to the existing irrigation system described above. Thus, the project would include a pipeline segment to connect the Panhandle to the existing irrigation system in the Park (see Figure 1). The pipeline would be located along John F. Kennedy Drive and Oak Street. The pipeline would connect to existing booster pumps located within the Panhandle to provide sufficient water

pressure for Panhandle irrigation. Upgrade or replacement of the booster pumps would be required as part of the project.

Distribution Storage

The project would include use of the Golden Gate Park Central Reservoir, and the addition of a 840,000-gallon buried storage reservoir adjacent to the existing reservoir. As noted above, it could be necessary to provide connections between the existing and proposed storage tanks and modify the existing pump station to provide the necessary pressure sufficient to enable distribution of recycled water to the park.

Reverse Osmosis Concentrate (Brine) Disposal

The recycled water treatment process would produce a reverse osmosis concentrate, which is a concentrated brine solution. This brine would be conveyed to the ocean for disposal through the Oceanside WPCP Southwest Ocean Outfall. A short (about 2,000-linear-foot) segment of pipeline, approximately 8 to 10 inches in diameter, would be routed inside of the Oceanside WPCP from the recycled water treatment plant to the entrance to the outfall (within the plant).

A.6.2 Construction

Project construction is expected to begin in approximately January 2016 and end in approximately March 2019. Construction hours would vary depending on the construction locations. The proposed areas of disturbance, and off-site staging areas for the recycled water treatment plant, are shown on Figures 2 and 3. Construction and staging associated with pipelines would be along the alignments shown on Figure 1. Construction activities are proposed to occur primarily during the daytime hours (7:00 a.m. to 5:00 p.m.⁸), five days a week on non-holiday weekdays (Monday through Friday); however, restricted construction hours may be required in the vicinity of the Golden Gate Park Panhandle. Nighttime or weekend construction work is not anticipated, but may occur in order to expedite construction and reduce the duration of effects at a single location or daytime road closures. Nighttime construction would only be required at limited locations for limited duration in the event there are conflicts with San Francisco Municipal Transportation Agency (SFMTA) operations (i.e. at San Francisco Municipal Railway [MUNI] crossings). Approval by the Department of Public Works (SFRPD) for nighttime construction (i.e., between 8:00 p.m. and 7:00 a.m.) may be required and the project would be subject to review under the San Francisco Noise Ordinance (Article 29 of the San Francisco Police Code). More specifically, SFPUC construction specifications require the construction contractor to “Conduct all operations, use appropriate construction methods and equipment in accordance with the San Francisco Noise Ordinance” including nighttime noise requirements.⁹ In addition, if needed nighttime lighting would be used and directed downward to ensure safe illuminated areas for construction workers and to minimize glare effects.

In advance of project construction, SFPUC would provide a 10-day public notice describing project construction activities, schedule information, anticipated effects such as temporary closure of parking

⁸ Truck and worker trips at project facility sites would end at 4:30 p.m. However, trucks leaving the sites at 4:30 p.m. would not reach their destinations until about 5:00 p.m.

⁹ MacPherson, S, personal communication, June 4, 2014.

spaces or detours, and contact information. The notice would be distributed to adjacent properties¹⁰ and included on the SFPUC website along with project information.

Pipeline alignments are primarily within existing streets in the Sunset and Richmond District, and within trails and roads within Golden Gate Park. Prior to pipeline construction, the SFPUC's contractor would coordinate with the SFDPW and Department of Parking and Traffic to obtain any necessary construction approvals. Construction activities would also be coordinated with MUNI's Street Operations office to reduce any impacts on transit operations. All temporary construction easements and permits and other approvals, where applicable, would be obtained prior to starting construction.

Construction of the distribution pipelines would require excavation to depths on the order of 6 feet below ground surface. Excavations would be appropriately shored in accordance with the regulatory requirements of the California Department of Industrial Relations (Cal/OSHA) specified in Title 8 of the California Code of Regulations. Pipeline construction using the open-cut trench method would progress at an estimated rate of 200 to 300 feet per day (on average); ductile pipe installation would progress at approximately 100 feet per day, and sawcutting would progress at a rate of approximately 1,000 feet per day. It is estimated that the duration of construction at any one location would be approximately two weeks, including repaving and other finish work). Subsequent final paving would progress at a rate of approximately 300 feet per day, and would occur after a substantial length of pipeline had been constructed. During project construction, single-lane closures would be necessary along most pipeline routes, which would require implementation of two-way, alternating traffic in the remaining available lane. However, pipeline construction could require temporary closure of a trail within Golden Gate Park located north of Lincoln Way/34th Avenue, between Lincoln Way and Middle Drive West, for up to two months, and potential closure of narrow park roadways, such as Overlook Drive, during pipeline construction.

Construction activities at the existing Oceanside WPCP and associated off-site staging areas, and at the Central Reservoir, would be within existing facility areas that include similar functions as the proposed project. Construction of the new recycled water treatment plant and underlying wet wells would entail excavation to a maximum depth of about 23 feet below ground surface, or to an elevation of about 8 feet San Francisco City Datum (SFD). For this construction, one existing retaining wall near the property boundary with the Armory site would be demolished. Some dewatering may be necessary to maintain a dry excavation for construction. Construction of the wet well for recycled water storage would require excavation to a depth of five feet. Excavation walls for these construction activities would be supported by conventional shoring methods such as soldier piles and lagging¹¹ which would prevent the excavation sidewalls from becoming unstable. Once constructed, the recycled water treatment building would be 40 to 45 feet high.

Project construction, including the Oceanside WPCP site, Central Reservoir, and pipeline alignments, would require tree limbing and vegetation removal as follows: vegetation removal adjacent to the entrance to the

¹⁰ Those parcels adjacent to the work area.

¹¹ A soldier pile and lagging system includes concrete encased beams placed in drilled holes that extend below the bottom of the excavation. Timber lagging is placed between the beams to retain soil in the excavation sidewall as excavation proceeds.

Central Reservoir facility, if widening of the entrance is required; vegetation removal at a stretch of pipeline between the Central Reservoir pump station addition and Overlook Drive or John F. Kennedy; removal of small ornamental palm trees in the Oceanside WPCP parking area; and tree and vegetation removal at a short stretch of pipeline between the recycled water treatment plant, the California Army National Guard parking lot, and Skyline Boulevard. No tree removal would occur within Golden Gate Park or at other project locations, other than those described above. However, tree trimming could be required at any project location. In accordance with Section 808(c) of the San Francisco Public Works Code (Protection of Trees and Landscape Material), trees adjacent to construction areas that are not proposed for removal would be protected by:

- Establishing a Tree Protection Zone (TPZ) around any tree or group of trees to be retained. The formula typically used is defined as 1.5 times the radius of the dripline or 5 feet from the edge of any grading, whichever is greater. The TPZ may be adjusted on a case-by-case basis after consultation with a certified arborist.
- Marking the TPZ of any trees to be retained with permanent fencing (e.g., post and wire or equivalent), which would remain in place for the duration of construction activities in the area. “Keep out” signs would be posted on all sides of fencing.
- Prohibiting construction-related activities, including grading, trenching, construction, demolition, or other work within the TPZ; or, if work within the TPZ is necessary, performing the work in a manner that will adequately protect the tree. No heavy equipment or machinery would be operated within the TPZ. No construction materials, equipment, machinery, or other supplies would be stored within a TPZ. No wires or signs would be attached to any tree. Any modifications would be approved and monitored by a certified arborist.
- Pruning selected trees to provide necessary clearance during construction and to remove any defective limbs or other parts that may pose a failure risk. All pruning would be completed by a certified arborist or tree worker and adhere to the *Tree Pruning Guidelines* of the International Society of Arboriculture.

In Golden Gate Park, construction of the new underground storage reservoir would entail excavation to a depth of about 25 feet below ground surface. Excavation would be appropriately shored using conventional shoring methods such as soldier piles and lagging.¹² Jet grouting may also be used, depending on site conditions.¹³ The water level in the existing reservoir could also be lowered to reduce stresses on the reservoir, and the existing reservoir would also be underpinned if necessary to provide additional support.

The types of construction equipment include: jackhammer (pavement breaker), concrete saw, loader, dozer, excavator, grader, Compactor, dump truck, flatbed truck, concrete truck, forklift (gas-powered), street sweeper (vacuum), generator, pneumatic sheeting driver, compressor, mixer (batch plant), roller, crane, and auger drill rig. Impact tools, such as jackhammers, would be equipped with intake and exhaust mufflers approved by the SFDPW or the Director of Building Inspection, as required under the San Francisco Noise Ordinance. Construction of the recycled water treatment plant at the Oceanside WPCP and facilities at the

¹² San Francisco Department of Public Works, Infrastructure Design and Construction. *Geotechnical Report, Golden Gate Park Central Reservoir Expansion Project, San Francisco, California*. April 22, 2013.

¹³ Jet grouting involves mechanically mixing the in-place soil with grout to provide support for the excavation sidewalls.

Central Reservoir site in Golden Gate Park would each generate approximately four trucks per day, while pipeline construction is expected to generate approximately six trucks per day. Construction-related trucks associated with each project component (treatment plant, pump station, and distribution pipelines) would travel on different routes since they are not located near each other except when pipeline construction occurs near the two proposed facilities. During these times, it is possible that concurrent construction activities could result in approximately 10 haul trucks per day traveling on the same routes. Local and regional roadways would be used to haul construction materials; these roads would be designated based on the San Francisco Metropolitan Transportation Agency Truck Traffic Route Map.

The project would be implemented in accordance with relevant federal and State Occupational Safety and Health Administration (OSHA) regulations.¹⁴ The project is also subject to the San Francisco Public Works code. The SFPUC has established Standard Construction Measures¹⁵ that would be implemented as part of all WSIP projects, including the proposed Westside Recycled Water Project. The main objective of these measures is to reduce disruptions to surrounding neighborhoods, resources, and land uses during any SFPUC construction, maintenance, or repair activity or project that requires CEQA review. The Standard Construction Measures include activities such as onsite air and water quality measures during construction, traffic control plan, noise plan, hazardous materials handling plan, nighttime lighting orientation, early identification of sensitive environmental resources in the project area, and notification of businesses, owners, and residents in areas adjacent to the WSIP projects regarding the nature, extent, and duration of construction activities. The SFPUC would ensure that the proposed project's contract specifications contain uniform minimum provisions to address these issues.

Following construction, disturbed areas would be repaved or otherwise returned to their general pre-project condition, including re-grading of the site and revegetation of disturbed areas.

A.6.3 Operations and Maintenance

Operation of the recycled water treatment plant would require approximately four full-time employees. Operation and maintenance of other project facilities would utilize existing SFPUC employees and be similar to existing maintenance activities that already occur at the site. The systems used to supply water for irrigation and commercial uses would operate year-round, with peak production occurring during the dry months, usually April through October. When demand is low, portions of the treatment facilities could be placed in standby mode or operate at reduced output. Storage reservoirs in the distribution system would be used to balance daily demands.

The primary pump station at the proposed recycled water treatment plant would operate as needed to meet demand and to fill reservoirs in the distribution system. The pump station in Golden Gate Park and the booster pumps along the Panhandle would operate on an as-needed basis to maintain pressure in the system. Backup power for the treatment plant would be provided by existing Oceanside WPCP emergency

¹⁴ Project actions to comply with relevant OSHA regulations are described in detail in Impact UT-5.

¹⁵ San Francisco Public Utilities Commission (SFPUC), *Standard Measures to be Included in Construction Contracts and Project Implementation*, memorandum from Susan Leal, General Manager, and Tony Irons, Deputy General Manager, to Michael Carlin, Tom Franza, Barbara Hale, Harlan Kelly, Julie Labonte, Irina Torrey, Ivy Fine, and Tony Winnicker, February 7, 2007.

power supply facilities. Backup power at the Central Reservoir facility would be provided by an existing SFPUC portable diesel generators that would be transported to the facility from an offsite SFPUC storage location during an emergency.

Water Quality Objectives

The irrigation demands identified in Section A.1.5 are currently being met through the use of groundwater pumped from local wells in Golden Gate Park, and through the use of potable water for Lincoln Park, the Presidio, and the Panhandle portion of Golden Gate Park. The SFPUC determined that chloride and sodium concentrations are the key parameters of concern for these customers; therefore, water quality objectives were established for the project to minimize chloride, sodium, ammonia, and nutrient concentrations.¹⁶

Proposed Green Building Features

The project would incorporate green building features including energy efficiency, water efficiency, stormwater management, alternative transportation opportunities, green products and low-emitting materials, and materials recycling. The project is being designed to meet Leadership in Energy and Environmental Design (LEED) Gold standards. LEED New Construction certification was designed primarily for new commercial office buildings. LEED certification can be difficult to obtain for this type of project because energy reduction credits tend to be oriented towards the characteristics of energy use in office buildings and require inclusion of all process equipment. SFPUC would perform site-specific cost effectiveness evaluations of alternative technologies to increase the efficiency of the building shell; lighting and heat, ventilation, and air conditions (HVAC) systems.

To meet required minimum energy efficiency requirements, the project's facilities would be constructed in compliance with California's Energy Efficiency Standards specified in the California Code of Regulations, Title 24, Part 6. All facilities would utilize renewable energy in the form of hydroelectric power from the Hetch Hetchy Regional Water System for project operations under normal conditions. All lighting would comply with the 2013 Title 24 Energy Conservation Standard. Furthermore, all outdoor lighting would be light-emitting diode (L.E.D.)-type.

To achieve water efficiency of an estimated 30 percent reduction, recycled water would be used for irrigation and toilet/urinal needs at the recycled water treatment plant site. All new water closets, urinals and faucets installed under the project would comply with the Commercial Water Conservation Ordinance of Chapter 13A of the San Francisco Building Code.

SFPUC fleet and contractor diesel vehicles used during construction and operation of the project would use biodiesel fuel. Operations and maintenance activities would be performed by SFPUC staff located at existing and proposed SFPUC facilities, so existing SFPUC fleet vehicles may be utilized. However, if any new SFPUC fleet vehicles are required for project operations and maintenance activities, new purchases would be consistent with vehicle efficiency requirements. Similarly, all contracts issued for construction of the project would incorporate these biodiesel and best available control technology requirements into the

¹⁶ RMC Water and Environment (RMC), *Technical Memorandum, Westside Recycled Water Project Description*, June 17, 2009.

contract specifications. SFPUC adheres to these requirements for vehicles and equipment that fall under this category; therefore, all operations and maintenance activities would also comply with this ordinance. Bicycle storage would be provided for 5% of the building addition users used at building peak period.

Some of the products that would be needed for the project fall under the Approved Green Products List product categories, including (but not limited to): building materials, fuel, landscaping products, lighting, and paint and lacquer thinner. These products would be utilized during the project construction phase; therefore, construction specifications would include the requirement to use products from the Approved Green Products List when feasible. Any applicable products from the Approved Green Products List needed for conducting operations and maintenance activities would be utilized by SFPUC staff when feasible. Project design would incorporate the use of LEED compliant Low-Emitting Materials, where available. Products include rubber floor adhesives, ceramic tile adhesives, cove base adhesives, sealants, general use paints. All contracts associated with construction of the project would prohibit the utilization of the ordinance-listed tropical hardwoods and virgin redwood. All material removed from the project sites, including concrete, metal, and green waste, would be recycled to the maximum extent feasible, with a goal of 75% diversion or disposed of at an appropriate landfill in compliance with applicable federal, State, and local regulations. In addition, a Construction and Demolition Debris Management Plan would be prepared.

A.7 Approvals Required

The SFPUC may be required to obtain the following permits and approvals for project construction and operation.

A.7.1 *Federal*

- The Presidio Trust approval of a water supply agreement with the SFPUC that would set forth the terms of supply of the recycled water.

A.7.2 *State*

- The California Army National Guard approval of an amendment of the lease with the SFPUC to allow a portion of the Armory site to be used for the project.
- State Water Resources Control Board (SWRCB) Stormwater General Construction Permit and Stormwater Pollution Prevention Plan, if more than one acre of land is disturbed.¹⁷
- SWRCB Water Quality Order No. 2009-0006-DWQ, General Waste Discharge Requirements for Landscape Irrigation Uses of Recycled Water.
- California Coastal Commission (CCC), issuance of Coastal Development Permit (a portion of the proposed pipeline would pass through the Coastal Commission's retained permit jurisdiction south of Sloat Boulevard associated with the former tidelands connecting Lake Merced with the ocean [see Figure 2]). The CCC may also assert regulatory authority over change in effluent discharge at the outfall.

¹⁷ Applicable to areas that do not drain to the City's combined sewer system.

A.7.3 Local

- San Francisco Planning Commission certification of the Final EIR, issuance of Coastal Development Permit, and determination of consistency with the general plan
- SFPUC agreement with SFRPD for construction of recycled water-related facilities in Golden Gate Park, agreement with Presidio Trust of San Francisco setting forth terms for supply of recycled water to the Presidio, agreement with California Army National Guard for amendment of its lease with SFPUC to allow construction of a portion of the project on the leased area, construction contracts and other project implementation actions
- San Francisco Board of Supervisors appropriation of project funding, approval of new structure in Golden Gate Park (Charter Section 4.113 requires a two-thirds vote of the Board of Supervisors for construction of any new structures in the park.)
- SFRPD approval of agreement with SFPUC for construction of facilities for recycled water in Golden Gate Park and recommendation to the Board of Supervisors on construction of new structures in Golden Gate Park
- San Francisco Arts Commission approval of exterior design of structures on City property
- SFDPW and SFMTA approval of use of City streets for transmissions pipelines
- SFDPW approval of nighttime construction noise levels

B. PROJECT SETTING

As described above in Section A.3, Project Location, the project facilities would be located at several sites within western San Francisco, including the Oceanside WPCP and Golden Gate Park. The sites within the Oceanside WPCP and Golden Gate Park currently contain water resources infrastructure. The Oceanside WPCP site is surrounded on the southwest by the Great Highway and Fort Funston/Golden Gate National Recreation Area and on the southeast by Skyline Boulevard/State Route 35 and Lake Merced. On the west and north, the site is bordered by an open space buffer, the California Army National Guard armory, and the San Francisco Zoo. Buildings at the Oceanside WPCP were constructed within a large berm, and the roofs of many structures are covered with soil and planted with non-native landscaping. This berm generally separates the site from surrounding land uses. The areas surrounding the Central Reservoir and Panhandle sites are characterized by open space with recreational uses, including grassy areas, bicycle paths, and walking trails.

The Presidio Golf Course and Lincoln Park are also used for public recreation purposes and consist of facilities that are typically associated with golf courses, including greens, landscaping, and one- or two-story clubhouse facilities. The Presidio Golf Course is part of the Presidio National Historic Landmark.

As described below, the project sites are located within the Public Use district and the Open Space height and bulk district.

C. COMPATIBILITY WITH EXISTING ZONING AND PLANS

	<i>Applicable</i>	<i>Not Applicable</i>
Discuss any variances, special authorizations, or changes proposed to the Planning Code or Zoning Map, if applicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discuss any conflicts with any adopted plans and goals of the City or Region, if applicable.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Discuss any approvals and/or permits from City departments other than the Planning Department or the Department of Building Inspection, or from Regional, State, or Federal Agencies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

C.1 San Francisco Planning Code

The San Francisco Planning Code (Planning Code), which incorporates the San Francisco Zoning Maps, governs permitted uses, densities, and configuration of buildings within San Francisco. Permits to construct new buildings (or to alter or demolish existing ones) may not be issued unless the project either conforms to the Planning Code or is granted an exception pursuant to provisions of the Planning Code.

C.2 Use District

The proposed project sites for the aboveground facilities are in the P Public Use district. Planning Code Section 234 states that the P district applies to land that is owned by a governmental agency and is in some form of public use, including open space. Principal uses of this district include structures and uses of CCSF and other governmental agencies and, under certain conditions, accessory nonpublic uses. The project would not conflict with the P Public Use requirements.

C.3 Height and Bulk District

The proposed project is within the Open Space height and bulk district. Planning Code Section 290 states that within the Open Space district, “the height and bulk of buildings and structures shall be determined in accordance with the objectives, principles and policies of the [General Plan], and no building or structure or addition thereto shall be permitted unless in conformity with the [General Plan].” Exemptions from height and bulk limitations are set forth in Planning Code Section 260(b). Section 260(b)(2)(M) provides an exemption for structures and equipment necessary for the operation of public utilities and government installations, where in conformance with the General Plan and otherwise permitted by the Planning Code. General Plan policies related to the height and bulk of objects in Open Space Districts include policies intended to preserve and improve the visual character of open spaces (e.g., ensuring consistency with the prevailing scale of development in the area). As described below under Section C.6, Plans and Policies, the proposed project would not obviously or substantially conflict with any General Plan goals, policies, or objectives and therefore is assumed to be in conformance with the Open Space height and bulk district guidelines. However, the San Francisco Planning Commission will ultimately determine whether the project, on balance, is consistent with most of the applicable objectives and policies of the General Plan and requirements for Open Space Districts.

C.4 Parking

The Planning Code does not specify parking requirements for the P Public Use District. As a result, the Zoning Administrator would determine the parking requirements applicable to the project. In general, it would be expected that sites that would simply contain infrastructure such as pumps or storage tanks would not require parking. Sites that would be occupied could be required to provide parking. As such, parking is only anticipated to be required at the proposed treatment plant at the Oceanside WPCP.

C.5 Loading

Similarly, the Planning Code does not specify loading requirements for the P Public Use District and loading requirements would be determined by the Zoning Administrator.

C.6 Plans and Policies

C.6.1 San Francisco Plans and Policies

San Francisco General Plan

The *San Francisco General Plan* (General Plan) provides general policies and objectives to guide land use decisions. The General Plan contains 10 elements—Commerce and Industry, Recreation and Open Space, Housing, Community Facilities, Urban Design, Environmental Protection, Transportation, Air Quality, Community Safety, and Arts—that set forth goals, policies, and objectives for the physical development of San Francisco. The proposed project would not obviously or substantially conflict with any General Plan goals, policies, or objectives. The compatibility of the proposed project with the General Plan goals, policies, and objectives that do not relate to physical and environmental issues will be considered by decision-makers as part of their assessment of whether to approve or disapprove the proposed project. Any potential conflicts identified as part of the process would not alter the physical environmental effects of the project.

In addition to the General Plan, a portion of the project area is within the Western Shoreline Area Plan, as described below.

Western Shoreline Area Plan

The Western Shoreline Area Plan, an area plan within the General Plan, is the CCSF plan for the Local Coastal Zone established by the California Coastal Act of 1976. The Western Shoreline Area Plan includes objectives and policies pertaining to open space in the area covered by the plan. The plan area extends approximately 6 miles from Fort Funston to the Point Lobos recreational area and includes the Lake Merced and Zoo areas. Policies related to the Lake Merced area include preserving recreational facilities, passive activities, playgrounds, and vistas of the Lake Merced area; maintaining a recreational pathway around the lake for multiple use; and only allowing activities that would not adversely affect the lake's water quality as a standby reservoir for emergency use. Zoo plan area policies relate to improvement of the quality of the zoo and its relationship to the coastal zone recreational system.

The Accountable Planning Initiative

In November 1986, the voters of San Francisco approved Proposition M, the Accountable Planning Initiative, which added Section 101.1 to the Planning Code to establish the following eight priority policies:

1. Preservation and enhancement of neighborhood-serving retail uses
2. Protection of neighborhood character (see Section E.1, Land Use and Land Use Planning, Question 1c)
3. Preservation and enhancement of affordable housing (see Section E.3, Population and Housing, Question 3b, with regard to housing supply and displacement issues)
4. Discouragement of commuter automobiles (see Section E.5, Transportation and Circulation, Questions 5a, 5b, and 5f)
5. Protection of industrial and service land uses from commercial office development and enhancement of resident employment and business ownership (see Section E.1, Land Use and Land Use Planning, Question 1c)
6. Maximization of earthquake preparedness (see Section E.14, Geology and Soils, Questions 14a through 14d)
7. Landmark and historic building preservation (see Section E.4, Cultural and Paleontological Resources, Question 4a)
8. Protection of open space (see Section E.9, Wind and Shadow, Questions 9a and 9b, and Question 10, Recreation, Questions 10a and 10c)

Prior to issuing a permit for any project that requires an Initial Study under CEQA, or issuing a permit for any demolition, conversion, or change of use, and prior to taking any action that requires a finding of consistency with the General Plan, the CCSF is required to find that the proposed project would be consistent with these priority policies. Consistency with policies applicable to the proposed project is discussed in Section E (specific subsections are noted in parentheses in the priority policies listed above).

San Francisco Bicycle Plan

In August 2009, the Board of Supervisors approved the San Francisco Bicycle Plan (Bicycle Plan), which includes a citywide bicycle transportation plan (comprised of a Policy Framework and a Network Improvement document) and implementation of specific bicycle improvements identified within the plan. The Bicycle Plan includes objectives and identifies policy changes that would enhance bicycle access and safety in San Francisco's "bike-ability." It also describes the existing bicycle route network (a series of interconnected streets in which bicycling is encouraged) and identifies gaps within the citywide bicycle route network that require improvement. The Bicycle Plan updates the 1997 Bicycle Plan. The final EIR analyzing the Bicycle Plan assessed a total of 56 short-term and long-term bicycle improvement projects. The adopted Bicycle Plan would implement minor improvements on the Great Highway, John F. Kennedy Drive, Martin Luther King Jr. Drive, and 47th Avenue. Project components would not be located in the vicinity of the Bicycle Plan improvements along Great Highway or 47th Avenue. However, proposed pipeline routes would be located along a short portion of John F. Kennedy Drive (just east of Transverse

Drive in Golden Gate Park) and would cross Martin Luther King Jr. Drive just north of the terminus of 34th Avenue.

C.7 SFPUC Plans and Policies

C.7.1 SFPUC Strategic Sustainability Plan

The SFPUC's 2011 Strategic Sustainability Plan provides a framework for planning, managing, and evaluating SFPUC-wide performance that takes into account the long-term economic, environmental, and social impacts of the SFPUC's business activities. This plan consists of a "Durable Section," which contains goals, objectives, and performance indicators to implement SFPUC's vision and values. The goals and objectives are then used to drive the "Dynamic Section" of the Sustainability Plan, which contains specific actions, targets, measures, and budgeting. The SFPUC utilizes this document to evaluate its performance semiannually, to provide an annual score card, and to help the SFPUC measure progress on an annual basis.¹⁸ The plan contains actions related to building WSIP projects on schedule, within scope and budget, and securing City agency approvals for WSIP projects.

The proposed project is a WSIP facility improvement project that would meet the SFPUC's objective in improving capital facilities.

C.8 San Francisco Recreation and Park Department Plans and Policies

C.8.1 Golden Gate Park Master Plan

The *Golden Gate Park Master Plan* (Master Plan), adopted by the Recreation and Park Commission in October 1998, is intended to provide a framework and guidelines to ensure responsible stewardship of Golden Gate Park. The Master Plan is a comprehensive planning document that includes general objectives and policies for the park, management strategies, and specific objectives and policies relating to park landscape, circulation, recreation facilities, visitor facilities, buildings and monuments, utilities and infrastructure, park maintenance and operations, and special area plans. The overarching goal of the Master Plan is to manage current and future park and recreation demands while preserving the historic significance of the park.¹⁹ Related to the Master Plan for Golden Gate Park is San Francisco Charter Section 4.113, which requires the Board of Supervisors by a 2/3 vote to approve buildings or structures in Golden Gate Park other than structures for nurseries, equipment storage, and comfort stations.

C.8.2 Park Code Section 3.19 Water Use Efficiency and Recycled Water

Park Code Section 3.19, adopted by the Recreation and Park Commission in April 2009, lays out a framework for maximizing water use efficiency and non-potable water use on all property under the jurisdiction of the Recreation and Park Commission. Park Code Section 3.19 calls for coordination between the SFRPD and the SFPUC to convert all park facility irrigation systems to water efficient systems and non-potable water use. The code also calls for the SFRPD to ensure that all renovated or rehabilitated irrigation

¹⁸ San Francisco Public Utilities Commission (SFPUC), *Strategic Sustainability Plan*, March 2011.

¹⁹ San Francisco Recreation and Park Department, *Golden Gate Park Master Plan*. Prepared by Royston Hanamoto Alley & Abey, October 1998.

systems within Recycled Water Use Areas²⁰ are compatible with the delivery of recycled water and that each golf course within jurisdiction of the Recreation and Park Commission utilizes recycled water. To aid in meeting these goals, the code calls for development of a Park Water Conservation Plan to identify top water consuming parks in the City and develop recommendations for increasing water use efficiency; and an Irrigation System Retrofits report to address needed retrofits to irrigation systems within City parks.

C.8.3 Other Plans

In 1995, the Recreation and Park Commission adopted a staff report on the Significant Natural Resource Areas Management Plan (SNRAMP). The staff report set forth general objectives, policies, and management actions to guide development of the SNRAMP. General policies and management actions in the staff report are relevant to biological resources in parts of Golden Gate Park and at Lake Merced, including general policies to maintain/promote indigenous plant species and control/remove invasive species, monitor wildlife populations, etc. The SFRPD is currently updating the SNRAMP.

C.9 Regional Plans and Policies

The recently adopted Plan Bay Area, which includes the region's Sustainable Communities Strategy, is a collaboration of the following four principal regional planning agencies and their policy documents that guide planning in the nine-county Bay Area:

- Association of Bay Area Governments: "Projections"
- Bay Area Air Quality Management District: *2010 Clean Air Plan* (2010 CAP)
- Metropolitan Transportation Commission: *Regional Transportation Plan – Transportation 2040*
- San Francisco Bay Conservation and Development Commission: *San Francisco Bay Plan*

In addition, the San Francisco Regional Water Quality Control Board's *San Francisco Basin Plan* guides planning of the water basin, and the California Coastal Act guides land use planning and development throughout the Coastal Zone.

The *Presidio Trust Management Plan* calls for implementation of water conservation measures including retrofitting landscaped areas with low-flow irrigation devices and pursuing the use of recycled water for irrigation and other non-potable water needs.²¹ Strategic Goal 3.6 of the *Presidio Trust 2005 – 2009 Strategic Plan* also calls for increasing the use of recycled water for landscape irrigation.²²

The project would not obviously or substantially conflict with any adopted environmental plan or policy adopted for the purpose of avoiding an environmental effect.

²⁰ Designated Recycled Water Use areas are defined per San Francisco Reclaimed Water Ordinances and San Francisco Public Works Code, as described and mapped at: <http://www.sfwater.org/index.aspx?page=687>.

²¹ The Presidio Trust, *Presidio Trust Management Plan: Land Use Policies for Area B of the Presidio of San Francisco*, May 2002. Available online at <http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP02-Plan.pdf>, accessed January 24, 2014.

²² The Presidio Trust, *The Presidio Trust Strategic Plan: Fiscal Year 2005 – 2009*. Available online at <http://www.presidio.gov/about/Administrative%20Documents/PLN-301-PTMP07-StratPlan.pdf>, accessed January 24, 2014.

C.10 Approvals and Permits

See Section A.7, Approvals Required, above for a discussion of applicable approvals and permits.

D. SUMMARY OF ENVIRONMENTAL EFFECTS

The proposed project could potentially affect the environmental factor(s) checked below. The following pages present a more detailed checklist and discussion of each environmental factor.

<input type="checkbox"/>	Land Use	<input checked="" type="checkbox"/>	Air Quality	<input checked="" type="checkbox"/>	Biological Resources
<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Geology and Soils
<input checked="" type="checkbox"/>	Population and Housing	<input type="checkbox"/>	Wind and Shadow	<input checked="" type="checkbox"/>	Hydrology and Water Quality
<input checked="" type="checkbox"/>	Cultural and Paleo. Resources	<input type="checkbox"/>	Recreation	<input checked="" type="checkbox"/>	Hazards/Hazardous Materials
<input checked="" type="checkbox"/>	Transportation and Circulation	<input type="checkbox"/>	Utilities and Service Systems	<input type="checkbox"/>	Mineral/Energy Resources
<input checked="" type="checkbox"/>	Noise	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Agricultural and Forest Resources
				<input checked="" type="checkbox"/>	Mandatory Findings of Significance

E. EVALUATION OF ENVIRONMENTAL EFFECTS

All items on the Initial Study Checklist that have been checked “Less than Significant Impact,” “No Impact,” or “Not Applicable” indicate that, upon evaluation, staff has determined that the proposed project could not have a significant adverse environmental effect relating to that topic. A discussion is included for those issues checked “Less than Significant Impact” and for most items checked with “No Impact” or “Not Applicable.” For all of the items checked “Not Applicable” or “No Impact” without discussion, the conclusions regarding potential significant adverse environmental effects are based upon field observation, staff and consultant experience and expertise on similar projects, and/or standard reference material available within the San Francisco Planning Department, such as the Planning Department’s *Transportation Impact Analysis Guidelines for Environmental Review*, or the California Natural Diversity Data Base and maps, published by the California Department of Fish and Wildlife. For each checklist item, the evaluation has considered the impacts of the proposed project, both individually and cumulatively.

Approach to Cumulative Impact Analysis

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines Section 15130(b)(1): (a) the analysis can be based on a list of past, present, and reasonably foreseeable future projects producing closely related impacts that could combine with those of a proposed project, or (b) a summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine an appropriate list of individual projects to be considered in this cumulative analysis:

- **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is “reasonably foreseeable,” such as a proposed project for which an application has been filed with the approving agency or has approved funding.

- **Geographic Scope and Location.** A relevant project is located within the geographic area within which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects to air quality consists of the affected air basin.
- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or demolition or long-term operations) would likely coincide in timing with the related effects of the proposed project.

Based on the above, the following plans and projects in the project site vicinity are examples of the types of projects considered in the cumulative impact analysis:

- **San Francisco Groundwater Supply Project.** The SFPUC is proposing a project that would provide an average of up to 4 mgd of groundwater to augment San Francisco's municipal water supply. The proposed groundwater well facilities would supply groundwater to existing reservoirs, where it would be blended with San Francisco's existing municipal water supply before distribution within San Francisco. The San Francisco Groundwater Supply Project well facilities would be located on the west side of San Francisco on land owned by CCSF. The project is under Planning Department Case No. 2008.1122E.
- **Vista Grande Drainage Basin Improvement Project.** The City of Daly City is proposing a project that would improve existing facilities and construct new facilities to screen stormwater, route flows to the existing Vista Grande Canal and to Lake Merced, route a portion of low flows through a constructed wetlands treatment system, control the water surface elevation in Lake Merced, and reduce the potential for localized flooding within the Vista Grande watershed. The Vista Grande stormwater system drains the northwestern portion of Daly City and an unincorporated portion of San Mateo County. The project consists of the following: partial replacement of the existing Vista Grande Canal to incorporate a gross solid screening device, a treatment wetland, and diversion and discharge structures to route some stormwater flows from the Vista Grande Canal to South Lake Merced; replacement of the existing Vista Grande Tunnel to expand its capacity; and replacement of the existing outfall structure at Fort Funston. These improvements would alleviate flooding and protect the ocean outfall from ongoing coastal erosion while reconnecting a significant portion of the Lake Merced Watershed.
- **Regional Groundwater Storage and Recovery Project.** The purpose of the WSIP Regional Groundwater Storage and Recovery Project is to further the use of the South Westside Groundwater Basin as an underground storage reservoir by storing water in the basin during wet periods for subsequent recapture during dry periods. This new dry-year water supply would be made available to the cities of Daly City and San Bruno, the California Water Service Company in its South San Francisco service area, and SFPUC wholesale water customers. The proposed project facilities would include up to 16 new groundwater production well facilities within the South Westside Groundwater Basin. Each groundwater well facility site would contain a groundwater production well, pump station, underground distribution piping, utility connections, and disinfection unit. Well facilities would be connected to Daly City, San Bruno, California Water Service Company, or SFPUC distribution systems. In addition, upgrades to the existing Westlake pump station in Daly City are planned as part of the project. Construction is scheduled for June 2014 through May 2016.
- **ParkMerced Project.** The proposed Parkmerced Project is a long-term mixed-use development program to comprehensively re-plan and redesign the site. The ParkMerced Project would: increase residential density, new commercial and retail services, modify transit facilities,

renewable energy, and improve utilities and open space. Over a period of approximately 20 years, 1,538 existing apartments would be demolished in phases and fully replaced, and an additional 5,679 net new units would be added to the Project Site, resulting in a total of about 8,900 units on the Project Site.^{23,24}

- **800 Brotherhood Way.** Construction of up to 182 dwelling units on an approximately 7.7 acre undeveloped site located on the north side of Brotherhood Way. The project would involve subdividing the site into about 121 lots and constructing 60 single-family homes and 61 2-unit dwellings, and includes additional on- and off-street parking, tree removal, and a new traffic light on Brotherhood Way. Construction is underway and is scheduled to conclude in early 2015.
- **Pacific Rod and Gun Club Upland Soil Remediation Action Project.** The SFPUC proposes to implement the Pacific Rod and Gun Club Upland Soil Remedial Action Project, which would remediate upland²⁵ soil contamination at the Pacific Rod and Gun Club, located at 520 John Muir Drive, on the southwest side of Lake Merced. Construction is scheduled for early 2015 and expected to require approximately one year.
- **Significant Natural Resources Area Management Plan Proposed Update.** Fragments of unique plant and animal habitats within San Francisco and Pacifica, known as Significant Natural Resource Areas, have been preserved within parks that are managed by the SFRPD. Management priorities have been set for these areas based on levels of sensitivity, species presence, and habitat complexity. The Lake Merced Natural Area covers approximately 395 of the lake's 614 acres and generally encompasses the lake, the bordering freshwater marsh wetland, and the upland vegetation. Implementation activities have not been scheduled yet, but could begin in 2014 or later.
- **Golden Gate Park, Lincoln Park, and Presidio Irrigation Retrofits and Additions.** Potential future actions could be required by recycled water customers to retrofit their irrigation facilities, which could include bringing systems into compliance with California Department of Public Health Services requirements and adding distribution systems for use of recycled water (e.g., the Presidio would install distribution systems to serve irrigated areas).
- **Beach Chalet Athletic Fields Renovation.** The project includes replacement of turf grassfields with synthetic turf, installation of field lighting, renovation of the existing restroom building, installation of player benches and seating, and other site modifications intended to improve the overall conditions of the facility and increase the amount of play time available on the athletic fields.

²³ San Francisco Planning Department, *Parkmerced Project*. Available online at <http://sf-planning.org/index.aspx?page=2529>. Accessed January 23, 2014.

²⁴ San Francisco Planning Department, *Final Environmental Impact Report, Parkmerced Project*, File No. 2008.0021E, State Clearinghouse No. 200905073. Available online at http://www.sf-planning.org/index.aspx?page=1828#2008_0021E. Accessed November 6, 2013.

²⁵ Upland refers to the elevated areas lying above the level where water flows or where flooding occurs.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
1. LAND USE AND LAND USE PLANNING –					
Would the project:					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial impact upon the existing character of the vicinity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact LU-1: The proposed project would not physically divide an established community. (Less than Significant)

The proposed project would construct a recycled water treatment plant, booster pump stations, distribution pipelines and storage, and associated infrastructure. After construction, sections of the pipeline installed during the project would be underground and would not divide an established community. The new aboveground facilities would be constructed adjacent to existing facilities with similar uses. Because the facilities would be relatively small in size, would be constructed in areas that are not commonly used by the public, and would not block access between adjacent land uses, operation of these facilities would not divide an established community. During construction, access to neighborhoods, commercial areas, industrial uses, schools, and parks could be temporarily modified by pipeline construction and lane closures. However, all such construction activities would be temporary. As a result, the impact would be *less than significant*.

Mitigation: None required.

Impact LU-2: The proposed project would not conflict with any applicable land use plans, policies, or regulations of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

Land use impacts are considered to be significant if the proposed project would conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As described above in Section C, Compatibility with Existing Zoning and Plans, the proposed project would not obviously or substantially conflict with applicable plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, the proposed project would have a *less-than-significant* impact with regard to conflicts with applicable plans, policies and regulations adopted for the purpose of avoiding or mitigating environmental effects.

Mitigation: None required.

Impact LU-3: The proposed project would not have a substantial impact upon the existing character of the vicinity. (Less than Significant)

Impacts on existing land use character in the project vicinity could result if the proposed project were to result in a long-term change in land use that would be incompatible or conflict with established land uses. The proposed project would be constructed within lands zoned for public uses owned by CCSF and within City streets.²⁶ As described above, the project would construct a recycled water treatment plant, booster pump stations, distribution pipelines and storage, and associated infrastructure. The approximately 30,000 square foot recycled water treatment plant, reconfigured chemical storage building, secondary effluent pumps, underground reservoir, and transmission pump station and wet well would be constructed within the existing Oceanside WPCP and on adjacent land leased by CCSF to the California Army National Guard (see Figure 2). The portion of the California Army National Guard site included in the proposed project is currently used as a landscaped berm and parking lot. Because the area is already in public use, the majority of which houses buildings and structures used for wastewater treatment purposes, the proposed project would not constitute a change in land use patterns and the recycled water treatment plant would be compatible with the existing character of the site.

At Lincoln Park, the project would connect to the existing pump station; no changes in land use would occur. At Golden Gate Park, the project would upgrade the following existing facilities: irrigation booster pumps in the Panhandle, and pump station and Central Reservoir at the Golden Gate Park Central Reservoir site. At the Central Reservoir, the project would also construct a new buried storage reservoir adjacent to the existing Central Reservoir and construct a new pump station that would be approximately 50 feet by 100 feet and 20 feet tall, adjacent to the existing 40 feet by 60 feet facility that is 19 feet tall. The new and upgraded facilities all would be located within the existing approximately 3.3 acre maintenance and wood waste storage area. Although the new and upgraded facilities would be within Golden Gate Park, they would be located adjacent to existing similar infrastructure and park maintenance facilities, and thus would not alter the existing land uses or character of these areas. After construction, the proposed reservoir underneath the recycled water treatment plant, the storage reservoir adjacent to the existing Central Reservoir in Golden Gate Park, and the pipeline installed during the project would be underground and would not be visible. Therefore, the proposed project's impact on the existing character of the project's vicinity would be *less than significant*.

Mitigation: None required.

Impact C-LU: The proposed project would not have a significant cumulative impact on land use. (Less than Significant)

The geographic scope for potential cumulative land use impacts encompasses land uses in the vicinity of project facilities. The area generally includes the western portions of San Francisco, including public street areas in the Sunset and Richmond Districts, the Oceanside WPCP, and portions of Golden Gate Park and

²⁶ San Francisco Planning Department, Zoning Map. Available online at <http://www.sf-planning.org/index.aspx?page=1569>. Accessed October 11, 2013.

Lincoln Park Golf Course. Long-term or permanent cumulative impacts on the existing character of the project vicinity could occur if the proposed project and cumulative projects in the western portion of San Francisco were to involve the construction of permanent aboveground facilities or alter the landscape in the same area. There are no known cumulative projects that would include substantial changes to the land use character of areas immediately adjacent to proposed project facilities. Further, as described above, the proposed project would not result in long-term adverse effects on the existing character of the project vicinity because all of the proposed project elements would be constructed underground or adjacent to existing infrastructure facilities, or would entail improvements to existing facilities and therefore would not substantially alter the existing uses or character of these areas. Thus, no significant cumulative land use impacts related to the existing character of the project vicinity would occur (*less than significant*).

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
2. AESTHETICS—Would the project:					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and other features of the built or natural environment which contribute to a scenic public setting?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area or which would substantially impact other people or properties?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact AE-1: The proposed project would not have a substantial adverse effect on a scenic vista, substantially damage scenic resources, or degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

The proposed project is located in the vicinity of scenic resources and areas of high or moderate scenic quality, including the Great Highway, Golden Gate National Recreation Area, Golden Gate Park, and Lincoln Park. The project would include a recycled water treatment plant, booster pump stations, distribution pipelines and storage, and associated infrastructure. Construction activities associated with proposed pipelines would only be visible briefly as potential viewers pass the work area. After construction, pipelines would be below ground and the sites would be returned to their general pre-construction conditions.

The project includes both upgrade and modification of some existing infrastructure, as well as construction of new facilities. For upgrades to existing structures, there is no substantial change in visual character; the facility type and structure size would remain consistent with the existing structure. For new above-ground

structures, visibility is generally limited. More specifically, the recycled water treatment plant project area would be within the existing Oceanside WPCP and a portion of the adjacent area leased to the California Army National Guard and would not be visible from public areas. At Lincoln Park, the project connects to the existing pump station and no change to above ground structures would occur as a result of the proposed project.

At Golden Gate Park, the project would upgrade the following existing facilities: irrigation booster pumps in the Panhandle, and the pump station and Central Reservoir at the Golden Gate Park Central Reservoir site, which is within a fenced park maintenance area of limited visibility to park users. The upgrades would be below ground or within an existing structure, or in the case of the booster pumps, would include changes to mechanical elements and no change to the appearance of these facilities would occur. The project would construct a new underground storage reservoir adjacent to the existing Central Reservoir which would not be visible following completion of construction. The proposed project would construct a new pump station building within the fenced Central Reservoir and park maintenance area. The new pump station would be 20 feet tall, about a foot taller than the adjacent existing pump station, but not as tall as an existing cement wall attached to the existing pump station. Although there is some limited visibility of the existing Central Reservoir facilities from certain vantage points (i.e. South Drive), the Central Reservoir site is not located in an area that is highly used by park visitors (visitors in this area would likely be walking or bicycling along Overlook Drive). The type of building materials that would be used for the new pump station would be consistent with the existing facilities. As such, the new facilities would not substantially alter visual quality of this area, which serves as an existing maintenance area; the proposed project would have a *less-than-significant* impact on scenic vistas, scenic resources, and the scenic quality and character of the area. Vegetation removal may be required immediately adjacent to the existing entrance to the facility area and on the north side of Overlook Drive; however, the adjacent areas are heavily vegetated and removal of vegetation would not substantially alter views of the area. As discussed in Section A.6.2, Construction, following construction, disturbed areas would be repaved or otherwise returned to their general pre-project condition, including re-grading of the site and revegetation of disturbed areas.

Mitigation: None required.

Impact AE-2: The proposed project would not result in a substantial source of light and glare. (Less than Significant)

As described above, the recycled water treatment plant would be mostly within the existing Oceanside WPCP, and not visible from public areas. The facility would not include rooftop or other lighting that could project beyond the existing interior areas of the WPCP. Lighting associated with the Central Reservoir, if required, would be within a fenced area that is not in the vicinity of light-sensitive receptors such as residential areas. New operational lighting would be consistent with existing security lighting over doorways, which are operated on timers. As discussed in Section A.6.2, Construction, nighttime pipeline construction may be required for limited durations at certain locations. However, as discussed in that section, nighttime lighting would be used and directed downward to ensure safe illuminated areas for construction workers and to minimize glare effects. For these reasons, the proposed project would have a *less-than-significant* light and glare impact.

Mitigation: None required.

Impact C-AE: The proposed project would not have a significant cumulative impact on aesthetics. (Less than Significant)

The geographic scope for potential cumulative aesthetics impacts includes areas adjacent to proposed project locations. The geographic scope for potential long-term aesthetic impacts includes the Central Golden Gate Park area. Cumulative impacts on aesthetic resources in the project vicinity could occur if the proposed project in combination with other projects in these areas could result in a substantial adverse effect on a scenic vista, substantially damage a scenic resource, substantially degrade the existing visual character of the site and its surroundings, or result in a source of substantial light or glare. However, there are no known cumulative projects that would include substantial changes to the aesthetic resources of areas immediately adjacent to proposed project facilities. Further, as described above, the proposed project would not result in adverse effects on the existing aesthetic resources because construction activities associated with proposed pipelines would only be visible briefly, all of the proposed project elements would be constructed underground or in areas not visible from public areas and adjacent to existing infrastructure facilities, or would entail improvements to existing facilities and therefore would not substantially alter aesthetic resources of these areas. Thus, the proposed project would not result in a significant cumulative impact on aesthetic resources.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
3. POPULATION AND HOUSING— Would the project:					
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing units or create demand for additional housing, necessitating the construction of replacement housing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact PH-1: The proposed project would not induce substantial population growth, either directly or indirectly. (Less than Significant)

In general, a project would be considered growth-inducing if its implementation would result in substantial population increases and/or new development that might not occur if the project were not implemented. The project would not directly involve the development of new housing to attract

additional population, nor would it indirectly induce growth by establishing substantial permanent employment opportunities that could stimulate population growth. There could be a temporary demand for housing during construction to provide housing for workers; however the project is not expected to involve employment opportunities substantially beyond what would normally be available to construction workers in the area, and workers are expected to be drawn from the local labor pool. It is expected that the construction workforce requirements could be met using San Francisco Bay Area labor and that construction employees would commute from elsewhere in San Francisco or the Bay Area, rather than relocate from more distant cities and towns. Although some workers might temporarily relocate from other areas, any population increase due to this relocation would be minor (fewer than 45 workers) and temporary. The recycled water treatment plant would provide new employment opportunities, but these jobs are not expected to induce population growth because the existing available SFPUC labor pool is sufficient to meet the project needs. The number of such employees would be minute compared to the total population and the available housing stock in San Francisco and the Bay Area; thus, it would not generate a substantial, unplanned population increase. As a result, project-related direct effects with respect to population and housing would be *less than significant*.

The project would contribute to the WSIP goals through the development of recycled water as an alternative water supply for nonpotable uses, thereby benefiting the regional system by reducing demands for potable water, or making more potable water available for new customers. The project, as a facility improvement project in the WSIP, would be a contributing factor in the growth-inducement potential of the overall WSIP. Growth inducement of the proposed project within the context of the WSIP and the regional water system will be discussed in the EIR discussion of Growth-Inducing Impacts, including a discussion of indirect effects of the project on population and housing growth, due to growth inducement potential, and secondary effects of growth.

Mitigation: None required.

Impact PH-2: The proposed project would not displace existing housing units or substantial numbers of people, nor would it create substantial demand for additional housing that would necessitate the construction of replacement housing. (No Impact)

As noted above, the project does not include development or removal of any residential or commercial uses, nor is any planned. Hence, no residents would be displaced as a result of the project; therefore, there would be *no impact*.

Mitigation: None required.

Impact C-PH: The proposed project would not have a project-specific impact on population and housing and, therefore, would not directly result in a significant cumulative impact on population and housing, but could result in an indirect impact related to growth inducement. (Potentially Significant)

The geographic scope for potential cumulative population and housing impacts includes the SFPUC water supply service area. However, as discussed in the Project Description, the proposed project's direct

contribution to population and housing growth is less than significant and not expected to involve employment opportunities substantially beyond what would normally be available to construction workers in the area, and workers are expected to be drawn from the local labor pool. Therefore, the project would not directly contribute to any significant cumulative effect on population and housing (*less than significant*).

As noted above, as a facility improvement project in the WSIP, the project would be a contributing factor in the growth-inducement potential of the overall WSIP. Growth inducement of the proposed project within the context of the WSIP and the regional water system will be discussed in the EIR discussion of Growth-Inducing Impacts, including a discussion of potentially significant indirect effects of the project on population and housing growth, due to growth inducement potential, and secondary effects of growth.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
4. CULTURAL AND PALEONTOLOGICAL RESOURCES – Would the project:					
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5, including those resources listed in Article 10 or Article 11 of the San Francisco <i>Planning Code</i> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Construction activities that would be required to implement the project, such as excavation activities, have the potential to impact cultural resource that may be located within or adjacent to the project area. Therefore, the project effects on historical resources, archeological resources, paleontological resources, and human remains will be analyzed in the EIR.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
5. TRANSPORTATION AND CIRCULATION – Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site is not near an airfield; San Francisco International Airport is approximately eight miles to the southeast, and Metropolitan Oakland International Airport is approximately 14 miles to the east. These distances are outside of the limits of established height restrictions for development in the vicinity of airports, described in Federal Aviation Administration (FAA) regulations.²⁷ Therefore, the Topic 5.(c) is *not applicable*.

The proposed project could result in temporary construction-related transportation- and circulation-related impacts. Construction activity effects on transportation and circulation, including intersection operations, transit demand, and impacts on pedestrian and bicycle circulation, will be analyzed in the EIR (Topic 5.(a) and (d) through (f)).

²⁷ Federal Aviation Administration (FAA). Federal Regulations Part 77 (14 CFR 77). <http://www.ecfr.gov/cgi-bin/text-id?c=ecfr&rgn=div5&view=text&node=14:2.0.1.2.9&idno=14>. Accessed April 28, 2014.

Impact TR-1: The project would not result in a conflict with an applicable congestion management program (Less than Significant).

The project site is located in the City and County of San Francisco, which has established level-of-service (LOS) standards and a congestion management plan (CMP) that are intended to monitor and address long-term traffic impacts due to future development, but do not apply to temporary impacts associated with construction projects. Operation of the recycled water treatment plant would require approximately four full-time employees, while the operation and maintenance of other project facilities would utilize existing SFPUC employees. An increase of four full-time employees would not be substantial as long-term traffic generated by the increase in employees would be minute compared to the total current volumes. Furthermore, the increased traffic trips would not impact the LOS standards and CMP roadways or local roadways during operation. Therefore, with respect to project operations, Topic 5(b) is *less than significant*.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
6. NOISE – Would the project:					
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Be substantially affected by existing noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project site is not within an airport land use plan area, nor is it in the vicinity of a private airstrip. The project would not be affected by existing noise levels because proposed recycled water facilities are not a noise-sensitive use. Therefore, Topics 6.(e), 6.(f), and 6.(g) are *not applicable*.

Sensitive Receptors. People in residences, schools, libraries, churches, hospitals, nursing homes, and auditoriums are generally more sensitive to noise than those at commercial and industrial establishments. Consequently, the noise standards for such sensitive land uses are more stringent than those for less sensitive uses. Sensitive receptors in the vicinity of project components include residences, schools, hospitals, and religious facilities. In general, residences and schools are among the land uses considered to be the most sensitive to noise. Active parks, recreation centers, and playgrounds are not as sensitive to noise as residences, schools, hospitals, or convalescent care facilities, because the levels of background noise at parks and recreation centers with active recreational uses and school playgrounds are elevated. However, users of natural recreation areas may value an increased degree of quiet for passive recreational uses.²⁸ The closest sensitive receptors are residential uses located as close as approximately 1,900 feet from the proposed recycled water treatment plant at the existing SFPUC Oceanside WPCP (3500 Great Highway), 1,000 feet from proposed facilities at the Central Reservoir site in Golden Gate Park, and 20 to 25 feet from the proposed distribution pipeline alignments that extend through the Sunset and Richmond Districts.

During construction, the project would potentially result in a substantial temporary increase in ambient noise levels in the project vicinity above levels existing without the project, and could expose persons to substantial noise levels in excess of standards established in the Noise Ordinance (Article 29 of the Police Code). Therefore, the EIR will evaluate the proposed project's construction related impacts.

Impact NO-1: The project would not result in substantial groundborne vibration or groundborne noise levels. (Less than Significant)

Groundborne noise is that which is experienced inside a building or structure from vibrations produced outside of the building and transmitted as ground vibration between the source and receiver. Groundborne noise can be a problem in situations where the primary airborne noise path is blocked, such as in the case of a subway tunnel passing near homes or other noise-sensitive structures. The project's noise and vibration-generating construction activities would involve shallow excavation of pipeline trenches for distribution pipelines, and no tunneling or underground construction activities would be associated with this project component. Deeper excavation activities would occur during construction of proposed underground storage facilities at the Oceanside WPCP and proposed storage tank/reservoir at the Central Reservoir site, but the closest off-site structures are located approximately 700 feet away at the Oceanside WPCP and 1,000 feet away from the Central Reservoir site (excluding existing structures at the Oceanside WPCP and Central Reservoir site, which SFPUC would presumably ensure are not damaged by project construction activities). At this distance, adjacent or nearby uses would not be affected by groundborne noise. Therefore, construction-generated groundborne noise associated with the proposed project would be *less than significant*.

This analysis applies a significance threshold of cosmetic damage to buildings of 0.5 inch per second (in/sec) peak particle velocity (PPV). Typical vibration levels from various types of construction equipment at 20 feet are listed in **Table 2**; some of these are similar to the equipment proposed to be used for this project.

²⁸ Construction noise effects on wildlife is discussed under Biological Resources.

**TABLE 2
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT**

Equipment	Peak Particle Velocity (in/sec)
	At 20 Feet ^a
Large vibratory compactor (Truck-mounted)	0.293
Large bulldozer/earthmoving equipment	0.124
Loaded trucks	0.106

^a Vibration amplitudes for construction equipment assume normal propagation conditions.
SOURCE: FTA, 2006.²⁹

As indicated in Table 2, project-related construction activities would generate vibration levels well below the 0.5-in/sec PPV vibration threshold for adjacent buildings. This would be true even if two pieces of equipment (e.g., two excavators or two trucks) were both operating 20 feet from a structure. Therefore, vibration effects on adjacent or nearby offsite buildings or structures would be *less than significant*.

Mitigation: None required.

Impact NO-2: Project operations would not result in the exposure of persons to, or generation of, noise levels in excess of standards or a substantial increase in ambient noise levels in the project vicinity. (Less than Significant)

Project components would include treatment, storage, and distribution facilities. The primary sources of noise associated with project facilities would be pumps at the proposed recycled water treatment plant adjacent to the Oceanside WPCP as well as at the Central Reservoir pump station in Golden Gate Park. An emergency back-up generator would also be a potential occasional source of noise at the Central Reservoir pump station. There would be no noise sources associated with proposed distribution pipelines, and no noise increases would occur as a result of their operation or maintenance.

Pump Operation. Pumps are the primary source of noise typically associated with the operation of water facilities. The degree of impact would differ for each part of the project, and would depend on pump sizes, proximity to sensitive receptors, and the extent of noise attenuation incorporated into the facility design. The San Francisco Noise Ordinance (Police Code Section 2909[d]) states the following:

(d) Fixed Residential Interior Noise Limits. In order to prevent sleep disturbance, protect public health and prevent the acoustical environment from progressive deterioration due to the increasing use and influence of mechanical equipment, no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA³⁰ between the hours of 10:00 p.m.

²⁹ U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006. Available online at http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.

³⁰ Because the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting," expressed as "dBA." The A-weighted decibel, dBA, refers to a scale of noise measurement that approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about 0 dBA to about 140 dBA.

to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

On average, open windows typically reduce exterior noise levels by approximately 15 dBA, while closed windows reduce noise levels by approximately 25 dBA.³¹ Therefore, the maximum exterior noise limit that would ensure interior noise levels do not exceed 45 dBA during the nighttime hours (10:00 p.m. to 7:00 a.m.) and 55 dBA during the daytime hours (7:00 a.m. to 10:00 p.m.) would be 60 dBA and 70 dBA, respectively. Since proposed pumps, which are considered to be fixed noise sources, could operate during the daytime or nighttime hours, this analysis applies both exterior noise limits of 60 dBA (L_{eq})³² and 70 dBA (L_{eq}).

The proposed recycled water treatment plant would operate a total of 13 pumps, including two very small pumps (5 horsepower (hp) or less), four small pumps (50 to 75 hp), and seven large pumps (200 to 250 hp) at any given time. All pumps would be located in a building enclosure. As shown in **Table 3** below, concurrent operation of 13 pumps at this facility are estimated to generate noise levels of up to 82 dBA (L_{eq}) at 50 feet or 88 dBA (L_{eq}) at 25 feet. However, since the proposed facility at the Oceanside WPCP is surrounded by an earthen berm and the pumps would be enclosed, estimated noise levels would be 18 to 33 dBA (L_{eq}) at the property boundary (outside the berm) and up to 19 dBA (L_{eq}) at the closest residential receptor, which is approximately 1,900 feet to the east (across Lake Merced on Lakeshore Boulevard). The estimated noise levels of up to 19 dBA (L_{eq}) would not exceed the ordinance 60-dBA nighttime and 70-dBA daytime exterior noise limits described above, and the estimated 18 to 33 dBA (L_{eq}) at the property boundary would remain below the minimum measured ambient nighttime noise level of 41 dBA (L_{eq})³³ along Zoo Road near the property boundary. Therefore, noise generated by project operation would not cause interior noise levels at the closest residences to exceed the 45-dBA and 55-dBA (L_{eq}) interior limits (windows open) nor would ambient noise levels in the project vicinity increase substantially, resulting in a *less than significant* impact.

The project would include operation of three large pumps (150 hp) within a building enclosure at the Central Reservoir site in Golden Gate Park (four 150 hp pumps are proposed within the enclosure with up to three pumps operating at any given time and one on standby). As shown in Table 3, operation would generate noise levels of 76 dBA (L_{eq}) at 50 feet. However, accounting for the enclosure of the pumps and the distance of approximately 100 feet to the nearest park users on Overlook Drive, the estimated noise levels would be 45 dBA (L_{eq}) at the closest potential receptor. Such noise levels would remain below measured ambient noise levels of 47 to 74 dBA, L_{eq} , during park operating hours of 7 a.m. and 10 p.m., and at or below the lowest measured ambient nighttime noise level of 45.3 dBA, L_{eq} .³⁴ Such levels are considered to be a less-than-significant impact since the noise level associated with the project would not perceptibly increase ambient levels. Moreover, the lowest existing ambient noise levels occur during the nighttime when people are not permitted to use the park. At the closest residential receptors located approximately

³¹ U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, Table B-4*, March 1974. Available online at http://www.ficam.org/pdf/EPA_Noise_Levels_Safety_1974.pdf.

³² L_{eq} : Variations in noise exposure over time are typically expressed in terms of a steady-state energy level (called L_{eq}) that represents the acoustical energy of a given measurement.

³³ ESA. 2008. "San Francisco Westside Recycled Water Project (CS-822), Environmental Technical Memorandum – Noise." November 18, 2008.

³⁴ Ibid.

**TABLE 3
ESTIMATED OPERATIONAL NOISE LEVELS AT THE CLOSEST SENSITIVE RECEPTORS AND CONSISTENCY WITH SIGNIFICANCE CRITERIA**

Project Component/ Receptor Location	Pump Size (Horsepower per Pump)	Maximum Number of Duty Pumps Operating at One Time	Reference Hourly L_{eq} in dBA @ 50 feet ^a	Distance between Project and Closest Residential Receptor (feet)	Distance and Enclosure Adjustments (dBA)	Adjusted L_{eq} (dBA)	Lowest Applicable Ordinance Exterior Noise Limit (dBA) ^b	Does Project Noise Exceed Limit?
Recycled Water Treatment Plant at Oceanside WPCP								
MF/UF Backwash Pump	50	1	66	1,900	-63	3	60	No
MF/UF CIP Circulation and/or Drain Pump	75	1	68	1,900	-63	5	60	No
High Pressure Feed Pumps	250	3	78	1,900	-63	15	60	No
RO Permeate/CIP Pumps	60	2	70	1,900	-63	7	60	No
Neutralization Tank Transfer Pumps	3	1	54	1,900	-63	0	60	No
Decarbonator Pumps	5	1	56	1,900	-63	0	60	No
RW Distribution Pumps to GGP Park	200	2	75	1,900	-63	12	60	No
Secondary Effluent Pumps at Pump Gallery	200	2	75	1,900	-63	12	60	No
Combined Noise Level		13	82	1,900	-63	19	60	No
Central Reservoir Pump Station at Golden Gate Park								
RW Distribution Pumps to GGP Park	150	3	76 ^c	1,000	-51	25	60	No

NOTES:

hp = horsepower

- ^a Estimated noise levels are based on a reference noise level of 69 dBA (L_{eq}) for a 1,800-rpm, 100-Hp pump. This level was adjusted for the proposed Hp rating of proposed pumps to establish an average pump noise level (L_{eq}) as follows: $L_{eq1} = L_{eqR} + K * \log_2 (HP_1/HP_R)$; (HP_1/HP_R) are the horsepower ratings of the candidate and reference pumps, and K is a pump constant. Pump noise level was obtained from Bruce and Moritz (1998).³⁵ Since pumps would be enclosed, pump noise levels would actually be at least 25 dBA lower than the unenclosed noise level listed above. To evaluate worst-case conditions, this analysis assumes the above-listed equipment would operate simultaneously 24 hours per day, not be enclosed, and all pumps would be located at the project boundary closest to the receptor. It also assumes that no reduction is applied to any intervening development that interrupts the line of sight between the noise source and receptors.
- ^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. 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).
- ^c The equivalent noise level from operation of these three, enclosed pumps at Overlook Drive in Golden Gate Park (the closest location to potential park users) would be 45 dBA (L_{eq}). Such noise levels would remain below measured ambient noise levels during park operating hours (47 to 74 dBA, L_{eq} , between 7 a.m. and 10 p.m.) and at or below measured ambient nighttime noise levels (lowest measured level was 45.3 dBA, L_{eq}).³⁶ Such levels are considered to be a less-than-significant impact since the lowest ambient noise levels only occur during the night when people don't use the park.

SOURCE: Orion Environmental Associates

³⁵ Bruce, R.D. and C.T. Moritz. 1998. "Sound Power Level Predictions for Industrial Machinery." *Handbook of Acoustics*. Chapter 69. New York: John Wiley & Sons, Inc.

³⁶ ESA. 2008. "San Francisco Westside Recycled Water Project (CS-822), Environmental Technical Memorandum – Noise." November 18, 2008.

1,000 feet away, pump noise levels would be 25 dBA (L_{eq}) with enclosure of the pumps. Such noise levels would not exceed the ordinance 60-dBA nighttime and 70-dBA daytime exterior noise limits described above. Therefore, noise generated by proposed pump operations at this site would not substantially increase ambient noise levels or cause interior noise levels at the closest residences to exceed the interior limits (windows open), a *less than significant* impact.

Emergency Power Generators. A portable diesel generator would be available to provide backup power to enable operation of the Central Reservoir pump station at Golden Gate Park during an emergency, but would not be required at the recycled water treatment plant given the availability of emergency power supply at the Oceanside WPCP. As discussed in Section A.6.3, Operations and Maintenance, it is assumed that existing SFPUC portable generators would be used for the project and testing of such equipment would not likely be conducted at the Central Reservoir. However, this analysis considers the effect of use of an emergency generator at the Central Reservoir site. As stated above, the San Francisco Noise Ordinance (Police Code Sections 2909[d]) equivalent exterior noise limits (with windows open) from fixed noise sources are 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.

The emergency generators would create temporary noise from use during a power failure and during periodic testing to ensure their continued reliability, and could operate continuously following a catastrophic emergency until electric power service is restored to the area. Sound levels from these generators vary depending on the type of generator and the noise attenuation that has been incorporated into its design. Without any noise attenuation, the emergency generators could generate sound levels of up to 76 dBA at 50 feet from the generator.³⁷ As shown in **Table 4**, operation of emergency generators for maintenance as well as during power outages would produce noise levels of approximately 50 dBA (L_{eq}) at the closest residential receptors near the Central Reservoir site. Generator-related noise would not exceed the ordinance’s 60-dBA nighttime and 70-dBA daytime exterior noise limits at the closest residential receptors, and therefore, noise generated by proposed emergency generators would not cause interior noise levels at the closest residences to exceed the above ordinance 45-dBA and 55-dBA interior limits (windows open), a *less than significant* impact.

TABLE 4
AMBIENT NOISE LEVEL INCREASE FROM EMERGENCY GENERATOR USE

Location	Emergency Generator Noise Level (L_{eq}) at 50 feet	Emergency Generator Noise Level (L_{eq}) at Closest Residential Receptor Located 1,000 feet Away	Lowest Applicable Ordinance Exterior Noise Limit	Does Project Noise Exceed Limit?
Central Reservoir Pump Station Site	76	50	60	No

Mitigation: None required.

³⁷ U.S. Department of Transportation, Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006. Available online at http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
7. AIR QUALITY – Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal, state, or regional ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

There would be no point source emissions that would expose sensitive receptors to substantial pollutant concentrations associated with the operation of proposed pipeline, reservoir, and pumping facilities; there would not be any vents where air emissions would be released. For the recycled water treatment facilities, the only point source emissions typically associated with these facilities are emergency generators. However, no new emergency generators are proposed as part of the project. The Oceanside WPCP already has emergency power supply facilities, and the recycled water treatment plant would connect to these facilities during an emergency. Existing SFPUC portable diesel generators would be transported from an offsite SFPUC storage location to provide backup power to the Central Reservoir facility during an emergency. Since the proposed recycled water treatment plant facility would not require addition of an emergency generator and there are no emissions associated with the filters or UV disinfection systems, there would be no new stationary point sources associated with the project. However, any emergency power outages at project facilities would result in temporary, incremental increases in criteria pollutant emissions associated with operation of the portable diesel generators. Since such emissions would only occur periodically (during an emergency only and minimal when considered on a daily basis), the project's operational daily emissions would be limited to mobile sources associated with maintenance operations.

Operation of the recycled water treatment plant facilities at the Oceanside WPCP site would require four full-time employees. Operation and maintenance of other project facilities would utilize existing SFPUC employees. Therefore, mobile source emissions associated with project operation would not be substantial and would be limited to up to eight additional one-way vehicle trips generated by the four new project-related employees and an average of two to four one-way truck trips per week associated with one or two weekly chemical deliveries (up to two one-way truck trips per day from up to four weekly chemical deliveries during peak production).

The primary pump station at the proposed recycled water treatment plant would operate as needed to meet demand and fill reservoirs in the distribution system. The booster pumps in the system would operate on

an as-needed basis to maintain pressure in the system. These new facilities would increase the demand for electricity, and if electricity were generated from fossil fuel sources, an indirect increase in criteria pollutant emissions would be attributable to project operation. However, under normal conditions, all facilities would utilize renewable energy in the form of hydroelectric power from the Hetch Hetchy Regional Water System. Therefore, project-related operational increases in electricity demand is not expected to indirectly increase criteria pollutant emissions.

As explained above, project operation would not result in generation of substantial pollutant concentrations or otherwise result in air quality impacts. However, construction of the proposed project could result in violation of air quality standards or expose sensitive receptors to substantial pollutant concentrations. Therefore, the EIR will evaluate the proposed project’s construction air quality impacts.

Impact AQ-1: The project would not create objectionable odors that would affect a substantial number of people. (Less than Significant)

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. During construction, diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. The proposed above ground project facilities would be located at the existing Oceanside WPCP and Central Pump Station, and would not include a new source of odors within proximity to sensitive receptors. Therefore the project would not create a significant source of new odors and odor impacts would be *less than significant*.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
8. GREENHOUSE GAS EMISSIONS— Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Greenhouse gas (GHG) emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will contribute to global climate change and its associated environmental impacts.

The Bay Area Air Quality Management District (BAAQMD) has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines Sections 15064.4 and 15183.5 which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines Section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases and describes the required contents of such a plan. Accordingly, San Francisco has prepared *Strategies to Address Greenhouse Gas Emissions (GHG Reduction Strategy)*³⁸ which presents a comprehensive assessment of policies, programs, and ordinances that collectively represent San Francisco's Qualified GHG Reduction Strategy in compliance with CEQA guidelines. The actions outlined in the strategy have resulted in a 14.5 percent reduction in GHG emissions in 2010 compared to 1990 levels, exceeding the year 2020 reduction goals outlined in the BAAQMD's *2010 Clean Air Plan*, Executive Order S-3-05,³⁹ and Assembly Bill 32 (also known as the Global Warming Solutions Act.)^{40,41}

Given that the City's local greenhouse gas reduction targets are more aggressive than the State and Region's 2020 GHG reduction targets and consistent with the long-term 2050 reduction targets, the City's Greenhouse Gas Reduction Strategy is consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan. Therefore, proposed projects that are consistent with the City's Greenhouse Gas Reduction Strategy would be consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance.

The following analysis of the proposed project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Given the analysis is in a cumulative context, this section does not include an individual project-specific impact statement.

Impact C-GG-1: The proposed project would generate greenhouse gas emissions, but not at levels that would result in a significant impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions

³⁸ San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions in San Francisco*, 2010. The final document is available online at: <http://www.sf-planning.org/index.aspx?page=2627>.

³⁹ Executive Order S-3-05, sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million MTCO₂E); by 2020, reduce emissions to 1990 levels (estimated at 427 million MTCO₂E); and by 2050 reduce emissions to 80 percent below 1990 levels (approximately 85 million MTCO₂E).

⁴⁰ San Francisco Department of Environment (DOE), "San Francisco Community-Wide Carbon Emissions by Category." Excel spreadsheet provided via email between Pansy Gee, DOE and Wade Wietgreffe, San Francisco Planning Department. June 7, 2013.

⁴¹ The *Clean Air Plan*, Executive Order S-3-05, and Assembly Bill 32 goals, among others, are to reduce GHGs in the year 2020 to 1990 levels.

from electricity providers, energy required to pump, treat, and convey water, and emissions associated with waste removal, disposal, and landfill operations.

The proposed project would increase the activity onsite by constructing and operating a recycled water treatment plant and underground storage, and distribution facilities. Therefore, the proposed project would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources) and operations that result in an increase in energy use, water use, and solid waste disposal. Construction activities would also result in temporary increases in GHG emissions.

The proposed project would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. The regulations that are applicable to the proposed project include the Commuter Benefits Ordinance, Emergency Ride Home Program, Bicycle Parking requirements, Mandatory Recycling and Composting Ordinance, SF Green Building Requirements for Energy Efficiency, and Stormwater Management. Compliance with these regulations will reduce GHG emissions associated with the construction and operation of the project, largely by reducing use of fossil fuels.

These regulations, as outlined in San Francisco's *Strategies to Address Greenhouse Gas Emissions*, have proven effective as San Francisco's GHG emissions have measurably reduced when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan GHG reduction goals for the year 2020. The proposed project was determined to be consistent with San Francisco's GHG Reduction Strategy.⁴² Other existing regulations, such as those implemented through AB 32, will continue to reduce the proposed project's contribution to climate change. Therefore, the proposed project's GHG emissions would not conflict with state, regional, and local GHG reduction plans and regulations, and thus the proposed project's contribution to GHG emissions would not be cumulatively considerable or generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. As such, the proposed project would result in a less-than-significant impact with respect to GHG emissions. No mitigation measures are necessary.

For informational purposes it is noted that in 2009, pursuant to San Francisco's Greenhouse Gas Reduction Ordinance, the SFPUC presented a departmental climate action plan focused on energy efficiency and renewable energy programs that would help reduce GHG emissions. The total energy savings potential for all SFPUC facilities is estimated to be 11.8 million kilowatt-hours of electricity. A number of SFPUC energy-efficiency and renewable energy generation projects have already been implemented, and many more are in the planning, design, or construction phases.⁴³

The SFPUC manages and implements energy-efficiency projects in municipal buildings and facilities and provides energy-efficiency services such as energy audits and design and construction management. Energy-efficiency technologies are commonly applied to lighting; heating, ventilation, and air conditioning;

⁴² SF Planning Department. Compliance Checklist for Greenhouse Gas Analysis: Table 2. Municipal Projects, SFPUC San Francisco Westside Recycled Water Project, June 16, 2014. This document is available for review as part of Case File No. 2008.0091E at the SF Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103.

⁴³ San Francisco Planning Department, *Strategies to Address Greenhouse Gas Emissions in San Francisco*, 2010. The final document is available online at: <http://www.sf-planning.org/index.aspx?page=2627>.

facility pumps and motors; and electrical controls. The SFPUC estimated that the energy-efficiency improvement projects had resulted in a CO₂ emissions reduction of approximately 11,000 MT per year since 2007.⁴⁴

The SFPUC currently operates over 2 megawatts of solar electric photovoltaic projects throughout San Francisco that collectively generate over 2 million kilowatt-hours of clean renewable electricity annually. A large-scale solar electric photovoltaic project planned for Sunset Reservoir is expected to produce an additional 5 megawatts of solar energy. Other potential opportunities for large-scale solar projects are being considered for the SFPUC Tesla Portal facility in San Joaquin County and for SFPUC water supply facilities in the Sunol Valley. In addition, the SFPUC has installed wind-monitoring equipment at sites in and around the San Francisco Bay Area and the Sierra Nevada mountains to evaluate the potential for wind power development.⁴⁵ SFPUC projects that reduce electrical energy consumption and/or generate renewable energy help reduce GHG emissions associated with SFPUC facility operations.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
9. WIND AND SHADOW – Would the project:					
a) Alter wind in a manner that substantially affects public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact WS-1: The proposed project would not alter wind in a manner that substantially affects public areas. (Less than Significant)

The proposed project would include construction and operation of a recycled water treatment plant, reservoir underneath the recycled water treatment plant used during the treatment process, pump stations, distribution pipelines, new buried storage reservoir adjacent to the existing Central Reservoir, and associated infrastructure. All proposed pipelines and reservoirs would be installed below ground and would not alter wind patterns in the project area. Once constructed, the recycled water treatment building would be 40 to 45 feet high. This building would be located in the Oceanside WPCP complex and would not exceed the current building height of the complex, which is restricted from public use. The topography of the site is such that the recycled water treatment plant would be situated in a depressed area surrounded by a berm. As such, the elevation of the building would not contribute to wind pattern alteration in a manner that would substantially affect public areas. Upgrade of the existing Central Reservoir pump station and the

⁴⁴ Ibid.

⁴⁵ Ibid.

addition of a new pump station building would be located at an existing facility. The existing pump station building is the largest structure on the site, covering an area approximately 40 feet by 60 feet, and approximately 19 feet tall with a connecting cement wall which is approximately 25 feet tall and 120 feet long. The new pump station building would be approximately 50 feet by 100 feet and 20 feet in height, which is somewhat larger but approximately the same height as the existing adjacent pump station building and shorter than the connecting cement wall, with a height of approximately 25 feet. The height of the new building would not be of a size that would substantially alter wind patterns in a manner that adversely affects public use. Further, the Central Reservoir pump station site is enclosed by a fence and within a forested area not highly used by the public. For this reason, any changes in wind speeds due to the project would be *less than significant*.

Mitigation: None required.

Impact WS-2: The proposed project would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (Less than Significant)

The project does not propose any features that would substantially affect shadow patterns of recreation facilities or public areas. As described above, the proposed project would construct new structures, including the recycled water treatment plant building and Central Reservoir pump station, that could result in new shadows; however, these facilities would not substantially affect outdoor recreational facilities or other public areas because of their siting relative to surrounding uses and site inaccessibility. The recycled water treatment plant would be 40 to 45 feet high and would be within the Oceanside WPCP complex, which is restricted from public access. The new pump station structure at the Central Reservoir would be adjacent to the existing pump station, surrounded by forested areas, and within a fenced area not accessed by the public. The new pump station structure would be larger than the existing pump station, as discussed in Impact WS-1. However, due to the size, height, and placement of these buildings, shading would not affect actively used public areas. All proposed pipelines and reservoirs would be installed below ground and would not affect shadow patterns of recreation facilities or public areas. For these reasons, the project would not create new shadow that would substantially affect outdoor recreational facilities or other public areas. As a result, the impact would be *less than significant*.

Mitigation: None required.

Impact C-WS: The proposed project would not have significant cumulative wind and shadow impacts. (Less than Significant)

The geographic scope for potential cumulative wind and shadow impacts encompasses land uses in the vicinity of project facilities. The area generally includes the Sunset and Richmond Districts, Golden Gate Park, Lincoln Park Golf Course, and the Presidio. Long-term or permanent cumulative wind and shadow impacts could occur if the proposed project and cumulative projects in the western portion of San Francisco were to involve permanent aboveground facilities that would also contribute to alteration of wind patterns and speed, or shadows affecting recreational facilities or public areas. However, there are no known cumulative projects that would include substantial changes to wind and shadow patterns in recreation areas

immediately adjacent to proposed project facilities. Further, as described above, the proposed project would not result in long-term adverse wind and shadow effects because all of the proposed project elements would be constructed underground or in areas not accessible or highly used as public areas, or adjacent to existing infrastructure facilities, and thus would not substantially alter wind and shadow patterns in these areas. There would be no cumulative effect associated with altered wind patterns and speed, or shadows as a result of implementation of the proposed project in conjunction with other cumulative projects.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
10. RECREATION – Would the project:					
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Physically degrade existing recreational resources?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact RE-1: The proposed project would not increase the use of existing neighborhood parks or other recreational facilities resulting in, substantial physical deterioration or degradation of the facilities. (Less than Significant)

The proposed project would not permanently affect existing recreation resources. The existing Central Reservoir facility in Golden Gate Park contains a water storage and pumping facility, wood waste storage and a composting area, within a fenced area that is accessed by a road (Overlook Drive) that is primarily used by maintenance vehicles, bicyclists and pedestrians. The fenced area may be slightly enlarged under the proposed project to expand the entrance to the facility, but would not affect Golden Gate Park recreation use areas. Project construction activities could require short-term closure of a trail located north of Lincoln Way/34th Avenue, between Lincoln Way and Middle Drive West, for approximately one week, and potential closure of narrow park roadways, such as Overlook Drive, during pipeline construction. However, these areas would be restored to conditions similar to pre-project conditions following pipeline construction (see Section A. 6.2, Construction). The proposed project would not include new residential or other uses that would generate substantial increased demand for parks or other recreational facilities. Any increase in demand for parks or other recreational facilities generated by the approximately four employees of the proposed treatment plant would be negligible and would be readily met by existing parks and recreational facilities in the project area, including Golden Gate Park, Lake Merced, Ocean Beach, and other local/neighborhood parks. As such, the proposed project would have a *less-than-significant impact* on the physical condition of existing parks and other recreational facilities.

Mitigation: None required.

Impact RE-2: The proposed project would not require the construction or expansion of recreational facilities that might have a significant effect on the environment. (No impact)

The proposed project does not include recreational facilities or residential use, and would not require the construction or expansion of recreational facilities. Therefore, the project would not result in the construction of recreational facilities that would themselves have a physical environmental impact. As a result, there would be *no impact*.

Mitigation: None required.

Impact C-RE: The proposed project would not have a significant cumulative impact on recreation. (Less than Significant)

The geographic scope for potential cumulative recreation impacts encompasses recreation land uses in the vicinity of project facilities. The area generally includes the Lake Merced, Sunset Boulevard medians, and neighborhood parks in the vicinity of the proposed projects. Cumulative impacts could occur if additional recreation facilities are required as a result of the cumulative projects or if increased use of existing facilities could result in the degradation or deterioration of existing facilities. The proposed project and currently planned or proposed cumulative projects would not result in direct physical deterioration of physical resources. The proposed project would not result in increases in housing or population and thus would not result in a substantial increase in the use of parks or other recreational facilities in the area; therefore the proposed project's contribution to cumulative recreational impacts is less than significant. Other currently planned or proposed cumulative projects do not include substantial increases in housing (with the exception of the Parkmerced project and the 800 Brotherhood Way project and), or other aspects that would result in substantial increases in the use of parks or other recreational facilities in the project vicinity. The increase in population and employment on the Parkmerced project site would result in an increased demand for and use of existing neighborhood parks; however the Parkmerced project would provide 68 acres of open space in a network of publically accessible neighborhood parks, athletic fields, public plazas, greenways, and an organic farm.⁴⁶ Additionally, future developments, such as the 800 Brotherhood Way project, would be subject to Planning Code open space requirements regarding provision of public and/or private open space. For these reasons, the proposed project, in combination with other past, present, and reasonably foreseeable future projects, would result in a *less-than-significant* cumulative impact on recreation.

Mitigation: None required.

⁴⁶ San Francisco Planning Department, Final Environmental Impact Report, Parkmerced Project, File No. 2008.0021E, State Clearinghouse No. 200905073. Available online at http://www.sf-planning.org/index.aspx?page=1828#2008_0021E. November 6, 2013.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
11. UTILITIES AND SERVICE SYSTEMS – Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impact UT-1: Implementation of the proposed project would not result in construction or expansion of water or wastewater treatment facilities or stormwater drainage facilities, exceed wastewater requirements, or result in a determination by the wastewater treatment provider that there is insufficient capacity to serve the project. (Less than Significant)

Criteria “b” and “c” above, relates to the primary purpose of the proposed project, which is to construct a recycled water system that includes advanced wastewater treatment and that would add recycled water as a source of irrigation water supply in San Francisco. The primary purpose of this CEQA analysis is to evaluate the potential impacts of implementing the project; construction and operation would cause environmental effects as identified throughout this CEQA analysis. The project itself, as explained below, would have no measurable effect on the need for water or generate substantial wastewater.

Operation of recycled water treatment plant and Central Reservoir pump station facilities would likely include restrooms, sinks, and emergency eye wash/shower stations that require water supplies and generate wastewater, which would be provided by connections from the facilities to existing SFPUC water and wastewater pipelines. The quantity of water supply used and wastewater produced would be minimal, given that only four employees would operate these facilities and need those types of uses, and wastewater from restrooms and sinks would likely be of a quality that would not exceed the SFPUC’s wastewater treatment requirements, since it can be reasonably assumed that they were designed specifically for this type of waste. The recycled water treatment plant and Central Reservoir pump station would be located within developed areas and impervious surface areas would not be substantially increased as a result of the

project.⁴⁷ Therefore, additional stormwater runoff/drainage would not occur. Thus, the potential impacts related to water, wastewater, and stormwater treatment and/or capacity would be *less than significant*.

Mitigation: None required.

Impact UT-2: The proposed project would have sufficient water supply available, and would not require new or expanded water supply resources or entitlements. (Less than Significant)

As described in the Project Description, the proposed project is a component of the WSIP and would provide up to 2.0 mgd (annual average) or 5.0 mgd (peak-day demand) of recycled water to offset potable demand for nonpotable uses, which would augment potable water supply. Project construction would require a limited amount of water for dust suppression and soil washing. The temporary use of water during construction would be minimal, relative to the available water supply provided by the SFPUC. Project operation water supply needs would be minimal and restricted to eye wash/shower stations and sinks required for worker safety during operation; this water would be provided through the SFPUC regional water system. Toilets/urinal facilities at the recycled water treatment plant would be served using recycled water produced by the project. Operation of the proposed project is not expected to require more water supply than would be available through existing entitlements and resources, nor would it require new or expanded water supply resources or entitlements; therefore this potential impact would be *less than significant*.

Mitigation: None required.

Impact UT-3: The proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

The Altamont Landfill has a permitted peak maximum daily disposal of 11,150 tons per day and accepted 1.16 million tons in 2012.⁴⁸ The landfill has an estimated remaining capacity of approximately 46 million cubic yards or 74 percent of its permitted capacity. The estimated closure date of the landfill is January 2025.⁴⁹ In 2012, San Francisco generated approximately 454,500 tons of solid landfilled waste and sent approximately 375,000 tons to the Altamont Landfill, about 40 percent of the total volume of waste received at that facility.⁵⁰

In 1988, San Francisco contracted for the disposal of 15 million tons of solid waste at the Altamont Landfill. The City contract with the Altamont Landfill expires in 2015. Through August 1, 2009, the City had used

⁴⁷ Refer to Impact HY-2 below for a discussion regarding storm drainage system capacity and runoff.

⁴⁸ CalRecycle, "2012 Landfill Summary Tonnage Report". Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Landfills/tonnages>; accessed November 8, 2013.

⁴⁹ CalRecycle, "Active Landfills Profile for Altamont Landfill and Resource Recovery (01-AA-0009)". Available online at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>, accessed on May 28, 2013.

⁵⁰ Data includes only landfilled waste. Most of the City's remaining solid waste was sent to the Ox Mountain Landfill in San Mateo County. CalRecycle, Single-year Countywide Origin Detail, 2012, San Francisco. Available online at: <http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=OriginJurisdictionIDs%3d438%26ReportYear%3d2012%26ReportName%3dReportEDRSJurisDisposalByFacility>. Reviewed November 27, 2013.

approximately 12.5 million tons of this contract capacity. The City projects that the remaining contract capacity will be reached no sooner than August 2014. In 2009, the City announced that it could award its landfill disposal contract to a Recology subsidiary for shipment of solid waste by truck and rail to the Recology Ostrom Road Landfill in Yuba County. This facility has an expected closure date of 2066 with a total design capacity of over 41 million cubic yards.⁵¹ The ultimate determination with respect to future landfill contracting will be made by the Board of Supervisors on the basis of solid waste planning efforts being undertaken by the City's Department of the Environment.

Although the proposed project could incrementally increase total waste generation from San Francisco, the proposed project would be subject to the CCSF's Mandatory Recycling and Composting Ordinance, which requires all San Francisco residents and commercial landlords to separate their refuse into recyclables, compostables, and trash, thereby minimizing solid waste disposal and maximizing recycling, which would result in a decreasing share of total waste that requires deposition into the landfill. As described in the Project Description, construction activities would result in an estimated 26,000 cubic yards of excess soils from the excavation activities for the recycled water treatment facility, Central Reservoir facilities, and pipelines.⁵² Excavated soil would be taken to an appropriate facility for recycling, reuse, or disposal. The proposed project would be subject to the CCSF's Construction and Demolition Debris Recovery Ordinance, which requires all construction and demolition debris to be transported to a registered facility that can divert a minimum of 65 percent of the material from landfills. The remaining 35 percent, a maximum of approximately 9,100 cubic yards, could be disposed of at the Altamont Landfill or another location to be determined. Given the existing and anticipated increase in solid waste recycling and the existing and potential future landfill capacities, the project would not result in either landfill exceeding its permitted capacity or non-compliance with federal, State, and local statutes and regulations related to solid waste.

As a result, the impact would be *less than significant*.

Mitigation: None required.

Impact UT-4: The construction and operation of the proposed project would comply with all applicable statutes and regulations related to solid waste. (No Impact)

The San Francisco Construction and Demolition Ordinance (Ordinance No. 27-06) requires that a minimum of 65 percent of all construction and demolition debris be recycled and diverted from landfills. Furthermore, the proposed project would be required to comply with the City's Ordinance 100-09, the Mandatory Recycling and Composting Ordinance, which requires all San Francisco residents to separate their refuse into recyclables, compostables, and trash. Landfills are required to meet federal, state, and local solid waste

⁵¹ San Francisco is currently participating as a responsible agency in the environmental review process that Yuba County has begun for the Recology Ostrom Road Green Rail and Permit Amendment Project and to conduct CEQA review of San Francisco's proposal to enter into one or more new agreements with Recology. On March 28, 2013, Yuba County and San Francisco entered into a Cooperative Agreement to designate Yuba County as the lead agency for this project and to outline their cooperative efforts concerning environmental review.

⁵² Excavation calculation includes a 25 percent expansion factor.

regulations. Implementation of the proposed project would not impede the CCSF from meeting these requirements. As a result, there would be *no impact*.

Mitigation: None required.

Impact UT-5: Project construction would not result in a substantial adverse effect related to disruption, relocation, accidental damage to existing utilities. (Less than Significant)

Construction activities for the proposed project could result in damage to or interference with existing water, sewer, storm drain, natural gas, electricity, and/or telecommunication lines. A majority of the project pipelines are located along transportation rights-of-way, which frequently serve as utility corridors. Although the exact location of underground utilities is not known at this time, utility lines of varying sizes are located along and across the pipeline routes. Excavation and trenching activities could result in accidental damage to utilities.

Although it can be reasonably assumed that project construction planning would include avoidance of overhead utility lines, the use of the telescopic crane to stage and lay pipeline segments could result in accidental damage to existing overhead utility lines. In addition, overhead utility poles and underground utility lines along the roadways could be damaged accidentally from the movement of large construction equipment and vehicles throughout the project area. Accidental rupture of or damage to these utility lines during project construction could temporarily disrupt utility services and, in the case of high-priority utilities, could result in significant safety hazards for construction workers and the public. The project does not propose to relocate utilities, but it is possible that relocation would be necessary once the locations and characteristics of any potentially conflicting utilities are confirmed. Consequently, installation of the project pipelines could require the temporary relocation of utility lines that are owned and operated by other utility companies. For the above reasons, potential impacts on existing utilities and utility services during project construction could be potentially significant. However, compliance with the following existing regulations and codes established to avoid or minimize the potential for disrupting utilities and utility services by identification and protection or temporary disconnection of utility lines, notification and coordination with emergency response providers, and reconnection of utilities, would reduce potential impacts to a *less-than-significant* level.

Prior to construction activities, the SFPUC or its contractor(s) would determine the locations of overhead and underground utility lines, such as natural gas, electricity, sewer, telephone, cable, fuel, water, and MUNI lines, that may be encountered during construction work. Pursuant to various provisions of California law, the SFPUC or its contractor(s) is required to notify USA North so that utility companies may be advised of the work and may field-mark or otherwise protect and warn the contractor of their existing utility lines. Information regarding the location of existing utilities shall be reviewed before construction activities begin. Utilities may be located by customary techniques such as geophysical methods and hand excavation.

The project would adhere to Article 2.4 (Excavation in the Public Right of Way) of the Public Works Code, which requires SFPUC to coordinate projects by entering project information into the SFDPW 5 year plan as

well as issuing a Notice of Intent (NOI) letter.⁵³ SFPUC and its contractors are bound to the CULCOP (Committee on Utility Liaison on Construction and other Projects), and the utility coordination process. SFPUC is also required, to the extent possible, to coordinate with other agencies to identify conflicts and opportunities for coordination of excavations. In 2013, the SFDPW, Bureau of Street Use & Mapping launched the new Envista Utility Coordination tool. Using this tool, all governmental and private utilities enter their projects into the five year plan. In addition, the new Envista Utility Coordination tool is used to issue and track (NOI) & Request for Information tickets as well as to issue and track Transmittal of Final Preliminary Plan (TFPP) tickets. All agencies have been informed to respond to the tickets through the Envista Utility Coordination tool.

Contract specifications generally include procedures for the excavation, support, and fill of areas around subsurface utilities, cables, and pipes. If the project encounters overhead electric and/or telephone lines during pipeline construction, the SFPUC or its contractor(s) would coordinate with SFMTA and appropriate telecommunication service providers to de-energize overhead electric lines as required by the federal and State OSHA regulations.

As required by Cal/OSHA (Section 1926.651), while any excavation is open, the SFPUC or its contractors would protect, support, or remove underground utilities as necessary to safeguard employees. If construction activities result in damage to high-priority utility lines, the SFPUC or its contractor(s) would immediately notify the San Francisco Fire Department to protect worker and public safety.

As part of contract specifications, the contractor(s) would be required to provide updates on excavations planned for the upcoming week and to specify when construction will occur near a high-priority⁵⁴ utility. At the beginning of each week when this work will take place, per Cal/OSHA, the contractor is required to hold safety tailgate meetings and to document contents of meeting. The SFPUC or its contractor(s) would promptly notify utility providers to reconnect any disconnected utility lines as soon as it is safe to do so.

As required by Cal/OSHA, the SFPUC or its contractor(s) would develop an emergency response plan prior to commencing construction activities. The emergency response plan would identify measures to be taken in response to a leak or explosion resulting from a utility rupture. In addition, the SFPUC or its contractor(s) would notify the appropriate emergency response department whenever damage to any utility results in a threat to public safety.

Based on project compliance with relevant provisions of the City's Public Works Code, Cal/OSHA requirements, and SFDPW's Envista Utility Coordination tool, there would be a *less-than-significant impact* to existing utilities.

Mitigation: None required.

⁵³ The purpose of the 5 year plan and NOI letter is to provide information to all Governmental Agencies and private utility companies about the upcoming project. The 5 year plan and NOI letter also provides the project engineer or responsible party an opportunity to coordinate with other projects that may fall within the project's schedule and limits and identify potential conflicts that requires further coordination (potholing, adjustment of utilities, redesign of project's alignment, etc).

⁵⁴ Electric, water, and/or sewer lines.

Impact C-UT: The proposed project would not have a significant cumulative impact on utilities and service systems. (Less than Significant)

The geographic scope for potential cumulative utilities and service system impacts encompasses project sites in the vicinity of project facilities. The area generally includes the Sunset and Richmond Districts, Golden Gate Park, Lincoln Park Golf Course, and the Presidio. The proposed cumulative development in the project vicinity includes projects such as the ParkMerced development, which could result in increased water, wastewater, and stormwater generation and capacity. Such developments would be required to pay the applicable Wastewater Capacity Charge to fund the cost of expansion of the wastewater conveyance and treatment system, if necessary. All funds raised through the capacity charge are directly used to offset the cost of future wastewater capital improvement projects and repairs. As described above, the quantity of wastewater that would be produced would be minimal and would not likely be of a quality that could exceed the SFPUC's wastewater treatment requirements (since it can be reasonably assumed that they were designed specifically for this type of waste), and there would be no additional stormwater runoff/drainage.

Increased waste generation from the project and cumulative development would be partially offset by existing San Francisco ordinances and policies regarding waste reduction. The increasing rate of diversion by cumulative projects through recycling, composting, and other methods would result in a decreasing share of total waste that requires deposition in local landfills. They would not contribute to cumulative operational demands for water, wastewater treatment, or solid waste disposal.

Concurrent implementation of this project in conjunction with other cumulative projects could cause service disruptions for the same set of customers within a short timeframe. However, the proposed project's impacts related to damaging existing utilities and disrupting utility services, and relocation of utilities would be less than significant with compliance with relevant regulations. These requirements would apply to cumulative projects as well. Collectively, implementation of these regulatory requirements would ensure that existing utilities are accurately located and protected during construction and that emergency response procedures are in place to address the situation if an existing utility is damaged during construction. Therefore, potential cumulative impacts related to disruption of utility operations or accidental damage to existing utilities and relocation of regional or local utilities would not be cumulatively considerable.

Thus, cumulative impacts on utilities systems would be *less than significant*.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
12. PUBLIC SERVICES – Would the project:					
a) Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, parks, or other services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project’s impacts on Recreation are analyzed in Section 10, above.

Impact PS-1: The proposed project would not increase demand for public services to an extent that would require new or physically altered facilities to be constructed or physically altered in order to maintain acceptable service ratios, response times, or other performance objectives. (No Impact)

The project site currently receives emergency services from the San Francisco Fire Department and San Francisco Police Department. The proposed project facilities would be serviced by several fire stations, including: Station 19 at 390 Buckingham Way, which is approximately 1.3 miles east of the recycled water treatment plant; Station 22 at 1290 16th Avenue at Irving Street, which is approximately 0.5 mile northwest of the Central Reservoir site; and Station 34 at 499 41st Avenue, which is approximately 0.3 mile south of irrigation pump station at Lincoln Park.⁵⁵ The proposed project is serviced by the Taraval and Richmond district stations; the Taraval station is located at 2345 24th Avenue, which is approximately 1.5 miles west of the recycled water treatment plant, and the Richmond station is located at 461 6th Avenue, which is approximately 1.2 miles northeast of the Central Reservoir site.⁵⁶ The San Francisco Unified School District provides school services to residents in the project vicinity.

As discussed in the Project Description, the proposed project would utilize and upgrade existing aboveground facilities as well as construct new facilities for recycled water treatment and conveyance purposes. No new structures would be habitable. The proposed new structures would be subject to and would comply with the regulations of the California Fire Code, which establishes requirements pertaining to fire protection systems, including the provision of state-mandated smoke alarms, fire extinguishers, appropriate building access, and emergency response notification systems.

Given that the proposed project is located in proximity to (and already served by) public services, the proposed new structures would be required to comply with fire codes, and the proposed project facilities would only incrementally increase service population in the area; as a result, there would be *no impact*.

Mitigation: None required.

⁵⁵ San Francisco Fire Department (SFFD), Available online at <http://www.sf-fire.org/>. Accessed October 14, 2013.

⁵⁶ San Francisco Police Department (SFPD). Available online at <http://sf-police.org/>. Accessed October 14, 2013.

Impact C-PS: The proposed project would not result in a significant cumulative impact on public services. (Less than Significant)

The geographic scope for potential cumulative public service impacts encompasses land uses in the vicinity of project facilities. The area generally includes the Sunset and Richmond Districts, Golden Gate Park, Lincoln Park Golf Course, and the Presidio. The proposed project could incrementally increase demand for public services (e.g., by adding service employees). Cumulative development in the project area would incrementally increase demand for public services, but not beyond levels anticipated and planned for by public service providers. Thus, the proposed project, in combination with other past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable impact on public services (*less than significant*).

Mitigation: None required.

<u>Topics:</u>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
13. BIOLOGICAL RESOURCES –					
Would the project:					
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan because there are no adopted habitat conservation plans, natural community plans, or other approved plans that cover the project area; therefore, the Topic 13.(f) is not applicable to the project.

Approach to Analysis

The approach to analysis for this project is as follows: (1) review available biological resource surveys of the project area and relevant surrounding vicinity; (2) review special-status species lists derived from the California Natural Diversity Database (CNDDDB), the US Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife (CDFW), and the California Native Plant Society (CNPS); and, (3) to perform a field reconnaissance of the project area to record current site conditions.

Special-Status Species Lists

Special-status species lists were derived from the CNDDDB, USFWS, and CNPS for the San Francisco North, San Francisco South and seven surrounding 7.5-minute US Geological Survey quadrangles. The primary sources of data referenced for this study were as follows:

- CDFW, CNDDDB, data request for U.S. Geological Survey San Francisco North 7.5-minute topographic quadrangle and eight surrounding quads, information accessed January, 2014.
- CNPS, Online Inventory of Rare and Endangered Plants
- USFWS species list for San Francisco North 7.5-minute US Geological Survey quadrangle

The findings of these database searches and species lists were used to compile the list of special-status species that may occur in the project area (Appendix 1).

Reconnaissance Survey

Biological resources within the project area were verified by an ESA biologist during a field reconnaissance conducted on February 7, 2014. Prior to the reconnaissance survey, databases were reviewed for the project site and surrounding area. The field reconnaissance consisted of a pedestrian survey within the project facility site's boundary and observations of the adjacent environments. The field surveys were focused on identifying habitat for special-status plant and wildlife species. General habitat conditions were noted and incidental species observations were recorded. The findings of the reconnaissance survey, the literature review, and the database queries were used to compile the list of special-status species that may occur in the project area (Appendix 1) and to characterize the local project setting, described below.

Local Project Setting

The proposed project is located in western San Francisco and spans from the Oceanside WPCP to the Golden Gate Park, and then to the edge of the Presidio and the Lincoln Golf Course. The Oceanside WPCP is bordered on the north by the California Army National Guard, and is within 0.25 mile of Lake Merced to the east, Fort Funston to the south, and the San Francisco Zoo to the north. Lake Merced consists of four interconnected freshwater lakes: North Lake, South Lake, East Lake, and Impound Lake. They offer habitat

for many species, including migratory birds and aquatic species. Fort Funston consists of coastal dunes and beach, which offers habitat for special-status species including bank swallow (*Riparia riparia*) and western snowy plover (*Charadrius alexandrinus nivosus*). Golden Gate Park is a heavily wooded and otherwise vegetated open space urban park, although major intersections, ponds and meadows are maintained and landscaped. It provides habitat for a variety of common avian species as well as raptors.

Observed Wildlife Habitat in Project Area

An ESA biologist conducted a reconnaissance survey of the aboveground project sites (San Francisco Westside recycled water treatment plant and the Central Pump Station), as well as nearby North and South Lake Merced and pipeline route areas on February 7, 2014. The recycled water treatment plant site provides limited wildlife habitat in the vegetated area between the Oceanside WPCP and the California Air National Guard site, located just north of the WPCP, and surrounding the WPCP on the east and south sides. These areas consist mainly of planted pines (*Pinus* sp.), dense stands of acacia (*Acacia melanoxylon*), ceanothus (*Ceanothus* sp.), hairy rockrose (*Cistus incanus*), and also non-native species including iceplant (*Carpobrotus edulis*), English ivy (*Hedera helix*), and sprouts of Himalayan blackberry (*Rubus armeniacus*). This habitat would be most suitable for a variety of songbird species and potentially some bat species. The following common avian species were observed on site and in the vicinity of the Oceanside WPCP: killdeer (*Charadrius vociferus*), gulls (*Larus* sp.), goldfinch (*Spinus* sp.), Anna's hummingbird (*Calypte anna*), common raven (*Corvus corax*), dark-eyed junco (*Junco hyemalis*), spotted towhee (*Pipilo maculatus*), and Townsend's warbler (*Setophaga townsendi*).

Although surrounded on all sides by major roadways and developed areas (including parks and golf courses), Lake Merced provides habitat for a wider variety of wildlife species than surrounding areas. Habitat at the Central Pump Station to the north in Golden Gate Park provides a mix of shrubs, blackberry (*Rubus armeniacus*), stands of eucalyptus (*Eucalyptus* spp.) which border the staging area, and a few pines (*Pinus* spp.). Vegetation on the site is generally disturbed, with English ivy (*Hedera helix*) and fennel (*Foeniculum vulgare*) surrounding the staging area. The proximity of the eucalyptus and pine trees to nearby fields, open areas of Elk Glen Lake and Lloyd Lake, and surrounding open woodlands, provides suitable nesting and foraging habitat for raptors such as Cooper's hawk, red-shouldered hawk, red-tailed hawk, merlin (*Falco columbarius*), and American kestrel (*Falco sparverius*). All of these raptor species utilize field edges, open areas such as parks and fields, and suburban settings. The following common wildlife species were observed on site and at the surrounding ponds in the project vicinity: American crow (*Corvus brachyrhynchos*), gulls, chestnut-backed chickadee (*Poecile rufescens*), dark-eyed junco (*Junco hyemali*), and great egret (*Ardea alba*).

Although the existing buildings of the Oceanside WPCP are not abandoned, it is possible that bat species less sensitive to human disturbance could use building awnings, eaves, and openings into building space for roosting, if activity in and around the buildings and structures is minimal. Bats might also roost in some of the dense stands of willow and pines located adjacent to the WPCP. Habitat around the Central Pump Station and Lake Merced might be ideal for bat species that prefer open areas, water, and habitat edges for foraging. These project areas also provide plentiful tree and shrub foliage for roosting. Common bat species that might occur at or nearby Oceanside WPCPC, Lake Merced, and the Central Pump Station include Yuma myotis (*myotis yumanensis*) and big brown bat (*Eptesicus fuscus*). Special-status bat species that may

occur at Oceanside WPCP, Lake Merced, and the Central Pump Station include the hoary bat (*Lasiurus cinereus*) and Western red bat (*Lasiurus blossevillii*).

Wetlands and Other Waters of the United States

Two definitions of “wetland” are considered for purposes of this project, one administered by the U.S. Army Corps (Corps) under the federal Clean Water Act and the other administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB) under the Porter-Cologne Water Quality Control Act and the CCC under the California Coastal Act. Both definitions are presented below.

Federal Wetland Definition. Wetlands are a subset of waters of the United States and receive protection under Section 404 of the Clean Water Act. The term “waters of the United States,”⁵⁷ as defined in the Code of Federal Regulations (33 CFR 328.3[a]; 40 CFR 230.3[s]), includes:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands. (Wetlands are defined by the federal government [CFR, Section 328.3(b)] as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.)
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes; or from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition.
5. Tributaries of waters identified in paragraphs (1) through (4).
6. Territorial seas.
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the

⁵⁷ Based on the Supreme Court ruling in *Solid Waste Agency for Northern Cook County v. U.S. Army Corps of Engineers* related to federal jurisdiction over isolated waters (January 9, 2001), non-navigable, isolated, intrastate waters are no longer defined as waters of the United States based solely on their use by migratory birds. Jurisdiction over non-navigable, isolated, intrastate waters may be exercised if their use, degradation, or destruction could affect other waters of the United States or interstate or foreign commerce. According to this ruling, jurisdiction over such other waters must be analyzed on a case-by-case basis, as should impoundments of waters, tributaries of waters, and wetlands adjacent to waters. The Supreme Court’s recent decisions (e.g., *Rapanos* and *Carabel*) have yet to be interpreted in U.S. Army Corps of Engineers regulations or definitions.

purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the U.S. Environmental Protection Agency (USEPA).

California Wetland Definition. California agencies have adopted the Cowardin et al. (1979) classification system to define wetlands. According to this classification system, wetlands must have one or more of the following three attributes: (1) at least periodically, the land predominantly supports hydrophytes;⁵⁸ (2) the substrate is predominantly undrained hydric soil; or (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al., 1979).

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. Jurisdictional wetlands and other Waters of the United States and Waters of the State occur adjacent to the project site.

Regulation of Activities in Wetlands. The regulations and policies of various federal agencies, such as the Corps, USEPA, USFWS, and National Marine Fisheries Service (NMFS), mandate that filling wetlands be avoided unless it can be demonstrated that no practicable alternatives exist. The Corps has primary federal responsibility for administering regulations that concern waters and wetlands. In this regard, the Corps acts under two statutory authorities: the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in “navigable waters,” and the Clean Water Act (Section 404), which governs the fill of waters of the United States, including wetlands. The Corps requires that a permit be obtained if a project proposes to place fill in navigable waters and/or to alter waters of the United States below the ordinary high-water mark in non-tidal waters. The USEPA, USFWS, NMFS, and several other agencies may comment on Corps permit applications. The USEPA provides the primary criteria for evaluating the biological impacts of Corps permit actions in wetlands.

The State’s authority to regulate activities in wetlands and waters at the project site resides primarily with the RWQCB, which regulates fill in and discharges to Waters of the United States and Waters of the State of California, including activities in wetlands, under Section 401 of the Clean Water Act, and the Porter-Cologne Water Quality Control Act. The CDFW provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. Moreover, under Sections 1600–1616 of the California Fish and Game Code, the CDFW regulates activities that would substantially divert, obstruct the natural flow of, or change rivers, streams, and lakes. The jurisdictional limits of the CDFW are defined in Section 1602 of the California Fish and Game Code as the bed, channel, or bank of any river, stream, or lake. The CDFW regulates activities that would result in the deposit or disposal of debris, waste, or other materials into any river, stream, or lake, and requires preparation of a streambed alteration agreement for activities that are proposed within or near a river, stream, or lake.

Within the California Coastal Zone, the CCC also has authority to regulate development under the California Coastal Act. The coastal zone generally extends three miles seaward and about 1,000 yards

⁵⁸ The USFWS has developed the following definition for hydrophytic vegetation: “plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content” (Cowardin et al., 1979).

inland from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards. In order to carry out the policies of the Coastal Act, each of the 73 cities and counties in the coastal zone is required to prepare a local coastal program (LCP) for the portion of its jurisdiction within the coastal zone and to submit the program to the Commission for certification. The CCC manages protection of biological resources through a permitting process for all projects in the coastal zone. Once the CCC certifies a LCP, the local government gains authority to issue most coastal development permits (CDP). The CCC retains permit authority over tidelands, submerged lands and public trust lands. Only the CCC can grant a coastal development permit for development in areas of its retained jurisdiction. San Francisco's LCP is discussed further below as the *Western Shoreline Plan* in the Local Plans and Policies subsection.

Local Plans and Policies

Western Shoreline Area Plan

The Western Shoreline Area Plan of the San Francisco General Plan is the CCSF's certified Local Coastal Program (LCP) and sets forth policies and objectives governing development in the coastal zone within the City and County of San Francisco.⁵⁹ Most coastal development permits for projects in San Francisco's coastal zone are issued by the San Francisco Planning Commission, in accordance with the provisions of Section 330 et seq. of the San Francisco Planning Code. A portion of the project, including the recycled water treatment plant site and a portion of the pipeline within Skyline Boulevard, is within the coastal zone (see Figure 2). Vegetation on the berm adjacent to the WPCP is not considered an Environmentally Sensitive Habitat Area (ESHA) as it does not meet any of the following criteria according to the CCC definition of an ESHA as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities".⁶⁰ Portions of the pipeline along Skyline Boulevard and the Harding Road Staging Area adjacent to Lake Merced, are within 100 feet of Lake Merced, an area within which coastal development permits are appealable to the CCC. A small area of the project, along Skyline Boulevard, is within an area of retained CCC jurisdiction.

San Francisco Recreation and Park Department Significant Natural Resources Areas Management Plan

The SFRPD 1995 Significant Natural Resource Areas Management Plan (SNRAMP) applies to designated significant natural areas in the CCSF. The purpose of the SNRAMP is to protect, restore, and enhance these significant natural areas within the CCSF. General policies and management actions presented in the approved 1995 plan relevant to biological resources at Lake Merced include the following:

⁵⁹ City of San Francisco General Plan, Western Shoreline Area Plan, 2014.

⁶⁰ California Coastal Commission, 2014. California Coastal Act, Section 30107.5. Definition of Environmentally sensitive area.

III. General Policies and Management Actions

A. Vegetation

- a. Maintain and promote indigenous plant species; propagate native plants using seed collected from the specific site to avoid alteration of unique genetic strains of native plant species
- b. Control or remove invasive species; remove exotic plants that adversely affect indigenous plant growth
- c. Enhance riparian areas
- d. Reforest or replant areas where appropriate to maintain diversity of indigenous plant communities
- e. Preserve habitat that supports wildlife

B. Water Resources

- a. Maintain or improve water quality of streams and ponds
- b. Protect riparian zones from erosion and sedimentation
- c. Maintain drainage and erosion prevention devices along roads and service trails
- d. Control drainage and runoff from roads
- e. Establish and maintain tule encroachment zone around lakes
- f. Use proper controls when using aquatic herbicide

San Francisco Public Works Code

The CCSF's Urban Forestry Ordinance (Article 16 of the Public Works Code) was enacted to ensure the protection of several categories of trees: street trees, significant trees, and landmark trees in areas under SFDPW jurisdiction. Trees adjacent to proposed pipeline routes would qualify as street trees and significant trees; however, there are no landmark trees in the project vicinity. Section 808 of the article pertains to protection of such trees:

- (a) **Injury to or Destruction of Trees Prohibited.** It shall be unlawful for any person to intentionally, maliciously or through gross negligence injure or destroy a street tree, any tree on City property, a significant tree, or a landmark tree. Removal of a tree under City order or removal in accordance with a permit issued pursuant to Section 806, 810, or 810A of this Article is exempt from this prohibition.
- (b) **Injury to or Destruction of Landscape Materials Prohibited.** It shall be unlawful for any person to intentionally, maliciously or through gross negligence injure or destroy any landscape material in any street median, center strip, or other landscaped portion of a public right-of-way under the City's jurisdiction, except as authorized by the Department.
- (c) **Construction Work: Protection of Trees Required.** It shall be unlawful for any person to engage in any construction work on private or public property without first taking steps to protect street trees, significant trees, and landmark trees from damage, including damage caused by soil compaction or contamination, excavation, or placement of concrete or other pavement or foundation material. If excavation, construction, or street work is planned within the dripline of a significant tree, a landmark tree or a tree on any street or other publicly owned property said

tree(s) shall be adequately protected. If any construction work results in the injury or damage to such trees, the responsible party(ies) may be subject to the penalties set forth in Section 811 of this Article.

Golden Gate Park Master Plan

The *Golden Gate Park Master Plan* provides a framework and guidelines to ensure responsible and enlightened stewardship of the park.⁶¹ The main goal of the plan is to balance public recreation in the park with the preservation of the park's historical significance. Objectives and policies in the plan aim to preserve the park's contribution to the diversity of cultural, natural, and recreational resources available to park visitors from San Francisco, the Bay Area, and elsewhere. Policies relevant to biological resources are described include:

Objective II, Policy B – Preserve and Renew the Park's Forests

2. The forest management program should focus on:
 - b. Removal of hazardous, diseased and dying trees; replacement with appropriate tree species. (Some dead/dying trees should be retained for wildlife habitat ecological purposes.)
 - g. Control of invasive plant species.

The *Golden Gate Park Master Plan*⁶² proposes the following recommendations for preserving Golden Gate Park's forests:

- Structurally weak trees that pose a significant risk to the public and to property need to be identified, monitored, and removed as part of an ongoing safety program.
- Individual large trees should be replaced in kind with similar species. Specimen sized trees should be used where judged to be feasible.

Objective II, Policy C – Wildlife and Habitat

1. Manage, protect, and enhance the park's landscape for wildlife habitat and other natural values. Managing the landscape for these values should include preserving and enhancing food sources, nesting sites, and roosting sites, thinning and providing openings in the forest canopy, and maintaining understory vegetation.
2. Continue diversification of tree species within the park by planting California native species such as oak, buckeye, madrone, bay laurel, and toyon, where appropriate.
3. Preserve selected dead and aging trees for habitat value.
5. Designate areas within the park that have special resources or habitat values as natural resource areas. Natural resource areas should be managed to preserve and enhance the natural resource values. Control park uses in and near natural resource areas to preserve natural values.

⁶¹ San Francisco Recreation and Park Department (SFRPD), *Golden Gate Park Master Plan*. Prepared by Royston Hanamoto Alley & Abey. Adopted October 1998.

⁶² Ibid.

San Francisco Recreation and Parks Department Park Code

Section 4.06 – Removal of Trees, Wood, etc. The SFRPD has jurisdiction over all trees in Golden Gate Park. Thus, the SFRPD must grant permission for any trimming or removal of trees in these areas.

Special-Status Species

Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects the fish and wildlife species and their habitats that the USFWS or NMFS has identified as threatened or endangered. The term endangered refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. The term threatened refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code, Section 2070). The CDFW also maintains a list of candidate species," which are those formally under review for addition to either the list of endangered species or the list of threatened species. In addition, the CDFW maintains a list of "species of special concern," which serves as a watch list.

The CESA prohibits the take of plant and animal species that the California Fish and Game Commission has designated as either threatened or endangered in California. "Take" in the context of the CESA means to hunt, pursue, kill, or capture a listed species, as well as any other actions that may result in adverse impacts when a person is attempting to take individuals of a listed species. The take prohibitions also apply to candidates for listing under the CESA. However, Section 2081 of the CESA allows the CDFW to authorize exceptions to the State's take prohibition for educational, scientific, or management purposes.

In accordance with the requirements of the CESA, an agency reviewing a project within its jurisdiction must determine if any State-listed endangered or threatened species could be present in the project area. The agency also must determine if the project could have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any project that could affect a candidate species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (CNPPA), which directed the CDFW to carry out the legislature's intent to "preserve, protect, and enhance endangered plants in this state." The CNPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The CESA expanded on the original CNPPA and enhanced legal protection for plants. The CESA established threatened and endangered species categories and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are employed in California: rare, threatened, and endangered.

Special-Status Natural Communities

The CDFW's Natural Heritage Division identifies special-status natural communities, which are those that are naturally rare and those whose extent has been greatly diminished through changes in land use. The CNDDDB tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: Information is maintained on each site for the natural community's location, extent, habitat quality, level of disturbance, and current protection measures. The CDFW is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of the potential impacts of a project on biological resources of statewide or regional significance.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA; United States Code, Title 16, Section 703, Supplement I, 1989) prohibits taking, killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. The ESA defines take as "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species." Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior (e.g., nesting or reproduction). Therefore, for projects that would not result in the direct mortality of birds, the MBTA is generally also interpreted in CEQA analyses as protecting active nests of all species of birds that are on the List of Migratory Birds, published in the *Federal Register* in 1995. With respect to nesting birds, while the MBTA itself does not provide specific take avoidance measures, the USFWS and CDFW over time have developed a set of measures sufficient to demonstrate take avoidance. Since these measures are typically required as permitting conditions by these agencies, they are often incorporated as mitigation measures for projects during the environmental review process. The exception is if the project as proposed were to incorporate and be consistent with these protections. These requirements include avoiding tree removal during nesting season, preconstruction nesting bird surveys and establishment of appropriate buffers from construction if active nests are found.

California Fish and Game Code

Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5 (1992). This code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW. Typically CDFW recommends a 250-foot exclusion zone (buffer) around active passerine nests, and a 500-foot exclusion zone around active raptor nests. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. Project impacts to these species would not be considered significant unless they are known or have a high potential to nest in the project area or to rely on it for primary foraging. Section 3503 of the California State

Fish and Game Code protects the nests or eggs of any bird, and also the rookeries⁶³ of colonial nesting birds such as herons and egrets. All bat species are protected under the California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as otherwise provided in the code or in accordance with regulations adopted by the commission.

Special-Status Species in the Project Area

A list of special-status plant and animal species that could occur in the vicinity of the project area was compiled based on data described above in Approach to Analysis. Appendix 1 lists special-status plants and animals, their preferred habitats, and their potential to occur in the project area. Conclusions regarding habitat suitability and species occurrence are based on the results described in previous studies, the reconnaissance survey conducted by ESA on February 7, 2014, and the analysis of existing literature and database queries described above.

It was then determined whether there is a low, moderate, or high potential for species occurrence at the project facility sites and in the project vicinity based on previous special-status species record locations and current site conditions. Only species with a low, moderate, or high potential for occurrence in the project area are included in Table A1-1 (see Appendix 1) and considered under this analysis.

The CNDDDB documents 60 special-status wildlife species in the nine US Geological Survey (USGS) 7.5-minute quadrangles including and surrounding the project area⁶⁴ which were considered for the potential to occur on or near the project facility sites. Many species were eliminated from further consideration because the project site is outside of their known range and does not provide suitable habitat. The remaining species have a moderate or high potential to occur in the project area, and include special-status birds and bats.

CNDDDB identifies a variety of colonial nesting birds; which are black-crowned night heron (*Nycticorax nycticorax*), double-crested cormorant (*Phalacrocorax auritus*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), and snowy egret (*Egretta thula*). Although the facility sites themselves do not provide suitable habitat for these species, nearby Lake Merced provides nesting habitat and double-crested cormorant, great egret, and great blue heron are known to breed here. Black-crowned night heron may breed around the lake. CNDDDB also identifies several raptors which are Cooper's hawk (*Accipiter cooperi*), white-tailed kite (*Elanus leucurus*), merlin (*Falco columbarius*), and northern harrier (*Circus cyaneus*). Although not known to occur at the facility sites, these raptors have a moderate potential to occur in the project area. Many of the large eucalyptus, cypress, and pine trees around Lake Merced and in Golden Gate Park could support nests for Cooper's hawk and potentially for merlin if old crow, raven, and hawk nests are available for them to reuse in these trees. Additionally, freshwater wetlands of Lake Merced may provide nesting habitat for northern harrier. Other identified species such as white-tailed kite may be found at the freshwater wetlands of Lake Merced and wooded areas of Golden Gate Park. Other special-status raptor species that are likely to occur in the project area are red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*),

⁶³ Rookery is defined as a breeding colony of birds, typically seen as a collection of nests high in a group of trees.

⁶⁴ California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CNDDDB), 2014. Data request for U.S. Geological Survey San Francisco North 7.5-minute topographic quadrangle and eight surrounding quads. Accessed January, 2014.

American kestrel (*Falco sparverius*), and great horned owl (*Bubo virginianus*). Additionally, CNDDDB identified species that are known to breed in the project area include saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) and yellow-headed blackbird (*Xanthocephalus xanthocephalus*) which nest in freshwater marshes of Lake Merced (*Geothlypis trichas sinuosa*), and bank swallow (*Riparia riparia*) which nest in the sand dunes at Fort Funston.

Of the 60 special-status wildlife species identified by the CNDDDB, there are a few special-status bat species that could occur at the facility sites and in the project area, which are hoary bat (*Lasiurus cinereus*), western red bat (*Lasiurus blossevillii*), and Yuma myotis (*Myotis yumanensis*). Hoary bat has a Western Bat Working Group rating of medium priority, meaning that more information is needed about the species in order to fully understand and assess its status. Western red bat is a state species of special concern, and Yuma myotis is listed on the state Special Animal List. Hoary bat, western red bat, and Yuma myotis, all have a moderate potential to occur in the project area; Lake Merced and Golden Gate Park provide open wooded habitat, edge habitat, and sources of water for foraging as well as large trees with dense foliage for roosting. All three species have a moderate potential to occur at the Central Pump Station, and western red bat and Yuma myotis also have a moderate potential to occur at the WPCP. Both the pallid bat and Townsend's big-eared bat are extremely sensitive to disturbance, and therefore are not likely to be present in the project area given the frequent vehicle traffic at the Central Pump Station and along major roadways adjacent to Lake Merced, and given the long-term operational activity at the Oceanside WPCP.

There are no CNDDDB identified special-status amphibian, invertebrate, fish, or plant species with a moderate or high potential to occur at the project facility sites because there is no suitable habitat. Furthermore, a number of the special-status plant species have been extirpated from San Francisco. Although California red-legged frog (*Rana draytonii*) habitat does not exist at the facility sites, potential aquatic habitat exists at the small ponds in Golden Gate Park. However, the ponds in Golden Gate Park lack emergent aquatic vegetation required for egg laying, and therefore these areas are not likely to support breeding red-legged frogs. In contrast, Western pond turtle (*Emys marmorata*) is known to occur at Lake Merced,⁶⁵ and there is plentiful basking habitat found in riprap, matted bulrush, abandoned piers, and wooden debris; however upland breeding habitat is limited. Potentially suitable aquatic habitat is also located in Golden Gate Park approximately 400 feet from the Central Reservoir facility.

Impact BI-1: The project would potentially have a substantial adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. (Less than Significant with Mitigation)

Nesting Birds. Existing trees, in particular those located between the existing Oceanside WPCP facility and the California Army National Guard property, which could be removed in order to expand the plant footprint, and in the vicinity of the Central Pump Station, could support native nesting birds, which are

⁶⁵ San Francisco Recreation and Park Department (SFRPD), *Significant Natural Resource Areas Management Plan*, February 2006; San Francisco Planning Department, *Significant Natural Resource Areas Management Plan Draft Environmental Impact Report*, Planning Department Case No. 2005.1912E, State Clearinghouse No. 2009042102, August 2011.

protected under California Fish and Game Code Sections 3503 and the MBTA. Removal and/or relocation of trees with active nests, and construction noise and activity adjacent to such trees during the bird nesting season (March 1 through August 31) could result in nest abandonment, destruction, injury or mortality of nestlings, and disruption of reproductive behavior during the breeding season. Specifically, initial vegetation clearing activity associated with preparation of the Oceanside WPCP and Central Pump Station project areas for construction of additional facilities, could result in the mortality of individual birds, including special-status birds such as red-shouldered hawk, red-tailed hawk, Cooper's hawk, or American kestrel, and/or destruction of nests and nestlings, if nests are present and occupied. This would be a significant impact because it could directly harm individuals and could threaten reproductive success. Implementation of **Mitigation Measures BI-1a, Nesting Bird Protection Measures** would reduce potential impacts on special-status birds to a *less-than-significant* level by requiring surveys of the project site to identify nests and protection of nesting birds, should any be present.

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

Nesting birds and their nests shall be protected during construction by use of the following:

- Conducting vegetation and tree removal and construction activities outside the bird nesting season (February 1 to August 30), to the extent feasible.
- If construction occurs during the bird nesting season, a qualified wildlife biologist would conduct preconstruction surveys within seven days of the start of construction or after any construction breaks of 14 days or more to identify active nests. A nest is defined to be active for raptors if there is a pair of raptors displaying reproductive behavior (i.e., courting) at the nest and/or if the nest contains eggs or chicks. Surveys shall be performed for the project site and suitable habitat within 250 feet of the project site in order to locate any active passerine nests and within 500 feet of the project site to the extent access is granted by other property owners to locate any active raptor (birds of prey) nests or double-crested cormorant or heron rookeries.
- If active nests are located during the preconstruction bird nesting survey, the wildlife biologist shall evaluate if the schedule of construction activities could affect the active nest and the following measures shall be implemented based on their determination:
 - If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect and may revise their determination at any time during the nesting season. In this case, the following measure would apply.
 - If construction may affect the active nest, the biologist shall establish a no disturbance buffer. The biologist shall determine the appropriate buffer taking into account the species involved, the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e. adjacent to a road or active trail). No disturbance buffers for passerines typically vary from 25 feet and greater and for raptors from 300 feet and greater. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, species of special concern), an SFPUC representative, supported by the wildlife biologist, shall consult with the USFWS and/or CDFW regarding nest buffers.
- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.

- Removing or relocating active nests shall be coordinated by the SFPUC representative with the USFWS/and or CDFW, as appropriate, given the nests that are found on the site.
- Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases.

Roosting Bats. Existing trees in the vicinity of the recycled water treatment plant and Central Pump Station facility sites, could support native roosting bats, which are protected under California Fish and Game Code Section 4150. Removal and/or relocation of trees with active roosts, and construction activities adjacent to such trees during the bat roosting season could result in roost destruction, injury or mortality of pups, and general disturbance during breeding season.

Although no bats or evidence of their presence was observed at the Oceanside WPCP and Central Pump Station or in the immediate vicinity, including Lake Merced, this does not rule out the possibility that bats occupy the project area. Initial vegetation clearing activity associated with project development could kill and/or injure roosting and breeding special-status bats if roost sites occur in vegetation that would be removed. Direct impacts include the mortality of individual bats and/or destruction of maternal roosts and pups. These impacts would be significant because they could kill or injure adult and juvenile bats. However, implementation of **Mitigation Measures M-BI-1b: Pre-Construction Bat Surveys** would reduce potential impacts on roosting bats to a *less-than-significant* level by requiring surveys of the project site to no more than two weeks in advance of tree removal.

Mitigation Measure M-BI-1b: Avoidance and Minimization Measures for Special-Status Bats.

In coordination with the SFPUC, a qualified wildlife biologist shall conduct preconstruction special-status bat surveys before trees and structures that are suitable for bat roosting (*i.e.*, excluding temporary trailers, retaining walls, etc.) are removed. If active day or night roosts are found, the wildlife biologist shall take actions to make such roosts unsuitable habitat before trees and structures are removed. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes. Bat roosts that begin during construction are presumed to be unaffected, and no buffer would be necessary.

Reptiles and Amphibians. Western pond turtle is known to occur in Lake Merced with suitable habitat present in South Lake Merced.⁶⁶ California red-legged frog was historically present at Lake Merced, but now is believed to be extirpated from the area.⁶⁷ Suitable habitat for both species occurs in the vicinity of the Central Reservoir site in Golden Gate Park.

Although project construction would not occur within or adjacent to aquatic habitat known to support these two species, pipeline work would occur along Route 35/Skyline Boulevard, which is less than 1/4 mile from Lake Merced. The proposed Harding Road staging area also is located adjacent to Lake Merced. If western pond turtles are present in upland habitat of North and South Lake Merced nearby construction-related activity, they could be injured or killed. Construction-related activity would also occur within Golden Gate

⁶⁶ San Francisco Public Utilities Commission (SFPUC), *Lake Merced Watershed Report*, January 2011.

⁶⁷ Jones and Stokes, *Probable Absence of California Red-Legged Frog from Lake Merced*, Oakland, CA, 2007.

Park at the Central Pump Station and along a pipeline route that passes in proximity to Metson Lake and Lloyd Lake. If red-legged frogs or western pond turtles are present in upland habitat near these ponds or migrate to other areas of upland habitat close to construction activity around the Central Pump Station, they could be injured or killed (although the potential is considered low, as no red-legged frogs have been identified in Golden Gate park for nine years). The potential for the project to result in injury or mortality to red-legged frog or western pond turtle during project construction and implementation is considered a significant impact. However, this impact would be reduced to a *less-than-significant* level with implementation of **Mitigation Measures M-BI-1c: Avoidance and Minimization Measures for California Red-Legged Frog and Western Pond Turtle**. This would require pre-construction surveys be conducted by a qualified biologist no more than 14 days prior to any construction related activity.

Mitigation Measure M-BI-1c: Avoidance and Minimization Measures for California Red-Legged Frog and Western Pond Turtle.

During construction on Route 35/Skyline Boulevard, at the Central Pump Station well facility site, on the pipeline route within Golden Park near aquatic habitat, and during use of the Harding Road staging area, the SFPUC shall ensure a biological monitor is present during installation of exclusion fencing and initial vegetation clearing and/or grading, and shall implement the following measures:

- Within one week before work at these sites begins (including demolition and vegetation removal), a qualified biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, as deemed necessary by the biologist, to prevent California red-legged frogs and western pond turtles from entering the work area. The construction contractor shall install suitable fencing with a minimum height of 3 feet above ground surface with an additional 4-6 inches of fence material buried such that species cannot crawl under the fence.
- A qualified biologist shall conduct environmental awareness training in person or via video for all construction workers prior to construction workers beginning their work efforts on the project. The training shall include information on species identification, avoidance measures to be implemented by the project, and the regulatory requirements and penalties for noncompliance. If necessary, the content shall vary according to specific construction areas (e.g., workers on city streets will receive training on nesting birds but not on California red-legged frog identification).

A qualified biologist shall survey the project area within 48 hours before the onset of initial ground-disturbing activities and shall be present during initial vegetation clearing and ground-disturbing activities. The biological monitor shall monitor the exclusion fencing weekly to confirm proper maintenance and inspect for frogs and turtles. If California red-legged frogs or western pond turtles are found, the SFPUC shall halt construction in the vicinity that poses a threat to the individual as determined by the qualified biologist. If possible, the individual shall be allowed to move out of the project area of its own volition (i.e., if it is near the exclusion fence that can be temporarily removed to let it pass). For western pond turtles, a qualified biologist shall relocate turtles to the nearest suitable habitat. For California red-legged frog, a SFPUC representative shall contact the USFWS and/or CDFW for instructions on how to proceed. Construction shall resume after the individual is out of harm's way.

- During project activities, excavations deeper than 6 inches shall be covered overnight or an escape ramp of earth or a wooden plank at a 3:1 rise shall be installed; openings such as pipes where California red legged frogs or western pond turtles might seek refuge shall be covered

when not in use; and all trash that may attract predators or hide California red-legged frogs or western pond turtles shall be properly contained on a daily basis, removed from the worksite, and disposed of regularly. Following construction, the construction contractor shall remove all trash and construction debris from work areas.

Impact BI-2: The project would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. (Less than Significant)

The project does not include activities or project facilities in the vicinity of riparian habitat (specifically, willow riparian scrub) or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. Because the project would avoid these sensitive areas, this impact would be *less than significant*.

Mitigation: None required.

Impact BI-3: The project would not have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act. (Less than Significant)

Lake Merced is considered jurisdictional water of the U.S. and of the state and is subject to the regulatory authority of the Corps, CDFW, the RWQCB, and the CCC. Although Lake Merced would not be directly affected by construction of the proposed project, one of the three proposed staging areas is located on Harding Road, which is adjacent to the South Lake. Transportation of project materials to and from the various staging areas could generate dust and other construction materials and fluids that may enter the South Lake, North Lake, and wetlands associated with these aquatic features. However, as discussed in Topic 15, Hydrology and Water Quality, the SFPUC would require the construction contractor to develop and implement an Erosion and Sediment Control Plan in accordance with Article 4.1 of the Public Works Code. During construction, the SFPUC could also conduct routine inspections of all Best Management Practices (BMPs) to document compliance and identify deficiencies to be corrected. Implementation of construction site stormwater requirements developed to comply with Article 4.1 of the Public Works Code would therefore ensure that water quality impacts related to stormwater runoff during construction would be *less than significant*.

Mitigation: None required.

Impact BI-4: The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

Several known rookeries of double crested cormorant and great blue heron exist in the large eucalyptus trees located along the shores of North and South Lake Merced. Additionally, red-shouldered and red-

tailed hawks nest in large trees (eucalyptus, Monterey cypress, and pines) around all of the lakes.⁶⁸ Although project activities would not affect rookery trees in particular, project-related activities could result in disturbance to the general Lake Merced area and thus may adversely impact rookeries. However, most historical rookeries have existed in this highly urbanized and disturbed area, and thus project construction is not expected to substantially affect rookeries and the potential impacts are considered *less than significant*.

The project facility sites and staging areas are largely developed and are surrounded on all sides by City streets and major roadways, and are generally situated within a developed, urban environment that doesn't provide substantial natural habitat or movement corridors for any native or migratory wildlife species. Furthermore, the majority of the proposed pipeline work would take place within city streets and would not occur in or immediately adjacent to aquatic/riparian habitat of Lake Merced and the small ponds within the Golden Gate Park, and therefore impacts to rookeries and fish species mentioned above would be *less than significant*.

Mitigation: None required.

Impact BI-5: The project would not conflict with applicable local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. (No Impact)

Project construction, including the Oceanside WPCP site, Central Reservoir, and pipeline alignments, would require tree limbing and vegetation removal as follows: vegetation removal adjacent to the entrance to the Central Reservoir facility, if widening of the entrance is required; vegetation removal at a stretch of pipeline between the Central Reservoir pump station addition and Overlook Drive or John F. Kennedy; removal of small ornamental palm trees in the Oceanside WPCP parking area; and tree and vegetation removal at a short stretch of pipeline between the recycled water treatment plant, the California Army National Guard parking lot, and Skyline Boulevard. No tree removal would occur within Golden Gate Park or at other project locations, other than those described above. However, tree trimming could be required at any project location. Article 16, Section 808 of the Public Works Code prohibits damage to protected trees in areas under SFDPW jurisdiction and trees located on City owned property. Therefore, the project includes several measures to protect trees adjacent to work areas as detailed in Section A.6.2, Construction, and as listed below.

- Establishing a Tree Protection Zone (TPZ) around any tree or group of trees to be retained. The formula typically used is defined as 1.5 times the radius of the dripline or 5 feet from the edge of any grading, whichever is greater. The TPZ may be adjusted on a case-by-case basis after consultation with a certified arborist.
- Marking the TPZ of any trees to be retained with permanent fencing (e.g., post and wire or equivalent), which would remain in place for the duration of construction activities in the area. "Keep out" signs would be posted on all sides of fencing.

⁶⁸ San Francisco Recreation and Park Department (SFRPD), *Significant Natural Resource Areas Management Plan*, February 2006.

- Prohibiting construction-related activities, including grading, trenching, construction, demolition, or other work within the TPZ; or, if work within the TPZ is necessary, performing the work in a manner that will adequately protect the tree. No heavy equipment or machinery would be operated within the TPZ. No construction materials, equipment, machinery, or other supplies would be stored within a TPZ. No wires or signs would be attached to any tree. Any modifications would be approved and monitored by a certified arborist.
- Pruning selected trees to provide necessary clearance during construction and to remove any defective limbs or other parts that may pose a failure risk. All pruning would be completed by a certified arborist or tree worker and adhere to the *Tree Pruning Guidelines* of the International Society of Arboriculture.

Implementation of these measures would ensure compliance with Article 16, Section 808 of the Public Works Code and thus avoid impacts associated with conflicts with applicable local policies or ordinances protecting biological resources. Further, because construction of facilities within Golden Gate Park would not require removal of trees, SFRPD Park Code and Golden Gate Park Master Plan policies regarding tree removal are not applicable to the proposed project. Therefore, the project would not conflict with local policies or ordinances protecting biological resources and there would be *no impact*.

Mitigation: None required.

Impact C-BI-1: The project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, could result in significant cumulative impacts on biological resources. (Less than Significant with Mitigation)

The geographic context for the analysis of cumulative impacts on biological resources generally encompasses the open space areas around Lake Merced and central Golden Gate Park. Potential project impacts on biological resources could include those on special-status species: western pond turtle, California red-legged frog, special-status and migratory birds, and special-status bats. Past cumulative projects, including the development of civic facilities, residences, commercial and industrial areas, and infrastructure, have already caused substantial adverse cumulative changes to biological resources in San Francisco. For example, the project area was converted from its original sand dune habitat beginning over a century ago, with a nearly complete loss of the original habitat types and many of the species that once occurred there. Revegetated areas have matured over time and provide habitat for both native and non-native plant and animal species. However, the diversity of species in these revegetated areas is often simplified and the areas support a different suite of species than once existed. Overall, this is true of many areas throughout the region.

Many of the cumulative projects in the project vicinity would result in temporary impacts associated with construction. Most current and reasonably foreseeable projects that could result in significant cumulative construction impacts on biological resources are those that would be implemented in the Lake Merced area. These projects include infill development or renovation of facilities, such as the Vista Grande Drainage Basin Improvement Plan and the Parkmerced Project. Other projects with potential cumulative impacts are the construction of new pipelines and facilities for the San Francisco Groundwater Supply Project. These projects would primarily have temporary construction-related impacts on biological resources and are not

expected to convert or remove more than minor areas of habitat for plants and wildlife. Other projects, such as the proposed update to the SNRAMP, would include elements likely to result in beneficial effects on biological resources. Conservatively, this analysis assumes that there could be a significant cumulative impact on biological resources from the combination of these projects, given the historical impacts on biological resources in the vicinity.

The contribution of the proposed project to significant cumulative biological resources impacts could be considerable, due to the project’s potential to cause significant, project-specific impacts on sensitive biological resources. However, implementing **Mitigation Measures M-BI-1a through M-BI-1c** would avoid or substantially minimize the project’s effect on special-status species. As a result, these measures would reduce the project’s contribution to cumulative impacts on biological resources to a less-than-cumulatively considerable level (*less than significant*).

<i>Topics:</i>	<u>Potentially Significant Impact</u>	<u>Less Than Significant with Mitigation Incorporated</u>	<u>Less Than Significant Impact</u>	<u>No Impact</u>	<u>Not Applicable</u>
14. GEOLOGY AND SOILS—					
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Topics:	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
f) Change substantially the topography or any unique geologic or physical features of the site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

None of the proposed project facilities would traverse areas of mapped earthquake-induced landslide susceptibility identified by the California Department of Conservation under the Seismic Hazards Mapping Act of 1990.⁶⁹ Therefore, Topic 14.(a)(iv) is *not applicable*.

The artificial fill and dune sand beneath the project area are sandy and would not be expansive. Further, any backfill materials used for the project would have a low expansion potential in accordance with the recommendations of the geotechnical reports for the project. Therefore, initial study Topic 14(d) is *not applicable*.

The proposed project would connect to the combined sewer system which is the wastewater conveyance system for San Francisco, and would not use septic tanks or other on-site land disposal systems for sanitary sewage. Therefore, initial study Topic 14(e) is *not applicable*.

Evaluation of geology and soils impacts that would result from implementation of the project is based on geotechnical reports prepared for the recycled water treatment plant⁷⁰ and proposed storage reservoir at the Central Reservoir site⁷¹ as well as published geologic information. Potential seismic impacts related to the project include seismically induced groundshaking, as well as liquefaction and related ground failures that could damage structures constructed under the proposed project. Construction-related impacts include potential erosion, excavation instability, and settlement from excavation dewatering.

Impact GE-1: The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic groundshaking, or seismically induced ground failure. (Less than Significant)

Fault Rupture. The project area is not located within an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active faults exist on or in the immediate vicinity of the area. The City College fault crosses the pipeline alignment north of Golden Gate Park. This fault was historically mapped as a fault but is currently considered a shear zone.⁷² Because this is not an active fault, minor displacement could occur in response to an earthquake on one of the regional faults. However, the potential for substantial fault

⁶⁹ California Department of Conservation, Division of Mines and Geology, State of California Seismic Hazard Zones, City and County of San Francisco, Official Map, November 17, 2000.
⁷⁰ Geotechnical Consultants, Inc. *Final Geotechnical Interpretive Report, Westside Recycled Water Project (WRWP), San Francisco, California*. January 2013.
⁷¹ San Francisco Department of Public Works, Infrastructure Design and Construction. *Geotechnical Report, Golden Gate Park Central Reservoir Expansion Project, San Francisco, California*. April 22, 2013.
⁷² Schlocker, Julius, 1974. Geology of the San Francisco North Quadrangle, California. Geological Survey Professional Paper 782. Available at <http://pubs.er.usgs.gov/pubs/pp/pp782>

displacement to occur along this shear zone is considered low. Therefore, impacts related to fault rupture would be *less than significant*.

Groundshaking. The intensity of the seismic shaking, or strong ground motion, in the project area during an earthquake would be dependent on the distance between the site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the site. Earthquakes occurring on faults closest to the site would most likely generate the largest ground motions. The US Geological Survey (USGS) concluded that there is a 63 percent probability of a strong earthquake (moment magnitude [Mw] 6.7⁷³ or higher) occurring in the San Francisco Bay region in the 30-year period between 2007 and 2036.⁷⁴ The faults that would be capable of causing the strongest groundshaking in the project area are the San Andreas fault, located a minimum of about 1.5 miles to the west and the Hayward fault, located a minimum of approximately 14 miles to the east as well as the San Gregorio, Calaveras, Mt. Diablo, and Rodgers Creek faults.

Based on regional shaking hazard mapping by the Association of Bay Area Governments (ABAG), the project area would experience violent ground shaking due to an earthquake one of the regional faults.⁷⁵ The intensity of earthquake-induced ground motions can also be described in terms of “peak ground acceleration,” which is represented as a fraction of the acceleration of gravity (g).⁷⁶ The site-specific seismic analyses for the Oceanside WPCP and Central Reservoir sites estimated that the expected peak ground acceleration at these sites would be 0.64g and 0.63g, respectively, and these values are consistent with very strong groundshaking.

Although the project area would be subject to very strong ground shaking in the event of a major earthquake, the project would not expose people or structures to substantial adverse effects related to ground shaking because all of the proposed facilities would be constructed according to current engineering standards which would ensure that they would not be substantially damaged as a result of seismic groundshaking. As is required by SFPUC design specifications, the proposed treatment plant at the Oceanside WPCP and storage reservoir at the Central Reservoir site would be designed and constructed in accordance with the most current engineering standards for design of structures, including the *San Francisco Building Code*, *California Building Code*, and the 2010 American Society of Civil Engineers/Structural Engineering Institute “Minimum Design Loads for Buildings and Other Structures” (ASCE/SEI 7-10). This standard provides definitions of seismic sources and specifies the procedures used to calculate seismic forces on structures during groundshaking. In accordance with this standard, the proposed treatment building would be a Risk Category III structure (i.e., an essential facility which would pose a substantial hazard to the community if it failed); the site would be classified as Site Class D (i.e. stiff soil); and the

⁷³ An earthquake is classified by the amount of energy released, expressed as the magnitude of the earthquake. Traditionally, magnitudes have been quantified using the Richter scale. However, seismologists now use a moment magnitude (Mw) scale because it provides a more accurate measurement of the size of major and great earthquakes. Moment magnitude is directly related to the average slip and fault rupture area.

⁷⁴ U.S. Geologic Survey (USGS), The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2), by the Working Group on California Earthquake Probabilities, Open File Report 2007-1437, 2008.

⁷⁵ Association of Bay Area Governments, 2014. Earthquake and Hazards Program, San Francisco County Earthquake Hazard. <http://quake.abag.ca.gov/earthquakes/sanfrancisco/>, accessed April 28, 2014.

⁷⁶ Acceleration of gravity (g) = 980 centimeters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

structure would be assigned Seismic Design Category F (i.e. site with a mapped spectral acceleration greater than 0.75).

Regarding the distribution pipelines and the new buried reservoir at the Central Reservoir site, the Building Seismic Safety Council (BSSC) acknowledges that facilities such as hydraulic structures, buried utility lines, and their appurtenances, are not typical structures and require technical considerations beyond the scope of the *California Building Code*.⁷⁷ However, these structures are covered by other well-established industry design criteria such as the American Water Works Association's standards for design and installation of steel pipe as well as pipe welding and flanges; standards of the American Society of Mechanical Engineers; and standards of the American Welding Society for structural welding.

Design in accordance with the *San Francisco Building Code*, *California Building Code*, and ASCE/SEI 7-10 as well as the other well-established industry design criteria such as those described above would be required by the SFPUC in their contract specifications for the project design. Incorporation of the appropriate engineering and design features would ensure that the proposed facilities would be able to withstand the calculated seismic forces and also ensure that they would not be substantially damaged in the event of a major earthquake. Therefore, impacts related to ground shaking would be *less than significant*.

Liquefaction, Lateral Spreading, and Earthquake-Induced Settlement. Liquefaction is a phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced, strong groundshaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude of earthquakes likely to affect the site. Saturated, unconsolidated silts, sands, silty sands, and gravels within 50 feet of the ground surface are most susceptible to liquefaction. The primary liquefaction-related phenomena include vertical settlement⁷⁸ and lateral spreading.⁷⁹ Pipelines constructed within liquefiable materials are more subject to damage in the event of an earthquake than those that are not, and water and wastewater pipelines are the most susceptible to damage.⁸⁰

During an earthquake, underground utilities tend to fail at the interface between a softer unit and a stiffer unit due to the settlement that occurs within the softer unit, a phenomenon known as differential settlement. Differential settlement is a concern because it can cause uneven movement of pipelines and building foundations, resulting in substantial damage, including cracks and breakage.

⁷⁷ Building Seismic Safety Council of the National Institute of Building Sciences (BSSC), NEHRP Recommended Seismic Provisions for New Buildings and Other Structures (FEMA P-750). 2009 Edition.

⁷⁸ During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Areas are susceptible to differential settlement if underlain by compressible sediments, such as poorly engineered artificial fill or bay mud.

⁷⁹ Of the liquefaction hazards, lateral spreading generally causes the most damage. This is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied substrate of large aerial extent.

⁸⁰ Association of Bay Area Governments, 2001. *The REAL Dirt on Liquefaction, A Guide to the Liquefaction Hazard in Future Earthquakes Affecting the San Francisco Bay Area*. February.

Lateral spreading is a phenomenon in which large blocks of intact, non-liquefied soil move downslope on a liquefied substrate of large aerial extent.⁸¹ When lateral displacement occurs, the mass moves toward an unconfined area, such as a descending slope or stream-cut bluff. Slopes ranging between 0.3 and 3 percent can displace the surface by several meters to tens of meters.

Neither the new treatment plant at the Oceanside WPCP nor the new buried storage reservoir at the Central Reservoir site are located in an area of liquefaction potential identified by the California Department of Conservation under the Seismic Hazards Mapping Act of 1990.⁸² The distribution pipelines would traverse an area of liquefaction potential along Skyline Boulevard that parallels the Lake Merced shoreline immediately to the east. This area could therefore be subject to liquefaction, earthquake-induced settlement and lateral displacement. However, the pipelines would not be subjected to substantial liquefaction damage because they would be constructed in accordance with the *San Francisco Building Code*, *California Building Code*, and ASCE/SEI 7-10 as well as other well-established industry design criteria such as those described for groundshaking above, which require such structures to be designed to withstand the expected seismic forces and the effects of liquefaction. Therefore, impacts related to liquefaction, earthquake-induced settlement, and lateral spreading would be *less than significant*.

Mitigation: None required.

Impact GE-2: The proposed project would not result in substantial erosion or loss of top soil. (Less than Significant)

Soil movement for excavation and other improvements could create the potential for wind- and water-borne soil erosion. However, the SFPUC would require the construction contractor to implement an erosion and sediment control plan for construction activities in accordance with Article 4.1 of the San Francisco Public Works Code (discussed in Topic 15, Hydrology and Water Quality) to reduce the impact of runoff from the construction sites. The City must review and approve the erosion and sediment control plan prior to implementation, and would conduct periodic inspections to ensure compliance with the plan. With implementation of the approved controls, subject to approval and inspection by the City, substantial erosion would not occur and impacts related to soil erosion would be *less than significant*.

The project area is built out, and most of the area is covered with impervious surfaces, including streets, sidewalks, and trails. The previous construction of these features would have involved removal of any top soil (a fertile soil horizon that typically contains a seed base). The approximately 150-foot segment of pipeline between the Central Reservoir site and John F. Kennedy Drive would cross an unpaved area of Golden Gate Park that is vegetated with turf, and would not likely have a well-developed top soil horizon, given that this area primarily consist of dune sands. Therefore, impacts related to loss of top soil would be *less than significant*.

⁸¹ Youd, T.L. and D.M. Perkins, "Mapping Liquefaction Induced Ground Failure Potential," Proceedings of the American Society of Civil Engineers, Journal of the Geotechnical Engineering Division, 1978.

⁸² California Department of Conservation, Division of Mines and Geology, State of California Seismic Hazard Zones, City and County of San Francisco, Official Map, November 17, 2000.

Mitigation: None required.

Impact GE-3: The project site would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project. (Less than Significant)

Construction of several project components would include excavation which could result in unstable slopes, including the new recycled water treatment plant, recycled water well, and reservoir used during the treatment process at the Oceanside WPCP; the new buried storage reservoir at the Central Reservoir site; and distribution pipelines. These activities and methods that would be employed to avoid adverse effects related to unstable soil are discussed below.

Construction of the proposed new facilities at the Oceanside WPCP would require removal of the base of an existing retaining wall at the property boundary with the Armory site, creating an exposed excavation face that could become unstable. However, in accordance with the recommendations of the geotechnical interpretive report for this site, the SFPUC would construct a new retaining wall to support this open excavation face.⁸³

Construction of the new recycled water treatment plant and underlying reservoir used during the treatment process at the Oceanside WPCP would entail excavation to a depth of about 32 feet below ground surface, or to an elevation of about 8 feet SFD. For this construction, one existing retaining wall near the property boundary with the Armory site would be demolished, which could also create unstable soil conditions. Excavation depths would be above the groundwater table (generally encountered at a depth of about 40 feet below ground surface at this location, or an elevation of about 2 feet SFD). Regardless, based on the presence of some shallow saturated soil, some dewatering may be necessary to maintain a dry excavation for construction of the new features and this dewatering could potentially also induce some ground settlement. In addition, construction of the wet well for recycled water storage would require excavation to a depth of five feet. However, in accordance with the recommendations of the geotechnical interpretive report for this site and Cal/OSHA regulations pertaining to temporary shoring in Title 8 of the California Code of Regulations, the excavation walls for these construction activities would be supported by conventional shoring methods such as soldier piles and lagging⁸⁴, which would prevent the excavation sidewalls from becoming unstable.

Further, the SFPUC would implement a monitoring program in accordance with the recommendations of the geotechnical interpretive report for this site.⁸⁵ The monitoring program would utilize an inclinometer to monitor for movement at the face of the excavations. The monitoring program would also include a baseline survey and frequent surveying of the excavation as construction progresses to evaluate the effects of construction and ensure that the soil and existing excavation walls do not become unstable. Surrounding

⁸³ Geotechnical Consultants, Inc. *Final Geotechnical Interpretive Report, Westside Recycled Water Project (WRWP), San Francisco, California*. January 2013.

⁸⁴ A soldier pile and lagging system includes concrete encased beams placed in drilled holes that extend below the bottom of the excavation. Timber lagging is placed between the beams to retain soil in the excavation sidewall as excavation proceeds.

⁸⁵ Geotechnical Consultants, Inc. *Final Geotechnical Interpretive Report, Westside Recycled Water Project (WRWP), San Francisco, California*. January 2013.

facilities and structures would also be inspected for cracks and other indications of stress prior to excavation activities, and would be monitored for potential movements during excavation.

In Golden Gate Park, construction of the new underground storage reservoir would entail excavation to a depth of about 25 feet below ground surface, which could result in unstable slopes and also reduce support for the existing reservoir. However, in accordance with the recommendations of the geotechnical report for this site and Cal/OSHA regulations pertaining to temporary shoring in Title 8 of the California Code of Regulations, the excavation would be appropriately shored using conventional shoring methods such as soldier piles and lagging.⁸⁶ Jet grouting may also be used, depending on site conditions.⁸⁷ The water level in the existing reservoir could also be lowered to reduce stresses on the reservoir, and the existing reservoir would also be underpinned if necessary to provide additional support.

Construction of the distribution pipelines would require excavation to shallower depths, on the order of 6 feet below ground surface, which could also create unstable conditions. However, these excavations would be appropriately shored in accordance with the regulatory requirements of the Cal/OSHA specified in Title 8 of the California Code of Regulations.

Implementation of the recommendations of the geotechnical reports for the project and excavation safety requirements specified in Title 8 of the California Code of Regulations, discussed above, would ensure that excavation activities under the proposed project do not result in unstable soils or geologic units. Therefore, this impact would be *less than significant*.

Mitigation: None required.

Impact GE-4: The project site would not substantially change existing topography or unique geologic features of the site. (No Impact)

The project area has no unique topographic, geologic, or physical features. Neither construction of the recycled water treatment plant at the Oceanside WPCP, underground storage reservoir at the Central Reservoir site, nor the buried distribution pipelines would substantially alter the topography of the area. Following major excavation and trenching activities, the site would be returned to existing grade. Therefore, there is *no impact* related to existing topography.

Mitigation: None required.

Impact C-GE: The proposed project would not have a significant cumulative impact related to geologic hazards. (Less than Significant)

Although the entire Bay Area is located within a seismically active region with a high risk of seismic hazards and a wide variety of geologic conditions, the geographic scope of potential geology and soils

⁸⁶ San Francisco Department of Public Works, Infrastructure Design and Construction. *Geotechnical Report, Golden Gate Park Central Reservoir Expansion Project, San Francisco, California*. April 22, 2013.

⁸⁷ Jet grouting involves mechanically mixing the in-place soil with grout to provide support for the excavation sidewalls.

impacts is restricted to the project area and immediate vicinity because related risks are relatively localized or even site-specific.

While the Vista Grande Drainage Basin Improvement Project and San Francisco Groundwater Supply Project would include construction of several features in the vicinity of Lake Merced, none would be on the Oceanside WPCP property where the new recycled water treatment plant and related features would be constructed under the proposed project. The San Francisco Groundwater Supply Project would also include construction of features in Golden Gate Park, including distribution pipelines along the same section of Middle Drive West and a new well facility at the Central Reservoir site. However, as discussed in Impact GE-3, implementation of the recommendations of the geotechnical reports for the proposed project and excavation safety requirements specified in Title 8 of the California Code of Regulations would ensure that construction activities under the proposed project do not result in unstable soils or geologic units and the Vista Grande Drainage Basin Improvement Project and San Francisco Groundwater Supply Project would be subject to the same standards. Therefore, cumulative impacts related to unstable soils and geologic units would be *less than significant*.

With regard to seismic hazards, the project area could be subjected to very strong groundshaking and portions of the project area could experience liquefaction in the event of an earthquake on a nearby fault. Features constructed under the Vista Grande Drainage Basin Improvement Project, San Francisco Groundwater Supply Project, and other construction projects in the general vicinity could also be subjected to these hazards. However, as discussed in Impact GE-1, all of the proposed project components would be designed and constructed in accordance with the most current building code requirements and engineering standards for seismic safety which would minimize the potential for damage. Features constructed under the Vista Grande Drainage Basin Improvement Project and any other construction projects in the general area would also be subject to the same requirements. Therefore, cumulative impacts related to groundshaking and liquefaction would be *less than significant*.

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
15. HYDROLOGY AND WATER QUALITY— Would the project:					
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Topics:</u>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion of siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project does not include the construction of housing. Further, the project area is not located within an area of sewer-related flooding identified by the SFPUC,⁸⁸ within a Special Flood Hazard Area identified on San Francisco's Interim Floodplain Map;⁸⁹ or an area that would be inundated with a sea level rise of 55 inches by 2100 based on mapping by the Pacific Institute.^{90,91} Therefore, Topics 15.(g) and 15.(h) are *not applicable*.

Impact HY-1: Project construction would not violate water quality standards or otherwise substantially degrade water quality. (Less than Significant)

During construction, the proposed project could result in water quality impacts as a result of stormwater runoff from the construction site and discharges of groundwater to the combined sewer system. However, as discussed below, both of these impacts would be less than significant with implementation of San Francisco regulatory requirements.

⁸⁸ San Francisco Planning Department, Planning Director Bulletin No. 4, Review of Project Identified in Areas Prone to Flooding, April 2007.

⁸⁹ City and County of San Francisco, San Francisco Interim Floodplain Map, West, Final Draft July, 2008.

⁹⁰ Pacific Institute, California Flood Risk: Sea Level Rise, San Francisco South OE W Quadrangle, 2009.

⁹¹ Pacific Institute, California Flood Risk: Sea Level Rise, San Francisco North Quadrangle, 2009.

Construction-Related Stormwater Discharges. During construction of the proposed project, water quality could be affected by erosion from grading and earthmoving operations, a release of fuels or other chemicals used during construction, or a release of materials generated during demolition and construction. Grading and earthmoving would expose soil during construction and could result in erosion, with excess sediments carried in stormwater runoff to the combined sewer system. Stormwater runoff from temporary on-site use and storage of vehicles, fuels, wastes, and building materials could also carry pollutants into the combined sewer system if these materials were improperly handled.

The federal Clean Water Act prohibits discharges of stormwater from construction projects unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Stormwater from the project site is collected in the Westside drainage area of the City's combined sewer system. Construction stormwater discharges to the system would be subject to the requirements of Article 4.1 of the San Francisco Public Works Code (supplemented by SFPDW Order No. 158170), which incorporates and implements the City's NPDES permit for the Oceanside WPCP and collection system as well as the Westside wet weather facilities. This permit also incorporates the requirements of the federal Combined Sewer Overflow (CSO) Control Policy. Any stormwater drainage during construction that flows to the City's combined sewer system would receive treatment at the Oceanside WPCP or other wet weather facilities and would be discharged through an existing outfall or overflow structure in compliance with the City's existing NPDES permit.

In accordance with Article 4.1, the SFPUC would be required to develop and implement an erosion and sediment control plan to reduce the impact of runoff from a construction site. The plan must include the following information: location and perimeter of the site; location of nearby storm drains and/or catch basins; existing and proposed roadways and drainage pattern within the site; and a drawing or diagram of the sediment and erosion control devices to be used on site. At a minimum, the plan would also contain a visual monitoring program and a chemical monitoring program for nonvisible pollutants that could result from use and storage of hazardous materials. The erosion and sediment control plan would also specify minimum BMPs related to housekeeping (storage of construction materials, waste management, vehicle storage and maintenance, landscape materials, pollutant control); nonstormwater management; erosion control; sediment control; and run-on and runoff control.

In the project construction contract, the SFPUC would require the construction contractor to develop and implement the Erosion and Sediment Control Plan, which would reduce sedimentation and discharges of pollutants to the combined sewer system. During construction, the SFPUC could also conduct routine inspection of all BMPs to document compliance and identify deficiencies to be corrected. Implementation of construction site stormwater requirements developed to comply with Article 4.1 of the Public Works Code would therefore ensure that water quality impacts related to stormwater runoff during construction would be *less than significant*.

Construction-Related Groundwater Dewatering. As noted in Topic 14, "Geology and Soils," excavation for construction of the new recycled water treatment plant would extend to a depth of about 32 feet below grounds surface, or to an elevation of about 8 feet SFD. This excavation would be above the groundwater table (generally encountered at a depth of about 40 feet below ground surface at this location, or an elevation of about 2 feet SFD). Regardless, based on the presence of some shallow

saturated soil, some limited dewatering may be necessary to maintain a dry excavation for construction of the new features. If the groundwater produced during dewatering contained contaminants or excessive sediment, discharge of the groundwater into the combined sewer system could potentially degrade water quality.

Groundwater produced during construction-related dewatering would be discharged to the City's combined sewer system in accordance with a permit issued by the Wastewater Enterprise Collection System Division of the SFPUC in accordance with Article 4.1 of the *San Francisco Public Works Code*, as supplemented by Order No. 158170, which regulates the quantity and quality of discharges to the combined sewer system. This permit would contain appropriate discharge standards and may require installation of meters to measure the volume of the discharge.

As discussed in Topic 16, "Hazards and Hazardous Materials," a groundwater sample collected during the 2012 environmental investigation at the Oceanside WPCP did not contain detectable levels of oil and grease, sulfides, or volatile organic compounds. The detected metals concentrations were less than the discharge limitations specified in Article 4.1 or Order No. 158170. In addition, the pH of the groundwater was 6.85 which is within the acceptable range of 6.0 to 9.5. These results indicate that no treatment would be necessary for chemical constituents prior to discharge, although this determination would be made at the time of discharge and treatment would be used as necessary to meet discharge limitations. While the discharge could contain sediments, the groundwater would be treated as necessary to meet permit requirements prior to discharge.

With discharge to the combined sewer system in accordance with regulatory requirements, the quality of the discharges would be within the discharge limitations established for the combined sewer system and water quality impacts related to a violation of water quality standards or degradation of water quality due to discharge of groundwater during construction would be *less than significant*.

Because the excavation depth would be above the water table and because the temporary soil-cement wall that would support the one wall of the Recycled Water Treatment Plant excavation would further reduce flows into the excavation, limited dewatering under the proposed project would not affect groundwater flows in the underlying aquifer. Therefore, the dewatering would not induce seawater intrusion from the Pacific Ocean or affect the migration of the groundwater plume at the Janet Pomeroy Recreation and Rehabilitation Center located approximately 1,000 feet from the proposed new Recycled Water Treatment Plant, as discussed in Section E.16, Hazards and Hazardous Materials.

Mitigation: None required.

Impact HY-2: Project operation could violate water quality standards, but would not contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. (Potentially Significant with respect to changes in effluent water quality; Less than Significant with respect to stormwater discharges, contributions to combined sewer overflows, and production, distribution, and use of recycled water)

The project area is located in an area served by the Westside drainage area of the combined sewer system. Without implementation of stormwater controls, construction and replacement of impervious surfaces at the recycled water treatment plant at the Oceanside WPCP and over the underground storage reservoir at the Central Reservoir site in Golden Gate Park, the rate or volume of stormwater flows to the combined sewer system could change once the project is constructed. In addition, the use of chemicals at the new recycled water treatment plant could provide additional sources of polluted runoff. Changes in discharges to the combined sewer system could also affect the frequency or duration of combined sewer discharges. Production and distribution of recycled water could also result in water quality impacts. However, each of these impacts would be *less than significant* with implementation of regulatory requirements as discussed below.

As described in the Project Description, concentrated brine solution from the reverse osmosis system used at the new water treatment plant at the Oceanside WPCP would be conveyed to the ocean for disposal through the Oceanside WPCP Southwest Ocean Outfall. Depending on the quality of this solution, addition to the Oceanside WPCP effluent could potentially result in an exceedance of effluent limitations established in the NPDES permit for the Oceanside WPCP, Southwest Ocean Outfall, and Westside Wet Weather Facilities, a *potentially significant* impact. However, the SFPUC is currently conducting studies regarding the effluent quality and NPDES permit limitations. Accordingly, this impact will be further analyzed and included in the EIR to determine if the impact would be significant.

Storm Drainage System Capacity and Additional Sources of Polluted Runoff

Construction of the new recycled water treatment plant would include the construction of approximately 5,000 square feet of new impervious surfaces in an area that is currently landscaped, and replacement of approximately 9,500 square feet of existing impervious surfaces at the Oceanside WPCP. Construction of the underground storage reservoir and new pump station would entail the replacement of existing impervious surfaces at the Central Reservoir site in Golden Gate Park. These changes in impervious surfaces could result in a small incremental change in the rate or volume of stormwater runoff to the combined sewer system. However, in accordance with San Francisco's Stormwater Ordinance (Article 4.2 of the San Francisco Public Works Code) and the San Francisco Stormwater Design Guidelines, the SFPUC would be required to implement stormwater best management practices that result in a 25 percent decrease in the peak rate and total volume of storm water runoff from the two-year 24-hour design storm (compared to existing conditions) using low-impact design (LID) techniques. This requirement applies to sites served by the combined sewer system that currently have more than 50 percent impervious surfaces and is equivalent to LEED Sustainable Sites Credit 6.1 (Stormwater Design: Quantity Control). To achieve this standard, the new recycled water treatment plant would be constructed with a green roof which would detain some of the stormwater, thereby reducing the rate and volume of runoff. The design of the new underground

storage reservoir and pump station would similarly include BMPs such as stormwater infiltration to ensure that the runoff flow rate and volume of stormwater discharges are reduced by 25 percent.

Compliance with the San Francisco Stormwater Design Guidelines could require that the SFPUC prepare a stormwater control plan for these facilities describing the BMPs that would be implemented and a plan for post-construction operation and maintenance of the BMPs. If required, the plan could include the following elements:

- Site characterization
- Design and development goals
- Site plan
- Site design
- Source controls to prevent pollutant generation and discharge by controlling pollution at its source
- Treatment control BMPs to remove pollutants from the stormwater runoff
- Comparison of design to established goals
- Operations and maintenance plan

The operations and maintenance plan, prepared as part of the stormwater control plan, would identify the individual(s) with operational responsibility for the facility, applicable maintenance requirements for each stormwater control, detailed requirements for each BMP, and required maintenance of facilities.

The stormwater control plan must be reviewed and stamped by a licensed landscape architect, architect, or engineer. The SFPUC Wastewater Enterprise would review the plan, certify compliance with the San Francisco Stormwater Design Guidelines, and inspect stormwater BMPs once they are constructed. Any issues noted by the inspection would be corrected. In accordance with the San Francisco Stormwater Design Guidelines, the SFPUC would also complete an annual self-certification inspection and compile completed checklists and maintenance logs for the year. In addition, the SFPUC would inspect all stormwater BMPs every third year, and any issues identified by the inspection would be resolved.

Regarding stormwater pollutants, all chemicals for the recycled water treatment process would be stored indoors in the existing Chemical Room 510 at the Oceanside WPCP. The chemical areas would be separated by chemical type (acid or base) and type of hazard and each chemical would have a dedicated containment area. Therefore, there would be no potential for stormwater contact with stored chemicals.

Implementation of stormwater controls in compliance with the San Francisco Stormwater Design Guidelines would ensure that the rate and volume of stormwater flows to the sewer system after project implementation would be reduced by 25 percent relative to existing conditions and the indoor storage of water treatment chemicals would ensure that the project would not provide an additional source of stormwater pollutants. Therefore, runoff from the project would not exceed the capacity of the existing storm sewer system and there would be no additional sources of polluted runoff, and this impact would be *less than significant*.

Combined Sewer Discharges

During wet weather (typically mid-October to the end of April), there is a wide variation in the volume of wet-weather flows to the combined sewer system resulting from the addition of stormwater discharges. The variation is directly related to rainfall intensity, and the treatment of wet-weather flows depends on the characteristics of the individual rainstorm. Wet weather flows in excess of 175 mgd (about 13 percent of the total wet-weather flows) are discharged at the shoreline through one of seven combined sewer discharge structures located along the coast. These discharge facilities are constructed to capture flows for a long-term average of eight discharges per year, and all combined flows are captured and treated to a minimum of the equivalent of primary treatment.

An increase in the combined project-related flows of stormwater and wastewater to the combined sewer system could affect compliance with the NPDES permit for the Oceanside WPCP, Southwest Ocean Outfall, and Westside Wet Weather Facilities if these additional flows resulted in an increase in the frequency or duration of combined sewer discharges along the Pacific Ocean coast. Beneficial uses of the Pacific Ocean could also potentially be affected. However, as discussed above, the SFPUC would be required to implement stormwater controls in accordance with the San Francisco Stormwater Design Guidelines to ensure that the stormwater runoff flow rate and volume are reduced by 25 percent relative to existing conditions. Further, there would not be a substantial increase in wastewater flows that could contribute to combined sewer discharges because the only increase in sewage would result from 4 new employees at the treatment plant and none of the other facilities would generate wastewater flows that would be discharged to the combined sewer. Therefore, because the project would not increase long-term flows to the combined sewer system from either stormwater runoff or sanitary sewage, water quality impacts related to an increase in the frequency or duration of combined sewer discharges would be *less than significant*.

Production, Distribution, and Use of Recycled Water

State Regulatory Framework for the Production and Use of Recycled Water. The California Water Code, Section 26 defines recycled water as “water which, as a result of treatment of municipal wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.” “Recycled water” and “reclaimed water” have the same meaning. Production and use of recycled water in California is well regulated by the California Department of Public Health (CDPH), SWRCB, and RWQCBs in accordance with the following California laws and regulations:

- California Health and Safety Code (Division 104; Part 12)
- California Water Code (Division 7; Chapters 2, 6, 7, and 22)
- California Code of Regulations, Title 22 (Division 4; Chapters 1, 2, and 3)
- California Code of Regulations, Title 17 (Division 1; Chapter 5)

In February 2009, the SWRCB approved Resolution No. 2009-0011 that formally adopted the California Recycled Water Policy. In January, 23, 2013, the SWRCB approved Resolution No. 2013-0003 that formally

adopted an amendment to the policy that addresses constituents of emerging concern⁹² for projects that use recycled water for groundwater recharge. The policy mandates a 200,000 acre-foot per year (afy) increase in the use of recycled water in California by 2020, and an additional 300,000 afy by 2030. To meet this goal, the policy encourages local agencies to emphasize water recycling because this water supply is drought-proof, reliable, and can be sustained over the long-term.

To implement a recycled water project, the producer or distributor must prepare an engineering report in compliance with Section 60323 of Title 22 of the California Code of Regulations (a Title 22 Engineering Report). The report must clearly demonstrate how the project will comply with water recycling criteria contained in Sections 60301 through 60355 of Title 22, and must be prepared by a properly qualified engineer. While the content of the report depends on the complexity of the project, the report must contain sufficient information to assure the regulatory agencies that the degree and reliability of treatment are commensurate with the requirements for the proposed use, and that the distribution and use of the recycled water will not create a health hazard or nuisance. The report is subject to the review and approval of the RWQCB and CDPH, and any conditions of approval specified by these agencies must be addressed.

The SWRCB adopted Order No. 2014-0090-DWQ, General Discharge Requirements for Recycled Water Use, on June 3, 2014. This order specifies requirements for all uses of recycled water authorized by Title 22 of the California Code of Regulations, except for groundwater recharge. The order acknowledges that the use of recycled water for irrigation purposes has the potential to increase nutrients in surface and groundwater. To address this, the order requires that recycled water used for irrigation purposes is applied at agronomic rates⁹³ and prohibits the application of recycled water when soils are saturated. Other prohibitions require that recycled water is not allowed to escape from the area of application as surface water flow. In addition, runoff or spray may not enter a dwelling or food handling facility, and may not contact any drinking water fountain.

During operation, the administrator of the General Discharge Requirements for Recycled Water Use⁹⁴ must implement a monitoring and reporting program to document compliance with the water quality requirements and prohibitions of the order. All monitoring and inspection results must be submitted to the RWQCB annually along with a list of new authorized recycled water users and a comprehensive discussion of the progress and results of the water recycling program.

⁹² Constituents of emerging concern (CECs) include chemicals such as endocrine disrupters, personal care products, and pharmaceuticals that are not removed during the wastewater treatment process. The SWRCB does not currently require monitoring for CECs in recycled water used for irrigation purposes. However, the agency has established a CEC advisory panel to provide recommendations regarding monitoring and the Recycled Water Policy and subsequently, the general permit may be revised at a later date to address the recommendations of the panel, if necessary.

⁹³ The term "agronomic rate" refers to a specific rate of irrigation that provides the precise amount of water and nutrient loading for the crop being irrigated that ensures that no excess water or nutrient would percolate beyond the root zone.

⁹⁴ The administrator of the permit may be the producer or distributor of the recycled water, or another legal entity.

The administrator of the General Discharge Requirements for Recycled Water Use must establish rules or regulations for recycled water use facilities and issue a permit to users to ensure the use of recycled water in compliance with applicable regulatory requirements. The administrator must also submit documentation to the CDPH regarding the proper installation and maintenance of backflow prevention devices mandated by Title 22, and the absence of cross connections at facilities that will use recycled water. The producer of recycled water must communicate the nutrient level of the recycled water to users of the water. In addition, the administrator must conduct periodic inspections of the user's facilities to determine compliance with applicable requirements. Any identified deficiencies must be remedied, or the use of recycled water at the facility may be terminated.

To obtain coverage under the General Discharge Requirements for Recycled Water Use, the applicant must submit a NOI to the RWQCB that includes the administrator's program for compliance with applicable regulatory requirements for the production, distribution, and use of recycled water. The order becomes effective when the RWQCB issues a Notice of Applicability (NOA). As part of this process, the RWQCB coordinates with the CDPH regarding approval of the Title 22 Engineering Report and the NOI is not considered complete until the engineering report is approved. Once the NOA is issued and the elements of the water recycling program are in place, the administrator may authorize specific water recycling projects on a case by case basis.

The order also calls on local water and wastewater entities to work with other stakeholders who contribute salts and nutrients to a groundwater basin to fund and develop a salt and nutrient plan. The plan must comprehensively address all sources of salts and nutrients to insure that the overall impact of permitted water recycling does not degrade groundwater resources. The requirement for this plan would be invoked by the RWQCB and in the absence of such a plan, the administrator must participate in the RWQCB's existing salt and nutrient management planning effort.

San Francisco Regulatory Framework for the Production and Use of Recycled Water. The CCSF's Reclaimed Water Ordinance, contained in Article 22 of the San Francisco Public Works Code, specifies that certain development projects of 40,000 square feet or more, and irrigated areas of 10,000 square feet or more that are located within designated Reclaimed Water Use Areas must use recycled water for nonpotable uses unless an exemption is granted. The owner, operator, or manager of a development project or irrigation system must register with the SFPUC and obtain a reclaimed water use certificate for the reclaimed water system, and the SFPUC may inspect any recycled water operations to ensure compliance with the Reclaimed Water Ordinance, including mandatory use of recycled water.

The CCSF also requires the SFRPD, in Park Code Section 3.19, to develop a plan and schedule for maximizing water use efficiency and converting irrigation systems in all property under its jurisdiction to recycled water or storm water use. All irrigation system renovation and rehabilitation projects must be designed for use of recycled water.

Impacts Related to Production and Use of Recycled Water. The proposed project would produce and distribute disinfected tertiary recycled water that has been filtered and subsequently disinfected to meet the water quality criteria defined in Sections 60301.230 and 60301.320 of Title 22 of the California Code of Regulations. The recycled water would be distributed to three use areas for irrigation, including Golden

Gate Park, the Lincoln Park Golf Course, and the Presidio. The system would produce sufficient water to add other small parks and irrigation areas to the distribution system in the future. In addition, the recycled water would be used for toilet and urinal flushing at the California Academy of Sciences in Golden Gate Park.

As described above, the SFPUC would be required to prepare a Title 22 Engineering Report that demonstrates how the project will comply with water recycling criteria contained in Sections 60301 through 60355 of Title 22. The SFPUC would also implement the requirements of the General Discharge Requirements for Recycled Water Use, including development of a water recycling program; implementation of a monitoring and reporting program; and enforcement of specific requirements for recycled water use under San Francisco's Reclaimed Water Ordinance. Adherence to these regulatory requirements would ensure that high-quality recycled water is consistently produced, monitored, and carefully applied, and that public health and surface and groundwater quality are protected. Therefore, impacts related to the production, distribution, and use of recycled water would be *less than significant*.

Mitigation: None required.

Impact HY-3: The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Less than Significant)

The proposed project is located within the portion of the Westside Groundwater Basin located within San Francisco. This portion of the basin is currently used for nonpotable water supply (irrigation and lake/pond fill at Golden Gate Park, the Zoo, and Pine Lake Park) and is planned for use as a municipal water supply. The project would not result in depletion of groundwater resources in this basin because, other than temporary dewatering during construction, the project would not involve the extraction of groundwater for any purposes. Project implementation would not interfere with groundwater recharge because, as discussed in Impact HY-2, the only new impervious surfaces created would be an approximately 5,000 square-foot area, currently landscaped, for the new recycled water treatment plant at the Oceanside WPCP. The remainder of the project area is almost completely covered with impervious surfaces under existing conditions and would continue to be under the proposed project. Further, use of recycled water would replace use of groundwater currently used for irrigation and lake/pond fill at Golden Gate Park. Given that the project would not include long-term extraction of groundwater and would only result in a very small increase in impervious surfaces, impacts related to the depletion of groundwater resources and interference with groundwater recharge would be *less than significant*.

Mitigation: None required.

Impact HY-4: The proposed project would not alter the existing drainage pattern of the area in a manner that would result in substantial erosion, siltation, or flooding on- or off-site. (Less than Significant)

The project area does not include any existing streams or water course that could be altered or diverted, and there are no surface impoundments, wetlands, natural catch basins, or settling ponds within the project area. Therefore, there would be no impact related to alteration of drainage patterns by altering the course of a stream in a manner that would cause erosion or flooding on or off-site.

As discussed in Impact HY-2, the only new impervious surfaces constructed under the proposed project would be an approximately 5,000 square-foot area at the Oceanside WPCP. Existing impervious surfaces at the Oceanside WPCP and the Central Reservoir site would be replaced. Depending on their configuration, these new surfaces could alter drainage patterns. However, as discussed in Impact HY-2, the SFPUC would be required to implement stormwater controls to reduce the rate and volume of stormwater flows from these sites by 25 percent relative to existing conditions in accordance with San Francisco's Stormwater Design Guidelines. Implementation of stormwater BMPs in compliance with the design guidelines, including the green roof at the new recycled water treatment plant, would reduce the peak quantity and peak rate of stormwater runoff to the city's combined sewer system, decreasing the potential for erosion and flooding. The only other project components that would involve excavation and could potentially alter drainage patterns are the distribution pipelines and various shallow excavations at the Oceanside WPCP. These excavations would be backfilled and returned to existing conditions once the pipelines are installed, therefore this would not result in an alteration of drainage patterns. Therefore, potential impacts related to the alteration of drainage patterns would be *less than significant*.

Mitigation: None required.

Impact HY-5: The proposed project would not expose people or structures to a significant adverse effects, including the risk of loss, injury, or death involving including flooding as a result of the failure of a levee or dam or by seiche, tsunami, or mudflow. (No Impact)

The distribution pipelines along 36th Avenue cross the reservoir inundation hazard zone for the Sunset Reservoir at Pacheco and Ortega Streets, and also where the pipelines cross Lincoln Parkway at Golden Gate Park.⁹⁵ However, the pipelines are underground features that would not be adversely affected by flooding once constructed. Further, the project area is not located on or near a slope that could be subject to mudflow. Based on the state's official tsunami inundation maps, the project area is not located within a tsunami inundation zone.⁹⁶ Therefore, there is *no impact* related to failure of a levee or dam or by seiche, tsunami, or mudflow.

Mitigation: None required.

⁹⁵ URS Corporation, City and County of San Francisco Hazard Mitigation Plan, December, 2008. Map C-14.

⁹⁶ California Emergency Management Agency, California Geological Survey, University of Southern California. Tsunami Inundation Map for Emergency Planning, San Francisco North Quadrangle/San Francisco South Quadrangle (Pacific Coast). June 15, 2009.

Impact C-HY: The proposed project would not have a significant cumulative hydrology and water quality impact. (Less than Significant)

Impacts resulting from the proposed project are limited to potential water quality impacts on the Westside drainage basin of the combined sewer system and the Pacific Ocean as well as adverse effects on groundwater resources of the Westside Groundwater Basin. Therefore, the geographic scope of potential cumulative impacts on water quality encompasses the western portions of San Francisco, the Pacific Ocean coastline, and the Westside Groundwater Basin.

Water Quality Standards, Degradation of Water Quality, and Storm Sewer Capacity

Erosion and Use of Hazardous Materials During Construction and Groundwater Dewatering Discharges.

As described in Impact HY-1, construction activities associated with the proposed project could degrade water quality as a result of increased soil erosion and associated sedimentation as well as an accidental release of hazardous materials. Discharges of dewatering effluent from excavated areas could also adversely affect water quality. However, these discharges would flow into San Francisco's combined sewer system and would be subject to the requirements of Article 4.1 of the San Francisco Public Works Code (supplemented by SFDPW Order No. 158170), which incorporates and implements the SFPUC's NPDES permit and the federal CSO Control Policy for discharges from the combined sewer system. The cumulative projects within the vicinity and throughout San Francisco that would also include discharges to the combined sewer system would be subject to the same regulatory requirements, and adherence to the SFPUC's NPDES permit stipulations would ensure compliance with water quality objectives. Therefore, cumulative impacts related to degradation of water quality would be *less than significant*.

Combined Sewer Overflows During Operation and Storm Sewer Capacity. As discussed in Impact HY-2, with compliance with San Francisco's Stormwater Ordinance and Stormwater Design Guidelines, implementation of the proposed project would result in a decrease in combined stormwater and wastewater flows to the combined sewer system. Other development projects in the City would also be required to reduce or maintain stormwater flows in accordance with the same regulatory requirements, and to decrease wastewater flows in accordance with San Francisco's Green Building Ordinance and the City's Stormwater Design Guidelines. The net effect of these projects on combined sewer discharges would depend on the relative volume of wastewater increases and stormwater decreases. However, the project would not have a cumulatively considerable contribution to any increase in combined sewer discharges. Therefore, the project's contribution to combined sewer overflows, storm sewer capacity, and additional sources of stormwater pollutants would not be cumulatively considerable and this impact would be *less than significant*.

Depletion of Groundwater Resources

The proposed project and many of the cumulative projects could require groundwater dewatering during construction or groundwater pumping (such as the San Francisco Groundwater Supply Project and the Groundwater Storage and Recovery Project). Groundwater dewatering during construction under the proposed project, in combination with other groundwater dewatering and groundwater pumping in the vicinity, could result in a cumulatively significant impact from the depletion of groundwater resources. However, as discussed in Impact HY-3, the project would not result in the depletion of groundwater

resources because any effects of dewatering during construction would be temporary in nature, and groundwater levels would return to normal once dewatering has stopped at the completion of construction of the proposed project.

The project would also result in a net increase of 5,000 square feet of impervious surfaces. Other cumulative projects could also increase impervious surfaces in the Westside Groundwater Basin, potentially resulting in a cumulative impact related to interference with groundwater recharge. However, the new impervious surfaces created under the proposed project would result in a miniscule change in the amount of impervious surface in the total 45 square-mile-area of the groundwater basin. It is reasonable to conclude that the proposed project would have no measurable effect on groundwater recharge. Therefore, the proposed project's contribution to cumulative impacts related to groundwater depletion and interference with groundwater recharge would not be cumulatively considerable (*less than significant*).

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
16. HAZARDS AND HAZARDOUS MATERIALS – Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
h) Expose people or structures to a significant risk of loss, injury or death involving fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The project site is not located within an airport land use plan area or in the vicinity of a private airstrip. Therefore, Topics 16(e) and 16(f) are *not applicable*.

Impact HZ-1: The proposed project would not create a significant hazard through routine transport, use, or disposal of hazardous materials. (Less than Significant)

Regulatory Framework for Hazardous Materials Handling

Several articles of the *San Francisco Health Code* implemented by the San Francisco Department of Public Health (SFDPH) address the handling of hazardous materials, extremely hazardous materials, and hazardous wastes:

- Article 21 of the *San Francisco Health Code* provides for safe handling of hazardous materials in the City. It requires any person or business that handles, sells, stores, or otherwise uses specified quantities of to keep a current certificate of registration and to implement a hazardous materials business plan. A special permit is required for underground storage tanks (USTs). This article also incorporates state tank regulations.
- Article 21A of the *San Francisco Health Code* provides for safe handling of federally regulated hazardous, toxic, and flammable substances in the City, requiring businesses that use these substances to register with SFDPH and prepare a Risk Management Plan that includes an assessment of the effects of an accidental release and programs for preventing and responding to an accidental release. (While chlorine would be used under the proposed project and is identified as a regulated substance in accordance with Article 21A, the quantity stored would be less than the threshold quantity of 100 pounds, therefore this article does not apply to the proposed project.)
- Article 22 of the *San Francisco Health Code* provides for safe handling of hazardous wastes in the City. It authorizes SFDPH to implement the state hazardous waste regulations, including authority to conduct inspections and document compliance.

Impacts Related to Hazardous Materials Use

Use of Hazardous Materials During Construction. Construction under the proposed project would use common hazardous materials such as fuels, lubricants, and solvents needed for the fueling and maintenance of construction equipment. However, construction activities would be subject to the requirements of Article 4.1 of the San Francisco Public Works Code (see Impact HY-1 in Topic 14, Hydrology and Water Quality). In accordance with this article, and consistent with the SFPUC’s Water Pollution Prevention Program, the contractor would be required to develop and implement an Erosion and

Sediment Control Plan specifying measures to prevent stormwater pollution and control runoff at each site, in conformance with any applicable stormwater management controls adopted by the SFPUC.⁹⁷ At a minimum, the plan would include a visual monitoring program and a chemical monitoring program for nonvisible pollutants. The plan would specify minimum BMPs related to housekeeping (storage of construction materials, waste management, vehicle storage and maintenance, landscape materials, pollutant control); and run-on and runoff control. The SFPUC would require the construction contractor to develop and implement the plan and also could conduct routine inspection of all BMPs. Implementation of the specified BMP measures in accordance with the Erosion and Sediment Control Plan would ensure that the potential impact of the use of hazardous materials during construction is *less than significant*.

Operational Uses of Hazardous Materials. The SFPUC would use a variety of chemicals in the recycled water treatment process including coagulants, antiscalants, citric and sulfuric acids, sodium bisulfite, lime, caustic soda, and sodium hypochlorite.⁹⁸ These chemicals would all be stored in separate containment areas within the existing chemical storage building. To ensure the safe handling of these materials, the SFPUC would continue to comply with the requirements of the City's hazardous materials handling requirements specified in Article 21 of the *San Francisco Health Code*. In accordance with this article, the Oceanside WPCP Certificate of Registration and Hazardous Materials Business Plan on file with the SFDPH would be revised to reflect the increased quantities of hazardous materials used. The Hazardous Materials Business Plan includes chemical inventories, a program for reducing the use of hazardous materials and generation of hazardous wastes, site layouts, a program and implementation plan for training all new employees and annual training for all employees, and emergency response procedures and plans which provides for safe handling of hazardous materials, and also allows emergency responders to safely respond to a chemical emergency at the facility, if one were to occur. Any hazardous wastes produced would be managed in accordance with Article 22 of the *San Francisco Health Code*.

Compliance with the *San Francisco Health Code*, which incorporates state and federal requirements, would minimize potential exposure of site personnel and the public to any accidental releases of hazardous materials or waste and would also protect against potential environmental contamination. In addition, transportation of hazardous materials is well regulated by the California Highway Patrol and the California Department of Transportation. Therefore, the potential impacts related to the routine use, transport, and disposal of hazardous materials associated with implementation of the project would be *less than significant*.

Mitigation: None required.

⁹⁷ San Francisco Public Utilities Commission (SFPUC), Construction Site Runoff Pollution Prevention Procedures. Available online at <http://www.sfwater.org/index.aspx?page=235>. Accessed February 27, 2014.

⁹⁸ San Francisco Water, Power, Sewer, Engineering Management Bureau. San Francisco Westside Recycled Water Project, Project No. CUW 30201, Conceptual Engineering Report, Draft, October 2013.

Impact HZ-2: The proposed project would be constructed on a site identified on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 but excavation activities would not expose workers and the public to adverse effects from release of hazardous materials. (Less than Significant)

Naturally occurring asbestos can be associated with Franciscan ultramafic rocks containing serpentinite⁹⁹ or Franciscan mélange.¹⁰⁰ The project area is primarily underlain by dune sands and excavation for the new Recycled Water Treatment Plant would also extend into the Colma Formation.¹⁰¹ These are sedimentary deposits that would not contain naturally occurring asbestos, and no bedrock of the Franciscan Complex would be encountered during construction. Therefore, impacts related to exposure to naturally occurring asbestos would be less than significant.

Based on historic land uses and the presence of historic and current USTs along the distribution pipeline routes, the SFPUC could encounter hazardous materials during construction, and previously unidentified USTs during excavation. Soil and groundwater could contain hazardous materials and require special handling/disposal procedures. Site conditions related to the potential presence of hazardous materials and previously identified USTs are described below, along with regulatory requirements that would be required and would ensure that workers and the public do not experience adverse effects related to hazardous materials exposure.

Discussion of Existing Conditions

Environmental investigations have been conducted to evaluate soil and groundwater quality at the Oceanside WPCP and Central Reservoir site in Golden Gate Park where subsurface excavation would be conducted under the proposed project.

Oceanside Water Pollution Control Plant. The soil investigation at the Oceanside WPCP, conducted in 2012, included the analysis of 13 composite samples from five soil borings completed within the footprint of the proposed treatment plant to depths of 30 feet.¹⁰² Total petroleum hydrocarbons as gasoline, diesel, and motor oil were detected in 7 to 10 of the soil samples and the concentration of motor oil exceeded health-based screening criteria for commercial/industrial land uses in two soil samples. None of the soil samples contained detectable levels of benzene, toluene, ethylbenzene, xylenes, methyl tertiary-butyl ether (MTBE), other volatile organic compounds, or semivolatile organic compounds.

The soil samples were also analyzed for Title 22 metals. Arsenic was detected in all of the soil samples at concentrations that do not exceed naturally occurring levels of arsenic in San Francisco Bay Area soils and would therefore not require remediation. None of the other detected metals concentrations exceeded the

⁹⁹ Serpentine is a naturally occurring group of minerals that can be formed when ultramafic rocks are metamorphosed during uplift to the earth's surface. Serpentinite is a rock consisting of one or more serpentine minerals. This rock type is commonly associated with ultramafic rock along earthquake faults. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals, are common in serpentinite.

¹⁰⁰ Mélange is a mixture of rock materials of differing sizes and types typically contained within a sheared matrix.

¹⁰¹ San Francisco Water, Power, Sewer, Engineering Management Bureau. San Francisco Westside Recycled Water Project, Project No. CUW 30201, Conceptual Engineering Report, Draft, October 2013.

¹⁰² AEW Engineering, Environmental Investigation Report, Westside Recycled Water Site, San Francisco, California. September, 2012.

commercial/industrial health-based screening levels or hazardous waste classification criteria. Based on the results, the excavated soil would be suitable for disposal as a non-hazardous waste and could also be used on-site for backfill material.

No groundwater was encountered during the installation of soil borings at this site. However, groundwater from a nearby groundwater monitoring well was sampled to evaluate the suitability of the groundwater quality for discharge to the combined sewer system if groundwater dewatering is required under the proposed project. The groundwater sample did not contain detectable levels of volatile organic compounds, oil and grease, or sulfides. None of the detected metals concentrations exceeded the discharge criteria specified in Article 4.1 of the San Francisco Public Works Code and Order No. 158170.

Central Reservoir Site. The soil investigation at the Central Reservoir site, conducted in 2010, included the analysis of four composite soil samples collected from two test pits excavated to a depth of about 15 feet and 10 composite soil samples from six soil borings completed to depths of up to 49.5 feet.¹⁰³ Total petroleum hydrocarbons as diesel and motor oil were detected in eight of the soil samples, and the concentration detected in four of the soil samples exceeded health-based screening levels for commercial/industrial land uses. None of the soil samples contained detectable levels of total petroleum hydrocarbons as gasoline, benzene, toluene, MTBE, other volatile organic compounds, semivolatile organic compounds, asbestos, or polychlorinated biphenyls (PCBs).

The soil samples were also analyzed for Title 22 metals. Arsenic was detected in all of the soil samples at concentrations that do not exceed naturally occurring levels of arsenic in San Francisco Bay Area soils and would therefore not require remediation. None of the other detected metals concentrations exceeded commercial/industrial health-based screening levels.

For waste disposal purposes, the soluble lead concentration in soil represented by one to two samples could require disposal as a California hazardous waste at a facility such as the Kettleman Hills facility, although additional sampling could be required to confirm the waste designation. The remainder of the soil would be suitable for disposal as a Class II non-hazardous waste and the soil investigation report also concluded that this soil would be suitable for reuse within the construction area of the project as well.

Soil Quality Along Pipeline Alignments. Environmental investigations have not been conducted to evaluate soil quality along the proposed distribution pipeline routes. Instead, an environmental database review was conducted to identify permitted hazardous materials uses,¹⁰⁴ environmental cases,¹⁰⁵ and historic hazardous materials uses along the alignments and within a ¼ mile buffer zone. The discussion below focuses on those sites with the potential to affect soil or groundwater quality within the pipeline alignments and those that provide further information to evaluate conditions that may be encountered

¹⁰³ AEW Engineering, Draft Soil Investigation Report, Golden Gate Park Reservoir Project, San Francisco, California. August, 2010.

¹⁰⁴ Permitted hazardous materials uses are facilities that use hazardous materials or handle hazardous wastes but comply with current hazardous materials and hazardous waste regulations.

¹⁰⁵ Environmental cases are sites suspected of releasing hazardous substances or that have had cause for hazardous materials investigations and are identified on regulatory agency lists. These are sites where soil and/or groundwater contamination is known or suspected to have occurred.

during excavation for pipeline installation. The regional groundwater flow direction in the project vicinity is towards the northwest.

Those sites identified along or adjacent to the proposed pipeline alignments are summarized below and listed in Appendix 2. There are nine sites within approximately ¼-mile of the Oceanside WPCP at the southernmost end of the transmission pipeline alignment (Sites 1 through 9). They include the following three environmental cases:

- The San Francisco Armory at 100 Armory Drive (Site No. 1) is identified in the Military Cleanup Site (MCS) database. This case was closed in 2012, but the records available through the State Water Resources Control Board Geo Tracker database do not include records of the type of contaminants or remedial actions taken at the site.
- The Janet Pomeroy Recreation and Rehabilitation Center at 207 Skyline Boulevard (Site No. 5) is located approximately 1,000 feet to the northeast of the proposed new Water Treatment Plant. This site is identified as a leaking underground storage tank case. Two USTs were previously removed from this site, including a 10,000 gallon tank in 1999 and 3,500 gallon tank in 2001. Soil and groundwater quality at this site have been affected, and the site owner previously attempted vapor extraction system to remediate the soil and groundwater.¹⁰⁶ While the groundwater plume is not migrating towards Lake Merced, the RWQCB and the site owner have determined that the vapor extraction system did not provide adequate remediation. This leaking underground storage tank site is currently open and options for further remediation are under consideration. However, as of September 2013, the plume was located entirely within the site boundaries.
- The San Francisco AAA Battery 61-N (Site No. 9) is identified as a Formerly Used Defense Site (FUDS database) and also the Department of Toxic Substances Control Envirostor database which includes sites that have known contamination or sites for which there may be reasons to investigate further. The US 6th Army used this 16-acre site for a gun site during a 25-year lease with the City and County of San Francisco. The FUDS database indicates there are no potential hazards from Department of Defense activities at this site, but the Envirostor database reports that the potential contaminant of concern is explosives. The site is currently a vacant lot enclosed by a fence.

The remaining six sites in this vicinity are either permitted or historic UST sites, a historic dry cleaners, or have permitted hazardous wastes for off-site disposal (HAZNET database).

There are no environmental cases located along the distribution pipeline alignment between the Oceanside WPCP and the Central Reservoir site. However, there are two historic auto service stations, three historic cleaners, and one site that has manifested hazardous wastes for off-site disposal (Site Nos. 10 through 15). While contamination has not been identified at these sites, there is the potential for residual contamination as a result of historic site activities.

¹⁰⁶ City and County of San Francisco, Department of Public Health, letter to Pomeroy Recreation and Rehabilitation Center, subject: Groundwater Monitoring and Remediation System Report 2Q13, Janet Pomeroy Center, 207 Skyline Blvd, San Francisco, LOP Case Number: 11198. January 29, 2014.

There are two environmental cases as well as 13 permitted hazardous materials uses or historic uses of hazardous materials along the pipeline alignment between the Central Reservoir site and Lincoln Park (Sites 16 through 30). The environmental cases include two leaking underground storage tank sites (Site Nos. 25 and 30). These are one residential property and one commercial property that experienced a release of diesel or waste oil. Both releases affected soil quality only, and the cases have been closed by the regulatory agencies. The remaining sites identified along this pipeline alignment include seven sites with permitted USTs (almost all residential properties), two historic auto service stations, two historic cleaners, and three sites that have manifested hazardous waste for off-site disposal. In addition, Fort Miley at Lincoln Park is identified as a military UST site. The environmental database review indicates that in 1993, nine USTs were closed in place at this site, and the associated piping and affected soil were removed.

There are no environmental cases along the pipeline alignment between the Central Reservoir site and the Presidio. However, there are 12 permitted hazardous materials uses (Site Nos. 31 through 42) including eight sites with permitted USTs, three sites that have manifested hazardous wastes for off-site disposal, and one site that is a small quantity generator of hazardous wastes under the Resource Conservation and Recovery Act (RCRA).

Although the proposed project does not involve work within the Presidio, it will involve excavation up to the Presidio boundary. The Presidio of San Francisco is identified as a military UST and cleanup site. The environmental database review indicates that a 500-gallon UST, 750 gallon UST, four 1,000 gallon USTs, and two 17,000 gallon USTs were removed from this site in 1993; one 14,000 gallon UST was removed in 1996; and an additional UST was removed in 2012. The Presidio is also identified in the Response and Envirostor databases which include sites that have known contamination or sites for which there may be reasons to investigate further. The contaminants of concern at the Presidio are listed as arsenic and lead.

There are seven environmental cases located along the distribution pipeline alignment adjacent to the Golden Gate Park Panhandle as well as seven permitted hazardous materials uses or historic uses of hazardous materials (Site Nos. 43 through 56). Six of the environmental cases are residences along Oak Street or Stanyan Street that are identified in the leaking underground storage tank databases. All of these cases involved releases of heating oil and have received closure from the regulatory agencies. The seventh case is a service station on Stanyan Street where a release of gasoline affected groundwater quality. This site has also received regulatory closure. The remainder of the sites includes five permitted UST sites, one site which has manifested hazardous waste for off-site disposal, and one historic automobile service station.

In addition to those sites described above that are along or adjacent to the proposed pipeline alignments, the environmental database review identified environmental cases within a ¼-mile buffer zone of the pipeline alignments. Those sites that were considered to have the potential to affect soil or groundwater quality within the pipeline alignments are those identified in the leaking underground storage tank databases. Each site identified within this buffer zone is listed in **Table A2-3** in Appendix 2; they include 56 leaking underground storage tank sites. While most of these sites would have low potential to affect soil quality within the pipeline alignments, the density of leaking underground storage tank sites together with the sites with permitted USTs located along the alignments indicate a high potential to encounter USTs within the pipeline alignments and potentially soil that has been affected by a release from a UST, particularly along the pipeline alignments to the north of Golden Gate Park and adjacent to the Panhandle.

Regulatory Requirements for Site Investigation and Cleanup

The SFDPH provides oversight for the assessment and remediation of contaminated sites in the City and County of San Francisco under the Site Assessment and Mitigation Program. The types of sites managed under this program include sites subject to the Maher Program and sites affected by a release from a UST being addressed under the Local Oversight Program. The SFDPH also administers UST and facility closure requirements.

Maher Program. Article 22A of the *San Francisco Health Code* (also known as the Maher Ordinance) requires, prior to issuance of a building permit, that the project sponsor retain the services of a qualified professional to prepare a Phase I Environmental Site Assessment (ESA) that meets the requirements of *San Francisco Health Code* Section 22.A.6. The Phase I ESA would determine the potential for site contamination and level of exposure risk associated with the project. Based on that information, the project sponsor may be required to conduct soil and/or groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor is required to submit a site mitigation plan (SMP) to SFDPH or other appropriate state or federal agency(ies), and to remediate any site contamination in accordance with an approved SMP prior to the issuance of any building permit. For departments, boards, commissions and agencies of the City and County of San Francisco that authorize construction or improvements on land under their jurisdiction where no building or grading permit is required, the ordinance requires protocols be developed between that entity and SFDPH that will achieve the environmental and public health and safety goals of Article 22A.

Article 22A of the *San Francisco Health Code* applies to any site identified within the Maher area as well as any site that is:

- on a lot either currently or previously either zoned for or permitted for industrial use;
- within 150 feet of any of the elevated portions of U.S. Highway 101, Interstate 80 or Interstate 280;
- on a lot known or suspected by SFDPH to contain hazardous substances in the soil and/or groundwater; or
- on a lot known or suspected by SFDPH to contain or to be within 100 feet of an underground storage tank.

The project would be subject to Article 22A because it is located on a site that has been permitted for an industrial use and based on proximity of the pipelines to underground storage tanks.

Local Oversight Program. Under the Local Oversight Program, the SFDPH provides oversight for sites that have experienced a release from a UST, pursuant to Title 23 of the California Code of Regulations, Chapter 16. Under this program, the SWRCB provides regulatory guidance and also reviews, comments on, and approves site assessment reports, feasibility studies, and work plans; reviews monitoring data to evaluate the effectiveness of the remediation strategy; and upon completion of remediation, issues a letter or other document that certifies that the cleanup goals have been met.

UST and Facility Closure. Article 21 of the *San Francisco Health Code* addresses closure of USTs and other hazardous materials handling facilities. To close a facility (including USTs), a closure plan must be prepared

that identifies how the need for future maintenance of the facility will be eliminated; how the threat to the environmental and public health and safety will be eliminated, and how all hazardous materials in the facility will be removed and appropriately disposed of. The plan must be submitted to the City for approval prior to closure.

This article also requires that soil from the UST excavation, and possibly the groundwater, be sampled. Upon completion of closure, a final report documenting UST removal activities and any residual contamination left in place must be submitted to the City. Upon approval of this report, the City would issue a Certificate of Completion. If a release were indicated, the site owner would be required to assess the extent of any contamination and conduct a site remediation, as needed, in compliance with the SFDPH Local Oversight Program requirements. The SFDPH could approve abandonment of the UST in place if removal were infeasible.

Impacts Related to Exposure to Hazardous Materials in Soil and Groundwater

Closure of previously unidentified USTs. As discussed above, there is a high potential to encounter USTs within the pipeline alignments, particularly along the pipeline alignments to the north of Golden Gate Park and adjacent to the Panhandle. Without proper precautions, workers and the public could be exposed to petroleum products potentially remaining in the USTs or in the surrounding soil.

However, if a previously unidentified UST were encountered in the excavation area, the SFPUC, or if in the public right-of-way or on other non-SFPUC property, the tank owner, would be required to close the UST in accordance with Article 21 of the *San Francisco Health Code*. This article would require a closure plan identifying appropriate requirements for disposition of any remaining hazardous materials in the tank and the tank itself. The closure plan would be submitted to the City for approval prior to removal of the UST. Soil from the UST excavation, and possibly the groundwater, would also be sampled in accordance with Article 21. Upon completion of closure, a release or contamination report would be submitted to SFDPH if a release were indicated on the basis of visual observations or sampling, and a final report documenting tank removal activities and any residual contamination left in place would be submitted to SFDPH. Upon approval of this report, SFDPH would issue a Certificate of Completion. If a release were indicated, the SFPUC, or, other tank owner would be required to submit a corrective action plan, including a community health and safety plan, to SFDPH and the RWQCB, and remediation would be required in accordance with federal, state and local regulations. Alternatively, the tank could be abandoned in place if removal were infeasible. Implementation of the measures required in accordance with Article 21 of the *San Francisco Health Code* would ensure that hazardous materials impacts associated with encountering previously unidentified USTs would be *less than significant*.

Construction within contaminated materials. The proposed project would be subject to Article 22A of the *San Francisco Health Code*, also known as the Maher Ordinance, which is administered and overseen by the SFDPH. Accordingly, the project sponsor would be required to retain the services of a qualified professional to prepare a Phase I ESA; conduct soil and/or groundwater sampling and analysis, if warranted by the Phase I ESA and if the investigations already completed as described above do not completely address potential issues identified; and implement a SMP to remediate any site contamination in accordance with agreed upon protocols. Thus, the proposed project would not result in a significant hazard to the public or

environment from contaminated soil and/or groundwater and the proposed project would result in a *less-than-significant* impact related to the construction within contaminated materials.

Disposal of contaminated materials. As discussed above, a portion of the soil from the Central Reservoir site would be classified as a hazardous waste because of the soluble lead concentration in one composite soil sample. Further, if previously unidentified USTs are encountered, the tanks and associated soil would require off-site disposal. However, as the generator of the hazardous wastes, the project sponsor would be required to follow state and federal regulations for manifesting the wastes, using licensed waste haulers, and disposing the materials at a permitted disposal or recycling facility. With compliance with these regulatory requirements, impacts related to disposal of hazardous wastes would be *less than significant*.

As noted in Topic 14, "Geology and Soils," limited groundwater dewatering could be necessary during construction of the reservoir used during the treatment process and new recycled water treatment plant at the Oceanside WPCP. During construction of the proposed facility, groundwater produced by dewatering would be discharged to the combined sewer system in compliance with Article 4.1 of the *San Francisco Public Works Code* as supplemented by Order No. 158170. As discussed above, the groundwater quality meets the discharge limitations of Article 4.1 and Order No. 158170, and would therefore not require treatment other than to remove sediments. Impacts related to discharge of the groundwater produced during construction-related dewatering would be *less than significant* with compliance with the specified discharge limitations.

Mitigation: None required.

Impact HZ-3: Reconfiguration of the chemical building interior would not expose workers and the public to hazardous building materials including asbestos-containing materials, lead-based paint, PCBs, bis(2-ethylhexyl) phthalate (DEHP), and mercury, or result in a release of these materials into the environment during construction. (Less than Significant)

As described in the Project Description, the interior of the existing chemical building (Building 510) at the Oceanside WPCP would be reconfigured to house the chemical storage tanks and feed systems for the recycled water process. Constructed in 1992, it is unlikely that this building would include asbestos-containing materials. However, lead-based paint could have been used in the building because lead continued to be used in paints for industrial purposes after it was banned for residential uses in 1978. Other hazardous building materials that could be present include electrical equipment containing PCBs; fluorescent light ballasts containing PCBs or DEHP; and fluorescent light tubes containing mercury vapors. The pump station which would be expanded at the Central Reservoir site may also include these materials.

If these materials were present, workers and the public could be exposed to hazardous building materials if they were not abated prior to reconfiguration of the interior space. However, as discussed below, there is a well-established regulatory framework for the abatement of asbestos-containing materials, lead-based paint, and the other types of hazardous building materials that could be encountered during construction. Impacts related to exposure to these hazardous building materials would be less than significant with compliance with regulatory requirements as discussed below.

Asbestos-Containing Materials. Although it is unlikely that asbestos-containing materials would have been used in the construction of the chemical building, the SFPUC would conduct a hazardous building materials survey and would abate any asbestos-containing materials prior to reconfiguration activities in accordance with the following BAAQMD requirements.

Section 19827.5 of the *California Health and Safety Code* requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified of any demolition or renovation project that involves the removal of 100 square feet or more of asbestos-containing materials 10 days in advance of the work.

Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age, and prior use; the approximate amount of friable asbestos that would be removed or disturbed; the scheduled starting and completion dates of demolition or abatement; the nature of the planned work and methods to be employed; the procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. Approved methods for control of asbestos-containing materials during abatement include adequate wetting of all asbestos-containing materials and providing containment with a negative air pressure ventilation system to prevent migration of asbestos-containing materials. BAAQMD randomly inspects asbestos removal operations. In addition, BAAQMD will inspect any removal operation when a complaint has been received.

The local Cal/OSHA office must be notified of asbestos abatement to be carried out. Asbestos abatement contractors must follow state regulations contained in 8CCR1529 and 8CCR341.6 through 341.17 where there is asbestos-related work involving 100 square feet or more of asbestos-containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with the Office of the California Department of Health Services in Sacramento. The contractor and hauler of the material are required to file a Hazardous Waste Manifest which details the hauling of the material from the site and the disposal of it. Pursuant to California law, the San Francisco Department of Building Inspection (DBI) would not issue the required permit until the applicant has complied with the notice and abatement requirements described above.

Accordingly, the SFPUC would ensure that the chemical building is surveyed for asbestos-containing materials prior to reconfiguring the interior space, and would provide BAAQMD with notification of the planned reconfiguration activities a minimum of 10 days prior to these activities. If asbestos-containing materials are identified, the SFPUC would retain a certified asbestos removal contractor to completely remove all asbestos-containing materials using BAAQMD-approved methods, and would also retain a licensed waste hauler to legally dispose of the removed materials. Implementation of the required procedures in accordance with the legal requirements described above, already established as a part of the permit review process, would ensure that any potential impacts due the presence of asbestos-containing materials in any of the areas to be reconfigured would be *less than significant*.

Lead-based Paint. 17 CCR Section 35033 defines lead-based paint as paint that contains 1.0 milligram of lead per square centimeter of paint, or 5,000 mg/kg of lead. Disturbance of building components that include lead-based paint during reconfiguration of the chemical building could result in exposure of workers and the public to lead.

However, the SFPUC would conduct a hazardous building materials survey prior to reconfiguration activities to determine the lead content of any paint that would be disturbed. If lead-based paint is identified, the reconfiguration activities would be subject to the Cal/OSHA Lead in Construction Standard (8 CCR Section 1532.1). This standard requires development and implementation of a lead compliance plan when materials containing lead would be disturbed during construction. The plan must describe activities that could emit lead, methods that will be used to comply with the standard, safe work practices, and a plan to protect workers from exposure to lead during construction activities. Cal/OSHA would require 24-hour notification if more than 100 square feet of materials containing lead would be disturbed. Implementation of procedures required by the Lead in Construction Standard (8 CCR Section 1532.1) would ensure that potential impacts of disturbance of building components with lead-based paint would be *less than significant*.

Other Hazardous Building Materials. Other hazardous building materials that could be present within the portion of the chemical building that would be reconfigured include electrical transformers that could contain PCBs, fluorescent light ballasts that could contain PCBs or DEHP, and fluorescent light tubes that could contain mercury vapors.

Under the Toxic Substance Control Act, the U.S. EPA began to impose bans on PCB manufacturing and sales and on most PCB uses in 1978, however some electrical transformers still in use today use oils that contain PCBs. The Toxic Substance Control Act requires incineration or an alternative destruction method for oils containing PCB concentrations greater than 50 parts per million and requires that free liquids be drained from electrical equipment prior to disposal, and that the liquids are appropriately disposed of. In California, PCB wastes are regulated as hazardous waste if the PCB concentration exceeds 50 parts per million or the soluble concentration exceeds 5 parts per million as oily liquid.

Most fluorescent light ballasts manufactured before 1978 contain PCBs in their capacitor and potting material. Ballasts manufactured after January 1, 1978, do not contain PCBs and should be labeled as such on the ballast. Approved disposal methods for PCB-containing ballasts depend on the condition of the ballast and the PCB content of the potting material and capacitor oil. If the PCB concentration of the potting material is less than 50 parts per million (ppm) and the ballast contains a small, intact, non-leaking capacitor, the ballast may be disposed of at a municipal landfill. In general, all leaking ballasts and ballasts containing potting material with PCB concentrations greater than or equal to 50 ppm must be incinerated or destroyed by alternative methods, disposed of in a hazardous waste landfill, or decontaminated using approved methods.

Between 1979 and the early 1990s, DEHP was used in place of PCB as a dielectric fluid in some fluorescent light ballasts and other electrical equipment.¹⁰⁷ DEHP is classified as a probable human carcinogen by the

¹⁰⁷ Green Lights Recycling, Inc., "Ballasts Facts," available at www.greenlightsrecycling.com/ballast%20Facts.htm, June 16, 2014.

United States Department of Health and Human Services and as a hazardous substance by the U.S. EPA. Because of this, ballasts containing DEHP must be legally disposed of; ballast incineration or a combination of ballast recycling and incineration are recommended for complete destruction of DEHP.

Spent fluorescent lamps and tubes commonly contain mercury vapors and are considered a hazardous waste in California (22 CCR 66261.50). Regulations adopted in 2004 classified all fluorescent lamps and tubes in California as a hazardous waste because they contain mercury. Because they are considered a hazardous waste, all fluorescent lamps and tubes must be recycled or taken to a universal waste handler.

Because any electrical transformers that contain PCBs, fluorescent light ballasts that contain PCBs or DEHP, and fluorescent light tubes would be removed and disposed of in accordance with the established regulatory framework described above, impacts related to encountering these materials would be *less than significant*.

Mitigation: None required.

Impact HZ-4: Implementation of the proposed project would not result in adverse effects related to hazardous emissions or handling of acutely hazardous materials within one-quarter mile of an existing school. (Less than Significant)

There are many schools within one-quarter mile of the pipeline alignments including: Robert Louis Stevenson Elementary School (2051 34th Avenue); St. Gabriel Elementary School (2550 41st Avenue); St. Ignatius College Preparatory School (2001 37th Avenue); Lawton Elementary School (1570 31st Avenue); Star Light Christian Preschool (750 26th Avenue); Shalom School (862 28th Avenue); Lafayette Elementary School (4545 Anza Street); and Cabrillo Elementary School (735 24th Avenue).

The State of California defines extremely hazardous materials in Section 25532 (2)(g) of the Health and Safety Code. However, construction of the proposed project would use only common hazardous materials such as paints, solvents, cements, adhesives, and petroleum products (such as asphalt, oil, and fuel), and none of these materials is considered extremely hazardous. Further, operation of the new recycled water treatment facility would not involve the use of extremely hazardous materials. Therefore, there would be no impact associated with the use of extremely hazardous materials within one-quarter mile of a school.

Hazardous air emissions are toxic air contaminants (TACs) identified by the California Air Resources Board (CARB) and the BAAQMD. The project operation would not result in generation of substantial pollutant concentrations or otherwise result in air quality impacts. Impacts associated with TACs that may be emitted during construction of the project will be further addressed in the Air Quality section of the EIR for the proposed project. As only common hazardous materials would be used to construct the project and the project operation would not emit extremely hazardous materials, impacts associated with the hazardous emissions within one-quarter mile of a school would be *less than significant*.

Mitigation: None required.

Impact HZ-5: Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

Construction. The CCSF Emergency Response Plan¹⁰⁸ identifies primary evacuation routes in the project area. The proposed pipeline would parallel primary evacuation routes along 36th Avenue as well as Crossover Drive and 25th Avenue. The pipeline would also cross primary evacuation routes along Sloat Boulevard, Taraval Street, Noriega Street, Lincoln Way, Geary Boulevard, and California Street as well as several alternate evacuation routes. Project construction could interfere with implementation of the CCSF Emergency Response Plan if construction activities were to interfere with identified evacuation routes, otherwise restrict access for emergency response vehicles, or restrict access to critical facilities such as hospitals or fire stations. Pipeline construction could affect the availability of travel lanes when construction occurs within (see Section A.6.2, Construction), potentially requiring temporary partial and/or full road closures. Construction of the pipeline could also affect access to adjacent land uses by emergency service providers.

However, if construction of a pipeline segment were to potentially interfere with any nearby primary evacuation routes, numerous alternate parallel routes would be available, as pipeline construction would only occur within one city block at a time. Preparation of a Construction Management Plan is required as part of the SFMTA's Transportation Advisory Staff Committee process and would address localized construction effects (such as increased traffic and the need for coordination with emergency response providers) prior to construction to minimize construction-related disruptions. The construction management plan would be reviewed by the multi-agency Transportation Advisory Staff Committee. Due to the short duration and limited magnitude of traffic disruptions, and required coordination and review of the project's construction management plan, construction would not likely interfere with the CCSF Emergency Response Plan. Therefore, this potential impact would be *less than significant* during construction.

Operation. Project operations would involve routine operation and maintenance of the recycled water facilities at the Oceanside WPCP and in Golden Gate Park. The treatment plant would be staffed with up to 4 employees, and only infrequent visits would be required to maintain the storage reservoirs located in Golden Gate Park. Chemicals would be delivered occasionally, as needed, to the treatment facility at the Oceanside WPCP. However, the associated increase in vehicular traffic would be minimal and would not increase such that it could impair or interfere with an adopted emergency response or evacuation plan. Therefore, this potential impact would be *less than significant* during operation.

Mitigation: None required.

¹⁰⁸ City and County of San Francisco, Emergency Response Plan, ESF#1: Transportation Annex. Available online at <http://www.sfdem.org/modules/ShowDocument.aspx?documentid=838> accessed February 27, 2014.

Impact HZ-6: The project would not expose people or structures to a significant risk of loss, injury, or death involving fires. (No Impact)

According to CAL FIRE fire hazard mapping, the project area abuts moderate fire hazard severity zones at Lincoln Park and the Presidio, but is not within areas designated as very high or high fire hazard zones.¹⁰⁹ The project area is an urban area that is serviced by the San Francisco Fire Department. Therefore, there would be *no impact*.

Mitigation: None required.

Impact C-HZ-1: The proposed project would not have a significant cumulative impact related to hazardous materials. (Less than Significant)

Hazardous materials impacts related to the project could result from use of hazardous materials, conducting construction activities within potentially contaminated soil and groundwater, and demolition of structures that contain hazardous building materials. These impacts would be primarily restricted to the project area and immediate vicinity; therefore, the geographic scope for cumulative impacts related to hazards includes the project area and immediate vicinity.

Use of Hazardous Materials. As discussed in Impact HZ-1, the proposed project could involve an increase in the use of hazardous materials and generation of hazardous wastes during operation. Similarly, many of the cumulative projects could also include an increase in the use of hazardous materials and generation of hazardous wastes. However, the proposed project and all reasonably foreseeable cumulative projects would comply with Articles 21, 21A, and 22 of the *San Francisco Health Code*, which would minimize potential exposure of site personnel and the public to any accidental releases of hazardous materials or waste and would also protect against potential environmental contamination. With implementation of these regulatory requirements, cumulative impacts related to the use of hazardous materials and generation of hazardous wastes would be *less than significant*.

Exposure to Hazardous Materials in Soil and Groundwater. There is a high potential for soil contamination in the project area based on historic land uses as well as the presence of leaking underground storage tanks and permitted USTs. As discussed in Impact HZ-2, the environmental investigation of the Central Reservoir site also found that a portion of the soil excavated could be characterized as a hazardous waste and would require disposal in compliance with California hazardous waste disposal laws. Although construction of the cumulative, reasonably foreseeable future projects (such as the San Francisco Groundwater Supply Project) could also take place in contaminated areas, a potentially significant cumulative impact, the project's contribution to this impact would not be cumulatively considerable (*less than significant*) with compliance with California hazardous waste disposal laws, and implementation of the Maher Program requirements, including preparation of a Phase I ESA and implementation of a SMP, as necessary.

¹⁰⁹ Cal Fire, Draft Fire Hazard Severity Zones in LRA, San Francisco County. October 5, 2007.

In addition, the proposed project and many of the cumulative projects could also encounter previously unidentified USTs. However, construction activities under the proposed project and for cumulative, reasonably foreseeable future projects would be subject to the regulatory requirements discussed in Impact HZ-2, including Articles 21, 21A, and 22A of the *San Francisco Health Code* and the Local Oversight Program. Therefore, cumulative impacts related to encountering previously unidentified USTs would be *less than significant*.

Hazardous Building Materials. As discussed in Impact HZ-3, hazardous building materials could be encountered during reconfiguration of the existing chemical facility at the Oceanside WPCP or expansion of the pump station at the Central Reservoir site. However, impacts associated with exposure to hazardous building materials are very localized, none of the cumulative, reasonably foreseeable future projects would be constructed at the Oceanside WPCP or Central Reservoir site, and all hazardous building materials at the site would be handled in accordance with regulatory requirements that would assure safe handling and disposal, resulting in less than significant project impacts. Therefore, cumulative impacts related to exposure to hazardous building materials would be *less than significant*.

Interference with an Adopted Emergency Response Plan or Emergency Evacuation Plan. As discussed in Impact HZ-4, the proposed project would include construction along or crossing several primary evacuation routes identified in the CCSF Emergency Response Plan. Some of the cumulative, reasonably foreseeable future projects could also affect the same or nearby evacuation routes, a potentially significant cumulative impact. However, implementation of the Construction Management Plan as part of the project, would include coordination with other nearby projects to minimize construction-related disruptions. Therefore, the project’s contribution to this cumulative impact would not be cumulatively considerable (*less than significant*).

Mitigation: None required.

<i>Topics:</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
17. MINERAL AND ENERGY RESOURCES – Would the project:					
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The proposed project is mapped by the California Geologic Survey as MRZ-1, MRZ-3a, or MRZ-4, indicating that substantial mineral resources do not occur at the site.¹¹⁰ Further, there are no mines, mineral plants, oil, gas, or geothermal wells located within the project area.^{111,112} Therefore, the proposed project would not result in the loss of availability of a known mineral resource that is of value to the region. It is not an important mineral resource recovery site. The *San Francisco General Plan* does not identify any areas of important mineral resource recovery sites in San Francisco. For these reasons, Topics 17(a) and 17(b) are *not applicable* to the project.

Impact ME-1: The proposed project would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these resources in a wasteful manner. (Less than Significant)

The proposed project would reduce CCSF's reliance on potable water for nonpotable uses, through the treatment of secondary effluent produced by the Oceanside WPCP. Although treatment and the use of a pump station to convey recycled water would consume incrementally more energy than under existing conditions, these expanded uses would not result in the use of large amounts of fuel, water, or energy in a wasteful manner because of the project design elements described in Section A.6.3:

- Fuel Efficiency:
 - SFPUC diesel vehicles used during construction and operation of the project would use biodiesel fuel.
 - Operations and maintenance activities would be performed by SFPUC staff located at existing and proposed SFPUC facilities, so existing SFPUC fleet vehicles may be utilized. If any new SFPUC fleet vehicles are required for project operations and maintenance activities, new purchases would be consistent with vehicle efficiency requirements.
 - All contracts issued for construction of the project would incorporate these biodiesel and best available control technology requirements into the contract specifications. SFPUC adheres to these requirements for vehicles and equipment that fall under this category; therefore, all operations and maintenance activities would also comply with this ordinance.
 - Bicycle storage would be provided for 5% of the building addition users used at building peak period.
- Water:
 - Toilets and urinals in the new recycled water treatment building would utilize recycled water and would comply with the Commercial Water Conservation Ordinance of Chapter 13A of the San Francisco Building Code.

¹¹⁰ California Department of Conservation, Division of Mines and Geology (CDMG). Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Special Report 145146, Part II, 1987.

¹¹¹ California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), Online Mapping System. Available online at <http://www.conservation.ca.gov/dog/Pages/WellFinder.aspx>. Accessed June 15, 2014.

¹¹² U.S. Geological Survey (USGS), Active Mines and Mineral Plants in the U.S., 2003. Available online at <http://mrdata.usgs.gov/mineral-resources/active-mines.html>. Accessed October 21, 2013.

- Energy:
 - To meet required minimum energy efficiency requirements, the project's facilities would be constructed in compliance with California's Energy Efficiency Standards specified in the California Code of Regulations, Title 24, Part 6.
 - All facilities would utilize renewable energy in the form of hydroelectric power from the Hetch Hetchy Regional Water System for project operations under normal conditions.
 - All lighting would comply with the 2013 Title 24 Energy Conservation Standard. Furthermore, all outdoor lighting would be L.E.D.-type.

Under normal conditions, all facilities would utilize renewable energy in the form of hydroelectric power from the Hetch Hetchy Regional Water System. The precise amount of petroleum fuel demand that would be required to construct the project is uncertain; however, it is anticipated that gasoline and diesel would be used for construction equipment and worker and haul vehicles comparable to similar construction projects and that this consumption would not have a measurable effect on local and regional energy supplies. The project demand would be typical for a development of this scope and nature and would comply with current State and local codes concerning energy consumption, including Title 24 of the California Code of Regulations enforced by the Department of Building Inspection. In addition, the project would be required to comply with the San Francisco Green Building Ordinance (Ordinance No. 180-08), which includes energy efficiency requirements. Therefore, the energy demand associated with the proposed project would result in a *less-than-significant* impact.

Mitigation: None required.

Impact C-ME: The proposed project would not have significant cumulative mineral and energy impacts. (Less than Significant)

As stated above, the project site is not designated as a statewide-, regionally-, or locally-important mineral resource recovery site, and the project would result in no impact on mineral resources. Therefore, there would be no cumulative impact on mineral resources.

The geographic scope for potential cumulative impacts to energy resources encompasses projects within mineral extraction zones or locally-important mineral resource recovery sites in the vicinity of project facilities.

Similar to proposed project, other projects within the vicinity or the region would require the use of fuel, water, or energy. The project and any other regional projects would be required to comply with the California Green Building Standards Code, at a minimum, and would also be subject to local green building ordinances (which must be as stringent as the state requirements and are often more stringent). Because these building codes encourage sustainable construction practices related to planning and design, energy efficiency, and water efficiency and conservation, it is expected that energy consumption would be reduced. Furthermore, the proposed project would produce and distribute tertiary treated recycled water for irrigation, further offsetting the CCSF reliance on potable water for nonpotable uses.

Therefore, cumulative impacts related to wasteful use of fuel, water or energy resources would be *less than significant*.

Mitigation: None required.

<u>Topics:</u>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>	<i>Not Applicable</i>
18. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.— Would the project					
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project is located within a developed urban area in San Francisco. The California Department of Conservation’s Important Farmland Maps for the Bay Area Region indicate that the project is in an Urban and Built-up environment, defined as land that is used for “...residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures”.¹¹³ The project site contains no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, forest, or timberlands; does not support agricultural or timber uses; is not zoned for

¹¹³ California Department of Conservation, Division of Land Resource Protection (DLRP), Bay Area Region Important Farmland 2010, published July 2013. Available online at ftp://ftp.consrv.ca.gov/pub/dlrp/fmmp/pdf/regional/2010/bay_area_fmmp2010.pdf Accessed June 15, 2014.

agricultural or timber uses;¹¹⁴ and is not under a Williamson Act contract.^{115,116} Therefore, agricultural and forest resource Topics 18.(a) through 18.(e) are *not applicable* to the project.

Topics:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Not Applicable
19. MANDATORY FINDINGS OF SIGNIFICANCE— Would the project:					
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that would be individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project could result in adverse impacts to the environment with respect to cultural resources, transportation and circulation, noise, air quality, and hydrology and water quality. These topics will be addressed in the EIR. In addition, as a water supply improvement project in the WSIP, this proposed project would be a contributing factor in the growth-inducement potential of the overall WSIP. Growth inducement of the proposed project within the context of the WSIP and the regional water system will be discussed in the EIR, including a discussion of indirect effects of the project on population and housing growth due to growth inducement potential, and secondary effects of growth.

Mitigation measures have been included in this Initial Study to reduce potential impacts related to biological resources to a less-than-significant level. Regarding the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels,

¹¹⁴ San Francisco Planning Department, Zoning Map. Available online at <http://www.sf-planning.org/index.aspx?page=1569>. Accessed October 11, 2013.

¹¹⁵ California Department of Conservation, Division of Land Resource Protection (DLRP), Bay Area Region Important Farmland 2010, published July 2013. Available online at ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/regional/2010/bay_area_fmmp2010.pdf. Accessed June 15, 2014.

¹¹⁶ San Francisco County is not subject to the Williamson Act, meaning that there are no lands where potential uses are restricted to either agriculture or other agriculture-compatible open-space uses.

threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, project construction activities could substantially affect nesting birds, sensitive bat species, California red-legged frog, and western pond turtle. Mitigation Measures M-BI-1a through M-BI-1c include avoidance and minimization measure that would reduce potential impacts to these species to a *less-than-significant* level.

The proposed project would not have cumulatively considerable impacts on the resources that are fully analyzed in this Initial Study, as discussed under each applicable environmental topic.

Potential adverse effects on human beings have been considered as a part of the analysis of individual environmental topics included in this Initial Study. The individual components of the project would not result in environmental impacts that would cause substantial adverse effects on humans.

F. MITIGATION MEASURES AND IMPROVEMENT MEASURES

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

Nesting birds and their nests shall be protected during construction by use of the following:

- Conducting vegetation and tree removal and construction activities outside the bird nesting season (February 1 to August 30), to the extent feasible.
- If construction occurs during the bird nesting season, a qualified wildlife biologist would conduct preconstruction surveys within seven days of the start of construction or after any construction breaks of 14 days or more to identify active nests. A nest is defined to be active for raptors if there is a pair of raptors displaying reproductive behavior (i.e., courting) at the nest and/or if the nest contains eggs or chicks. Surveys shall be performed for the project site and suitable habitat within 250 feet of the project site in order to locate any active passerine nests and within 500 feet of the project site to the extent access is granted by other property owners to locate any active raptor (birds of prey) nests or double-crested cormorant or heron rookeries.
- If active nests are located during the preconstruction bird nesting survey, the wildlife biologist shall evaluate if the schedule of construction activities could affect the active nest and the following measures shall be implemented based on their determination:
 - If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse effect and may revise their determination at any time during the nesting season. In this case, the following measure would apply.
 - If construction may affect the active nest, the biologist shall establish a no disturbance buffer. The biologist shall determine the appropriate buffer taking into account the species involved, the presence of any obstruction, such as a building, is within line-of-sight between the nest and construction, and the level of project and ambient activity (i.e. adjacent to a road or active trail). No disturbance buffers for passerines typically vary from 25 feet and greater and for raptors from

300 feet and greater. For bird species that are federally and/or state-listed sensitive species (i.e., threatened, endangered, fully protected, species of special concern), an SFPUC representative, supported by the wildlife biologist, shall consult with the USFWS and/or CDFW regarding nest buffers.

- Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the USFWS and/or CDFW.
- Removing or relocating active nests shall be coordinated by the SFPUC representative with the USFWS/and or CDFW, as appropriate, given the nests that are found on the site.
- Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction-related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases.

Mitigation Measure M-BI-1b: Avoidance and Minimization Measures for Special-Status Bats.

In coordination with the SFPUC, a qualified wildlife biologist shall conduct preconstruction special-status bat surveys before trees and structures that are suitable for bat roosting (*i.e.*, excluding temporary trailers, retaining walls, etc.) are removed. If active day or night roosts are found, the wildlife biologist shall take actions to make such roosts unsuitable habitat before trees and structures are removed. A no-disturbance buffer of 100 feet shall be created around active bat roosts being used for maternity or hibernation purposes. Bat roosts that begin during construction are presumed to be unaffected, and no buffer would be necessary.

Mitigation Measure M-BI-1c: Avoidance and Minimization Measures for California Red-Legged Frog and Western Pond Turtle.

During construction on Route 35/Skyline Boulevard, at the Central Pump Station well facility site, on the pipeline route within Golden Park near aquatic habitat, and during use of the Harding Road staging area, the SFPUC shall ensure a biological monitor is present during installation of exclusion fencing and initial vegetation clearing and/or grading, and shall implement the following measures:

- Within one week before work at these sites begins (including demolition and vegetation removal), a qualified biologist shall supervise the installation of exclusion fencing along the boundaries of the work area, as deemed necessary by the biologist, to prevent California red-legged frogs and western pond turtles from entering the work area. The construction contractor shall install suitable fencing with a minimum height of 3 feet above ground surface with an additional 4-6 inches of fence material buried such that species cannot crawl under the fence.
- A qualified biologist shall conduct environmental awareness training in person or via video for all construction workers prior to construction workers beginning their work efforts on the project. The training shall include information on species identification, avoidance measures to be implemented by the project, and the regulatory requirements and penalties for noncompliance. If necessary, the content shall vary according to specific construction areas (e.g., workers on city streets will receive training on nesting birds but not on California red-legged frog identification).
- A qualified biologist shall survey the project area within 48 hours before the onset of initial ground-disturbing activities and shall be present during initial vegetation clearing and ground-disturbing

activities. The biological monitor shall monitor the exclusion fencing weekly to confirm proper maintenance and inspect for frogs and turtles. If California red-legged frogs or western pond turtles are found, the SFPUC shall halt construction in the vicinity that poses a threat to the individual as determined by the qualified biologist. If possible, the individual shall be allowed to move out of the project area of its own volition (i.e., if it is near the exclusion fence that can be temporarily removed to let it pass). For western pond turtles, a qualified biologist shall relocate turtles to the nearest suitable habitat. For California red-legged frog, a SFPUC representative shall contact the USFWS and/or CDFW for instructions on how to proceed. Construction shall resume after the individual is out of harm's way.

- During project activities, excavations deeper than 6 inches shall be covered overnight or an escape ramp of earth or a wooden plank at a 3:1 rise shall be installed; openings such as pipes where California red legged frogs or western pond turtles might seek refuge shall be covered when not in use; and all trash that may attract predators or hide California red-legged frogs or western pond turtles shall be properly contained on a daily basis, removed from the worksite, and disposed of regularly. Following construction, the construction contractor shall remove all trash and construction debris from work areas.

G. DETERMINATION

On the basis of this Initial Study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an environmental impact report is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.

DATE

July 16, 2014 

Sarah Jones, Environmental Review Officer
for
John Rahaim, Director of Planning

H. INITIAL STUDY PREPARERS

Planning Department, City and County of San Francisco

Environmental Planning Division

165 Mission Street, Suite 400

San Francisco, CA 94103

Environmental Review Officer: Sarah Jones

Senior Environmental Planner: Steven Smith

Senior Environmental Planner: Chris Kern

Project Sponsor

San Francisco Public Utilities Commission

Bureau of Environmental Management

525 Golden Gate Avenue, 6th Floor

San Francisco, CA 94102

Environmental Project Manager: Scott MacPherson

Initial Study Consultants

ESA

550 Kearny Street, Suite 800

San Francisco, CA 94108

Project Manager: Alisa Moore

Deputy Project Manager: Katie Baker

Senior Reviewer: Jill Hamilton

Orion Environment (Noise, Geology and Soils, Hydrology and Water Quality, Hazards and Hazardous Materials)

211 Sutter Street

San Francisco, CA 94104

Joyce Hsiao

Valerie Geier

Mary McDonald, PG, QSP, QSD

APPENDIX 1

Special-status Species with Potential to Occur in SFPUC Recycled Water Project Area

**TABLE A1-1
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA**

Common Name <i>Scientific Name</i>	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Birds			
Cooper's hawk (<i>Accipiter cooperii</i>)	CDFW §3503.5	Forests, woodlands, and fields. Will also inhabit trees in suburban areas in parks and neighborhoods. Typically nests in riparian growths of deciduous trees and live oak woodlands. Becoming more common as an urban breeder.	Moderate. Large trees in project area, including eucalyptus and Monterey cypress, around Lake Merced and Central Pump Station could support nests for this species. May be seen flying overhead or perched near Oceanside RWTP, although probably not nesting there. Foraging is known at Lake Merced, though breeding remains undocumented.
Great egret (<i>Ardea alba</i>)	--/*/--	Colonial nester. Rookery sites located near marshes, tidal flats, margins of rivers and lakes.	Moderate. No suitable habitat present at facility sites, but this bird has been documented around Lake Merced area, although not within the past year (eBird, 2014).
Great blue heron (<i>Ardea herodias</i>)	--/*/--	Shallow estuaries and fresh and saline emergent wetlands.	High. No suitable habitat at facility sites, but is known to breed at Lake Merced.
Great horned owl (<i>Bubo virginianus</i>)	CDFW §3503.5	Often uses abandoned nests of corvids or squirrels; nests in large oaks, conifers, eucalyptus.	Moderate. Large trees in project area, including eucalyptus and Monterey cypress around Lake Merced and at Central Pump Station could support nests for this species.
Short-eared owl (<i>Asio flammeus</i>)	CSC	Freshwater and saltwater swamplands, meadows, tall grasses needed for nesting.	Low. No suitable habitat present in project area.
Burrowing owl (<i>Athene cunicularia</i>)	CSC	Annual grasslands with low-growing vegetation. Requires small mammal burrows for nesting.	Low. No suitable habitat present in project area.
Red-tailed hawk (<i>Buteo jamaicensis</i>)	CDFW §3503.5	Desert, scrublands, grasslands, roadsides, fields and pastures. Commonly found at field edges and perched on fences, poles, and trees. Inhabits almost any open habitat, including grassland and urbanized areas.	Moderate. Common raptor. Open habitat exists on and near Central Pump Station and Lake Merced. Large trees in project area, including eucalyptus and Monterey cypress around Lake Merced and at Central Pump Station could support nests for this species. May be seen flying overhead or perched near Oceanside RWTP, although probably not nesting there.
Red-shouldered hawk (<i>Buteo lineatus</i>)	CDFW §3503.5	Riparian and oak woodlands. Also found in eucalyptus groves and sometimes developed/ suburban areas with mosaic of buildings and woodlands. Forages along edges of marshes and grasslands; nests in mature trees in a variety of habitats.	Moderate. Common raptor. Large trees in project area, including eucalyptus and Monterey cypress around Lake Merced and at Central Pump Station could support nests for this species. May be seen flying overhead or perched near Oceanside RWTP, although probably not nesting there.
Western snowy plover (<i>Charadrius alexandrinus nivosus</i>)	FT/CSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Low. No suitable habitat at facility sites. Nearby Fort Funston/Ocean Beach provides nesting habitat. However, the park allows unleashed dogs and this species is particularly sensitive to disturbance.
Northern harrier (<i>Circus cyaneus</i>)	CDFW §3503.5	Nests in salt or freshwater wetlands, forages over wetlands, annual grasslands.	Moderate. No suitable habitat at facility sites. Freshwater wetlands of Lake Merced may provide nesting habitat. Although there are no documented CNDDDB occurrences, it has been documented by local birders (eBird, 2014).

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name <i>Scientific Name</i>	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Birds (cont.)			
Snowy egret (<i>Egretta thula</i>)	--/*/--	Colonial nester. Nest sites typically located in protected beds of dense tules. Rookery sites located nearby foraging areas (marshes, meadows, borders of lakes).	Moderate. No suitable habitat at facility sites. This bird has been documented around Lake Merced area, although not within the past year (eBird, 2014)
White-tailed kite (<i>Elanus leucurus</i>)	CDFW §3503.5 FP	Foothills and valleys with oaks, rivers, and marshes; open woodland, desert grassland.	Moderate. No suitable habitat at facility sites. Lake Merced offers freshwater marsh habitat and Golden Gate Park offers open woodland-like habitat that this species is associated with. Species has been documented at Lake Merced and Golden Gate Park.
Merlin (<i>Falco columbarius</i>)	CDFW §3503.5	Open woodland, seacoast, tidal estuaries, and savannas. Increasingly are seen in towns and cities hunting for small avian prey species. Reuses old nests of crows, ravens, hawks.	Moderate. No suitable habitat at facility sites. Open habitat of Lake Merced and Golden Gate Park provides suitable habitat for this species. Likely to be seen foraging for small birds, and could potentially nest at Lake Merced and Golden Gate Park. Species has been recently documented at Lake Merced and Golden Gate Park (eBird, 2014).
American kestrel (<i>Falco sparverius</i>)	CDFW §3503.5	Open areas such as meadows, grasslands, and open woodlands. Also utilize human modified habitat such as parks and fields. Primarily a cavity nester.	Low to moderate. Large trees in project area, including eucalyptus and Monterey cypress around Lake Merced and at Central Pump Station could support nests for this species.
Salt-marsh common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	FSC/CSC/--	Inhabits tidal salt and brackish marshes in winter, but breeds in freshwater brackish marshes and riparian woodlands during spring to early summer.	High. No suitable habitat at facility sites. This species is known to breed in the freshwater marshes at Lake Merced.
Caspian tern (<i>Hydroprogne caspia</i>)	--/*/--	Colonial nester on sandy or gravelly beaches on coast and inland. Roosts on isolated spits of land, and found along rivers and the coast.	Moderate. No suitable habitat at facility sites. This species has been documented around North, East, and South Lake Merced, although not within the past year (eBird, 2014).
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	--/CT/--	Tidally influenced, heavily vegetated, high-elevation marshlands.	Low. No suitable habitat at facility sites. Historical occurrence at Lake Merced from 1937. Currently no suitable habitat present in project area.
Alameda song sparrow (<i>Melospiza melodia pusillula</i>)	--/CSC/--	Salt marshes of eastern and south San Francisco Bay.	Low. Suitable habitat not present in project area and species range is outside of project area.
San Pablo song sparrow (<i>Melospiza melodia samuelis</i>)	--/CSC/--	Salt marshes of North San Francisco Bay and San Pablo Bay.	Low. Suitable habitat not present at facility sites or in project area. Species range is outside of project area.
Black-crowned night heron (<i>Nycticorax nycticorax</i>)	--/*/--	Lowland and foothill areas. Nests in dense emergent wetlands and dense-foliated trees.	High. No suitable habitat at facility sites. Locally uncommon, but may breed at Lake Merced. Observed during biological survey in wetland bordering North Lake Merced.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Birds (cont.)			
Double-crested cormorant (<i>Phalacrocorax auritus</i>)	--/*/-- (rookery site) WL	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state. Nests along coast on isolated islands or in trees along lake margins.	High. No suitable habitat at facility sites. Large nesting colonies are present at Lake Merced. Known to nest on the west side of South Lake near San Francisco Police Department Firing Range.
California clapper rail (<i>Rallus longirostris obsoletus</i>)	FE/CE/--	Salt marsh wetlands along the San Francisco Bay.	Low. Suitable habitat not present in project area.
Bank swallow (<i>Riparia riparia</i>)	--/CT	Colonial nester. Digs nesting hole in vertical banks/cliffs near streams, rivers, lakes, and ocean	High. No suitable habitat at facility sites. Known to nest in sand dunes at Fort Funston and forage over Lake Merced.
California least tern (<i>Sternula antillarum browni</i>)	FE/CE	Colonial nester along sandy beaches, alkali flats, or paved areas.	Low. No suitable habitat at facility sites. Nearby Fort Funston provides nesting habitat. However, the park allows unleashed dogs and this species is particularly sensitive to disturbance.
Yellow-headed blackbird (<i>Xanthocephalus xanthocephalus</i>)	--/CSC/--	Marsh, swamp, and wetland. Nests in freshwater emergent wetlands with dense vegetation, usually bordering lakes or ponds.	Moderate. No suitable habitat at facility sites. Freshwater wetlands along margins of Lake Merced provide nesting habitat for this species.
Amphibians			
California tiger salamander (<i>Ambystoma californiense</i>)	FT/CT/--	Vernal or temporary pools in annual grasslands, or open stages of woodlands. Typically adults use mammal burrows.	Low. No suitable habitat at facility sites or in project area.
Foothill yellow-legged frog (<i>Rana boylei</i>)	--/CSC/--	Small, permanent foothill streams >200 m elevation with rocky substrate, open and sunny banks; rivers; and other permanent water sources.	Low. No suitable habitat at facility sites or in project area.
California red-legged frog (<i>Rana draytonii</i>)	FT/ CSC	Streams, freshwater pools, and ponds with overhanging vegetation. Also found in woods adjacent to streams. Requires permanent or ephemeral water sources such as reservoirs and slow moving streams and needs pools of >0.5 m depth for breeding.	Low. No suitable aquatic habitat present at project facility sites. Potential habitat is present nearby in ponds in Golden Gate Park. Several recent CNDDDB records for this species in Golden Gate Park, including a 2005 record at Strybing Arboretum, approximately 0.5 mile east of the Central Pump Station well facility (CDFG, 2011). Historically present at Lake Merced (SFRPD, 2006) but currently presumed extirpated from this area (Jones and Stokes, 2007; San Francisco Planning Department, 2011).
Reptiles			
Western pond turtle (<i>Emys marmorata</i>)	CSC	Ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation <6,000' in elevation. Require basking sites and upland habitat for egg laying (sandy banks and open, grassy fields)	High. No suitable habitat at facility sites. Known to use Lake Merced (SFRPD, 2006; San Francisco Planning Department, 2011), and species may occur in nearby man-made ponds in Golden Gate Park. Basking habitat is present in riprap, matted bulrush, abandoned piers, and wood debris; limited upland breeding habitat has been noted.
Alameda whipsnake (<i>Masticophis lateralis euryxanthus</i>)	FT/CT/--	Chaparral and scrub habitat, and will also occupy adjacent grasslands, oak savanna and woodland habitats.	Low. No suitable habitat present in at facility sites or in project area.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Reptiles (cont.)			
San Francisco garter snake (<i>Thamnophis sirtalis tetrataenia</i>)	FE/CE/-- CFP	Densely vegetated ponds and slow streams with emergent vegetation near open hillsides with abundant small mammal burrows.	Low. No suitable habitat present in at facility sites. Potentially suitable habitat present at Lake Merced but species not documented at this area.
Mammals			
Pallid bat (<i>Antrozous pallidus</i>)	--/CSC/--	Roosts in caves, old buildings, and under bark. Forages in open lowland areas, and forms large maternity colonies in the spring. Very sensitive to human disturbance.	Low. No suitable habitat present in at facility sites. Potential roosting habitat is available in buildings and large-diameter trees in Golden Gate Park and Lake Merced, but this species was not detected during recent surveys in San Francisco parks (Krauel, 2009). Also unlikely to occur in project area given high levels of human activity.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	--/CSC/--	Roosts in caves, buildings, bridges, rock crevices, and hollow trees. Very sensitive to human disturbance.	Low. No suitable habitat present in at facility sites. While roosting habitat is available in buildings in Golden Gate Park and Lake Merced, the species was not detected during recent surveys in San Francisco parks (Krauel, 2009). Also unlikely to occur in project area given high levels of human activity.
Southern sea otter	FT/--/-- CFP	Nearshore marine habitat from Ano Nuevo to Point Sal (Santa Barbara County).	Low. Suitable habitat not present at facility sites or in project area.
Silver-haired bat (<i>Lasionycteris noctivagans</i>)	WBWG Medium	Coastal and montane forest. Roosts in hollow trees, and feeds over streams and ponds.	Low. Suitable habitat not present at facility sites or in project area.
Western red bat (<i>Lasiurus blossevillii</i>)	--/CSC/--	Roosts primarily in tree or shrub foliage, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate. Roosting habitat available in trees/shrub foliage at Lake Merced and at Central Pump Station. In recent surveys, this species was one of the most commonly encountered bat species in San Francisco (Krauel, 2009) and was found in parks containing water bodies. May also be present at Oceanside RWTP in dense willow stands with open areas below for foraging.
Hoary bat (<i>Lasiurus cinereus</i>)	WBWG Medium	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for foraging. Roosts in dense foliage of medium to large trees. Feeds primarily on moths; requires water.	Moderate. Potential roosting habitat is available in large-diameter trees in Golden Gate Park at Central Pump Station and at Lake Merced; Lake Merced and small ponds in Golden Gate Park also provide source of water for feeding, but this species was not detected during recent surveys in San Francisco parks (Krauel, 2009).
San Pablo vole (<i>Microtus californicus sanpabloensis</i>)	--/CSC/--	Salt marshes of San Pablo Creek, and south shore of San Pablo Bay.	Low. No suitable habitat in project area, and project area is outside of species range.
Fringed myotis (<i>Myotis thysanodes</i>)	WBWG High	Pinyon juniper, valley and foothill grassland. Uses caves, mines, and buildings for maternity colonies and roosts.	Low. Suitable habitat not present in project area.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name <i>Scientific Name</i>	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Mammals (cont.)			
Yuma myotis (<i>Myotis yumanensis</i>)	--*/--	Found in open forests and woodlands with sources of water over which to feed. Also utilizes buildings and bridges.	Moderate. Roosting habitat is available in tree/shrub foliage at Central Pump Station, at Lake Merced, and at Oceanside RWTP. Lake Merced and small ponds in Golden Gate Park provide source of water for feeding. In recent surveys, this species was one of the most commonly encountered bat species in San Francisco (Krauel, 2009), especially in parks with water bodies such as lakes.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	--/CSC/--	Forest habitat with dense understory.	Low. Suitable habitat not present at facility sites or in project area.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	--/CSC/--	Arid regions of southern California. Requires cliffs and rocky areas for roosting	Low. Species range is outside of project area, and there is no suitable habitat.
Salt-marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE/CE/--	Saline emergent wetlands of San Francisco Bay, usually in association with pickleweed.	Low. Suitable habitat not present at facility sites or in project area.
Angel Island mole (<i>Scapanus latimanus insularis</i>)	--*/--	Friable soils. Only known to occur on Angel Island.	Low. No suitable habitat at facility sites or in project area. Species range occurs outside of project area.
Alameda Island mole (<i>Scapanus latimanus parvus</i>)	--/CSC/--	Annual and perennial grasslands. Only known to occur on Alameda Island.	Low. No suitable habitat in project area and species range occurs outside of project area.
Salt-marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)	--/CSC/--	Salt marshes of South San Francisco Bay.	Low. No suitable habitat in project area and species range occurs outside of project area.
American badger <i>Taxidea taxus</i>	--/CSC/--	Open grasslands with loose, friable soils.	Low. Suitable habitat not present in project area.
Point Reyes jumping mouse (<i>Zapus trinotatus orarius</i>)	--/CSC/--	Bunch grass marshes in uplands of Point Reyes. Also associated with coastal scrub, grasslands, and meadows.	Low. Species range occurs outside of project area.
Invertebrates			
Opler's longhorn moth (<i>Adela oplerella</i>)	--*/--	Associated with serpentine grasslands, larvae feed on a native forb.	Low. Suitable habitat not present at project facility sites or in project area.
incredible harvestman (<i>Banksula incredula</i>)	--*/--	Franciscan sandstone talus slope.	Low. Specific habitat requires not present at facility sites or in project area.
Tomales isopod (<i>Caecidotea tomalensis</i>)	--*/--	Still-to-slow moving water in vegetated ponds. Preferably spring-fed	Low. Habitat not present at facility sites. Could potentially occur at Lake Merced or small ponds in Golden Gate Park.
San Bruno elfin butterfly (<i>Callophrys mossil bayensis</i>)	FE/--/--	Coastal, mountainous areas with grass. Found mainly around San Bruno Mountain.	Low. Species is not known to occur beyond San Bruno Mountain.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Invertebrates (cont.)			
Sandy beach tiger beetle (<i>Cicindela hirticollis gravida</i>)	FSC/*	Sandy areas around water; larva live in burrows in sand along sea beaches, creeks, seepages, and lake shores, and prefer moist sand not affected by wave action.	Low. No suitable habitat present at facility sites, but potentially suitable habitat present at Lake Merced, but species not documented to occur there.
Monarch butterfly (<i>Danaus plexippus</i>)	--/*/--	Winter roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Low. Several records of this species exist in Golden Gate Park, but none around Lake Merced or Oceanside RWTP. Potential wintering sites of eucalyptus stands occur at Central Pump Station and along periphery of Lake Merced, but they may not be wind-protected.
Stage's dufourine bee (<i>Dufourea stagei</i>)	--/*/--	Species is a ground-nesting bee.	Low. Potentially suitable habitat is present at Lake Merced, RWTP, and Central Pump Station; known species range is south of the project area (only known to occur at San Bruno Mountain and in Santa Cruz County).
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>)	FT/--/--	Native grasslands with serpentine soil.	Low. No suitable habitat present at facility sites or in project area.
Bridge's coast range shoulderband (<i>Helminthoglypta nickliniana bridgesi</i>)	--/*/--	Open hillsides of Alameda and Contra Costa County.	Low. No suitable habitat present at facility sites or in project area. Species' range does not include project area.
Leech's skyline diving beetle (<i>Hydroporus leechi</i>)	--/*/--	Found in freshwater ponds, shallow water of streams marshes and lakes.	Low. No suitable habitat present at facility sites. Could potentially be found in shallow areas of Lake Merced and small ponds of Golden Gate Park and, although there are no CNDDDB occurrences.
San Francisco forktail damselfly (<i>Ischnura gemina</i>)	--/*/--	Small, marshy ponds and ditches with emergent or floating vegetation.	Low. Suitable habitat not present at facility sites, but this species could potentially be found in small ponds of Golden Gate Park.
Bumblebee scarab beetle (<i>Lichnanthe ursina</i>)	FSC/--/--	Inhabits coastal sand dunes. Usually flies close to sand surface near the crest of the dunes.	Low. No suitable habitat present at facility sites. CNDDDB records of this species along Ocean Beach are historic. However species could occur along Ocean Beach west of Oceanside RWTP.
Tiburon micro-blind harvestman (<i>Microcina tiburona</i>)	--/*/--	Hilly grasslands in serpentine areas.	Low. No suitable habitat present at facility sites or in project area.
Mission blue butterfly (<i>Plebejus icarioides missionensis</i>)	FE/--/--	Grassland with <i>Lupinus albifrons</i> , <i>L. Formosa</i> , and <i>L. varicolor</i> .	Low. Remaining populations of this species occur in Marin Headlands, Skyline ridges, and San Bruno Mountain. All of these locations area far from the project area.
Robust walker (<i>Pomatiopsis binneyi</i>)	--/*/--	Freshwater.	Low. No suitable habitat at facility sites, but could be present at Lake Merced and small ponds in Golden Gate Park.
Callippe silverspot butterfly (<i>Speyeria callippe callippe</i>)	FE/--/--	Found in native grasslands with <i>Viola pedunculata</i> as larval food plant.	Low. Species is only known from San Bruno Mountain, and project area is outside of this location.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name <i>Scientific Name</i>	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Invertebrates (cont.)			
Myrtle's silverspot butterfly (<i>Speyeria zerene myrtleae</i>)	FE/--/--	Foggy, coastal dunes of Point Reyes Peninsula	Low. Species range and specific habitat requirements occur outside of project area.
San Francisco Bay Area leaf-cutter bee (<i>Trachusa gummifera</i>)	--/*/--	Inhabits soft, rotted wood.	Moderate. Could potentially be present at RWTP and Central Pump Station, as well as at Lake Merced and woody areas around small ponds in Golden Gate Park.
California brackishwater snail (<i>Tyonia imitador</i>)	--/*/--	Coastal lagoons, estuaries, salt marshes	Low. No suitable habitat present at facility sites or in project area.
Marin hesperian (<i>Vespericola marinensis</i>)	--/*/--	Coastal brushfield and chaparral vegetation in Marin County.	Low. Species range and specific habitat requirements occur outside of project area.
Fish			
Sacramento perch (<i>Archoplites interruptus</i>)	--/CSC/--	Warm water. Aquatic vegetation required by young. Historically found in rivers and lakes of Central Valley.	Low. Suitable habitat not present at facility sites. Could potentially occur in Lake Merced and small ponds of Golden Gate Park.
Tidewater goby (<i>Eucyclogobius newberryi</i>)	FE/CSC Critical Habitat	Shallow waters of bays and estuaries, critical habitat in Marin County.	Low. Suitable habitat not present at facility sites or in project area.
Hardhead (<i>Mylopharodon conocephalus</i>)	--/CSC/--	Streams in the Sacramento-San Joaquin drainage, also found in the Russian River. Deep pools with sand-gravel-boulder bottoms.	Low. Species range and habitat requirements occur outside of project area.
Central coast steelhead (<i>Oncorhynchus mykiss irideus</i>)	FT/-- Critical Habitat	Drainages of central California coastal rivers.	Low. Suitable habitat not present at facility sites or in project area.
Longfin smelt (<i>Spirinchus thaleichthys</i>)	FC/CT/--	Anadromous, pelagic fish of bays, estuaries, and nearshore coastal environments. Spawn in freshwater rivers.	Low. Suitable habitat not present at facility sites or in project area.
Eulachon (<i>Thaleichthys pacificus</i>)	--/CSC/--	Anadromous fish that spawns in coastal rivers with gravel, sand, and woody debris on bottoms. Occurs in Klamath River, Mad River, Redwood Creek, as well as Smith River and Humboldt Bay tributaries.	Low. Suitable habitat not present at facility sites or in project area.
Plants			
Bristly sedge <i>Carex comosa</i>	-/-/2.1	Lake margins, marshes, swamps, coastal prairie, and valley and foothill grasslands.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not observed there (San Francisco Planning Department, 2011; May and Associates, 2009; Nomad Ecology, 2011)
Wight's paintbrush <i>Castilleja wightii</i>	--/--/LS	Northern coastal scrub.	Low. No suitable habitat present at facility sites. Occurs on the east side of East Lake Merced (Nomad Ecology, 2011)
Vancouver wild rye <i>Elymus x vancouverensis</i>	--/--/LS	Coastal strand.	Low. No suitable habitat present at facility sites. Occurs on the northwest side of the Mesa in California blackberry scrub (SFPRD, 2006).

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Plants (cont.)			
Blue coast gilia <i>(Gilia capitata</i> ssp. <i>chamissonis)</i>	-/-/1B.1	Coastal scrub and coastal dunes.	Low. No suitable habitat present at facilities sites but species is known to occur in dune scrub habitat at Lake Merced (May and Associates, 2009; Nomad Ecology, 2011).
Robust spineflower <i>Chorizanthe robusta</i> var. <i>robusta</i>	FE/-/1B.1	Sandy or gravelly coastal dunes, coastal scrub, cismontane woodland and maritime chaparral.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not observed there (San Francisco Planning Department, 2011; May and Associates, 2009; Nomad Ecology, 2011); species presumed extirpated in San Francisco.
Franciscan manzanita <i>Arctostaphylos franciscana</i>	-/-/1B.1	Open, rocky, serpentine outcrops in chaparral.	Low. No suitable habitat present at facility sites. This species was believed to be extinct in the wild (although still extant through cultivation), but was rediscovered in Presidio National Park in late 2009.
San Francisco spineflower <i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	-/-/1B.2	Coastal bluff scrub, dunes, prairie, and coastal scrub; sandy soils on terraces and slopes.	Low. No suitable habitat present at facility sites but species is known to occur at Lake Merced (May and Associates, 2009; Nomad Ecology, 2011).
Franciscan thistle <i>Cirsium andrewsii</i>	-/-/1B.2	Coastal bluff scrub, coastal prairie, coastal mesic scrub, and broadleaf upland forest; sometimes on serpentine.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not observed there (San Francisco Planning Department, 2011; May and Associates, 2009; Nomad Ecology, 2011)
Compact cobwebby thistle <i>Cirsium occidentale</i> var. <i>compactum</i>	-/-/1B.2	On dunes or clay in chaparral, coastal dunes, coastal prairie, coastal scrub, and grasslands.	Low. No suitable habitat present at facility sites. Suitable habitat present at Lake Merced but species not documented to occur there (May and Associates, 2009; Nomad Ecology, 2011).
San Francisco collinsia <i>Collinsia multicolor</i>	-/-/1B.2	On humus-covered soil derived from mudstone in closed-cone coniferous forest and coastal scrub.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present in coastal scrub at Lake Merced but species not documented to occur there (May and Associates, 2009; Nomad Ecology, 2011).
San Francisco wallflower <i>Erysimum franciscanum</i>	--/--/4	Coastal scrub and grasslands	Low. No suitable habitat present at facility sites. Formerly known from Lake Merced but not recently observed; may be present in the seedbank.
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	-/-/1B.2	On sandy or serpentine slopes of sea bluffs in coastal scrub, or valley and foothill grasslands.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not documented to occur there (San Francisco Planning Department, 2011; May and Associates, 2009; Nomad Ecology, 2011); species reintroduced in Pine Lake Park (SFRPD, 2006), but not known to occur in project area.
Short-leaved evax <i>Hesperivax sparsiflora</i> var. <i>brevifolia</i>	-/-/1B.2	Sandy bluffs and flats in coastal scrub and coastal dunes.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011); nearest species record is McLaren Park.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Plants (cont.)			
Marsh microseris <i>Microserus paludosa</i>	-/-/1B.2	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011).
Choris's popcorn-flower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	-/-/1B.2	Mesic sites in chaparral, coastal scrub, and coastal prairie.	Low. No suitable habitat present at facility sites. Potentially suitable habitat Present at Lake Merced but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011); historical record of species occurrence in Golden Gate Park.
Oregon polemonium <i>Polemonium carneum</i>	-/-/1B.1	Coastal prairie, coastal scrub, lower montane coniferous forest.	Low. No suitable habitat present at facility sites. Potentially suitable habitat Present at Lake Merced but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011).
Canyon live oak <i>Quercus chrysolepsis</i>	--/--/LS	Chaparral and valley grasslands.	Low. No suitable habitat present at facility sites. Occurs on the south side of East Lake Merced; not known to South Lake Merced (Nomad Ecology, 2011).
Coastal black gooseberry <i>Ribes divaricatum</i>	--/--/LS	Moist coastal understories; streamside thickets	Low. No suitable habitat present at facility sites. Occurs along southeastern slopes of Impound Lake (Lake Merced).
Thimbleberry <i>Rubus parviflorus</i>	--/--/LS	Closed cone pine forest and riparian wetlands.	Low. No suitable habitat present at facility sites. Occurs on the south shore of East Lake Merced (Nomad Ecology, 2011).
Dune tansy <i>Tanacetum camphoratum</i>	--/--/LS	Coastal dunes and clearings in dune scrub.	Low. Marginally suitable habitat in disturbed scrub near RWTP. Occurs on southwestern shore of South Lake Merced.
Coastal triquetrella <i>Triquetrella californica</i>	-/-/1B.2	On soil in coastal bluff and coastal scrub.	Low. No suitable habitat present at facility sites. Potentially suitable habitat Present at Lake Merced but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011).
Adobe sanicle <i>Sanicula maritima</i>	/Rare/1B.1	Moist clay or ultramafic soil in chaparral, coastal prairie, meadows, seeps, and valley and foothill grassland.	Low. No suitable habitat present.
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	-/-/1B.2	Alkali flats, flooded grassland, playas and vernal pools.	Low. No suitable habitat present; species presumed extirpated in San Francisco.
Arcuate bush mallow <i>Malacothamnus arcuatus</i>	-/-/1B.2	Gravelly alluvium in chaparral and cismontane woodland.	Low. No suitable habitat present.
Beach layia <i>Layia carnosa</i>	FE/CE/1B.1	Sparsely vegetated, semi-stabilized coastal dunes and scrub.	Low. No suitable habitat present; presumed extirpated in San Francisco.
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	-/-/1B.2	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland.	Low. No suitable habitat present.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Plants (cont.)			
Dark-eyed gilia <i>Gilia millefoliata</i>	-/-/1B.2	Coastal dunes.	Low. No suitable habitat; species potentially extirpated in San Francisco.
Diablo helianthella <i>Helianthella castanea</i>	-/-/1B.2	On rocky soils in broadleaf upland forest, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland.	Low. No suitable habitat present. Presumed extirpated from San Francisco.
Fragrant fritillaria <i>Fritillaria liliacea</i>	-/-/1B.2	On clay, often serpentine derived soils in coastal scrub, grassland, and coastal prairie.	Low. No suitable habitat present.
Hairless popcorn-flower <i>Plagiobothrys glaber</i>	-/-/1A	Coastal salt marshes and alkaline meadows.	Low. Not documented from San Francisco, and presumed extirpated throughout range.
Kellogg's horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	-/-/1B.1	Openings in old dunes coastal and sandhill in closed-cone coniferous forest, coastal scrub, and chaparral.	Low. No suitable habitat present.
Marin western flax <i>Hesperolinon congestum</i>	FT/CT/1B.1	Chaparral and grassland, usually on serpentine barrens	Low. No suitable habitat present.
Marsh sandwort <i>Arenaria paludicola</i>	FE/CE/1B.1	Freshwater or brackish marshes and swamps.	Low. No suitable habitat present at facility sites. Potentially suitable habitat present at Lake Merced, but species not observed there (May and Associates, 2009; Nomad Ecology, 2011; San Francisco Planning Department, 2011); species presumed extirpated in San Francisco.
Montara manzanita <i>Arctostaphylos montaraensis</i>	-/-/1B.2	Slopes and ridges in chaparral and coastal scrub.	Low. No suitable habitat present.
Pacific manzanita <i>Arctostaphylos pacifica</i>	-/CE/1B.1	Coastal scrub and chaparral.	Low. No suitable habitat present.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	-/-/1B.2	Chaparral, coastal prairie, meadows, seeps, coastal salt marshes and swamps, and vernal mesic, often alkaline, valley and foothill grasslands.	Low. No suitable habitat present.
Point Reyes bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	-/-/1B.2	Coastal salt marshes and swamps.	Low. No suitable habitat present.
Presidio clarkia <i>Clarkia franciscana</i>	FE/CE/1B.1	Serpentine outcrops in coastal scrub, and valley and foothill grassland.	Low. No suitable habitat present.
Presidio manzanita <i>Arctostaphylos montana</i> ssp. <i>Ravenii</i>	FE/CE/1B.1	Open, rocky, serpentine slopes in chaparral, coastal scrub, and coastal prairie.	Low. No suitable habitat present.
Rose leptosiphon <i>Leptosiphon rosaceus</i>	-/-/1B.1	Coastal bluff scrub.	Low. No suitable habitat present.
Round-headed Chinese-houses <i>Collinsia corymbosa</i>	-/-/1B.2	Coastal dunes and coastal prairie.	Low. No suitable habitat present; species has not been seen in San Francisco for more than 100 years.
San Bruno Mountain manzanita <i>Arctostaphylos imbricata</i>	-/CE/1B.1	Chaparral and coastal scrub, usually on sandstone outcrops.	Low. No suitable habitat present. Not documented in San Francisco.

TABLE A1-1 (Continued)
SPECIAL-STATUS SPECIES WITH POTENTIAL TO OCCUR IN SFPUC RECYLED WATER PROJECT AREA

Common Name Scientific Name	Listing USFWS/CD FW/CNPS	Habitat Requirements	Potential to Occur in Project Area
Plants (cont.)			
San Francisco campion <i>Silene verecunda</i> ssp. <i>verecunda</i>	-/-/1B.2	Mudstone, shale, or serpentine substrates in coastal scrub, coastal prairie, chaparral and valley and foothill grassland.	Low. No suitable habitat present.
San Francisco lessingia <i>Lessingia germanorum</i>	FE/CE/1B.1	Open, sandy, coastal dunes and scrub.	Low. Marginally suitable habitat present.
San Francisco owl's-clover <i>Triphysaria floribunda</i>	-/-/1B.2	Coastal prairie, and valley and foothill grasslands; occasionally on serpentine.	Low. No suitable habitat present.
San Francisco popcorn-flower <i>Plagiobothrys diffusus</i>	-/CE/1B.1	Coastal prairie, and valley and foothill grasslands.	Low. No suitable habitat present. Presumed extirpated in San Francisco.
Santa Cruz microseris <i>Stebbinsoseris decipiens</i>	-/-/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.	Low. No suitable habitat present.
Water star-grass <i>Heteranthera dubia</i>	--/--/2B.2	Marshes and swamps.	Low. No suitable habitat present.
White seaside tarplant <i>Hemizonia congesta</i> ssp. <i>congesta</i>	-/-/1B.2	Grassy valleys and hills, often on fallow fields in coastal scrub.	Low. No suitable habitat present.
White-rayed pentachaeta <i>Pentachaeta bellidiiflora</i>	FE/CE/1B.1	Open, dry, rocky slopes and grassy areas, usually on serpentine.	Low. No suitable habitat present.

STATUS CODES:

FEDERAL: (U.S. Fish and Wildlife Service)
 FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.
 FSC = Federal Species of Concern
 FC = Candidate for federal listing

STATE: (California Department of Fish and Wildlife [CDFW])
 CT = Listed as Threatened by the State of California
 CE = Listed as Endangered by the State of California
 CSC = California Species of Special Concern
 CFP = California Department of Fish and Wildlife designated "fully protected"

WL = Watch list
 §3503.5 = California Fish and Game Code Section §3503.5
 This code protects nesting raptors and birds of prey
 *=Species listed on Special Animals list, CDFG, 2011

OTHER:

WBWG = Western Bat Working Group:
 Low = Stable population
 Medium = Need more information about the species, possible threats, and protective actions to implement.
 High = Imperiled or at high risk of imperilment.

California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR):
 1A = Presumed extirpated in California; Rare or extinct in other parts of its range.
 1B = Rare, threatened, or endangered throughout range; Most species in this rank are endemic to California.
 2A = Extirpated in California, but common in other parts of its range.
 2B = Rare, threatened, or endangered in California but common in other parts of its range.
 3 = Need more information about species to assign it a ranking.
 4 = Limited distribution and therefore warrants monitoring of status.
 .1 = Seriously endangered in California
 .2 = Fairly endangered in California
 LS = Locally Significant Species

REFERENCES

- Bat Conservation International, 2014. Species profiles for Yuma myotis (*Myotis yumanensis*), big brown bat (*Eptesicus fuscus*) and western red bat (*Lasiurus blossevillii*). Accessed February, 2014. Available at:
<http://batcon.org/index.php/all-about-bats/species-profiles.html?task=detail&species=2435&country=43&state=9&family=all&limitstart=0>
<http://batcon.org/index.php/all-about-bats/species-profiles.html?task=detail&species=1890&country=43&state=9&family=all&limitstart=0>
<http://batcon.org/index.php/all-about-bats/species-profiles.html?task=detail&species=1718&country=43&state=9&family=all&limitstart=0>
- Bay Area Open Space Council. 2011. *The Conservation Lands Network: San Francisco Bay Area Upland Habitat Goals Project Report*. Berkeley, CA.
- California Department of Fish and Game (CDFG). Longfin smelt (*Spirinchus thaleichthys*) fact sheet. Version 1-June 2009.
- California Department of Fish and Game (CDFG), *California Natural Diversity Database (CNDDDB)*. Data request for U.S. Geological Survey San Francisco North and San Francisco South 7.5-minute topographic quadrangles. Information dated February 27, 2011.
- California Department of Fish and Wildlife (CDFW), *California Natural Diversity Database (CNDDDB)*. Data request for U.S. Geological Survey San Francisco North 7.5-minute topographic quadrangle and eight surrounding quads. Accessed January, 2014.
- California Native Plant Society (CNPS), 2014. CNPS Electronic Inventory data request for U.S. Geological Survey San Francisco North 7.5-minute topographic quadrangle. Accessed January, 2014.
- Cornell Lab of Ornithology, 2014. All About Birds. Available at: <http://www.allaboutbirds.org/>. Accessed various dates, January, 2014.
- Cornell Lab of Ornithology: eBird, <http://ebird.org/content/ebird/>. Accessed various dates, February, 2014.
- Essig Museum of Entomology, 2014. Species profile for Callippe silverspot butterfly (*Speyeria callippe callippe*). Accessed February 2014. Available at: <http://essig.berkeley.edu/endins/callippe.htm>
- Golden Gate National Parks Conservancy, 2014. Species profile for Mission blue butterfly (*Plebejus icarioides missionensis*). Accessed February 2014. Available at:
<http://www.parksconservancy.org/conservation/plants-animals/endangered-species/mission-blue-butterfly.html>
- Jones and Stokes, *Probable Absence of California Red-Legged Frog from Lake Merced*, Oakland, CA, 2007.
- Krauel, J.K., Foraging Ecology of Bats in San Francisco, M.S. Thesis, San Francisco State University. Available for review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, in Case File No. 2001.0016E, 2009.
- May and Associates, *Draft Botanical Survey Report, Lake Merced Water Level Restoration Project*. Prepared for Winzler & Kelly, August 31, 2009.

NOAA Fisheries, Office of Protected Resources, 2014. Steelhead trout (*Oncorhynchus mykiss*). Accessed January 23, 2014. Available at <http://www.nmfs.noaa.gov/pr/species/fish/steelheadtrout.htm#more>.

NOAA Fisheries, Office of Protected Resources, 2014. Pacific Eulachon/Smelt (*Thaleichthys pacificus*). Accessed February 3, 2014. Available at <http://www.nmfs.noaa.gov/pr/species/fish/pacificseulachon.htm>.

Nomad Ecology, *Lake Merced Vegetation Mapping Update, Lake Merced Natural Area, City and County of San Francisco, California*, revised draft. Prepared for San Francisco Public Utilities Commission, May 2011.

San Francisco Recreation and Park Department (SFRPD), *Significant Natural Resource Areas Management Plan*, February 2006.

Shuford, W.D., and Gardali, T., eds., 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Camarillo, Western Field Ornithologists, and Sacramento, California Department of Fish and Game, 2008.

United States Geological Society, 2014. Nonindigenous Aquatic Species information for Sacramento perch (*Archoplites interruptus*). Accessed February 5th, 2014. Available at: <http://nas2.er.usgs.gov/viewer/omap.aspx?SpeciesID=374>

Western Bat Working Group, 2014. Regional Bat Species Priority Matrix and Species Accounts for fringed myotis (*Myotis thysanodes*), Silver-haired bat (*Lasionycteris noctavagans*), and hoary bat (*Lasiurus cinereus*). Accessed February, 2014. Available at:

http://www.wbwg.org/speciesinfo/species_matrix/spp_matrix.pdf

http://www.wbwg.org/speciesinfo/species_accounts/vespertilionidae/myth.pdf

http://www.wbwg.org/speciesinfo/species_accounts/vespertilionidae/lano.pdf

http://www.wbwg.org/speciesinfo/species_accounts/vespertilionidae/laci.pdf

APPENDIX 2

Hazardous Materials Database Search Results

**TABLE A2-1
SITES IDENTIFIED BY ENVIRONMENTAL DATABASE REVIEW THAT ARE ON OR ADJACENT TO PIPELINE ALIGNMENTS**

IS Site No.	Site Name	Address	Environmental Cases				Permitted Hazardous Materials Uses and Historic Hazardous Materials Uses								
			Envirostor/ FUDS	MCS	LUST	Cortese/ Hist Cortese	UST	AST	Haznet	Historic UST	Historic Cleaners	Historic Auto Station	FTTS	RCRA SQG	FINDS
Oceanside WPCP Vicinity															
1	San Francisco Armory	100 Armory Drive		x			x		x						
2	SFPUC Westside Pump Station	3000 Great Highway					x		x						
3	Standard Oil Company	3340 Great Highway											x		
4	Olsen Ohbayashi	3520 Great Highway							x						
5	Janet Pomeroy Recreation and Rehabilitation Center	207 Skyline Boulevard			x	x	x	x	x						x
6	Harding Park	Skyline Boulevard and Harding Park Road								x					
7	San Francisco Zoological Society	1 Zoo Road							x						
8	Org Maintenance Shop #36 – California National Guard	99 Zoo Road							x	x				x	x
9	SF AAA Battery 61-N		x												
Oceanside WPCP to Central Reservoir Site															
10	Monterey Auto Service	1574 34th Avenue											x		
11	Richards Auto Repair	1940 36th Avenue											x		
12	Betty Woo	2030 36th Avenue							x						
13	Safeway Carpet Cleaning	2900 Judah Street									x				
14	007 Carpet Cleaning	2544 Taraval Street									x				
15	Bubbles Laundromat	2545 Vicente Street									x				
Central Reservoir Site to Lincoln Park															
16	Residential Property	800 26th Avenue					x								
17	Residential Property	801 28th Avenue					x		x						
18	Residential Property	517 36th Avenue					x		x						
19	Rio Grande Service	700 36th Avenue											x		
20	Residential Property	400 40th Avenue					x		x						
21	San Francisco Unified School District	4545 Anza Street					x		x						
22	California Muffler and Brake	3508 Balboa Street											x		
23	Balboa Launderette	3524 Balboa Street									x				
24	Fabric Care Center	3535 Balboa Street									x				

TABLE A2-1 (Continued)
SITES IDENTIFIED BY ENVIRONMENTAL DATABASE REVIEW THAT ARE ON OR ADJACENT TO PIPELINE ALIGNMENTS

IS Site No.	Site Name	Address	Environmental Cases				Permitted Hazardous Materials Uses and Historic Hazardous Materials Uses								
			Envirostor/ FUDS	MCS	LUST	Cortese/ Hist Cortese	UST	AST	Haznet	Historic UST	Historic Cleaners	Historic Auto Station	FTTS	RCRA SQG	FINDS
Central Reservoir Site to Lincoln Park (cont.)															
25	Commercial Property	2345 Cabrillo Street			x										
26	Residential Property	2512 Cabrillo Street							x						
27	Residential Property	2715 Cabrillo Street					x		x						
28	Steve Shimato	3537 Clement Street							x						
29	Residential Property	16 Shore View Avenue							x						
30	Residential Property	34 Shore View Avenue			x	x	x		x						
Central Reservoir Site to Presidio Golf Course															
31	Residential Property	491 20th Avenue					x		x						
32		483 22nd Avenue					x		x						
33	Residential Property	600 24th Avenue					x		x						
34	San Francisco Unified School District	735 24th Avenue							x						
35	PG&E Substation K	24th Avenue and Balboa Street							x						
36	Residential Property	795 25th Avenue					x		x						
37	Residential Property	815 25th Avenue					x		x						
38	Residential Property	2524 Anza Street					x		x						
39	Residential Property	2828 Anza Street					x		x						
40	Residential Property	2832 Anza Street											x	x	
41	Residential Property	3226 Anza Street							x						
42	Residence	1301 Lake Street					x								
Adjacent to Golden Gate Park Pan Handle															
43	Apartment Property	1245 Oak Street			x		x		x						
44	Residential Property	1445 Oak Street			x	x	x		x						
45		1535 Oak Street					x		x						
46	Residential Property	1555 Oak Street					x		x						
47	Residential Property	1565 Oak Street					x								
48	Residential Property	1837 Oak Street			x		x		x						

TABLE A2-1 (Continued)
SITES IDENTIFIED BY ENVIRONMENTAL DATABASE REVIEW THAT ARE ON OR ADJACENT TO PIPELINE ALIGNMENTS

IS Site No.	Site Name	Address	Environmental Cases				Permitted Hazardous Materials Uses and Historic Hazardous Materials Uses								
			Envirostor/ FUDS	MCS	LUST	Cortese/ Hist Cortese	UST	AST	Haznet	Historic UST	Historic Cleaners	Historic Auto Station	FTTS	RCRA SQG	FINDS
Adjacent to Golden Gate Park Pan Handle (cont.)															
49	Residential Property	1865 Oak Street					x		x						
50	Residential Property	1959 Oak Street					x		x						
51	Residential Property	2027 Oak Street			x	x	x		x						
52	Residential Property	2049 Oak Street			x		x		x						
53	Residential Property	2065 Oak Street							x						
54	Commercial Property	600 Stanyan Street			x		x		x						
55	Papandriades Anton	610 Stanyan Street									x				
56	Ted & Al's Service Station	624 Stanyan Street			x		x		x			x		x	x

List of Abbreviations:

AST: sites with registered aboveground storage tanks.

Cortese/Hist Cortese: Hazardous Waste & Substances Sites List that includes sites designated by the Department of Toxic Substances Control, State Water Resources Control Board, and Integrated Waste Board

Envirostor: sites identified by the California Department of Toxic Substances Control that have known contamination or sites for which there may be reasons to investigate further

Finds: Facility Index System/Facility Registry System - usually includes pointers to other sources that contain more detail

FTTS: FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) Tracking System - tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act).

FUDS: formerly used defense sites.

Haznet: facility and manifest data, includes sites that have manifested hazardous wastes for off-site disposal.

Historic Auto Station: Historic Gas Stations (proprietary EDR database).

Historic Cleaners: Historic Dry Cleaners (proprietary EDR database).

Historic UST: Sites that have historically had one or more underground storage tank, tracked in several databases searched by Environmental Data Resources

MCS: military cleanup site

RCRA SQG: Resource Conservation and Recovery Act, Small Quantity Generators.

UST: sites with permitted underground storage tanks

SOURCE: EDR, 2014; Orion Environmental Associates

**TABLE A2-2
STAUTS OF LEAKING UNDERGROUND STORAGE TANK SITES ON OR ADJACENT TO PIPELINE ALIGNMENTS**

IS Site No.	Site Name	Address	Fuel Type	Type of Case	Status	Year Closed
Oceanside WPCP Vicinity						
6	Recreation Center for the Handicapped	207 Skyline Boulevard	Gasoline	Groundwater	Open	still open
Oceanside WPCP to Central Reservoir Site						
<i>Central Reservoir Site to Lincoln Park</i>						
26	Commercial Property	2345 Cabrillo Street	Heating Oil	Soil Only	Closed	2011
31	Residence	34 Shore View Avenue	Diesel	Soil Only	Closed	2000
Central Reservoir Site to Presidio Golf Course						
<i>Adjacent to Golden Gate Park Pan Handle</i>						
44	Apartment Property	1245 Oak Street	Heating Oil	Soil Only	Closed	2007
45	Residential Property	1445 Oak Street	Heating Oil	Soil Only	Closed	1998
49	Residential Property	1837 Oak Street	Heating Oil	Soil Only	Closed	2006
52	Residential Property	2027 Oak Street	Heating Oil	Soil Only	Closed	1998
53	Residential Property	2049 Oak Street	Heating Oil	Soil Only	Closed	2006
55	Commercial Property	600 Stanyan Street	Heating Oil	Soil Only	Closed	2004
57	Ted & Al's Service Station	624 Stanyan Street	Gasoline	Groundwater	Closed	2012

SOURCE: EDR, 2014; Orion Environmental Associates

**TABLE A2-3
STAUTS OF LEAKING UNDERGROUND STORAGE TANK SITES WITHIN 1/4-MILE OF PIPELINE ALIGNMENTS**

IS Site No.	Site Name	Address	Fuel Type	Type of Case	Status	Year Closed
58	Residential Property	209 14th Avenue	Heating Oil	Not available	Closed	2008
59	Residential Property	487 14th Avenue	Heating Oil	Soil Only	Closed	1999
60	C.J. Figone D. Storage	420 17th Street	Gasoline	Groundwater	Closed	1995
61	Shorenstein Property	75 1st Street	Gasoline	Groundwater	Closed	1996
62	Unocal Service Station	390 1st Street	Gasoline	Groundwater	Closed	1992
63	Bayside Village	551 1st Street	Gasoline	Soil Only	Closed	1995
64	Commercial Property	387 21st Avenue	Waste Oil	Soil Only	Closed	2006
65	Residential Property	771 21st Avenue	Heating Oil	Soil Only	Closed	2012
66	Shrayber Property	690 25th Avenue	Gasoline	Soil Only	Closed	1994
67	San Francisco Fire Department	551 26th Avenue	Waste Oil	Soil Only	Closed	1994
68	Residential Property	895 31st Avenue	Waste Oil	Soil Only	Closed	2005
69	Clement Auto	388 32nd Avenue	Gasoline	Groundwater	Closed	2004
70	Residential Property	147 Ashbury Street	Diesel	Soil Only	Closed	2000
71	Commercial Property	461 Baker Street	Gasoline	Soil Only	Closed	2006
72	400 W. 22nd Street Corporation	561 Baker Street	Heating Oil	Soil Only	Closed	2002
73	Commercial Property	2441 Balboa Street	Heating Oil	Soil Only	Closed	2008
74	Commercial Property	2738 Balboa Street	Heating Oil	Soil Only	Closed	2010
75	Commercial Property	75 Buena Vista Avenue	Heating Oil	Not available	Closed	2010
76	Residential Property	1324 Clement Street	Information not available		Closed	Not available
77	US Government VA Medical Center	4150 Clement Street	Diesel	Soil Only	Closed	1994
78	Former Mobil Station	443 Divisadero Street	Waste Oil	Groundwater	Closed	1996
79	Arco Service Station	1175 Fell Street	Gasoline	Groundwater	Closed	1996
80	Ted & Al's Towing	1215 Fell Street	Gasoline	Soil Only	Closed	2001
81	Chevron Service Station	1698 Fell Street	Gasoline	Soil Only	Closed	1995
82	De Young & Shorkey Property	2070 Fell Street	Gasoline	Groundwater	Closed	1995
83	Residential Property	2100 Fell Street	Heating Oil	Soil Only	Closed	1999
84	Shell Service Station	2198 Fell Street	Gasoline	Groundwater	Closed	2002
85	Residential Property	2237 Fulton Street	Heating Oil	Soil Only	Closed	1999
86	Residential Property	2243 Fulton Street	Heating Oil	Soil Only	Closed	1999
87	Multi-Unit Property	10 Funston Avenue	Heating Oil	Soil Only	Closed	2013
88	Unocal #54	4850 Geary Boulevard	Gasoline	Groundwater	Closed	2006
89	Chevron Service Station	6000 Geary Boulevard	Open as of 1984 - no additional information			

TABLE A2-3 (Continued)
STAUTS OF LEAKING UNDERGROUND STORAGE TANK SITES WITHIN 1/4-MILE OF PIPELINE ALIGNMENTS

MND Site No.	Site Name	Address	Fuel Type	Type of Case	Status	Year Closed
90	Residential Property	6099 Geary Boulevard	Gasoline	Groundwater	Closed	2006
91	Unocal	6900 Geary Boulevard	Gasoline	Groundwater	Closed	1995
92	Chevron	6901 Geary Boulevard	Waste Oil	Soil Only	Closed	1993
93	Golden Gate Service	7355 Geary Boulevard	Waste Oil	Soil Only	Closed	1999
94	Golden Gate Park Conservatory	Golden Gate Park	Gasoline	Not available	Closed	1997
95	Christeve Properties	1336 Grove Street	Diesel	Soil Only	Closed	1995
96	Residential Property	1401 Grove Street	Heating Oil	Soil Only	Closed	2000
97	Residential Property	2150 Grove Street	Heating Oil	Soil Only	Closed	1998
98	Residential Property	2190 Grove Street	Heating Oil	Soil Only	Closed	1992
99	Residential Property	956 Haight Street	Diesel	Soil Only	Closed	2003
100	3rd Church of Christ	1250 Haight Street	Heating Oil	Soil Only	Closed	1996
101	City College of San Francisco	1860 Hayes Street	Gasoline	Soil Only	Closed	2010
102	Former Tosco/Unocal Service Station	2545 Judah Street	Gasoline	Groundwater	Closed	1999
103	Former Service Station	11 Lakeshore Plaza	Gasoline	Groundwater	Closed	1993
104	Shell Service Station	1070 Oak Street	Gasoline	Groundwater	Closed	2003
105	Commercial Property	1209 Oak Street	Heating Oil	Soil Only	Closed	2004
106	Residential Property	400 Shrader Street	Heating Oil	Soil Only	Closed	1998
107	San Francisco Police Department	Stanyan and Waller Streets	Gasoline	Groundwater	Closed	1997
108	Residential Property	416 Stanyan Street	Heating Oil	Soil Only	Closed	2000
109	St. Marys Hospital	450 Stanyan Street	Diesel	Soil Only	Closed	2001
110	J&R Auto	2249 Taraval Street	Gasoline	Soil Only	Closed	1994
111	J&R Auto	2255 Taraval Street	Waste Oil	Soil Only	Closed	2012

SOURCE: EDR, 2014; Orion Environmental Associates