4.K UTILITIES AND SERVICE SYSTEMS

This section provides background information on utilities and service systems, including water supply, wastewater and stormwater systems, solid waste, and energy. The analysis considers whether increased demand on water supply, wastewater and stormwater treatment and disposal systems, and solid waste collection and disposal systems that would result from the Seawall Lot 337 and Pier 48 Mixed-Use Project (Mission Rock Project or proposed project) would result in the need to construct new or expanded facilities, the construction of which could trigger physical environmental effects beyond those that would result from the project, as examined in other sections of this Draft Environmental Impact Report (Draft EIR) (e.g., Sections 4.E, *Transportation*; 4.F, *Noise*; and 4.G, *Air Quality*). In addition, the analysis considers whether the project would result in the wasteful use of energy.

For further information regarding the project's impact on greenhouse gas (GHG) emissions and the use of renewable energy, refer to Section 4.H, *Greenhouse Gas Emissions*. For further information regarding the topics of hydrology and water quality, including the National Pollutant Discharge Elimination System (NPDES) stormwater permitting program, refer to Section 4.N, *Hydrology and Water Quality*.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. The City and County of San Francisco (City) received one NOP comment related to utilities and service systems. The NOP comment requested that the EIR discuss the Water Supply Assessment for the project and the adequacy of the water and sewer systems that serve the project site to accommodate project-related demand.

Information regarding residential and employment growth in the project area that would be induced by the different development scenarios contemplated under each land use assumption is provided in the Land Use Assumptions subsection.

ENVIRONMENTAL SETTING

WATER SUPPLY AND DEMAND

San Francisco Public Utilities Commission (SFPUC) Regional Water System (RWS). Water is supplied to the project site by the SFPUC. The SFPUC's most recent Urban Water Management Plan (UWMP), the 2015 UWMP, which was adopted by the SFPUC on June 14, 2016, relied on the City's 2012 Land Use Allocation (LUA) projections of housing and employment growth in the city to estimate future retail water demands. The LUA 2012 forecasts are a city-specific refinement of Association of Bay Area Government's (ABAG's) growth forecasts, ABAG

Projections 2013, which reflect the growth that is assumed in ABAG's Plan Bay Area and Sustainable Community Strategy Jobs-Housing Connections Scenario.[1] The SFPUC's 2015 UWMP describes San Francisco's long-term strategy for ensuring that adequate water supplies are available to meet existing and future water demand over the 20-year planning horizon between 2015 and 2035.[2]

The SFPUC serves its retail and wholesale customers through integrated operation of local Bay Area water production facilities and the Hetch Hetchy Regional Water System (RWS). The City owns and operates the RWS, a public asset that plays a key role in delivering high-quality drinking water to 2.6 million residents and businesses in the San Francisco Bay Area. The system collects water from the Tuolumne River in the Sierra Nevada and from protected local watersheds in the East Bay and Peninsula. According to the 2015 UWMP, approximately 198 million gallons per day (mgd) was delivered to SFPUC retail and wholesale customers in 2015. Of these deliveries, approximately 70 mgd was delivered to retail customers, with 65 mgd for customers in San Francisco.[3] According to the 2015 UWMP, the RWS consists of more than 280 miles of pipeline, more than 60 miles of tunnels, 11 reservoirs, five pump stations, and two water treatment plants located outside the city and more than 1,250 miles of pipeline, 10 reservoirs, eight storage tanks, and 17 pump stations located within the city limits.[4]

The local watershed facilities are operated to conserve local runoff for delivery, and to maintain enough stored water to meet demands in the event of an emergency that affects the supply of water from Hetch Hetchy. Demands that are not met by local runoff are met with water diverted from the Tuolumne River through the Hetch Hetchy System. On average, the Hetch Hetchy System provides approximately 85 percent of the water delivered by the SFPUC. During dry years, the water received from the Hetch Hetchy System can amount to over 90 percent of the total water delivered.[5]

The current surface water supplies available to the RWS include the Tuolumne River and supplies from local Bay Area reservoirs. The majority of the water supply originates in the upper Tuolumne River watershed high in the Sierra Nevada, away from human development and pollution centers. This water has been approved as a drinking source without requiring

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1 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

2 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

3 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June. Figure 4-1.

4 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

5 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

filtration at a treatment plant. However, local water from the local watersheds requires filtration to meet drinking water quality requirements. The filtered and treated water from the local watersheds is blended with Hetch Hetchy water, and most customers receive this blended water supply. System water quality, including both raw water and treated water, is continuously monitored and tested to assure that water delivered to customers meets or exceeds federal and state drinking water and public health requirements.[6]

The RWS provides more than 97 percent of the city's retail water supplies, while the remaining portion is from locally produced groundwater, recycled water, and nonpotable water. The SFPUC plans to augment existing local water supplies for retail customers by extracting up to 4 mgd of groundwater from new and existing wells in the Westside Groundwater Basin, which is located in on the west side of the city. The program, known as the San Francisco Groundwater Supply Project (SFGSP), is anticipated to provide an additional 2.8 mgd of potable water though four new wells (Phase I), with the remaining 1.2 mgd provided by the conversion of two existing irrigation wells to drinking water facilities (Phase II). Construction is anticipated to be completed in the fall of 2017.[7] The SFGSP is a component of the Water System Improvement Program (WSIP), a multi-billion-dollar capital improvement program to improve and enhance the regional water system's water quality, seismic reliability, delivery reliability, and water supply. WSIP would implement water supply projects to provide additional water supply sources and meet the future water needs of SFPUC retail customers during years with normal rainfall and during years of drought. According to the SFPUC, as of June 30, 2016, approximately 91 percent of the WSIP projects have been implemented.[8] The SFPUC's water supply would be further augmented by the planned Westside and Eastside Recycled Water Projects. The Westside and Eastside Recycled Water Projects would provide an estimated 4 mgd of recycled water for uses that do not require potable water (e.g., landscape irrigation, toilet flushing and industrial uses). The provision of additional recycled water supplies would increase the availability of potable water for retail customers. Construction of the Westside Recycled Water Project is anticipated to be complete in March 2020.[9] The Eastside Recycled Water Project is in the planning phase, with construction estimated to start in January 2026 and finish December 2029.[10]

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6 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

7 San Francisco Public Utilities Commission. n.d. *San Francisco Groundwater Supply.* Available: http://sfwater.org/bids/projectDetail.aspx?prj_id=322. Accessed: December 28, 2016.

8 San Francisco Public Utilities Commission. n.d. *WSIP Overview.* Available: http://sfwater.org/index.aspx?page=115. Accessed: December 28, 2016.

9 San Francisco Public Utilities Commission. n.d. *San Francisco Westside Recycled Water Project.* Available: http://sfwater.org/bids/projectDetail.aspx?prj_id=310. Accessed: December 28, 2016.

10 San Francisco Public Utilities Commission. n.d. *San Francisco Eastside Recycled Water Project.* Available: http://sfwater.org/bids/projectDetail.aspx?prj_id=311. Accessed: December 28, 2016.

Water use within San Francisco (i.e., the in-city retail service area) continues to be among the lowest in the state and below historic consumption. Both total consumption and per capita water use (i.e., gallons of water consumed per person per day [GPCD]) have been on a general decline since the mid-1970s. Many factors have contributed to this reduction in water use, including substantial changes to the mix of industrial and commercial businesses, as well as their associated decline in water demand, and the general characteristics of water use by city residents. In particular, the severe droughts of 1976–77 and 1987–92, changes in plumbing codes, and conservation programs (either voluntarily embraced by residents and businesses or mandated by the City), have affected water demands. The magnitude and duration of the effects of the current drought on demands are unknown. However, per capita water use is expected to increase when the drought ends and discretionary water use rebounds.[11]

Table 4.K-1, on the following page, summarizes the projected retail supplies and demands during normal, single dry, and multiple dry years. Table 4.K-1 demonstrates that during normal precipitation years, the SFPUC will have adequate supplies to meet the projected demand of its service area. In single dry years, SFPUC would have sufficient supplies to meet retail demands. In multiple dry years, SFPUC would experience shortages in RWS deliveries in 2040 during years two and three without development of additional supply concepts. During that time, a shortfall of approximately 1.1 mgd, or 1.2 percent, of demand would be experienced.[12]

DROUGHT-RELATED WATER USE REDUCTIONS

California is currently experiencing record wet conditions following five consecutive years of drought.[13] The dry weather conditions prompted Governor Jerry Brown to declare a drought state of emergency in January 2014, which is still in effect to date (and is discussed further below). As a result, SFPUC requested that all customers of the RWS voluntarily reduce water use by at least 10 percent. Soon after, the San Francisco Mayor's Office issued a formal executive directive requiring that all City departments develop individual water conservation plans and take immediate steps to achieve a mandatory 10 percent reduction in their water consumption.[14]

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11 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

12 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

13 Department of Water Resources. 2017. *California Must Prepare for Flood and Drought*. Available: http://www.water.ca.gov/waterconditions/index.cfm. February 21.

14 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

TABLE 4.K-1. SFPUC PROJECTED RETAIL SUPPLY AND DEMAND COMPARISON

Year	Retail Supply and Demand	Normal Year	Single Dry Year	Multiple Dry Years		
				Year 1	Year 2	Year 3
2020	Total Retail Demand	77.5	77.5	77.5	77.5	77.5
	RWS Supply	70.5	70.5	70.5	70.5	70.5
	Groundwater Supply	5.0	5.0	5.0	5.0	5.0
	Recycled Water Supply	1.9	1.9	1.9	1.9	1.9
	Nonpotable Water Supply	0.1	0.1	0.1	0.1	0.1
	Total Retail Supply	77.5	77.5	77.5	77.5	77.5
	Difference (Surplus or Shortfall)	**0**	**0**	**0**	**0**	**0**
	Difference as % of Demand	**0%**	**0%**	**0%**	**0%**	**0%**
2025	Total Retail Demand	79.0	79.0	79.0	79.0	79.0
	RWS Supply	71.9	71.9	71.9	71.9	71.9
	Groundwater Supply	5.0	5.0	5.0	5.0	5.0
	Recycled Water Supply	1.9	1.9	1.9	1.9	1.9
	Nonpotable Water Supply	0.2	0.2	0.2	0.2	0.2
	Total Retail Supply	79	79	79	79	79
	Difference (Surplus or Shortfall)	**0**	**0**	**0**	**0**	**0**
	Difference as % of Demand	**0%**	**0%**	**0%**	**0%**	**0%**
2030	Total Retail Demand	82.3	82.3	82.3	82.3	82.3
	RWS Supply	73.2	73.2	73.2	73.2	73.2
	Groundwater Supply	5.0	5.0	5.0	5.0	5.0
	Recycled Water Supply	3.9	3.9	3.9	3.9	3.9
	Nonpotable Water Supply	0.2	0.2	0.2	0.2	0.2
	Total Retail Supply	82.3	82.3	82.3	82.3	82.3
	Difference (Surplus or Shortfall)	**0**	**0**	**0**	**0**	**0**
	Difference as % of Demand	**0%**	**0%**	**0%**	**0%**	**0%**
2035	Total Retail Demand	85.9	85.9	85.9	85.9	85.9
	RWS Supply	76.7	76.7	76.7	76.7	76.7
	Groundwater Supply	5.0	5.0	5.0	5.0	5.0
	Recycled Water Supply	3.9	3.9	3.9	3.9	3.9
	Nonpotable Water Supply	0.3	0.3	0.3	0.3	0.3
	Total Retail Supply	85.9	85.9	85.9	85.9	85.9
	Difference (Surplus or Shortfall)	**0**	**0**	**0**	**0**	**0**
	Difference as % of Demand	**0%**	**0%**	**0%**	**0%**	**0%**

Year	Retail Supply and Demand	Normal Year	Single Dry Year	Multiple Dry Years		
				Year 1	Year 2	Year 3
2040	Total Retail Demand	89.9	89.9	89.9	89.9	89.9
	RWS Supply	80.6	80.6	80.6	80.6	80.6
	Groundwater Supply	5.0	5.0	5.0	5.0	5.0
	Recycled Water Supply	3.9	3.9	3.9	3.9	3.9
	Nonpotable Water Supply	0.4	0.4	0.4	0.4	0.4
	Total Retail Supply	89.9	89.9	89.9	89.9	89.9
	Difference (Surplus or Shortfall)	**0**	**0**	**0**	**-1.1**	**-1.1**
	Difference as % of Demand	**0%**	**0%**	**0%**	**-1.2%**	**-1.2%**

Source: San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June. Table 7-4.

In July 2014, new emergency conservation regulations issued by the State Water Resources Control Board (State Water Board) prompted the SFPUC to implement outdoor water waste restrictions and require a mandatory 10 percent reduction in outdoor water use. Additional emergency conservation regulations issued by the State Water Board in the spring of 2015 established more water use restrictions, a mandatory statewide water reduction of 25 percent compared to 2013 water use, and conservation standards for individual urban water suppliers to meet the statewide 25 percent reduction. Per these regulations, the SFPUC retail service area was assigned a conservation standard of 8 percent. The retail service area includes residents, businesses, and industries located in the city as well as various customers located outside of the city (e.g., the Town of Sunol and San Francisco International Airport).

Following the additional State Water Board regulations in the spring of 2015, the SFPUC increased the mandatory reduction on retail outdoor irrigation from 10 percent to 25 percent starting in July 2015. After publication of the 2015 UWMP, the SFPUC lifted the 25 percent mandatory reduction for retail outdoor irrigation, effective July 2016. The SFPUC has not declared a water shortage emergency and imposed subsequent mandatory system-wide rationing and shortage allocations because its customers exceeded the 10 percent voluntary system-wide reduction in conjunction with the statewide mandatory reductions assigned by the State Water Board. According to the 2015 UWMP, if current drought conditions worsen between 2015 and 2018 and the SFPUC determines that system-wide rationing will need to be imposed, then the SFPUC will issue a declaration of water shortage emergency, in accordance with California Water Code Section 350, and implement rationing in accordance with the SFPUC's Water Shortage Allocation Plan (WSAP). The WSAP requires an annual evaluation of anticipated water storage within the RWS and prescribes procedures for

adjusting the available water supply and allocating water from the regional system among its retail and wholesale customers during periods when shortages are estimated to be less than 20 percent.[15]

In May 2016, the State Water Board adopted a statewide conservation approach that allowed urban water suppliers to replace their prior state-assigned percentage target reduction with a localized "stress test" approach, based on a showing of whether they have at least a 3-year water supply under extended drought conditions. The revised emergency regulations followed significantly improved water supply conditions in most of the state and recognition that urban water suppliers are now better positioned to respond to drought impacts, following their experience from conserving upwards of 24 percent of their water use since mid-2015. Under the updated regulations, the State Water Board adjusted water reduction targets to zero for agencies such as the SFPUC that demonstrate their ability to cover another 3 years of drought. In April 2017, the SFPUC lifted its call for a 10 percent voluntary system-wide reduction due to wet conditions. However, all permanent water waste restrictions remain in effect.[16]

Water Treatment Facilities. In 2013, the SFPUC completed expansion of the Sunol Valley Water Treatment Plant (WTP), which has the sustainable capacity[17] to treat up to 160 mgd.[18] The Harry Tracy WTP has a sustainable capacity of approximately 140 mgd. In addition, completed in September 2013, SFPUC's Tesla Water Treatment Facility in Tracy, California, is the largest ultraviolet disinfection treatment plant in California, capable of treating approximately 315 mgd.[19] Therefore, in total, SFPUC is able to treat up to 615 mgd.

Existing Water Distribution Infrastructure. The SFPUC currently owns and operates the existing low-pressure potable water infrastructure that serves the project site.[20] Potable water is currently delivered to the project vicinity by an existing 12-inch main beneath Third Street, an

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15 San Francisco Public Utilities Commission. 2016. *2015 Urban Water Management Plan for the City and County of San Francisco*. June.

16 San Francisco Public Utilities Commission. n.d. *Frequently Asked Questions about Water Use Restrictions.* Available: http://sfwater.org/index.aspx?page=872. Accessed: April 17, 2016.

17 *Sustainable capacity* is the highest flow rate at which a treatment plant can be expected to operate, given normal source water conditions, while meeting regulatory water quality and routine maintenance requirements.

18 San Francisco Public Utilities Commission. 2013. *Sunol Valley Water Treatment Plan (SVWTP) Expansion and Treated Water Reservoir.* Available: http://216.119.104.145/bids/projectDetail.aspx?prj_id=244. Accessed: May 23, 2016.

19 San Francisco Public Utilities Commission. 2011. *Tesla Treatment Facility Fact Sheet*. July. Available: http://www.sfwater.org/bids/projectDetail.aspx?prj_id=215. Accessed: May 23, 2016.

20 BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

existing 12-inch main beneath Terry A. Francois Boulevard, and an existing 12-inch main beneath Mission Rock Street. Fire hydrants and Pier 48 are currently served by the existing 12-inch main beneath Terry A. Francois Boulevard.

The City maintains an Auxiliary Water Supply System (AWSS) for fire protection purposes only. Existing AWSS facilities include a 12-inch main adjacent to the project site, located beneath Third Street between Mission Rock Street and Channel Street.[21]

Pipelines for recycled water exist in the project vicinity. An 8-inch recycled water main is located in Mission Rock Street, between Third Street and Terry A. Francois Boulevard; in Terry A. Francois Boulevard, south of Mission Rock Street; and in Third Street, south of Channel Street. Note that the existing recycled water infrastructure does not currently have a recycled water source; rather, it is currently fed from potable water sources. As of the date of this report, there are no plans in place to change the source from potable water to recycled water.

WASTEWATER/STORMWATER COLLECTION AND TREATMENT

Wastewater at Seawall Lot 337 is collected and treated by the SFPUC. Most stormwater runoff from the site is collected separately and discharged directly or indirectly to the San Francisco Bay (Bay). This system, operated by SFPUC, consists of approximately 1,000 miles of underground pipes, which serve most of San Francisco. The project site is located in the Bayside drainage basin and sanitary sewer flows are collected separate from stormwater and flow to the Southeast Water Pollution Control Plant (SEP) for treatment. Under existing conditions, as discussed further below, stormwater from the project site discharges directly or indirectly into San Francisco Bay (Bay).

The SFPUC maintains and operates three wastewater treatment facilities for the city: the Oceanside Water Pollution Control Plant (OSP), the SEP, and the North Point Wet-Weather Facility. These facilities combined can treat up to 575 mgd of combined wastewater and stormwater runoff.[22] The project site is served by the SEP, which treated an average dry weather flow of about 52 mgd in 2015 and can treat up to 250 mgd when it rains.[23]

During wet weather, the capacity at the SEP is supplemented by the North Point Wet-Weather Facility and a series of storage/transport boxes located around the perimeter of the city. If wet-weather flows exceed the capacity of the overall system, the excess (primarily stormwater) is discharged from one of the 36 combined sewer overflow structures located along the waterfront.

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[21] BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

[22] San Francisco Public Utilities Commission. 2014. *San Francisco's Wastewater Treatment Facilities.* Available: http://www.sfwater.org/modules/showdocument.aspx?documentid=5799. Accessed: March 21, 2016.

[23] Eickman, Kent. Engineer, Wastewater Division. San Francisco Water Power Sewer. Email to Jessica Viramontes, ICF International. Received on February 25, 2016.

The SFPUC's Sewer System Improvement Program (SSIP) is a long-term plan that was initiated in 2011 to address issues pertaining to the entire wastewater system citywide. One component of this program is to improve the SEP, the facility that treats wastewater from the majority of the project site before it gets discharged into the San Francisco Bay, through operational renovations and seismic upgrades to ensure reliability of the sewer system. In a parallel effort to address more immediate wastewater needs, the SFPUC in 2005 initiated a capital improvement program (CIP) to, among other things, reduce the potential for on-street flooding during heavy rains that can occur. The original CIP had 36 projects and, over time, additional work was identified and funded through supplemental appropriations. As of December 2016, the wastewater CIP had 72 projects and approximately $400 million in an approved budget; the projects are anticipated to be complete in mid-2017.[24]

In July 2005, the SFPUC began imposing a Wastewater Capacity Charge pursuant to SFPUC Resolution No. 05-0045.[25] This Wastewater Capacity Charge is applicable to residential, nonresidential and mixed-use types of construction that place new or additional demands on the system. All funds raised through the capacity charge are to be used to offset the cost of future wastewater capital improvement projects and repairs.

Existing Wastewater and Stormwater Infrastructure. As discussed above, the majority of the project site is located within the separated sewer area, with the exception of the stormwater system on Third Street that currently discharges into the combined system.[26] Currently, no sanitary sewer facilities serve Seawall Lot 337.[27] Pier 48 is served by a 15-inch sanitary sewer main that drains to the south, beneath Terry A. Francois Boulevard. Sanitary flows within Terry A. Francois Boulevard are conveyed to a low spot in the main south of the intersection at Mission Rock Street where there is pump station. A 6-inch force main from the San Francisco Port Pump Station at this location lifts the sanitary flows into a 12-inch gravity sewer main beneath Mission Rock Street where they are conveyed west into a 15-inch main as it reaches Third Street. Existing separated sanitary sewer facilities beneath Third Street include an 8-inch main north of Channel Street that connects to a 21-inch main between Channel Street and Mission Rock Street. The flows from the 21-inch main beneath Third Street and the 15-inch main beneath Mission Rock Street (neither of which serve the project site) converge at the intersection of Third Street and Mission Rock Street where they are conveyed through gravity sewer mains

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[24] San Francisco Public Utilities Commission. 2016. *Wastewater Enterprise Capital Improvement Program, 1st Quarter/Fiscal Year 2016–2017*. December 5. Available: http://sfwater.org/modules/showdocument.aspx?documentid=10224. Accessed: March 1, 2017.

[25] San Francisco Public Utilities Commission. 2016. Capacity Charge: Fiscal Year 2015-16. Available: http://sfwater.org/index.aspx?page=171. Accessed: March 21, 2016.

[26] BKF. 2016. Mission Rock DEIR Hydrology Description. July 1.

[27] BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

to Sanitary Sewer Pump Station No. 3 and ultimately to the SEP prior to treatment and discharge to the Bay. The existing storm drain system is shown in Figure 4.N-1 in Section 4.N, *Hydrology and Water Quality*.

The existing storm drain infrastructure within the vicinity of the project site includes a separated storm sewer system to the west, south, and east.[28] The west side of the project site is served by an existing separated storm drain system within Third Street that will be routed to the future Mission Bay Stormwater Pump Station (SWPS) No. 3 for discharge to Mission Creek. Until SWPS No. 3 is constructed in 2018, stormwater flows will continue past the SWPS No. 3 site to an existing combined sewer box that drains to the existing Channel Street Pump Station.[29] Mission Rock Street, to the south, has a separated storm drain system that conveys stormwater to SWPS No. 6 to the south, that discharges to the Bay adjacent to the Radiance Development at the corner of Mission Bay Boulevard and Terry A. Francois Boulevard and Block P18.

Both China Basin Park and Terry A. Francois Boulevard have storm drain systems that discharge directly to the Bay through existing Port of San Francisco (Port) outfalls.[30] Specifically, stormwater runoff from these areas is collected by series of inlets connected by 10-inch to 12-inch storm drain mains. Once collected, runoff then discharges directly to China Basin through an existing 12-inch outfall within the slope revetment and the San Francisco Bay through an existing 30-inch outfall. In addition, record utility data provided by the Port indicate that runoff generated at Pier 48 directly discharges to the Bay within the Pier 48 structure.

SOLID WASTE

Recology provides collection, recycling, compost, and disposal services for the project site. San Francisco operating companies include:

- Recology Sunset Scavenger—Provides collection services in the residential districts of San Francisco;
- Recology Golden Gate—Provides collection services in the Financial District, North Beach, South of Market (including the project site), and the Marina; and
- Recology San Francisco—Operates the Transfer Station at 501 Tunnel Avenue, and Recycle Central on Pier 96.[31]

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[28] BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

[29] Miller, Don. San Francisco Department of Public Works. Email to Jessica Viramontes, ICF International. Received on December 9, 2016.

[30] BKF. 2016. Mission Rock DEIR Hydrology Description. July 1.

[31] Recology. 2016. *Contact Us*. Available: http://www.recologysf.com/index.php/contact-us. Accessed: February 25, 2016.

Waste generated at the project site is transported by Recology Golden Gate to the Recology Transfer Station in San Francisco; from there, it is conveyed to the Recology Hay Road Landfill in Solano County. San Francisco uses a three-cart collection program: residential and business customers sort solid waste into recyclables, compostable items, such as food scraps and yard trimmings, and garbage. Recyclable materials are sent to Recology's Recycle Central facility, which is located at Pier 96, where they are separated and sold to manufacturers that turn the materials into new products.[32] Compostable items and garbage are taken to the Recology Transfer Station.[33] The total demand on Recycle Central is approximately 1,000 tons per day (tpd) and the total demand on the Recology Transfer Station is approximately 2,000 tpd.[34]

San Francisco created the first large-scale urban program for collection of compostable materials in the country. After being taken to the Recology Transfer Station, food scraps and other compostable material from residents, restaurants, and other businesses is sent to Recology's Jepson-Prairie composting facility in Solano County or the Recology Grover composting facility in Stanislaus County.[35] Food scraps, plant trimmings, soiled paper, and other compostables are turned into a nutrient-rich soil amendment, or compost.

In September 2015, the City approved an agreement with Recology for the transport and disposal of the city's municipal solid waste (MSW) at the Recology Hay Road Landfill. The city began disposing its MSW at Recology Hay Road Landfill in January 2016, and that practice is anticipated to continue for approximately nine years, with an option to renew the agreement thereafter for an additional six years. The Hay Road Landfill is permitted by Solano County and the California Department of Resources Recycling and Recovery (CalRecycle) to accept up to 2,400 tons per day of MSW for disposal and to operate up to 24 hours per day, seven days per week. The landfill has 30,433,000 cubic yards of remaining capacity and has a closure date of 2077.[36]

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[32] Stewart, Ken. Operations Manager. Recology Transfer Station. Phone call with Jessica Viramontes, ICF International. Received on February 25, 2016.

[33] Stewart, Ken. Operations Manager. Recology Transfer Station. Phone call with Jessica Viramontes, ICF International. Received on February 25, 2016.

[34] Stewart, Ken. Operations Manager. Recology Transfer Station. Phone call with Jessica Viramontes, ICF International. Received on February 25, 2016.

[35] U.S. Composting Council. *Recology Environmental Solutions, Inc.* 2010. Available: http://compostingcouncil.org/wp/compostmap_detail.php?mem_id=919&multiple_location_id=58. Accessed: February 25, 2016.

[36] California Department of Resource Recycling and Recovery. 2017. Facility/Site Summary Details: Recology Hay Road (48-AA-0002). Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/48-aa-0002/Detail/. Accessed: March 10, 2017.

The City estimates that it diverted 80 percent of its waste from landfills in 2011.[37] The City's per resident disposal target rate is 6.6 pounds per person per day (PPD), and its per employee disposal target rate is 10.6 PPD. The per capita disposal rate is one of several factors used in determining a jurisdiction's compliance with the intent of Assembly Bill 939, discussed below, allowing CalRecycle and the jurisdictions it oversees to make successful implementation programs their primary focus. In 2015, which is the most recent year for which data are available, the measured disposal rate was 3.7 PPD for residents and 4.9 PPD for employees, thereby meeting the City's target rates.[38]

Hazardous waste, including household hazardous waste, is handled separately from other solid waste. The Recology Transfer Station allows for people to safely dispose of the hazardous waste generated from their homes.[39]

Construction and demolition (C&D) debris in the city must be transported by a registered transporter to a registered facility that can process mixed C&D debris pursuant to the City and County of San Francisco C&D Ordinance. The ordinance requires that at least 65 percent of C&D debris from a site go to a registered C&D recycling facility (e.g., the Recology Transfer Station).[40]

NATURAL GAS AND ELECTRICITY

Pacific Gas and Electric (PG&E) provides electric service and natural gas to the project site; SFPUC currently provides electric service to Pier 48 using PG&E overhead lines. With a relatively mild Mediterranean climate and strict energy-efficiency and conservation requirements, California has lower energy consumption rates than other parts of the country. According to the Department of Energy (DOE), California's per capita energy consumption

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[37] San Francisco Office of the Mayor. 2012. *Mayor Lee Announces San Francisco Reaches 80 Percent Landfill Waste Diversion, Leads All Cities in North America*, Press Release: October 5. Available: http://www.sfenvironment.org/news/press-release/mayor-lee-announces-san-francisco-reaches-80-percent-landfill-waste-diversion-leads-all-cities-in-north-america. Accessed: February 26, 2016.

[38] California Department of Resources Recycling and Recovery (CalRecycle). 2016. *Per Capita Disposal Rates Trends: San Francisco*. Available: http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=JurisdictionID%3d438%26BeginYear%3d2014%26EndYear%3d2015%26ReportName%3dARDRPopEmpTrendExternal%26ShowParameters%3dfalse%26AllowNullParameters%3dFalse. Accessed: May 23, 2016.

[39] Recology SF. 2016. *The San Francisco Dump (Transfer Station)*. Available: http://sunsetscavenger.com/sfDump.htm. Accessed: February 25, 2016.

[40] SF Environment. 2012. *City and County of San Francisco Construction and Demolition Debris Recovery Program Ordinance No. 27-06*. Available: http://sfenvironment.org/sites/default/files/fliers/files/cd_information_rev_01.03.12.pdf. Accessed: February 25, 2016.

ranked 48th in the nation as of 2013.[41] California has among the lowest annual electrical consumption rates per person of any state, and its residential uses consume 31 percent less energy compared with the national average.[42]

PG&E provides natural gas within 70,000 square miles of northern and central California, including San Francisco and the project site. PG&E's service area extends north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E purchases gas from a variety of sources, including other utility companies.

San Francisco is located in a coastal climate zone (Climate Zone 3 in the Title 24 Climate Zone designation mapping), and with the moderating influence of the Bay, it requires less energy for heating and cooling than other parts of the state. In 2014, PG&E delivered 220 million therms of natural gas to San Francisco, with about 44 percent, or approximately 96 million therms of natural gas, sold to nonresidential customers.[43]

The SFPUC is San Francisco's municipal power utility. The SFPUC also provides electrical services to select local residential and business communities. The Hetch Hetchy Power System, which is owned and operated by the SFPUC, supplies clean energy to all of San Francisco's municipal facilities, services, and customers. The Hetch Hetchy Power System is composed of three hydroelectric powerhouses, with a combined total of nearly 400 megawatts.[44] This electricity is transmitted to San Francisco along City-owned transmission lines. Within San Francisco, the SFPUC also generates more than 10 megawatts of renewable energy from 19 solar arrays and two biogas cogeneration facilities.

REGULATORY FRAMEWORK

FEDERAL

WATER SUPPLY AND DEMAND

Clean Water Act (33 United States Code Section 1251 et seq.). The 1972 amendments to the federal Water Pollution Control Act, Section 402, established the NPDES permit program to control discharges of pollutants from point-source discharges, or discharges from a single,

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41 U.S. Department of Energy and U.S. Energy Information Administration. 2012. *State Profile and Energy Estimates – California.* Available: http://www.eia.gov/state/?sid=CA. Accessed: February 26, 2016.

42 U.S. Energy Information Administration. 2015. *Household Energy Use in California*. Available: http://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/CA.pdf. Accessed: February 26, 2016.

43 California Energy Commission. 2014. *Electricity Consumption by County*. Available: http://www.ecdms.energy.ca.gov/gasbycounty.aspx. Accessed: February 26, 2016.

44 San Francisco Public Utilities Commission. 2017. *About the Power Enterprise*. Available: http://sfwater.org/index.aspx?page=391. Accessed: March 10, 2017.

identifiable source of pollutants (e.g., a pipe or drain). NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States. The 1987 amendments to the Clean Water Act (CWA) created a new section, which is devoted to stormwater permitting (Section 402). The U.S. Environmental Protection Agency (EPA) has granted California primacy in administering and enforcing the provisions of the CWA and NPDES within state boundaries. NPDES permits are issued by one of the nine Regional Water Quality Control Boards.

The proposed project is required to comply with both construction and municipal NPDES stormwater requirements. More information is provided in the *State Regulations* section, below.

A description of several other sections of the CWA is provided in Section 4.N, *Hydrology and Water Quality*.

Safe Drinking Water Act (42 United States Code Section 300f et seq.). The EPA administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminates that could threaten public health.

STATE

WATER SUPPLY AND DEMAND

California Senate Bill 610 (Water Code Sections 10910 to 10915, SB 610). California Senate Bill 610 (SB 610) requires that water retailers demonstrate whether their water supplies are sufficient to meet the projected demand of certain large development projects. A Water Supply Assessment (WSA) under SB 610 is required if a project meets one of the following criteria:

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 gross square feet (gsf) of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 gsf of floor space;
- A hotel or motel, or both, having more than 500 rooms;
- An industrial, manufacturing, or processing plant or an industrial park housing more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 gsf of floor area;
- A mixed use project that includes one or more of the projects specified above; or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The project meets several of the criteria listed above. As such, a WSA was prepared for the project by the SFPUC (approved January 10, 2017).[45]

Subdivision Map Act (California Government Code Section 66473.7). The Subdivision Map Act requires a condition to be included in any tentative subdivision map or development agreement for a residential subdivision of 500 or more units, mandating that a "sufficient water supply" be available to serve the subdivision in addition to other existing and planned future water uses. The water provider must submit water supply verification to the city or county to document whether such a water supply exists, based on substantial evidence. If verification of a sufficient water supply cannot be provided, a final subdivision map cannot be issued for the subdivision, and the subdivision cannot be built.

Urban Water Management Planning Act (California Water Code Sections 10610 to 10656). In 1983, the California Legislature enacted the Urban Water Management Planning Act. This act, Division 6, Part 2.6, of the California Water Code, requires an understanding of urban water demands and efficient use of water by suppliers. Section 10610.4 of the act requires water suppliers to actively pursue efficient use of available water supplies, and Section 10620 establishes the requirement for every urban water supplier to prepare and adopt a UWMP. The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides more than 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service (i.e., able to meet the needs of its various categories of customers during normal, dry, and multiple dry years). The act describes the contents of the UWMP and how urban water suppliers should adopt and implement the plans. The plan must be updated at least every 5 years for years ending in 5 or 0. The SFPUC prepared the 2015 UWMP, as required by the California Water Code, which was adopted on June 14, 2016.

Senate Bill x7-7 2009 (Water Conservation Act of 2009, Section 10631.5, Part 2.55 of Division 6, Part 2.8 of Division 6, of the Water Code). Effective January 1, 2010, Senate Bill x7-7 (SB x7-7) requires the state to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. In addition, SB x7-7 requires agricultural water management plans and efficient water management practices for agricultural water suppliers and promotes expanded development of sustainable water supplies at the regional level. The portion of SB x7-7 focused on urban water management establishes processes for urban water suppliers to meet the statewide water conservation targets. Further, SB x7-7 requires California Department of Water Resources (DWR) review and reporting on UWMPs; creates a Commercial, Industrial, and Institutional (CII) Task Force to develop best management practices (BMPs) for water use in this sector; requires DWR to promote implementation of regional water resource management practices

[45] San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project*. December 20. The WSA is included as Appendix 8-1 to this Draft EIR.

through increased incentives; and requires DWR, in consultation with the State Water Board, to develop or update statewide targets for recycled water, brackish groundwater desalination, and urban stormwater runoff.

Executive Order B-37-16. Effective May 9, 2016, Executive Order B-37-16 proclaimed that the provisions contained in Governor Brown's January 17, 2014, Proclamation; April 25, 2014, Proclamation; and Executive Orders B-26-14, B-28-14, B-29-15, and B-36-15, which direct state officials to take necessary actions to prepare for drought conditions, remain in full force, with some modifications. Governor Brown's January 17, 2014, Proclamation declared a state of emergency and directed state officials to take all necessary actions to prepare for drought conditions. The April 25, 2014, Proclamation is an executive order that strengthened the state's ability to manage water and habitat effectively in drought conditions and called on Californians to redouble their efforts to conserve water. Executive Order B-26-14 streamlined efforts to provide water to families in dire need. Executive Order B-28-14 extended the waiver of CEQA and Water Code Section 13247 in paragraph 9 of the January 17, 2014, Proclamation. Executive Order B-29-15 proclaimed that the provisions contained in Governor Brown's January 17, 2014, Proclamation; April 25, 2014, Proclamation; and Executive Orders B-26-14 and B-28-14 remain in full force, with some modifications.

As discussed above, one of the additional modifications in Executive Order B-29-15 concerns the water restrictions imposed by the State Water Board to achieve a statewide 25 percent reduction in potable urban water usage through February 28, 2016. These restrictions required water suppliers to California's cities and towns to reduce usage compared with the amount used in 2013. Under Executive Order B-37-16, new water use targets shall build upon existing state law that requires California to achieve a 20 percent reduction in urban water usage by 2020 (SB x7-7).

WASTEWATER AND STORMWATER COLLECTION AND TREATMENT

Porter-Cologne Water Quality Control Act (Water Code Division 7). The Porter-Cologne Water Quality Act provides the basis for water quality regulation in California and establishes the authority of the State Water Board and the nine Regional Water Quality Control Boards. The act also authorizes waste discharge requirements for municipal wastewater treatment facilities through the NPDES program. The State Water Board grants and administers NPDES permits under a provision of the act, which established effluent limitations and water quality requirements for wastewater plant discharges. In 2000, the Regional Water Quality Control Boards began to require new construction to include "post-construction controls" in project design, and as of December 2010, projects within the jurisdiction of NPDES permittees are required to implement additional post-construction stormwater management requirements for new development and redevelopment projects. As discussed in Section 4.N, *Hydrology and Water Quality*, San Francisco's combined sanitary sewage and stormwater system operates under wastewater NPDES permits.

SOLID WASTE

California Integrated Waste Management Act of 1989 (Public Resources Code Section 40000 et seq., AB 939). Effective January 1990, all cities and counties in California were required to divert 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000. In 2011, San Francisco achieved 80 percent landfill diversion rates, the highest of any city in North America.[46]

State Model Ordinance, California Solid Waste Reuse and Recycling Access Act of 1991 (Chapter 18 to Part 3 of Division 30 of the Public Resources Code, AB 1327). AB 1327 requires development projects to reserve adequate areas for collecting and loading recyclables.

California Assembly Bill 341 (Chapter 12.8 to Part 3 of Division 30 of the Public Resources Code, AB 341). AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The purpose of the law is to reduce GHG emissions by diverting commercial solid waste to recycling efforts and expand the opportunity for additional recycling services and recycling manufacturing facilities in California.[47]

California Assembly Bill 1826 (Chapter 12.9 to Part 3 of Division 30 of the Public Resources Code, Commercial Organic Waste Recycling Law). AB 1826 became effective on January 1, 2016 and requires businesses and multi-family complexes (with 5 or more units) that generate specified amounts of organic waste (compost) to arrange for organics collection services. The law phases in the requirements on businesses with full implementation realized in 2019:

- First Tier: Commencing in April 2016, the first tier of affected businesses included those that generate eight or more cubic yards of organic materials per week.
- Second Tier: In January 2017, the affected businesses expanded to include those that generate four or more cubic yards of organic materials per week.
- Third Tier: In January 2019, the affected businesses are further expanded to include those that generate four or more cubic yards of commercial solid waste per week.

NATURAL GAS AND ELECTRICITY

Building Energy Efficiency Standards (California Code of Regulations [CCR] Title 24, Part 6 [last amended in 2013, effective July 1, 2014]). Buildings constructed after June 30, 1977, must comply with standards identified in CCR Title 24, which requires the inclusion of state-of-the-art energy conservation features in building design and construction, including the incorporation of

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[46] San Francisco Department of the Environment. 2015. *Zero Waste FAQ*. Available: http://www.sfenvironment.org/zero-waste/overview/zero-waste-faq. Accessed: February 26, 2016.

[47] California Department of Resources Recycling and Recovery. 2015. *Mandatory Commercial Recycling*. Available: http://www.calrecycle.ca.gov/recycle/commercial/. Accessed: February 26, 2016.

specific energy-conserving design features, use of nondepletable energy resources, or a demonstration that buildings would comply with a designated energy budget. Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). Unless otherwise noted in the regulation, all newly constructed buildings in California are subject to the requirements of the CALGreen Code.

LOCAL

WATER SUPPLY AND DEMAND

Water Efficient Irrigation Ordinance (Ordinance No. 301-10, Chapter 63 of the San Francisco Administrative Code). To ensure the efficient use of water within all San Francisco landscapes, projects with 500 square feet or more of new or modified landscape area are required to comply with the Water Efficient Irrigation Ordinance (effective January 1, 2011). To reduce landscape water use, projects must design, install, and maintain efficient irrigation systems, utilize low-water-use plantings, and set a maximum applied water allowance, also known as an annual water budget. The requirements of the Water Efficient Irrigation Ordinance apply to owners of residential, commercial, municipal, and mixed-use properties with a new construction or modified landscape project greater than or equal to 500 square feet. The San Francisco Green Landscaping Ordinance has additional guidelines and recommendations related to reducing stormwater runoff, stormwater treatment strategies, and improving local and regional water quality.

Recycled Water Ordinance (Ordinance Nos. 390-91 and 391-91, Article 22 of the San Francisco Code of Public Works). The City and County of San Francisco's Recycled Water Ordinance requires property owners to install recycled water systems in new construction, modified construction, or remodeling projects totaling 40,000 square feet or more as well as new or existing landscapes totaling 10,000 square feet or more that were not constructed in conjunction with a development project. The goal of the ordinance is to maximize the use of recycled water. Buildings and facilities that are located within the designated recycled water use areas are required to use recycled water for all uses authorized by California. The project site is within a designated recycled water use area and therefore must comply with the Recycled Water Ordinance. As discussed under Impact UT-1, below, in compliance with the City's recycled-water ordinances, the proposed project would include the installation of an onsite looped recycled water distribution system, which could consist of 8-inch main lines.

Mandatory Use of Alternate Water Supplies in New Construction Ordinance (Ordinance No. 109-15, Article 12C of the San Francisco Health Code). This ordinance amends Article 12C of the San Francisco Health Code to require new buildings larger than 250,000 square feet to be constructed, operated, and maintained using available alternate water sources for toilet and urinal flushing as well as irrigation. In addition, new buildings larger than 40,000 square feet are required to prepare water budget calculations. Approvals from the SFPUC and permits

from both the Department of Public Health and Department of Building Inspection will be needed for the proposed project to verify compliance with the requirements and local health and safety codes. In compliance with Article 12C of the San Francisco Health Code, the proposed project would include a new graywater treatment and collection system, which could consist of 8-inch main lines.

Soil Compaction and Dust Control Ordinance (Ordinance No. 175-91, Article 21 of the San Francisco Public Works Code). This ordinance restricts the use of potable water for soil compaction and dust control activities undertaken in conjunction with any construction or demolition project occurring within the boundaries of the city, unless permission is obtained from the SFPUC. Nonpotable water must be used for soil compaction and dust control activities during project construction or demolition. Recycled water is available from the SFPUC for dust control on roads and streets. However, per state regulations, recycled water cannot be used for demolition, pressure washing, or dust control through aerial spraying.

Mandatory Irrigation Allocation Program. The SFPUC implemented a Mandatory Irrigation Allocation Program in 2015, in accordance with SFPUC Resolution 15-0119.[48] This program requires all potable irrigation customers to reduce their irrigation water use by 25 percent, effective July 1, 2015. The SFPUC has provided irrigation account holders with their water use allocations, using 2013 baseline water use data. If potable water use exceeds the allocation, an excess use charge of 100 percent is charged for each unit of water exceeding the allocation.

WASTEWATER AND STORMWATER COLLECTION AND TREATMENT

San Francisco Public Utilities Commission Water Pollution Prevention Program (Public Works Code, Articles 4, 4.1, and 4.2). The City has a Water Pollution Prevention Program to avoid and minimize pollutants entering the city's sewer system and storm drains, thereby reducing pollutant loading to San Francisco Bay and the Pacific Ocean. The program includes education components for businesses, residents, and City employees. The program also includes several initiatives that are meant to reduce water pollution, including initiatives to reduce toxic chemicals used for landscaping, reduce dental mercury, reduce fats/oils/greases, minimize construction-related water pollution, minimize stormwater pollution, minimize pet-waste-related water pollution, dispose of medications properly, and support green design and operation measures for businesses and households. Articles 4, 4.1, and 4.2 of the San Francisco Public Works Code contain many components of the program.

[48] San Francisco Public Utilities Commission. 2015. *Resolution No. 15-0119.* May 26.

The City has been working for many years to reduce fats, oil, and grease in the wastewater stream from commercial and residential kitchens, especially from restaurants. These materials clog pipes and treatment processes. The City has recently adopted a new fats, oil, and grease ordinance (Ordinance No. 18-11), which has been incorporated into Article 4.1.

Sewer System Management (San Francisco Public Works Code, Article 4.2). In April 2010, San Francisco passed an ordinance (San Francisco Public Works Code, Article 4.2, Section 147–147.6) that requires stormwater controls to be implemented for development projects that discharge stormwater to either the combined sewer system or a separate stormwater system. If a large project creates and/or replaces 5,000 gsf or more of impervious surface, that project is subject to San Francisco's stormwater management requirements, as outlined in the Stormwater Management Ordinance (Ordinance No. 64-16) and the San Francisco Stormwater Management Requirements and Design Guidelines (SMR).[49] The SFPUC and the Port developed the SMR[50] in accordance with the requirements of the NPDES Phase II General Municipal Separate Storm Sewer Systems (MS4) Permit and San Francisco's Stormwater Ordinance to govern post-construction stormwater runoff and quality. The 2016 SMR updated the former 2010 Stormwater Design Guidelines to include new requirements, based on modifications to the NPDES Phase II General MS4 Permit, with which the SFPUC and the Port must comply. The SMR requires compliance with specified stormwater management requirements and provides tools to help project developers achieve compliance with stormwater management requirements. This ordinance is discussed further in Section 4.N, *Hydrology and Water Quality*.

SOLID WASTE

San Francisco Construction and Demolition Waste Ordinance (Ordinance No. 27-06). Per this ordinance, no construction or demolition material may be taken to a landfill or placed in the garbage. All mixed debris must be transported by a registered hauler to a registered facility to be processed for recycling. Source-separated material must be taken to a facility that recycles or reuses those materials. Additionally, projects that include full demolition of an existing structure must submit a waste diversion plan to the director of the San Francisco Department of the Environment for approval. Under the plan, a minimum of 65 percent of construction and demolition debris must be diverted from the landfill, including materials that were source separated for reuse or recycling.

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[49] San Francisco Public Utilities Commission. 2016. *San Francisco Stormwater Management Requirements and Design Guidelines.* City and County of San Francisco. May. Available: http://sfwater.org/modules/showdocument.aspx?documentid=9025. Accessed: September 19, 2016.

[50] San Francisco Public Utilities Commission. 2016. *San Francisco Stormwater Management Requirements and Design Guidelines.* City and County of San Francisco. May. Available: http://sfwater.org/modules/showdocument.aspx?documentid=9025. Accessed: September 19, 2016.

Trash Management (San Francisco Health Code, Article 6). Article 6 of the San Francisco Health Code, Garbage and Refuse, requires properties to have appropriate containers placed in appropriate locations for the collection of refuse. In accordance with this article, the refuse containers must be constructed with tight-fitting lids or sealed enclosures, and the contents of the container may not extend above the top of the rim. The property owner must also have adequate refuse collection service. Article 6 also prohibits the dumping of refuse onto any streets or lands within San Francisco.

Solid Waste Diversion Goal. In 2002, the Board of Supervisors adopted a goal to divert 75 percent of waste by 2010 and 100 percent by 2020.

Garbage and Recycling Enclosures. The City and Port, in its building code, similarly has requirements for including garbage and recycling enclosures in site design, including space for recycling containers and access for recycling and garbage collection trucks to allow for recovery of 100 percent of the facility's solid waste materials.

San Francisco Food Service Waste Reduction Ordinance (Ordinance No. 295-06, San Francisco Environment Code, Chapter 16). This ordinance requires restaurants and food vendors to use food storage ware that is made of compostable or recyclable material rather than styrofoam.

San Francisco Checkout Bag Ordinance (San Francisco Environment Code, Chapter 17). This ordinance requires the use of compostable plastic, recyclable paper, and/or reusable checkout bags by supermarkets and drugstores.

WATER SUPPLY AND DEMAND, WASTEWATER, SOLID WASTE, AND NATURAL GAS AND ELECTRICITY

Green Building Ordinance (City and County of San Francisco Building Code, Chapter 13C, and the 2016 Port of San Francisco Green Building Standards Code). In November 2008, the City passed the San Francisco Green Building Ordinance (SFGBO), which is included as Chapter 13C of the City and County of San Francisco Building Code and in the 2016 Port of San Francisco Green Building Standards Code.[51] Last amended in 2013 (effective January 1, 2014), the SFGBO incorporates all mandatory elements of the 2013 CALGreen and Title 24 energy efficiency standards but includes stricter local requirements. The Green Building Code requires green building practices and Leadership in Energy and Environmental Design (LEED) certification for all new residential and commercial construction in the city, unless otherwise indicated in the SFGBO, as well as alterations to existing buildings. The purpose of the requirements is to promote the health, safety, and welfare of San Francisco's residents,

[51] Port of San Francisco. 2016. *Port of San Francisco Green Building Standards Code*. Available: http://sfport.com/sites/default/files/Business/Docs/Permit%20Services/2016%20Port%20Building%20Codes/2016%20Port%20Green%20Building%20Code.pdf. Accessed: March 9, 2017.

workers, and visitors by minimizing the use and waste of energy, water, and other resources in the construction and operation of the city's buildings and provide a healthy indoor environment.

San Francisco General Plan. The following objectives and policies from the Environmental Protection Element of the San Francisco General Plan are applicable to the project.

- Policy 5.1: Maintain an adequate water distribution system within San Francisco.
- Policy 5.2: Exercise controls over development to correspond to the capabilities of the water supply and distribution system.
- Objective 6: Conserve and protect the fresh water resource.
- Policy 6.1: Maintain a leak detection program to prevent the waste of fresh water.
- Objective 10: Locate wastewater facilities in a manner that will enhance the effective and efficient treatment of storm and wastewater.
- Policy 12.1: Incorporate energy management practices into building, facility, and fleet maintenance and operations.
- Objective 13: Enhance the energy efficiency of housing in San Francisco.
- Policy 13.4: Encourage the use of energy conserving appliances and lighting systems.
- Objective 14: Promote effective energy management practices to maintain the economic vitality of commerce and industry.
- Policy 14.3: Expand the environmental review process to encourage the use of additional measures to save energy in new commercial buildings.
- Policy 14.4: Promote commercial office building design appropriate for local climate conditions.
- Objective 16: Promote the use of renewable energy sources.

ENVIRONMENTAL IMPACTS

This section describes the impact analysis related to utilities and service systems for the project. It describes the methods used to determine the impacts of the project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany the discussion of each identified significant impact.

SIGNIFICANCE CRITERIA

The project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- 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.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supply available to serve the project from existing entitlements and resources or require new or expanded water supply resources or entitlements.
- 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.
- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Fail to comply with federal, state, and local statutes and regulations related to solid waste.
- Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner.

By way of background, Appendix F of the State CEQA Guidelines and PRC Section 21100(b)(3) state that a project would have a significant effect if it would result in "wasteful, inefficient, or unnecessary energy use." Neither of those provisions offers a precise threshold of significance for determining whether a project would result in wasteful, inefficient, or unnecessary energy use. This lack of a threshold of significance has made it difficult for lead agencies to conduct the analysis contemplated in Appendix F and Section 21100(b)(3). In 2014, the decision in *California Clean Energy Committee v. City of Woodland*, 225 Cal. App. 4th 173, held that an EIR had not discussed energy use in sufficient detail. However, that case also did not establish a threshold for determining what constitutes wasteful, inefficient or unnecessary energy. Considering the implications of the *City of Woodland* decision, this EIR applies a "common sense" threshold, whereby a project's energy usage would be considered wasteful, inefficient, and unnecessary if

the project were to violate CCR Title 24,[52] be inconsistent with the energy-related measures in the City's Climate Action Strategy or SFGBO, or otherwise consume a substantially greater amount of energy, in either the construction or operational phase, than similar projects of a similar size that did not incorporate the project's design features and mitigation. This analysis will employ such metrics to assess significance.

METHODS FOR ANALYSIS

A significant impact with regard to utilities and service systems could occur if the utilities that serve the project area could not meet anticipated project demand and construction of new or expanded utility facilities would be required, which could cause significant environmental impacts beyond those analyzed in this Draft EIR. The information used to assess the impacts on water, wastewater, and stormwater treatment capacity; water supply; and solid waste disposal capacity was obtained directly from the SFPUC and Recology as well as from available public information. Energy demand analyses were based, in part, on the calculations that were used to conduct the air quality and GHG emissions analyses. To estimate water demand associated with the project, a WSA was prepared.[53] In addition, Appendix 8-2, *Draft Mission Rock Infrastructure Plan,* was also considered in this analysis. The project's potential contribution to cumulative impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development, using projections prepared by utility providers for planning purposes and assuming compliance with applicable regulations, as described in the Cumulative Impacts discussion, below.

Current day-to-day operation of the project site under existing conditions generates minimal demand for utilities and service systems because the site is used primarily for parking, pop-up retail, food vendors' operations, and occasional special events. For the purposes of this analysis, it is conservatively assumed that there is no existing demand for water, wastewater, solid waste, electricity, or natural gas services from existing uses on the project site. That is, the analysis of the project's net demand with respect to these utilities does not take "credit" for existing onsite consumption/generation that would no longer occur with implementation of the project.

LAND USE ASSUMPTIONS

Compared with existing conditions, development under the High Commercial (see Table 4.K-2, on the following page) and High Residential (see Table 4.K-3, on the following page) land use assumptions would result in both residential growth and employment growth in the project

[52] No other federal or state regulatory energy-efficiency standards apply to the project.

[53] San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project*. December 20. The WSA is included as Appendix 8-1 to this Draft EIR.

TABLE 4.K-2. PROPOSED ONSITE RESIDENTS AND EMPLOYEES—HIGH COMMERCIAL ASSUMPTION

Land Use	Gross Square Footage (gsf)/Units	Generation Rate	Estimated Residents/Employees[a]
Onsite Residents			
Residential	1,100,000 gsf/1,000 units	2.35 persons/household	2,350 residents
Total Project Residents			*2,350 residents*
Employees			
Commercial	1,400,000 gsf	276 gsf/employee	5,070 employees
Active Retail	244,800 gsf	327 gsf/employee	750 employees
Residential	1,000 units	1 employee/32 units	30 employees
Pier 48	242,500 gsf	—	200 employees
Total Project Employees			*6,050 employees*
Employee-Induced City Residents			
Employees Who also Live in the City		50.4%	3,050 employee/residents
Employee-Induced Housing Demand		1.35 employees/household	2,260 households
Employee-Induced Residents		*2.35 persons/household*	*5,310 residents*
Total Project-Induced Population Growth in City			***7,660 residents***

Sources: Adavant Consulting, 2015; U.S. Census Bureau. 2014. ACS. One-year estimate. IDs B08406, B08008, S0501.

TABLE 4.K-3. PROPOSED ONSITE RESIDENTS AND EMPLOYEES—HIGH RESIDENTIAL ASSUMPTION

Land Use	Gross Square Footage/Units	Generation Rate	Estimated Residents/ Employees[a]
Onsite Residents			
Residential	1,600,000 gsf/1,600 units	2.35 persons/household	3,760 residents
Total Project Residents			*3,760 residents*
Employees			
Commercial	972,200 gsf	276 gsf/employee	3,520 employees
Active Retail	241,000 gsf	327 gsf/employee	740 employees
Residential	1,600 units	1 employee/32 units	50 employees
Pier 48	242,500 gsf	—	200 employees
Total Project Employees			*4,510 employees*
Employee-Induced City Residents			
Employees Who also Live in the City		50.4%	2,270 employee-residents
Employee-Induced Housing Demand		1.35 employees/household	1,680 households
Employee-Induced Residents		*2.35 persons/household*	*3,960 residents*
Total Project Population Growth in City			***7,720 residents***

Sources: Adavant Consulting 2015; U.S. Census. 2014. ACS. One-year estimate, IDs B08406, B08008, S0501.

area following the construction period. However, because of the different development scenarios contemplated under each land use assumption, the number of employees and residents would differ. As shown in Table 4.J-2, on the previous page, the High Commercial Assumption would generate 2,350 residents and 6,050 employees onsite. Given the percentage of city employees who live in the city (50.4 percent), the average number of workers per household in the city (1.35), and the average number of persons per household in the city (2.35), the 6,050 employees associated with the High Commercial Assumption would indirectly induce an additional 5,310 residents in the city, for a total of 7,660 residents. As shown in Table 4.J-3, on the previous page, the High Residential Assumption would generate 3,760 residents and 4,510 employees onsite. Applying the same factors noted above, the 4,510 employees associated with the High Residential Assumption would indirectly induce an additional 3,960 residents in the city, for a total of 7,720 residents. The special-event/assembly areas at China Basin Park and Mission Rock Square would be able to hold about 5,000 people and 2,000 people, respectively. Special events would be held in these areas occasionally throughout the year.

Because of the different development scenarios contemplated under each land use assumption, the demand for utilities and service systems would differ. To provide a conservative analysis, the determination of significance for each utility impact is based on the land use assumption that would result in the greatest demand for the respective utility being analyzed, based on the detailed estimates provided below. For those utilities in which impacts would be similar, general references to the project are applied and assumed to refer to either land use assumption.

IMPACTS AND MITIGATION MEASURES

Impact UT-1. The project would have sufficient water supplies available to serve the project from existing entitlements and resources, and no new or expanded entitlements would be needed. In addition, the project would not require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

WATER DEMAND

CONSTRUCTION

Project construction would result in a temporary increase in water demand. Activities such as dust control, concrete mixing/placement, equipment and site cleanup, irrigation for landscaping, and water line testing and flushing would occur periodically throughout the project's construction period. According to the project construction engineer, it is anticipated

that project construction would result in water demand totaling approximately 0.012 mgd.[54] Water demand during construction would be temporary and substantially less than the estimated annual operational demand from the project upon full buildout. As discussed below, during normal, single, and multiple dry years (until 2040), the SFPUC would have sufficient water supplies to serve the project. In addition, in compliance with the Soil Compaction and Dust Control Ordinance, potable water would not be used for soil compaction or dust control activities during project construction unless permission is obtained from the SFPUC. Based on the above, the water demand during project construction would not be anticipated to have a substantial adverse impact on available water supplies or infrastructure. Impacts during construction would be ***less than significant***.

OPERATION

As previously discussed, SB 610 requires that water retailers demonstrate whether their water supplies are adequate with respect to meeting the projected demand of large development projects that meet the criteria for preparation of a WSA. In accordance with SB 610, the SFPUC prepared a WSA for the project (approved January 10, 2017).[55] The WSA is included as Appendix 8-1 to this Draft EIR. Water demand was calculated using the Single-Site SFPUC Nonpotable Water Calculator.[56,57] Because the High Residential land use assumption would result in a greater water demand (178,832,969 gallons per year [or 489,953 gallons per day, or 0.490 mgd]) than the High Commercial land use assumption (164,007,587 gallons per year [or 449,556 gallons per day, or 0.449 mgd]), the WSA analysis is based on the High Residential land use assumption.

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54 Mesikepp, Sam. Email communication to Erin Efner. Construction Assumptions for Mission Rock. November 25, 2015.

55 San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project*. December 20. The WSA is included as Appendix 8-1 to this Draft EIR.

56 The Single-Site SFPUC Nonpotable Water Calculator uses spreadsheets provided by the SFPUC to help estimate a proposed project's water demand.

57 The Single-Site SFPUC Nonpotable Water Calculator inputs are based on the total square footage of the project as well as total employment and the square footage of impervious/landscaped areas; these numbers do not take into consideration existing occupied building space, employment, and impervious surfaces. The water demand in Table 4.K-2 was calculated by using the reduced flow rates for some of the fixtures, including showerheads, lavatory faucets, urinals, and kitchen faucets. Although commercial uses consist of office, research and development/biotech, lab, institutional, medical, and similar nonretail uses, for the purposes of calculating water demand, these areas are assumed to be office uses. Furthermore, although active/retail/production uses may include shops, restaurants, entertainment venues, light industrial/production facilities, community rooms, rooftop lounges, transit hubs, or other uses that promote pedestrian activity, these areas are also assumed to be office uses for purpose of calculating water demand. Although restaurant and grocery stores have the highest water demand per square foot, applying the general office use to the total proposed square footage would provide a conservative estimate of water demand.

To limit the use of potable water for irrigation, a new recycled water main, which could consist of an 8-inch pipe, for landscaping is proposed within the new alignment of Mission Rock Street and the existing recycled water main alignment in Third Street. The City does not currently have recycled water available for distribution in Mission Bay to serve the recycled water infrastructure in Mission Rock Street and Third Street. However, in compliance with the City's recycled-water ordinances, the proposed project would include the installation of an onsite looped recycled water distribution system, which could consist of 8-inch main lines. In addition, a new graywater treatment and collection system, which could consist of 8-inch main lines, is proposed for the project, in compliance with Article 12C of the San Francisco Health Code (Nonpotable Water Ordinance). A graywater system would collect graywater from sinks, showers, and potentially laundry machines in selected parcels and centrally treat the water before providing nonpotable water to all buildings for flushing and site irrigation. If a municipal recycled water supply comes online in the future, the project could continue to use graywater treatment to generate its own recycled water or connect to the City-supplied recycled water. In either case, the required onsite looped recycled water system would be used to distribute the available recycled water. The sewer discharges, including solids, that would be generated by the proposed graywater treatment system would be conveyed directly to the sanitary sewer main through a separate internal building plumbing system. It is not anticipated that the solids produced by the proposed graywater treatment system, which would collect water from sinks, showers, and potentially laundry machines, would generate substantial odor or noise impacts because the solids would be different compared with the solids that are typically produced by a wastewater treatment facility, which collects water from toilets.

Based on the inputs included in the Single-Site SFPUC Nonpotable Water Calculator, the WSA assumes, under the High Commercial land use assumption, that approximately 22 percent of the project's water demand would be met by nonpotable supply; under the High Residential land use assumption, approximately 25 percent of the project's water demand would be met by nonpotable supply. In addition, the goal for the overall development includes LEED Gold certification for all commercial office/retail buildings and LEED Silver certification for all residential development onsite, which would require the proposed project to meet water use reduction standards. Neither the proposed onsite recycled water system nor the graywater treatment system was factored into the WSA's estimate of proposed potable water demand; therefore, the estimate provided in the WSA is conservative and may overstate the project's potable water demand.

As evidenced in the WSA, the project's total estimated water demand represents 0.4 to 0.6 percent of the total in-city retail demand projections presented in the 2015 UWMP. Table 4.K-4, on the following page, summarizes the water demand by project phasing relative to total SFPUC retail demand. The project's water demand would increase between 2020 and 2025 because the project would not be fully built out until 2023.

TABLE 4.K-4. PROJECT DEMAND RELATIVE TO TOTAL RETAIL DEMAND

	2020	2025	2030	2035	2040
Total SFPUC Retail Demand (mgd) in the 2015 UWMP	77.5	79.0	82.3	85.9	89.9
Total Demand of High Residential Assumption (mgd)	0.323	0.490	0.490	0.490	0.490
Portion of Total Retail Demand in the 2015 UWMP	0.42%	0.62%	0.60%	0.57%	0.55%

Source: San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project.* December 20. Table 3.

As previously discussed, Table 4.K-1 (page 4.K-5) demonstrates that, during normal precipitation years, the SFPUC would have adequate supplies to meet the projected demand of its service area. In single dry years, the SFPUC would have sufficient supplies to meet retail demands. In multiple dry years, the SFPUC would experience shortages in RWS deliveries during years two and three without development of additional supply concepts. During both years two and three of multiple dry years, a shortfall of approximately 1.1 mgd, or 1.2 percent, of demand would be experienced.[58] As discussed in the WSA, existing and future retail water supplies included in the 2015 UWMP would be able to meet the retail demand in 2020, 2025, 2030, and 2035 during normal, single, and multiple dry years. However, if planned future water supply projects (e.g., San Francisco Groundwater Supply Project, Westside Recycled Water Project, Eastside Recycled Water Project, and onsite nonpotable supplies) are not implemented, normal-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during normal years, the SFPUC may import additional water from the RWS, beyond the retail allocation of 81 mgd, with mitigation implemented by the SFPUC as well as potential environmental surcharges if RWS deliveries exceed the 265 mgd "interim supply limitation."[59] Moreover, if dry-year supply projects (i.e., Calaveras Dam Replacement Project, Lower Crystal Springs Dam Improvements Project, Upper Alameda Creek Filter Gallery Project, GSR Project, water transfers) are not implemented, existing dry-year supplies may not be enough to meet projected retail demands. To balance any water supply deficits during dry years, the SFPUC may reduce system deliveries and impose customer rationing.

[58] San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project.* December 20. Table 4.

[59] According to the 2015 UWMP, the SFPUC established an "interim supply limitation" (ISL) to limit water sales from RWS watersheds to an average annual of 265 mgd through December 31, 2018. The wholesale supply allocation of the ISL is 184 mgd, and the retail supply allocation is 81 mgd.

Based on the estimate of the project's water demand shown in Table 4.K-2 (page 4.K-25) and the existing and future water supplies included in the 2015 UWMP, the WSA determined that, during normal, single, and multiple dry years, the SFPUC would have sufficient water supplies to serve the project over a 20-year planning horizon from 2020 through 2040. In addition, the estimated water demand from the proposed project was accounted for within the overall San Francisco retail water demand, which is being used for current water supply planning.[60]

Although implementation of the project would incrementally increase the demand for water in San Francisco, the SFPUC would meet the estimated increase in demand within its anticipated water supply estimated in the 2015 UWMP. New or expanded water supply resources or entitlements or construction of new water treatment facilities would not be required to serve the project and this impact would be ***less than significant***.

WATER TREATMENT

Water supplies delivered from Hetch Hetchy to the city through SFPUC pipelines require minimal treatment. As described in the *Environmental Setting*, above, SFPUC water is treated at the Sunol Valley WTP and the Harry Tracy WTP. Including the Tesla Water Treatment Facility, SFPUC is able to treat up to 615 mgd.

As described above, the total new (net) annual demand on the SFPUC's supply due to the proposed project is conservatively estimated to be 0.490 mgd. According to the WSA, during normal, single, and multiple dry years, the SFPUC would have sufficient water supplies to serve the project. Therefore, the SFPUC would not be required to deliver additional water supplies beyond the previously discussed normal-year system-wide target of 265 mgd. In addition, as shown in Table 4.K-2 (page 4.K-25), SFPUC's retail water supplies are anticipated to meet the SFPUC's retail water demands, which include the proposed project. Therefore, implementation of the project would not require the expansion of existing water treatment facilities or the construction of new facilities. The project would have a ***less-than-significant*** impact with regard to existing water treatment facilities.

WATER FACILITIES

Potable water is currently delivered to the project vicinity by an existing 12-inch main beneath Third Street, an existing 12-inch main beneath Terry A. Francois Boulevard, and an existing 12-inch main beneath Mission Rock Street. To meet the proposed water demand, the project proposes to replace the existing 12-inch main beneath the north/south section of Terry A. Francois Boulevard with a main, which could consist of 12-inch pipe, within the proposed new alignment of that street. New connections would be installed to connect existing potable

[60] San Francisco Public Utilities Commission. 2016. *Water Supply Assessment for the Seawall Lot 337 and Pier 48 Mixed-Use Project.* January 25.

water facilities that serve Pier 48 to the new main beneath Terry A. Francois Boulevard. The project also proposes the installation of a new looped low-pressure water system, which could consist of 12-inch pipe. In addition, as discussed above, the proposed project would include a looped recycled water distribution system onsite, which could consist of 8-inch main lines.

As part of the standard permit review process, the project sponsor would be required to conduct a hydraulic analysis of the SFPUC water distribution system to confirm that the proposed water distribution system would have adequate capacity for meeting the project's water distribution demands, including fire suppression system pressure and flow demands. The project would not require major expansions to the existing water distribution system.

As part of the proposed project, new fire hydrants would be provided and spaced in accordance with City requirements. The project may also include the installation of an onsite system of 12-inch high-pressure water pipes, which would connect to the City's existing Auxiliary Water Supply System (AWSS). Such improvements would be coordinated with and subject to approval by the SFFD and SFPUC during the design review and permitting process. The project sponsor would work with the SFFD to determine utility and access requirements for fire protection and emergency services at the project site during construction and operation.

The installation of new water supply facilities would require excavation, trenching, soil movement, and other activities typical of construction of development projects in San Francisco, as discussed in detail in the appropriate topical sections of this Draft EIR (e.g., Sections 4.E, *Transportation and Circulation*; 4.F, *Noise*; and 4.G, *Air Quality*) as part of the assessment of overall project impacts.

Construction of new water supply facilities, as a component of the proposed project, could result in impacts on the transportation and circulation network. As discussed in Section 4.E, *Transportation and Circulation,* construction of the proposed project would not cause significant impacts on the transportation and circulation network because they would be of limited duration and temporary. However, Improvement Measure I-TR-1.1 is identified to further reduce potential less-than-significant conflicts between construction activities and pedestrians, bicyclists, transit and other vehicles, and nearby businesses and residents.

As described in Section 4.F, *Noise*, construction of the proposed project, including construction of new water supply facilities, would result in temporary noise increases that would be in excess of standards in the Noise Ordinance (Article 29 of the Police Code), even with implementation of applicable mitigation measures. Thus, even with incorporation of Mitigation Measure M-NOI-1.1, construction of the proposed project could cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity, above levels existing without the proposed project, and expose people to or generate excessive ground-borne vibration levels.

Construction of the proposed project, including construction of new water supply facilities, would generate fugitive dust and criteria air pollutants, which would violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Mitigation Measures M-AQ-1a through M-AQ-1e, M-AQ-2a, and M-AQ-2b, as discussed in Section 4.G, *Air Quality*, are proposed to minimize emissions. However, although implementation of Mitigation Measures M-AQ-1a through M-AQ-1e would substantially reduce construction and operations-related emissions, impacts would remain significant and unavoidable during construction and operation of the proposed project.

In summary, the effects related to construction of the new water supply facilities for the proposed project are addressed as part of the analysis of construction impacts for the proposed project as a whole. Mitigation measures are proposed to reduce significant environmental effects; however, there would be significant and unavoidable construction impacts related to air quality and noise and vibration. Construction of the proposed project's water supply facilities would not result in additional significant impacts that were not otherwise disclosed elsewhere in this EIR; therefore, the physical environmental impacts as a result of construction of water supply facilities as part of the proposed project would be considered ***less than significant***, and no additional mitigation beyond that identified elsewhere in this EIR is necessary.

Impact UT-2. The project would not exceed treatment requirement standards of the Regional Water Quality Control Board and would not require or result in the construction of new wastewater or stormwater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

WASTEWATER TREATMENT REQUIREMENTS

CONSTRUCTION

Wastewater generation would occur periodically throughout the project's construction period. Construction activities could temporarily increase wastewater generation as a result of dewatering and demand from onsite construction workers. However, this demand would be temporary and nominal. Construction dewatering discharges would result in short-term increases in demand on the existing wastewater or storm drainage facilities, but proposed dewatering discharge methods would include options for direct discharge to the Bay under an existing general NPDES permit to ensure that any discharges to the combined sewer system would be within the capacity of existing facilities and would not require the construction or expansion of existing facilities. If discharged directly to the Bay, the dewatering discharges would be subject to the permitting requirements of the Regional Water Quality Control Board under the VOC and Fuel General NPDES permit (discussed in Section 4.N, *Hydrology and Water Quality*), which typically involves reporting and monitoring requirements for discharges of extracted and treated groundwater. Accordingly, the project sponsor or its contractors would be

required to submit a Notice of Intent to the Regional Water Quality Control Board, describing the proposed discharge and treatment system, and the Regional Water Quality Control Board must issue an Authorization to Discharge once it is determined that the discharger is eligible to discharge under the permit. The treated water would most likely be discharged through a stormwater swale or an existing outfall pipe. Regular influent and effluent water quality monitoring would be conducted to demonstrate permit compliance. Therefore, project construction would result in a minimal increase in wastewater generation and would not be anticipated to have a substantial adverse impact on available wastewater treatment or conveyance capacity. Impacts during construction would be ***less than significant***.

OPERATION

It is anticipated that 95 percent of the potable water supplied would be discharged as wastewater into the sewer system; 100 percent of the recycled water would be discharged as wastewater into the sewer system.[61] As such, the estimated wastewater discharge for the High Residential land use assumption, which would generate a higher demand for water than the High Commercial land use assumption, would be 0.441 mgd.[62] The project site is served by the SEP, which treated an average dry-weather flow of about 52 mgd in 2015 and can treat up to 250 mgd during wet weather.[63] The wastewater generated by the High Residential land use assumption would increase the average dry-weather flow by 0.8 percent and comprise about 0.18 percent of the wet-weather capacity of the SEP. Thus, the project would not result in demand that would exceed the SEP's capacity. It is not anticipated that the 0.441 mgd of dry-weather flow generated by the project would increase overflows because overflows currently occur during wet-weather conditions with large storm events. Compliance with permits include discharge prohibitions, effluent limitations, receiving-water limitations, and monitoring and reporting requirements. Thus, this incremental increase would not contribute to a violation of current wastewater treatment and discharge requirements.

As previously discussed, the majority of the project site is located within a separated sewer area, with the exception of the stormwater system on Third Street that currently discharges into the combined system. Currently, no sanitary sewer facilities serve the project site. Flows currently being diverted to the combined sewer system would be instead directed to the separated sanitary sewer and storm drain systems upon project implementation. The project would add to wastewater flows in the project area. However, it would not cause the collection treatment capacity of the sewer system in the city to be exceeded because the wastewater generated under the High Residential land use assumption would be less than the wastewater

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61 BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

62 0.490 mgd*0.90 = 0.441 mgd

63 Eickman, Kent. Engineer, Wastewater Division. San Francisco Water Power Sewer. Email to Jessica Viramontes, ICF International. Received on February 25, 2016.

that was anticipated to be generated at the project site per the 2000 Mission Bay Project Separated Sanitary Sewer Analysis, which determined pipe sizes and inverts so that the proposed sanitary sewer system would meet the Mission Bay Subdivision Regulations, and the 2013 Mission Bay South Infrastructure Plan, which governs construction and development of infrastructure in the South Plan Area and is consistent with redevelopment requirements.[64] Because flows from the proposed project would be less than anticipated by the governing infrastructure planning documents, the separated sewer and stormwater systems would have capacity for wastewater and stormwater generated by the proposed project. Furthermore, the capacity of the existing 21-inch sewer main in Third Street would be adequate with respect to serving the project, assuming that the sanitary sewer system is installed and operates as indicated in the 2013 Mission Bay South Infrastructure Plan.[65]

As discussed in Section 4.N, *Hydrology and Water Quality*, the majority of the project site is paved; therefore, the amount of new impervious surface would be minimal and would not increase stormwater runoff rates and volumes. The proposed project must prepare a Stormwater Control Plan, demonstrating project adherence to the performance measures outlined in the SMR, including stormwater treatment in areas with separate sewer systems. The MS4 permit requires a post-construction BMP condition assessment to inventory and assess the maintenance condition of structural post-construction BMPs. In addition, the NPDES Construction General Permit aims to match post-construction runoff to pre-construction runoff for the 85th-percentile storm event. In addition, the project design would include stormwater management measures, such as bio-retention areas, rain gardens, and flow-through planter areas, all of which would reduce the volume of runoff that would enter the storm sewer system. Therefore, runoff from the project site would not exceed the capacity of existing or planned stormwater drainage systems.

As discussed above, the wastewater generated by the High Residential land use assumption would be less than the wastewater that was anticipated to be generated at the project site per the 2000 Mission Bay Project Separated Sanitary Sewer Analysis and the 2013 Mission Bay South Infrastructure Plan. Because flows from the proposed project would be less than anticipated by the governing infrastructure planning documents, the pump stations that serve the project site would have capacity for wastewater and stormwater generated by the proposed project. Based on the analysis above, the project would not exceed the wastewater treatment requirements of the Regional Water Quality Control Board, and impacts would be ***less than significant***.

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[64] The 2000 Mission Bay Project Separated Sanitary Sewer Analysis anticipated that Seawall Lot 337 would have an average flow of 0.529 mgd and a maximum flow of 1.59 mgd. Source: Olivia Chen Consultants. 2000. *Mission Bay Project: Separated Sanitary Sewer Analysis*. December 26. Table 1.

[65] BKF Engineers, Surveyors, Planners. 2016. *Draft Mission Rock Infrastructure Plan*. September 20.

WASTEWATER FACILITIES

As previously discussed, the majority of the project site is located within the separated sewer area, with the exception of the stormwater system on Third Street that currently discharges into the combined system. Currently, no sanitary sewer facilities serve Seawall Lot 337. As discussed above, Pier 48 is currently served by a 15-inch sanitary sewer main. To serve the project, a series of 8- to 12-inch sanitary sewer mains would be installed onsite within the public street rights-of-way. The sanitary sewer mains would then discharge to the existing 21-inch sanitary sewer system beneath Third Street at two locations, the new sanitary sewer main, which could consist of a 10-inch pipe, at Channel Street and the new sanitary sewer main, which could consist of an 8-inch pipe, at the intersection of Third Street and the proposed Long Bridge Street. The existing 15-inch combined main beneath Terry A. Francois Boulevard would be removed and replaced with a separate sanitary sewer main, which could consist of a 12-inch pipe, during reconstruction of Terry A. Francois Boulevard. At Pier 48, sewer flows would discharge to the proposed sanitary sewer main in Terry A. Francois Boulevard. With implementation of these infrastructure upgrades and expansions, the system would have adequate capacity to carry wastewater flows from the project site to the SEP. In addition, as previously discussed, in 2005, the SFPUC initiated a CIP to, among other things, partially reduce the potential for on-street flooding during heavy rains. With system-wide wastewater improvements continuing under the CIP, it is anticipated that existing sewage collection and treatment services would meet expected demand in the city. As noted above, the project's contribution to the capacity at the SEP would be nominal, 0.18 percent, indicating that no expansion of this facility would be required to serve the project. In addition, as previously discussed, the wastewater generated by the High Residential land use assumption would be less than the wastewater that was anticipated to be generated at the project site per the per the 2000 Mission Bay Project Separated Sanitary Sewer Analysis and the 2013 Mission Bay South Infrastructure Plan. Because flows from the proposed project would be less than anticipated by the governing infrastructure planning documents, the wastewater facilities that serve the project site would have capacity for wastewater and stormwater generated by the proposed project.

Impacts associated with the installation of new wastewater facilities for the proposed project during construction would be similar to the impacts associated with installation of the new water supply facilities summarized above and discussed in detail in the appropriate topical sections of this Draft EIR (e.g., Sections 4.E, *Transportation and Circulation*; 4.F, *Noise*; and 4.G, *Air Quality*) as part of the assessment of overall project impacts.

As such, impacts associated with the construction of new or expansion of existing wastewater facilities would be ***less than significant***.

STORMWATER FACILITIES

As appropriate, the project sponsor would remove existing storm drainage infrastructure within Seawall Lot 337, China Basin Park, and Terry A. Francois Boulevard. Storm drainage infrastructure would remain intact on Pier 48.

To serve the proposed project, new storm drainage pipe infrastructure would be installed within the new interior streets. Compliance with stormwater quality regulations would be ensured during the planning and construction phases, in accordance with the existing San Francisco regulations described in Section 4.N, *Hydrology and Water Quality*. Stormwater treatment would be handled through self-contained treatment within specific streets (or "self-treating" streets) and within large-feature rain gardens in China Basin Park, along the Shared Public Way, and Mission Rock Square, as shown in Figure 4.N-7 in Section 4.N, *Hydrology and Water Quality*. The project would be designed to meet the SMR. Development parcels would be required to implement stormwater treatment measures, either at the parcel or within centralized stormwater management areas at China Basin Park and Mission Rock Square, to meet the guidelines prior to connecting to the storm drain system. In addition, through compliance with SFGBO requirements and implementation of San Francisco Stormwater Management Requirements, runoff water from the project site would not exceed the capacity of existing or planned stormwater drainage systems. In addition, the existing, largely impervious project site would add approximately 5.4 acres of new open space, for a total of approximately 8.0 acres of open space onsite, thereby substantially increasing the amount of pervious surfaces at the project site. Therefore, the project would not increase stormwater runoff rates and volumes. The increase in pervious surfaces, onsite stormwater treatment, and replacement of existing infrastructure indicates that there would be a reduction in stormwater flows to the SEP and capacity of the SEP would not be adversely affected. Therefore, this impact would be ***less than significant***.

Impacts associated with the installation of new stormwater facilities for the proposed project during construction would be similar to the impacts associated with installation of the new water supply facilities summarized above and discussed in detail in the appropriate topical sections of this Draft EIR (e.g., Sections 4.E, *Transportation and Circulation*; 4.F, *Noise*; and 4.G, *Air Quality*) as part of the assessment of overall project impacts.

As such, impacts associated with the construction of new or expansion of existing stormwater facilities would be ***less than significant***.

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

CONSTRUCTION

Soil would be exported from all areas of the project site during the demolition and grading (first) phase (ranging from 10,000 to 20,000 cubic yards), the infrastructure (second) phase (ranging from 3,360 to 4,500 cubic yards), and the foundation and building (third) phase (ranging from 7,650 to 103,200 cubic yards). In addition, the project would require demolition of asphalt onsite. The soil off-haul location, Baylands Soil Processing in Brisbane, is approximately 6 miles south of the project site. In general, Baylands Soil Processing does not have capacity issues because the facility recycles the materials it receives to produce various recycled soil products.[66] A potential debris disposal location, the Blue Line Material Recovery Facility, is in South San Francisco. The Blue Line Material Recovery Facility is permitted to accept 2,000 tons per day and generally does not have capacity issues.[67] The project's LEED certification goal would incorporate construction solid waste measures (e.g., the recycling of asphalt and concrete for road base and backfill) for all commercial office/retail and residential development onsite. During project construction, the project would meet construction waste recycling requirements for parking lot demolition and/or recycled construction waste. The project would also be subject to the City'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 material from landfills. These strategies would reduce solid waste generated by the project during construction. Therefore, the impacts of construction related to solid waste would be ***less than significant***.

OPERATION

The project would increase the generation of solid waste at the project site. Data provided by CalRecycle were used to determine the amount of solid waste that would be generated by the project. Table 4.K-5, on the following page, estimates the amount of solid waste under the High Commercial land use assumption. Under the High Commercial land use assumption, total solid waste generation would be 17,838 tons per year (or 49 tons per day) and under the High Residential land use assumption, total solid waste generation would be 14,666 tons per year (or 40 tons per day). Because the High Commercial land use assumption would result in a greater solid waste generation than the High Residential land use assumption, this analysis is based on the High Commercial land use assumption.

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[66] Baylands Soil Processing, LLC. *The Material Solution*. Available: http://thebaylands.com/. Accessed: December 6, 2016.

[67] CalRecycle. n.d. Solid Waste Facility Permit, Facility Number 41-AA-0185. Available: http://www.calrecycle.ca.gov/Actions/Documents%5C20%5C20142014%5C1090%5C019A%20Proposed%20SWFP%20Blue%20Line%2041-AA-0185%20recd%2004-07-2014.pdf. Accessed: July 6, 2016.

TABLE 4.K-5. ESTIMATED SOLID WASTE GENERATED AT THE PROJECT SITE

Land Use Assumption	Proposed Use	Dwelling Units/Employees	Solid Waste (tons/year)
High Commercial Assumption	Residential	1,000 du	740[a]
	Commercial	5,070 employees	11,704[b]
	Active/Retail	750 employees	4,981[b]
	Leasing and Management Offices	30 employees[c]	43[b]
	Pier 48	200 employees	370[b]
Total			**17,838**

Sources: CalRecycle. *Residential Waste Stream by Material Type*. Available: https://www2.calrecycle.ca.gov/WasteCharacterization/ResidentialStreams. Accessed: September 12, 2016. CalRecycle. *Business Group Waste Stream Calculator*. Available: https://www2.calrecycle.ca.gov/WasteCharacterization/BusinessGroupCalculator. Accessed: September 12, 2016.

a. The solid waste generated by the proposed residential uses was calculated using the following generation rate: 124,112 multi-family tons in San Francisco / 167,840 multi-family units in San Francisco = 0.74 ton per year per multi-family unit. Data are from the *Residential Waste Stream by Material Type* website for San Francisco.

b. The solid waste generated by the proposed nonresidential uses were calculated using the following business groups. All proposed employees were assumed to be full-time equivalent employees.

Commercial: Services, Professional, Technical, & Financial

Active/Retail: Retail Trade – Food and Beverage Stores

Leasing and Management Offices: Services – Management, Administrative, Support and Social

Pier 48: Manufacturing – Food and Nondurable Wholesale

c As discussed in Chapter 2, *Project Description*, the onsite housing could provide employment opportunities for approximately 30 to 50 people at the leasing and management offices. The number of employees anticipated at the leasing and management offices under the High Commercial land use assumption is assumed to be 30 because fewer residences most likely means fewer employees at the leasing and management offices.

As previously discussed, Recology Sunset Scavenger and Recology Golden Gate handle solid waste collection services for residential and commercial garbage and recycling in the city. Recyclable materials generated by the project would be taken to Recycle Central, compostable items and garbage generated by the project would be taken to the Recology Transfer Station, and nonrecyclables would eventually be taken to the Recology Hay Road Landfill in Solano County (via the Recology Transfer Station). The Hay Road Landfill is permitted by Solano County and CalRecycle to accept up to 2,400 tons per day of MSW for disposal and to operate up to 24 hours per day, seven days per week. The landfill has 30,433,000 cubic yards of remaining capacity and an anticipated closure date of 2077.[68]

Although the project would incrementally increase total waste generation from the city, the increasing rate of diversion through recycling and other methods would result in a decreasing share of total waste that requires deposal at the Hay Road Landfill. The High Commercial land

68 California Department of Resource Recycling and Recovery. 2016. *Facility/Site Summary Details: Recology Hay Road (48-AA-0002)*. Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/48-aa-0002/Detail/. Accessed: February 26, 2016.

use assumption would generate 49 tons of solid waste per day (or approximately 98,000 pounds per day, or approximately 2 percent of the 2,400 tons per day that the Hay Road Landfill is permitted to accept). As previously discussed, the City's per-resident disposal target rate is 6.6 PPD, and its per-employee disposal target rate is 10.6 PPD. Thus, the High Commercial land use assumption, which would generate approximately 98,000 pounds per day, would be consistent with the City's disposal target rates for residents and employees. Thus, it is not anticipated that the solid waste generated by project operation would result in the landfill exceeding its permitted capacity, and the project would result in a less-than-significant solid waste generation impact. The project would be subject to the City'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.

The project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. Therefore, impacts related to solid waste collection and disposal would be ***less than significant***.

Impact UT-4. The project would not encourage activities that would result in the use of large amounts of fuel, water, or energy or use these resources in a wasteful manner. (Less than Significant)

Natural gas and electric service would be provided to meet the needs of the project site, as required by the California Public Utilities Commission (CPUC), which obligates the SFPUC and PG&E to provide service to its existing and potential customers.

CONSTRUCTION

Natural gas is not typically used during construction. Construction activities for the project would result in a temporary increase in electricity demand. Electricity demand would occur periodically throughout the project's construction period. However, this demand would be temporary and nominal. Therefore, project construction would result in a minimal increase in electricity demand but would not require the construction of additional electrical facilities by the SFPUC. As previously discussed, the Hetch Hetchy Power System is owned and operated by the SFPUC. It supplies clean energy to all of San Francisco's municipal facilities, services, and customers. In addition, the project would use fuels for trucks and construction equipment. The project would consume more than 2.4 million gallons of fuel during the entire construction period. This information is presented in Appendix 6-2 to the Draft EIR. As discussed in Section 4.H, *Greenhouse Gas Emissions*, all construction contractors would comply with relevant commuter benefit programs and emergency ride-home programs to the extent applicable and required, which would reduce the amount of fuel used during construction. In addition, as discussed in Section 4.G, *Air Quality*, Mitigation Measures M-AQ-1a through M-AQ-1d require

engines on certain types of construction equipment to meet higher emissions standards, which is also anticipated to reduce the amount of fuel used during construction. Based on the above, construction of the project would not result in inefficient, wasteful, or unnecessary consumption of energy, and development of the project site would not result in adverse environmental impacts related to energy demand. Thus, this impact would be ***less than significant***.

OPERATION

The SFPUC would provide electric service to the project. SFPUC uses PG&E's distribution facilities. The SFPUC would serve the project with a single 12-kilovolt (kV) line that would be located in a utility trench. The project sponsor, the Port, and other City agencies have designated the project site as a Type 1 Eco-District[69] to help meet environmental goals.

The goal for the overall development includes LEED certification for all commercial office/retail buildings and residential development onsite, as outlined in the SFGBO and other City codes. The project sponsor would implement a comprehensive Sustainability Plan, which would include strategies toward achieving LEED certifications, outline the targets for carbon reductions, and explain how the infrastructure, buildings, and community would coordinate to achieve these targets consistent with design controls. The project sponsor would collaborate with the City through the SFPUC, the Department of the Environment, the Planning Department, and the Port to develop the Sustainability Plan. The project sponsor would be required to comply with these regulations, which have been proven effective in reducing energy use, as demonstrated by San Francisco's Greenhouse Gas Reduction Strategy and the success of energy savings, LEED certification, and the Transportation Demand Management (TDM) Plan in reducing both the city's and the state's energy use. In addition, the project sponsor is also pursuing a goal of meeting 100 percent of the project's building energy demands with solar energy by investing in energy conservation as well as onsite and offsite solar energy projects. Additionally, the proposed project would include the installation of an onsite looped recycled water distribution system in order to conserve water. These strategies comply with the mitigation measures outlined in CEQA Guidelines Appendix F, which aim to improve energy efficiency, conserve energy and water, and use alternative sources of energy. In addition, as previously discussed, the Hetch Hetchy Power System is owned and operated by the SFPUC. It supplies clean energy to all of San Francisco's municipal facilities, services, and customers. Nonetheless, the project would use energy for operation, including electricity and natural gas.

[69] The Planning Department has identified four types of Eco-Districts within the city, each defined by the community that exists within the district. Type 1 Eco-Districts are areas with large amounts of undeveloped land that enable horizontal infrastructure development to be implemented in advance of vertical development to optimize Eco-District goals. The project would be designed to Type 1 Eco-District standards.

Estimated amount of fuel for transportation and other energy usage during operation of the project have been quantified on an annual basis using the Climate Registry's default emissions factors for general reporting protocols. The proposed emergency generators would represent a small portion of the project's overall energy use and are not included in the quantification of the project's energy use. To provide a conservative estimate, no sustainability features have been applied to this calculation. The High Commercial Assumption would consume approximately 30.8 million annual kilowatt-hours (kWh), approximately 326,205 annual therms, and approximately 110.8 billion British thermal units (BTUs) of fuel annually during normal operations.[70] The High Residential Assumption would consume approximately 32.4 million annual kWh, approximately 298,560 annual therms, and approximately 93.6 billion BTUs of fuel annually during normal operations. This information is presented in Appendix 6-2 to this Draft EIR.

In addition, as discussed in Section 4.E, *Transportation and Circulation*, San Francisco has a lower vehicle miles traveled (VMT) ratio than the Bay Area region as a whole. The transportation analysis zone in which the project site is located (TAZ 655) has fewer daily VMT than the Bay Area regional average. Furthermore, the following transportation-related aspects of the project would discourage single-occupancy vehicle trips: proximity to transit, bicycle paths, bicycle storage, bike share shuttles, pedestrian walkways, and a TDM Plan with strategies to discourage the use of automobiles and to encourage transit and other modes of transportation. Mitigation Measure M-AQ-2c: Transportation Demand Management, in Section 4.G, *Air Quality*, includes further measures that would reduce vehicle trips. Because the project is an infill mixed-use development in a transit-rich area, the project's vehicle trips and associated fuel use would not constitute wasteful use of energy and would be consistent with the Plan Bay Area land use strategy which seeks to reduce per capita VMT.[71]

The energy consumed in the project's daily activities would be necessary for ongoing operation of the project site. Because of the various energy-saving measures described above, the City finds no evidence that the project's energy use would be wasteful, inefficient, or unnecessary.

Because development at the project site would meet Part 6 of California Code of Regulations Title 24 conservation standards and would be served by PG&E, the project site would not directly require the construction of new energy generation or supply facilities.

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[70] Electricity use is measured in annual kWh, natural gas use is measured in annual therms, and fuel is measured in BTUs.

[71] Plan Bay Area is a nine-county long-range plan to meet the requirements of California's 2008 Senate Bill 375 (SB 375), which call on each of the State's 18 metropolitan areas to develop a Sustainable Communities Strategy, an integrated transportation, land use, and housing plan that addresses ways to accommodate future population growth and reduce greenhouse gas emissions.

As previously discussed, the High Commercial land use assumption would be consistent with the City's target solid waste disposal rates for residents and employees. Implementation of the Sustainability Plan and the project sponsor's goal of meeting 100 percent of the project's building energy demands with solar energy would ensure that operation of the project would not result in inefficient, wasteful, or unnecessary consumption of energy, and development of the project site would not result in adverse environmental impacts related to energy demand. Thus, this impact would be ***less than significant***.

CUMULATIVE IMPACTS

The geographic context for a discussion of cumulative impacts on utilities is the service area of the utility provider. The geographic context for cumulative impacts on water supply is the SFPUC service area. The geographic context for cumulative impacts on wastewater treatment is the SEP's service area. The geographic context for cumulative impacts on solid waste is the Recology Transfer Station and Hay Road Landfill service areas. With regard to stormwater drainage, the geographic context is the city. Additionally, the geographic context for cumulative impacts on electricity and natural gas is PG&E's service area in northern California.

Impact C-UT-1. The project, combined with other development in the city, would have sufficient water supplies available from existing entitlements and resources; no new or expanded entitlements would be needed. In addition, the project would not require or result in the construction of new water treatment facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Other development would increase demands on water supplies as well as water infrastructure and treatment facilities. However, the SFPUC, the local water and wastewater service provider, has incorporated the demand from other development projects in its future water service projections. The WSA (based on the 2015 UWMP) determined that, with the addition of planned retail supplies, the SFPUC would have sufficient water supplies available to serve its retail customers, including the project, existing customers, and foreseeable future development. New or expanded water treatment facilities would not be required as a result of construction of the project, and the project's contribution to water demand would not adversely affect the city's water supply. Therefore, cumulative impacts on the city's water supply would be considered ***less than significant.***

Impact C-UT-2. The project, combined with other development in the city, would not exceed treatment requirements of the Regional Water Quality Control Board and would not require or result in the construction of new wastewater or stormwater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

WASTEWATER

Other development would increase the demands on combined stormwater and wastewater infrastructure and treatment facilities. This would be considered a significant cumulative impact if such growth were to result in the construction of new wastewater or stormwater facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.

As with the project, other development would be required to meet the wastewater pre-treatment requirements of the SFPUC and State Water Board. According to the 2000 Mission Bay Project Separated Sanitary Sewer Analysis, the average ultimate sanitary flow from Mission Bay was estimated to be 2.61 mgd. As previously discussed, the estimated wastewater discharge for the High Residential land use assumption, which would generate a higher demand for water than the High Commercial land use assumption, would be 0.441 mgd (approximately 17 percent of Mission Bay's average ultimate sanitary sewer flow). The wastewater generated by the High Residential land use assumption would be less than the wastewater that was anticipated to be generated at the project site per the 2000 Mission Bay Project Separated Sanitary Sewer Analysis and the 2013 Mission Bay South Infrastructure Plan. Because flows from the proposed project would be less than anticipated by the governing infrastructure planning documents, the separated sewer and stormwater systems would have capacity for the proposed project. In addition, other large-scale development projects would be required to verify that existing wastewater and stormwater infrastructure can accommodate increased demand, or contribute to any needed upgrades to existing facilities. Furthermore, various SSIP and CIP projects in the project area (e.g., the CIP's Central Bayside System Improvement Project, which will provide collection system enhancements in both the Channel and Islais Creek watersheds; infrastructure improvements to sewers and pump stations; and stormwater management) would increase treatment or conveyance capacity. Therefore, the proposed project's impact, in combination with the cumulative impact of other development, related to wastewater treatment requirements, the city's combined stormwater and wastewater infrastructure, and treatment facilities would be considered ***less than significant.***

STORMWATER

The balance of other development in the city would consist primarily of infill and redevelopment, which would not substantially increase the amount of impervious surfaces in the city. Existing regulations require new projects to address the need for stormwater treatment. For example, as discussed in Section 4.N, *Hydrology and Water Quality*, CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES MS4 permits. MS4 permits require that cities and counties develop and implement programs and measures to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures as appropriate. In addition, as with the project, other development that would create or replace more than 5,000 square feet of impervious surface would be required to incorporate stormwater management strategies per the SMR. Furthermore, various SSIP and CIP projects in the project area (e.g., the CIP's Central Bayside System Improvement Project, which will provide collection system enhancements in both the Channel and Islais Creek watersheds; infrastructure improvements to sewers and pump stations; and stormwater management) would increase treatment or conveyance capacity. Therefore, cumulative impacts on the city's stormwater drainage facilities would be considered ***less than significant.***

Impact C-UT-3. The project, combined with other development within Recology's service area, would not exceed service area solid waste disposal capacity and would be expected to comply with federal, state, and local statutes and regulations related to solid waste. (Less than Significant)

The city currently exceeds statewide goals for reducing solid waste, and is expected to further reduce solid waste volumes in the future. As with the project, other development would be subject to the City'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. Other development would also be subject to the City'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. Therefore, cumulative impacts related to solid waste would be considered ***less than significant***.

Impact C-UT-4. The project, in combination other development in the city, would not result in wasteful, inefficient, or unnecessary energy use, and the project, in combination with other development served by PG&E, would not exceed existing gas and electric supply capacity (Less than Significant)

All new development would be required to comply with Part 6 of California Code of Regulations Title 24 energy conservation standards for new construction, which require specific energy-conserving design features, the use of nondepletable energy resources, or a

demonstration that buildings would comply with a designated energy budget. In addition, all new development would be required to comply with the SFGBO, which incorporates all mandatory elements of the 2013 CALGreen and Title 24 energy efficiency standards but includes stricter local requirements. The Green Building Code requires green building practices and LEED certification for all new residential and commercial construction in the city, unless otherwise indicated in the SFGBO or Port of San Francisco Green Building Ordinance, as well as alterations to existing buildings. Thus, relative to commercial or residential development, a cumulatively wasteful or inefficient use of electricity or natural gas would not occur. Regarding transportation energy, transportation vehicles, including both passenger and freight vehicles, are heavily regulated in terms of fuel efficiency with aggressive state and federal regulatory requirements (e.g., the Pavley/Advanced Clean Car standards in California, the federal Corporate Average Fuel Economy standards, and similar efforts concerning heavier vehicles) that require progressive improvements in vehicle efficiency over time. In addition, similar to the proposed project, it is anticipated that other development in the city would be primarily of an infill nature, with TDM Plan measures and other measures that would reduce transportation-related energy use (e.g., bike lanes, pedestrian-friendly designs). As such, cumulative transportation energy use is not expected to be wasteful or inefficient.

Existing and planned gas and electric service would be provided to meet the needs of other development customers, as required by the CPUC, which obligates PG&E to provide service to its existing and potential customers. Because the project and future development would comply with Part 6 of the California Code of Regulations Title 24 conservation standards and be served by the SFPUC, through PG&E's distribution facilities, new development would not directly require the construction of new energy generation or supply facilities that would be directly attributable to growth in the city. There would be no substantial adverse environmental impacts related to energy demand. Therefore, cumulative impacts related to energy would be considered ***less than significant.***