3.14 Utilities and Service Systems

This chapter describes the existing utility systems that serve the proposed Project (Project) area, including water supply, wastewater conveyance and treatment, stormwater conveyance, and solid waste generation and disposal, and the impacts on those systems that could occur due to the continuation of construction and operational activities arising from the Project. A discussion of electricity and transportation fuel consumption is provided in Chapter 3.15, *Energy*.

3.14.1 Regulatory Setting

3.14.1.1 Federal

Clean Water Act

The *Clean Water Act* was passed in 1972 and is a federal regulation with the objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. Its National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources such as pipes, ditches, channels, tunnels, conduits, discrete fissures, containers, and vessels or other floating craft that discharge pollutants into waters of the United States. The Hyperion Treatment Plant (HTP), which is the primary plant that treats City of Los Angeles (City) wastewater, is subject to NPDES permit requirements. On November 22, 2010, the Los Angeles Regional Water Quality Control Board (RWQCB) and the U.S. Environmental Protection Agency (U.S. EPA) reissued the federal NPDES permit for HTP, which became effective on December 24, 2010. (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2012.)

3.14.1.2 State

California Water Plan

The *California Water Plan* (CWP) is prepared by the California Department of Water Resources. The Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The CWP, which is updated every 5 years, presents basic data and information on California's water resources such as water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses.

The CWP also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the state's water needs. The CWP provides resource management strategies and recommendations to strengthen integrated regional water management. The resource management strategies help regions meet future demands and sustain the environment, resources, and economy, involve communities in decision-making, and meet various goals. A resource management strategy is a project, program, or policy that helps local agencies and governments manage their water and related resources.

These strategies can reduce water demand, improve operational efficiency, increase water supply, improve water quality, practice resource stewardship, and improve flood management.

California Water Code

The *California Water Code* contains provisions that control almost every consideration of water and its use. Division 2 of the California Water Code provides that the State Water Resources Control Board (SWRCB) shall consider and act upon all applications for permits to appropriate waters. Division 6 of the California Water Code controls conservation, development, and utilization of the state water resources, while Division 7 addresses water quality protection and management.

Senate Bill 610

Senate Bill (SB) 610 (Water Code Sections 10910 and 10912) took effect on January 1, 2002. SB 610 seeks to promote more collaborative planning between local water suppliers and cities and counties. It requires that water supply assessments occur early in the land use planning process for all large-scale development projects. The required assessments must include detailed analyses of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. It also requires an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries.

Senate Bill 221

Enacted in 2001, SB 221, which has been codified in the California Water Code beginning with Section 10910, requires that the legislative body of a city or county that is empowered to approve, disapprove, or conditionally approve a subdivision map must condition such approval upon proof of sufficient water supply. The term "sufficient water supply" is defined in SB 221 as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the projected demand associated with the proposed subdivision. The definition of sufficient water supply also includes the requirement that sufficient water encompass not only the proposed subdivision, but also existing and planned future uses, including, but not limited to, agricultural and industrial uses. SB 221 requirements do not apply to the general plans of cities and counties, but rather to specific development projects.

California Urban Water Management Act

The Los Angeles Department of Water and Power (LADWP) adopted the 2015 Urban Water Management Plan (UWMP) as the water supplier of the City and as required by the California Urban Water Management Act. The UWMP is updated every 5 years, and its main goal is to forecast future water demands and water supplies under average and dry year conditions, identify future water supply projects such as recycled water, provide a summary of water conservation best management practices, and provide a single and multi-dry year management strategy. LADWP's 2015 UWMP describes how water resources are used and presents strategies that would be used to meet the City's current and future water needs, which focus primarily on water supply reliability and water use efficiency measures. The UWMP projects water demand and supplies through 2040; total demand for water during an average weather year is predicted to be 644,700 acre-feet (AF) in 2025, 652,900 AF in 2030, 661,800 AF in 2035, and 675,700 AF in 2040. LADWP

expects it would be able meet the forecasted demand for water resources with a combination of existing supplies, planned supplies, and Metropolitan Water District (MWD) purchases (Los Angeles Department of Water and Power 2015).

California Integrated Waste Management Act

The *California Integrated Waste Management Act of 1989* (Assembly Bill [AB] 939) required each city and county in the State of California and regional solid waste management agencies to enact plans and implement programs to divert 25 percent of its waste stream by 1995 and 50 percent by 2000. Later legislation mandates the 50 percent diversion requirement be achieved every year.

Assembly Bill 75

AB 75 (Public Resources Code Sections 42920-4297) required all state agencies and large state facilities to divert at least 25 percent of all solid waste from landfills by January 1, 2002 and 50 percent by January 1, 2004. The law also requires each state agency and large facility to submit an annual report to the California Department of Resources Recycling and Recovery (CalRecycle) summarizing its yearly progress in implementing waste diversion programs. As described further, below, the City initiated a Solid Waste Integrated Resources Plan in the spring of 2007 and is moving toward zero waste by 2030.

California Solid Waste Reuse and Recycling Access Act

The *California Solid Waste Reuse and Recycling Access Act of 1991* (AB 1327) was enacted on October 11, 1991 and added Chapter 18 to Part 3 of Division 30 of the Public Resources Code. It required each jurisdiction to adopt an ordinance by September 1, 1994, requiring any "development project" for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials. In addition, the City adopted a Construction and Demolition Waste Recycling Ordinance (Ordinance 181,519, which amended Los Angeles Municipal Code [LAMC] Sections 66.32 through 66.32.5), effective January 1, 2011, as further described below.

3.14.1.3 Local

Greater Los Angeles County Integrated Regional Water Management Plan

The Integrated Regional Water Management Plan (IRWMP), prepared by the Los Angeles County Department of Public Works, reflects the Greater Los Angeles County Region's collaborative efforts to ensure a sustainable water supply through the more efficient use of water, the protection and improvement of water quality, and environmental stewardship. The plan integrates water supply, water quality, flood management, and open space strategies to maximize the utilization of local water resources. The region, which has approximately 10 million residents within 84 cities, is composed of five subregions that span from Ventura County to Orange County, including portions of both counties, and from the Pacific Ocean coastline to the San Gabriel Mountains, an area of more than 2,200 square miles. To make governance and stakeholder involvement manageable, the region is organized into subregions. The subregions include the Lower San Gabriel and Los Angeles Rivers, North Santa Monica Bay, South Bay, Upper Los Angeles River, Upper San Gabriel and Rio Hondo Rivers (Los Angeles Department of Water and Power 2014).

Los Angeles County Integrated Waste Management Plan

The *California Integrated Waste Management Act* (AB 939) mandates jurisdictions to meet a diversion goal of 50 percent by 2000 and thereafter. In addition, each county is required to prepare and administer a Countywide Integrated Waste Management Plan. This plan comprises the county's and the cities' solid waste reduction planning documents, an Integrated Waste Management Summary Plan (Summary Plan), and a Countywide Siting Element (CSE) (County of Los Angeles Department of Public Works 2016). In order to assess jurisdiction's compliance with AB 939, the Disposal Reporting System was established to measure the amount of disposal from each jurisdiction and determine if it has met the goals.

City of Los Angeles General Plan

The current City of Los Angeles General Plan, most recently implemented as the General Plan Framework Element in 1996 (and re-adopted in 2001), is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City. The seven state-required General Plan elements have been gradually modified over time to fit the needs of the City. The City has begun the process of updating the General Plan through the OurLA2040 planning process, which will review and revise policies, resulting in six new elements to complement the three elements (Housing, Mobility, and Health) that were recently updated and adopted by the City Council.

The Conservation Element of the General Plan provides an official guide for the City Planning Commission, the City Council, the Mayor, and other governmental agencies and interested citizens' guidance for the conservation, protection, development, utilization, and reclamation of natural resources. Natural resources addressed in this element include water and hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. As a part of the Conservation Element, the General Plan Infrastructure Element addresses water supply and demand, measures related to energy conservation and reducing the City's reliance on oil, landfill capacity assessment, wastewater discharge into the ocean and other water bodies, protection of groundwater and watershed resources, solid waste management, as well as electrical and other City-managed resource areas. (City of Los Angeles Department of City Planning 2002a.)

Similarly, the Open Space Element of the General Plan provides guidance for the preservation, conservation, and acquisition of open space in the City. This includes lands needed for life support systems such as the water supply, water recharge, water quality protection, wastewater disposal, solid waste disposal, air quality protection, energy production, and noise prevention. Natural drainage channels, flood plains, fire hazard areas, airport clear zones, and geological hazard areas are also addressed. (City of Los Angeles Department of City Planning 2002b.)

LADWP 2015 Urban Water Management Plan

See Section 3.14.1.2, *State, California Urban Water Management Act*

City of Los Angeles Water Integrated Resources Plan

Prepared jointly by the Bureau of Sanitation and the Department of Water and Power, the City adopted its Water Integrated Resources Plan (WIRP) in 2006, and a 5-Year Review was prepared in June of 2012. The WIRP contains an implementable facilities plan through the year 2020 that integrates water supply, water conservation, water recycling, runoff management, and wastewater facilities planning

using a regional watershed approach. The adopted WIRP contains recommendations that would be achieved through a series of projects and policy directions to staff (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2012).

City of Los Angeles Emergency Water Conservation Plan (Ordinance No. 181288)

The City adopted Ordinance No. 181288 (amendment to Chapter XII, Article I of LAMC) in August 2010 to clarify prohibited uses and modify certain water conservation requirements of the City Emergency Water Conservation Plan. The purpose of this ordinance is to minimize the effect of a water shortage on the customers of the City and to adopt provisions that will significantly reduce water consumption over an extended period of time. The revised Water Conservation Ordinance contains five water conservation "phases," which correspond to severity of water shortage, with each increase in phase requiring more stringent conservation measures. Water conservation phases define outdoor watering restrictions, as appropriate, including sprinkler use restrictions and other prohibited water uses.

City of Los Angeles Stormwater and Urban Runoff Pollution Control Ordinance

In 1998, the City passed a stormwater ordinance (LAMC Section 64.70) that prohibited illicit discharges into the municipal storm drain system and gave the City local legal authority to enforce the NPDES permit and take corrective actions with serious offenders. Any commercial, industrial, or construction business found discharging waste or wastewater into the storm drain system could be subject to legal penalties.

Industrial Waste Control Ordinance

The Industrial Waste Management Division of the Bureau of Sanitation regulates industrial wastewater discharges to the City's sewer system and administers and enforces the Industrial Waste Control Ordinance (LAMC Section 64.30) as well as U.S. EPA pretreatment regulations to protect local receiving waters.

Industrial facilities and certain commercial facilities that plan to discharge industrial wastewater to the City's sewage collection and treatment system are required to first obtain an industrial wastewater permit. Permits are issued when a determination has been made by the Board of Public Works for the City that the wastewater to be discharged will not violate any provisions of the ordinance, the Board's Rules and Regulations, the water quality objectives for receiving waters established by the California Water Quality Control Board, Los Angeles Region, or applicable federal or state statutes, rules, or regulations.

City of Los Angeles Sewer Allocation (Ordinance No. 166060)

City Ordinance No. 166,060 (Sewer Allocation) limits the annual increase in wastewater flows discharged into the HTP to 5 million gallons per day (MGD). The Los Angeles Department of Public Works, Bureau of Engineering Special Order No. SO06-0691 changed the design peak dry weather flow for sanitary sewers from three-quarter depth to one-half the sewer diameter to implement the City-adopted goal of no overflows or diversions from the wastewater collection system.

Sewer System Management Plan

On May 2, 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements (WDRs) for publicly owned sanitary sewer systems. Under the WDRs, the owners of such systems must implement a written Sewer System Management Plan and make it available to the public.

Los Angeles has one of the largest sewer systems in the world, including more than 6,600 miles of sewers serving a population of more than four million in the following three Sanitary Sewer Systems: Hyperion Sanitary Sewer System, Terminal Island Water Reclamation Plant Sanitary Sewer System, and the City Regional Sanitary Sewer System. To comply with the WDRs, a Sewer System Management Plan was prepared for each of the City's three sanitary sewer systems. The Sewer System Management Plan must be updated every five years, where its objectives are to properly fund, manage, operate and maintain all parts of the sanitary sewer system; provide adequate capacity to convey base flows and peak flows; and take all feasible steps to stop and mitigate overflows (City of Los Angeles Department of Public Works 2015).

Construction and Demolition Waste Recycling Ordinance

In order to meet the waste diversion goals of AB 939 and the requirements of SB 1374, which mandates the recycling of construction and demolition waste, the City adopted the Construction and Demolition Waste Recycling Ordinance (Ordinance 181519, which amended LAMC Sections 66.32 through 66.32.5), effective January 1, 2011. This ordinance requires that all solid waste haulers and contractors obtain a permit prior to transporting construction and demolition waste, and stipulates that such waste may only be processed at City-certified construction and demolition waste-processing facilities. Currently, there are nine certified construction and demolition waste processors in the City. The City initiated a Solid Waste Integrated Resources Plan in the spring of 2007 and is moving toward zero waste by 2030. The Recovering Energy, Natural Resources, and Economic Benefit from Waste for Los Angeles (RENEW LA) Plan was adopted in February 2006, identifying 12 goals to achieve zero waste. The Solid Waste Integrated Resources Plan – A Zero Waste Master Plan was adopted in 2013 (City of Los Angeles Department of Public Works, Bureau of Sanitation 2013).

Recovering Energy, Natural Resources, and Economic Benefit from Waste for Los Angeles Plan (RENEW LA)

The RENEW LA Plan, adopted in February 2006, provided a blueprint for zero waste; it identified 12 goals to set the City on the path to zero waste. The goal of zero waste, as defined by the RENEW LA Plan, is to reduce, reuse, recycle, or convert resources that currently go to disposal so as to achieve an overall diversion rate of 90 percent or more by 2025. In 2006, the City committed to the following goals:

- Achieve 70 percent diversion by 2013, which was accelerated to 75 percent by 2013.
- Site an Alternative Technology facility in the City.
- Convert the Bureau of Sanitation collection truck fleet to clean-burning fuel.
- Implement a stakeholder-driven Solid Waste Integrated Resources Plan (SWIRP).

The Building and Safety Department is the Local Enforcement Agency (LEA) designated by CalRecycle for permitting, inspecting, and enforcing regulations at permitted solid waste disposal sites, solid waste transformation facilities, transfer and processing stations, materials recovery facilities, and composting facilities. LEA inspects and enforces litter, odor, and nuisance compliance at solid waste landfills. The City achieved at 76.4 percent solid waste diversion in 2012 (UCLA 2013) and continues working toward the goal of zero waste in 2025. Countywide, per the AB 939 annual

report, the calculated disposal rate for the Los Angeles Regional Agency[1] was 5.5 pounds per person per day (ppd) in 2017. The City's target disposal rate was 7.1 ppd, which exceeds the AB 939 target.

Construction and demolition waste is not compatible with alternative technologies such as anaerobic digestion or advanced thermal recycling; therefore, alternative technology facilities would not be compatible with the processing of construction and demolition waste such as would be produced by the Project.

City of Los Angeles Solid Waste Integrated Resources Plan (Zero Waste Plan)

The SWIRP, adopted in April 2015 and also known as the Zero Waste Plan, is a stakeholder-driven process and long-range master plan for solid waste management in the City. The SWIRP proposes to achieve a goal of 80 percent diversion by 2020 and 95 percent diversion by 2035. These targeted diversion rates are expected to be achieved through an enhancement of existing policies and programs, implementation of new policies and programs, and the development of future facilities to meet the City's recycling and solid waste infrastructure needs over a 20-year planning period.

City of Los Angeles Solid Waste Management Policy Plan

The City Solid Waste Management Policy Plan, overseen by the Department of Public Works, is a long-term planning document adopted by the City Council in November 1994 containing goals, objectives, and policies for solid waste management for the City. It specifies Citywide diversion goals and disposal capacity needs. The mandate was enacted to encourage reduction, recycling, and reuse of solid waste generated in the state to preserve landfill capacity, conserve water, energy, and other natural resources, and to protect the state's environment (City of Los Angeles Department of Public Works, Bureau of Sanitation 2006).

LADWP Power Integrated Resources Plan

LADWP is also responsible for the construction, operation, maintenance, and management of electric works and property for the benefit of the City and its habitats. The 2015 Power Integrated Resource Plan (PIRP) is a comprehensive 20-year roadmap that guides LADWP's power system in an effort to supply reliable electricity in an environmentally responsible and cost-effective manner over the next 20 years. The goal of the PIRP is to identify a portfolio of generation resources and power system assets that meets the City's future energy needs at the lowest cost and risk consistent with LADWP's environmental priorities and reliability standards.

The PIRP provides objectives and recommendations to reliably supply LADWP customers with power and to meet SB 1078's 33 percent renewable energy goal by 2020. The 2015 PIRP increases the renewable portfolio standard to 50 percent by 2030.

3.14.2 Environmental Setting

3.14.2.1 Water Supply

There are three major water utility providers that serve the area in the vicinity of the Project site(s): MWD, the California Water Service, and LADWP. Water service to the Project area is provided by LADWP.

[1] Consisting of 18 municipalities, including the City of Los Angeles.

LADWP covers an area of 473 square miles, serving residents and businesses in Los Angeles and its surrounding communities. With over 4 million residents, there are 681,000 water customers with active service connections (Los Angeles Department of Water and Power 2018). Water supply and conveyance structures include a series of 119 tanks and reservoirs and a network of pipelines, including 7,337 miles of distribution mains. Between 2007 and 2011, LADWP supplied an average of about 197 billion gallons (604,570 AF)[2] of water annually, where the average daily use for all customers was 129 gallons per capita per day (89 gallons per capita per day for residential use) (Los Angeles Department of Water and Power 2018). In terms of AF, the average daily use translates to 0.0004 AF per capita per day.

The Los Angeles Aqueducts, local groundwater, and supplemental water purchased from MWD are the primary sources of water supply for the City. The Los Angeles Aqueduct supplies an average of 29 percent of the City's water, MWD purchases account for about 57 percent, and local groundwater resources comprise 12 percent, with recycled water supplies accounting for the remainder of the City's total water supply (5-year average between Fiscal Years 2010-11 and 2014-15) (Los Angeles Department of Water and Power 2015). In terms of gross volume for Fiscal Year 2014-15, LADWP received approximately 53,500 AF per year from the Los Angeles Aqueduct, 314,000 AF per year in MWD purchases, and used 90,000 AF per year in local groundwater resources (with recycled water contributing an additional 7,000 AF per year). The water from MWD is delivered through the Colorado River Aqueduct and the State Water Project's California Aqueduct. These three sources have historically delivered an adequate and reliable supply to serve the City's needs. Implementation of recycled water projects is expected to fill a larger role in Los Angeles' water supply portfolio. Recycled water currently accounts for a nominal percentage of the City's water supply. Stormwater capture projects for groundwater recharge to improve groundwater reliability are also being developed.

Over the last ten years, water demands have undergone a drastic reduction from a peak of 670,970 in Fiscal Year 2006-07. This is because several periods of drought have precipitated increased conservation. Most recently, the multi-year drought beginning in 2012 caused diminished supplies from the Los Angeles Aqueduct, leading to heavy reliance on purchased MWD water. This drove conservation efforts that resulted in a 22 percent reduction in demand in Fiscal Year 2014-15, as compared to 2006-07 (Los Angeles Department of Water and Power 2015). Reliance on MWD reached a peak in Fiscal Year 2013-14 as a result of limitations on the Los Angeles Aqueduct supply.

The UWMP projects water demand through the year 2040. A summary table of the projected net water demand for their service area through 2040 can be seen in Table 3.14-1.

[2] 1 acre-foot = 325,851 gallons.

Table 3.14-1. LADWP Projected Water Demand through 2040

Demand Forecast[a]	Year				
	2020	***2025***	***2030***	***2035***	***2040***
Total Water Demand	**611,800**	**644,700**	**652,900**	**661,800**	**675,700**
Conservation	125,800	110,900	111,600	109,100	109,100
LA Aqueduct	275,700	293,400	291,000	288,600	286,200
Groundwater	112,670	110,670	106,670	114,670	114,070
Recycled Water	19,800	59,000	69,000	72,700	75,400
Stormwater Capture	2,400	4,800	9,200	16,600	17,000
MWD Water Purchases	75,430	65,930	65,430	60,630	74,930

Source: Los Angeles Department of Water and Power 2015.
[a] All data in AF.

3.14.2.2 Sewers and Wastewater Treatment

Wastewater within the City is conveyed via public sewer lines that are owned by the City and maintained by the City Department of Public Works, Bureau of Sanitation. The City operates more than 6,700 miles of public sewers that convey about 400 MGD of flow from residences and businesses to the City's four wastewater treatment and water reclamation plants, serving the needs of more than four million customers in Los Angeles, plus 29 contracting cities and agencies. The local sewer lines connect to the City's three sanitary sewer systems: Hyperion Water Reclamation Plant Sanitary Sewer System, Terminal Island Water Reclamation Plant Sanitary Sewer System, and the City Regional Sanitary Sewer System.

The HTP is part of the Hyperion System, which is the largest of the City's three sanitary sewer systems and utilizes primary and secondary treatment of wastewater. Currently, an average of nearly 300 MGD is generated in the system. Approximately 60 MGD is treated upstream at the Donald C. Tilman and Los Angeles-Glendale Water Reclamation Plants. The Donald C. Tillman Water Reclamation Plant is a tertiary treatment plant that began continuous operation in 1985. Its facilities were designed to treat 40 million gallons of wastewater per day and serve the area between Chatsworth and Van Nuys in the San Fernando Valley. The cities of Los Angeles and Glendale co-own the Los Angeles-Glendale Water Reclamation Plant, also a tertiary treatment plant, and the Bureau of Sanitation operates and maintains it. Each city pays 50 percent of the costs and receives an equal share of the recycled water. The plant processes approximately 20 million gallons of wastewater per day. All other flow in the Hyperion System, and the biosolids from these reclamation plants, which is returned to the collection system, are treated at the HTP (Los Angeles Department of Water and Power 2015). On average, 275 million gallons of wastewater enters the HTP on a dry weather day. Because the amount of wastewater entering the system can double on rainy days, the plant was designed to accommodate both dry and wet weather days with a maximum daily flow of 450 MGD and peak wet weather flow of 800 MGD. Treated effluent is discharged from the HTP into Santa Monica Bay via a 7-mile ocean outfall.

The Terminal Island Water Reclamation Plant, approximately 20 miles south of downtown Los Angeles, was built in 1935 to service the harbor area in the City. The plant has the capability to provide high-quality tertiary treatment for up to 30 million gallons of municipal and industrial flows daily. A total of 60 percent of the incoming flow to the plant comes from nearby industries, while the remaining 40 percent is from residential areas. The service area includes San Pedro, Harbor City, and Wilmington.

According to the City's Sewer System Management Plan for the Hyperion System (February 2015), the City's sewer system has sufficient capacity to handle peak dry-weather flows and has not experienced any wet weather overflows since major relief sewers were completed in 2006. Additionally, the City has virtually eliminated dry-weather overflows resulting from power outages or equipment failures at its pump stations.

Wastewater flows include residential, employment, industrial, and groundwater infiltration sources. The most recent City estimates for wastewater flows use Southern California Association of Governments (SCAG) 2008 adjusted data. Using SCAG's population assumptions, the City Water Integrated Resources Plan from June 2012 estimated wastewater flows to be 458 MGD in the year 2000. Actual wastewater flow for the same year was 425 MGD. Projections are made through the year 2020, and vary between 400 and 500 MGD. Historical data from 2002 to June 2011 showed a significant decrease in wastewater flow, which may be attributed to water conservation, economic downturn, and LADWP Tier 1 and Tier 2 rate adjustments (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2012).

3.14.2.3 Stormwater

The existing stormwater management system within the City uses a system of vertical roof drains, underground reinforced concrete pipe, overland sheet flow, curb, gutters, catch basins, and driveways to convey stormwater runoff. The existing public system is owned and managed by the Los Angeles County Flood Control District (LACFCD). Infrastructure built by the City is owned and managed by the City; similarly, infrastructure built by the County is owned and managed by the LACFCD.

Historically, urban development and storm drain system design have consisted of streets, driveways, sidewalks, and structures constructed out of impervious materials that directly convey runoff to curb and gutter systems, the storm drain system, and downstream receiving waters. Until recently, conventional storm drainage and flood control systems have been designed to convey stormwater away from developed areas as quickly as possible without thoroughly addressing stormwater quality and/or groundwater discharge.

In 1998, the City passed a stormwater ordinance (LAMC 64.70) that prohibited illicit discharges into the municipal storm drain system and gave the City local legal authority to enforce the NPDES permit and take corrective actions with serious offenders. Low-impact development (LID) is a leading stormwater management strategy that seeks to mitigate the impacts of runoff and stormwater pollution as close to the source as possible. The City's LID ordinance (Ordinance #181899) became effective in May 2012 and was updated in September 2015 (Ordinance #183833). LID comprises a set of site design approaches and best management practices (BMPs) that promote the use of natural systems for infiltration, evapotranspiration, and use of stormwater. These LID practices can effectively remove nutrients, bacteria, and metals from stormwater while reducing the volume and intensity of stormwater flows. Through the use of various infiltration techniques, LID minimizes surface areas that produce large amounts of runoff and do not allow it to infiltrate into the ground. Where infiltration is infeasible, bioretention, rain gardens, vegetated rooftops, and rain barrels that store, evaporate, detain, and/or treat runoff can be used. To the extent it is technically feasible, a developed site is required to capture, infiltrate, or reuse the difference in volume generated during a 0.75-inch storm event on the developed site versus that generated by the same event on the site in an undeveloped condition. In addition, a developed site may be required to treat the entire 0.75-inch rainfall to remove urban stormwater pollution. The Citywide Sidewalk Repair Program does not include developed site(s).

3.14.2.4 Solid Waste

Solid waste generated within the City is collected by private waste haulers for eventual disposal at one of the two designated County landfills in the Los Angeles area: the Calabasas and Scholl Canyon Landfills. The Los Angeles County Bureau of Sanitation also operates three materials recovery facilities and one recycling center.

Demand for landfill capacity is continually evaluated by Los Angeles County through preparation of the Los Angeles County Integrated Waste Management Plan (CIWMP) Annual Reports. The total quantity of waste disposed of by the City in 2000 was reported as 3,859,622 tons (City of Los Angeles Department of Public Works, Bureau of Sanitation 2006). The total quantity of waste diverted for the same year was 5,719,354 tons (City of Los Angeles Department of Public Works, Bureau of Sanitation 2006). Based on these numbers, the City's total generation for 2000 was 9.58 million tons and the City's diversion rate was 60 percent, 10 points above the *California Integrated Waste Management Act* mandates for that year.

Landfills are categorized as one of three classes:

- Class I landfills accept hazardous and non-hazardous wastes
- Class II landfills accept non-hazardous and "designated" wastes, as defined by the State Department of Resources Recycling and Recovery
- Class III landfills accept municipal and other non-hazardous, household waste.

Unclassified landfills are defined as facilities that accept inert materials only, such as soil, concrete, asphalt, and other construction and demolition debris. Non-hazardous municipal solid waste is disposed in Class III landfills, while construction waste, yard trimmings, and earth-like waste are disposed in unclassified (inert) landfills. Class III landfills would accept solid waste generated by construction workers for the Project, while construction and demolition waste and greenwaste would be handled by unclassified facilities, described in further detail below.

In 2016, the total amount of solid waste (including an import amount of 117,776 tons) disposed of at in-county Class Ill landfills, transformation facilities, and out-of-County landfills was approximately 9.9 million tons (County of Los Angeles Department of Public Works 2016). On average, the solid waste disposed for 2016 was 33,026 tons per day. In 2016, the City generated a total of 3.9 million tons (10,685 tons per day [tpd]) of solid waste. According to the 2015 Zero Waste Master Plan Report, the City achieved a baseline diversion rate of 72 percent.

A list of the existing available Class III solid waste disposal facilities and their remaining capacity is provided in Table 3.14-2.

Typically, waste generated by the existing sidewalk repair program does not include biohazardous waste (Anderson pers. comm.). If encountered, existing hazardous waste is disposed of at designated Class I facilities. The State of California currently operates three designated Class I landfills: the Buttonwillow Hazardous Waste Facility in Kern County, the Kettleman Hills Hazardous Waste Facility in Kings County, and the Imperial (Westmorland) Hazardous Waste Facility in Imperial County. The Buttonwillow facility encompasses 320 acres and operates a permitted drum handling and storage area that can store up to 1,500 drums (Clean Harbors Buttonwillow, LLC 2018). Their current constructed landfill capacity is 950,000 cubic yards, whereas the permitted landfill capacity is 10 million cubic yards (Clean Harbors Buttonwillow, LLC 2018). The Imperial County facility

encompasses 640 acres, with a drum capacity of 1,000 drums (50,000 gallons) and a bulk storage capacity

Table 3.14-2. Existing Available Class III Solid Waste Disposal Facilities

Landfill	Remaining Capacity (millions of tons)	Remaining Life (years)
Sunshine Canyon	62.08	21***
Antelope Valley	12.88	23**
Lancaster	10.44	25***
Calabasas	5.95	13***
Savage Canyon	4.89	39***
Scholl Canyon	4.08	12*
Burbank	2.71	37***
Pebbly Beach	0.06	12***
San Clemente	0.04	16***

* Landfill remaining life based on 2016 average daily disposal.
** Landfill remaining life based on maximum permitted capacity as of December 31, 2016.
*** Landfill remaining life based on land use/solid waste facility permit restrictions as of December 31, 2016.
Source: County of Los Angeles Department of Public Works 2016.

of 195 cubic yards (Clean Harbors Westmorland, LLC 2018). The Kettleman Hills facility encompasses 1,600 acres and is permitted to receive a maximum of 2,000 tpd of municipal solid waste but typically receives an average of about 1,350 tpd (Kettleman City Waste Management 2011).

Concrete, asphalt, and street tree material removed under the existing sidewalk repair program is recycled at City facilities, and not sent to landfills. Generally, the Bureau of Street Services recycles greenwaste, asphalt, and concrete at the greenwaste recycling center run by the Urban Forestry Division (UFD). UFD generates thousands of tons of greenwaste annually in its maintenance operations, in which 100 percent of the material produced by Division personnel is recycled (Bureau of Street Services 2018). Hundreds of tons of greenwaste generated by other City departments (including the Los Angeles Bureau of Engineering) and contractors performing street tree maintenance are also recycled (Bureau of Street Services 2018). The City's greenwaste recycling operation is one of the largest in the world (Bureau of Street Services 2018). The operation produces several types and sizes of wood materials that are utilized for different purposes. Rougher, large size material is used by the City to cover large areas to control weeds. Smaller material is utilized for biological electricity generation and on surrounding county's farms. Depending on the location of the repair work, concrete, asphalt, and street tree material removed under the existing sidewalk repair program is directed to the Griffith Park Composting Facility, the Harbor Yard Trimming Facility, or the Lopez Canyon Environmental Center.

The Griffith Park Composting Facility currently processes around 7,000 cubic yards of greenwaste per year (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2018). After 60 days of composting, curing, and screening, 15 tons per day of organic compost is created for use and distribution (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2018). The Los Angeles Department of Recreation and Parks receive half of the produced compost, while the remainder is

sold to private entities such as landscape companies. Compost is also donated to non-profit organizations and schools in the Los Angeles Unified School District as well as used in the garden areas at the Los Angeles Zoo and in park landscaping projects throughout the City.

The Harbor Yard Trimming Facility, an approximately 2.5-acre site, is currently located at the Gaffey Street Landfill, which has been reclaimed for recreational and mulching use. It receives collected yard trimmings (greenwaste) from the Bureau of Sanitation which are cleaned, processed, and spread for purposes of weed and erosion control. The facility primarily processes curbside collected greenwaste delivered by the City's Solid Resources Collection Division, which delivers approximately 20,000 tons of greenwaste annually (City of Los Angeles Department of Public Works, Bureau of Sanitation, and Department of Water and Power 2018).

The Lopez Canyon Environmental Center in Lakeview Terrace, at the site of the closed Lopez Canyon Landfill, is the processing site for curb-side collected yard trimmings from the East Valley area as well as horse manure collected by the City, generating valuable mulch and compost. An average of 300 tpd of yard trimmings is mixed with about 125 tpd of woody materials to produce high-quality mulch that is given away free to City residents, delivered to farmers, or donated to schools, non-profits, and community groups (City of Los Angeles Bureau of Sanitation 2018).

3.14.3 Environmental Impact Analysis

3.14.3.1 Approach

Analysis of potential impacts related to utilities and service systems was based on a detailed review of the Project Description, a virtual field study of the Project areas via Google Earth, and review of the relevant planning, policy and research documents that guide utility-intensive resource planning for the Project areas. To the extent feasible, utility impacts are analyzed by providing overall consumption estimates (over the lifetime of the Project) for water supply, wastewater/sewer capacity (annual basis), stormwater capacity (annual basis), and solid waste generation/capacity, then relating them to the relevant plans, policies, and agencies and the overall availability/supply for each respective resource area, as appropriate. Furthermore, because the continuous construction and operational activities from the Project would occur simultaneously and be ongoing over its 30-year lifetime at various times and at various locations, the Project's potential impacts to utilities are also assessed by including aggregate estimates that consider the demand/consumption associated with both construction (for all scenarios) and operation. This approach provides overall consumption estimates (for the lifetime of the Project) for water supply, wastewater/sewer capacity (annual basis), stormwater capacity (annual basis), and solid waste generation/capacity, and relates them to the relevant plans, policies, agencies, and overall availability/supply for each respective resource area, as appropriate.

3.14.3.2 Project Design Features

No project design feature (PDF) specific to utilities are proposed, although PDFs related to hydrology (see Chapter 3.8, *Hydrology and Water Quality* for further detail) may affect utilities and are referenced where appropriate.

3.14.3.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the California Environmental Quality Act (CEQA) and City specific guidelines. including the 2006 City *L.A. CEQA Thresholds Guide*. Project-specific thresholds derived from Appendix G and the *L.A. CEQA Thresholds Guide* were developed to evaluate any conflicts between the Project and any ordinances, policy, or existing applicable regulations. The determination of whether a utilities and service system impact would be significant is based on the professional judgment of the City as Lead Agency supported by the recommendations of qualified personnel at ICF and relies on the substantial evidence in the administrative record.

The Project would have a significant environmental impact on utilities and service systems if it would result in the following:

UT-1: Would the total estimated water demand for the proposed Project exceed the existing and planned water supply? To what degree would scheduled water infrastructure improvements or proposed Project design features reduce or offset potential water service impacts associated with water supply? *Project-Specific Threshold derived from Appendix G of the CEQA Guidelines.*

UT-2: Would the proposed Project under built-out conditions be adequately served by the existing and planned water infrastructure? To what degree would scheduled water infrastructure improvements or proposed Project design features reduce or offset potential water service impacts associated with water infrastructure? *Project-Specific Threshold derived from Appendix G of the CEQA Guidelines.*

UT-3: Would the proposed Project constrain or exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan? *Project-Specific Threshold derived from Appendix G of the CEQA Guidelines.*

UT-4: Would the proposed Project's total estimated waste water flow exceed the existing sewer capacity? *L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

UT-5: Would the proposed Project conflict with solid waste policies and objectives in the City of Los Angeles Solid Waste Management Policy Plan, Framework Element or the Source Reduction and Recycling Element? *Project-Specific Threshold derived from Appendix G.*

UT-6: Would the proposed Project result in a need for an additional solid waste collection route, or recycling or disposal facility to adequately handle Project-generated waste? Would the proposed Project under built-out conditions be adequately served by existing waste infrastructure? *L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

3.14.3.4 Construction Impacts

Potential impacts on utilities and service systems during the continuation of construction and operation activities from the Project are described below. Construction and operations impacts are analyzed separately. However, since construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering), the Project's potential impacts to utilities are also assessed by including aggregate estimates that consider the demand/consumption associated with both construction and operations activities combined. In this regard, utilities impacts are analyzed by providing overall consumption estimates (for the lifetime of the Project) for water supply, wastewater/sewer capacity (annual basis), stormwater capacity (annual basis), and solid waste generation/capacity,

and relating them to the relevant plans, policies, agencies, and overall availability/supply for each respective resource area, as appropriate.

UT-1. Would the total estimated water demand for the proposed Project exceed the existing and planned water supply? To what degree would scheduled water infrastructure improvements or proposed Project design features reduce or offset potential water service impacts associated with water supply?

This impact would be less than significant during construction.

During all construction scenarios, water would be primarily used for pouring and mixing concrete, as well as for the BMPs for fugitive dust and for other construction activities. Water consumption estimates are conservatively based on a 650-foot by 5-foot sidewalk area to approximate the anticipated water use through the end of 30 years. Table 3.14-3 sets forth the water demand for construction activities based on 5-year increments as well as annual averages through year 30 of the project. Water demand for concrete is based on a 50 percent water-cement ratio.

The total water consumption associated with construction activities over 30 years would be approximately 9,670,680 cubic feet, or approximately 222 AF. Overall, the average annual water demand for construction would be 7.3 AFY. In years 26–30, which represents the maximum water demand for construction activities, the annual average water demand would be 10.3 AFY. The 2015 UWMP prepared by LADWP projects water supplies through 2040. Although the Project would require water resources through 2051, future water demand would be considered and planned for in subsequent updates to the UWMP. Therefore, it is not anticipated that the demand for water from the Project would exceed existing water supply.

For reference, in accordance with CEQA Guidelines Section 15155, a water supply assessment (WSA) shall be required for those projects defined as a "water-demand project," which includes any project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project, which is approximately 123 AFY based on the City's UWMP generation rates for multi-family units. Per consultation with the Mr. Jin Hwang, Civil Engineering Associate from LADWP, over the phone on September 18, 2018 and through email on September 19, 2018 [3] the estimated water demand from the Project would be less than the amount of water required by a 500-unit project, per Section 10912 of the Water Code. Therefore, the Project would not be subject to Section 10910–10915 of the Water Code. Code (Hwang pers. comm. 9/18/18 and 9/19/18).

Because construction of the Project would require, at a maximum, 10.3 AFY (years 26–30), it is not expected to result in significant impacts related to water supply. WSAs are typically only required of industrial and residential projects that result in water connections. The Project is a basic, Citywide, programmatic service that is required by law that would not result in new water connections. The Project does not qualify as a project, per Section 10912 of the Water Code, and is not subject to the requirements of Sections 10910–10915 of the Water Code (Hwang pers. comm. 9/18/19 and 9/19/19).

[3] Consultation with Jin Hwang, LADWP, Water Resources Division (Phone Conversation on September 18, 2018 with Shilpa Gupta, BOE and through email on September 19, 2018 to Shilpa Gupta BOE)

Table 3.14-3. Water Demand for Construction Activities

Years	Estimated Sidewalk Repair for Period (sf)	Dust Control Water Demand for Period (cu ft)	Average Annual Dust Control Water Demand (cu ft/yr)	Dust Control Water Demand for Period (AF)	Average Annual Dust Control Water Demand (AFY)	Volume of Water for Concrete for Period (cu ft)	Average Annual Volume of Water for Concrete (cu ft/yr)	Volume of Water for Concrete for Period (AF)	Average Annual Volume of Water for Concrete (AFY)	Total Dust Control and Concrete Water Demand for Period (AF)	Average Annual Total Water Demand (AFY)
1–5	4,843,750	297,300	59,460	6.8	1.4	799,220	159,844	18.3	3.7	25.1	5.0
6–10	5,584,845	342,785	68,557	7.9	1.6	921,500	184,300	21.2	4.2	29.1	5.8
11–15	6,437,500	395,120	79,024	9.1	1.8	1,062,190	212,438	24.4	4.9	33.5	6.7
16–20	7,421,875	455,535	91,107	10.5	2.1	1,224,610	244,922	28.1	5.6	38.6	7.7
21–25	8,560,940	525,450	105,090	12.1	2.4	1,412,555	282,511	32.4	6.5	44.5	8.0
26–30	9,870,315	605,815	121,163	13.9	2.8	1,628,600	325,720	37.4	7.5	51.3	10.3
Total	**42,719,225**	**2,622,005**	**87,400**	**60.3**	**2.0**	**7,048,675**	**234,956**	**161.8**	**5.4**	**222.1**	**7.3**

Source: Anderson pers. comm.

Although the current UWMP only plans water resources through 2040, LADWP (primary author of the UWMP) is continually evaluating the need for additional water infrastructure and supply to accommodate the expected demand for its service area(s). Therefore, the water supply that would be necessary over the life of the Project (construction and operation) would be addressed and planned for in subsequent iterations of the UWMP. As a result, impacts are expected to be less than significant. For further discussion as to how the Project, in consideration with other projects that would occur over the next 30 years, would relate to the regional supply and availability of water resources, please see Chapter 3.17, *Cumulative Impacts*.

Mitigation Measures

No mitigation is required.

UT-2. Would the proposed Project under built-out conditions be adequately served by the existing and planned water infrastructure? To what degree would scheduled water infrastructure improvements or proposed Project design features reduce or offset potential water service impacts associated with water infrastructure?

This impact would be less than significant during construction.

As discussed above under UT-1, the continuation of construction activities from the Project would include sidewalk repairs, along with curb ramp repairs, street tree removal and replacement, and minor utility work under Construction Scenario 1, whereas Construction Scenario 2 would include the same project elements, with substantial underground utility work. During the proposed construction scenarios, water would be primarily used for mixing concrete, as well as for the mitigation of fugitive dust associated with construction activities. Water used in concrete pouring would not require the use of water infrastructure.

As noted in the Environmental Setting, between 2007 and 2011, LADWP supplied an average of about 197 billion gallons (604,570 AF)[4] of water annually; the average daily use from all customers was 129 gallons per capita per day (89 gallons per capita per day for residential use) (Los Angeles Department of Water and Power 2018). The 2015 UWMP forecasts demand for water in 2040 to be 675,700 AF. Construction of the Project would require a maximum of 10.3 AFY, which represents approximately 0.015 percent of the total projected 2040 water demand; this percentage would be expected to decrease in year 2051 as new water demand projections are established. Because this percentage is so small, it is expected that existing and future water infrastructure would be adequate to accommodate the Project's water demands. Water demand associated with construction of the Project, including both water used in the cement mix and water used for the mitigation of fugitive dust, would not require the construction of new water facilities to ensure an adequate supply because the Project would utilize the existing network of pipes. As a result, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

[4] 1 acre-foot = 325,851 gallons.

UT-3. Would the proposed Project constrain or exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan?

This impact would be less than significant during construction.

As discussed above, during the proposed construction scenarios, water would be primarily used for pouring and mixing concrete, as well as for the mitigation of fugitive dust associated with construction activities. Additionally, sidewalk repair would result in ground surface disruption during excavation that may create the potential for erosion to occur. Temporary BMPs—such as silt fences, straw waddles, sediment traps, gravel sandbag barriers, or other effective BMPs—would be implemented to control runoff and erosion during construction activities. Implementation of erosion and sediment control BMPs would prevent soil erosion and sedimentation from exposed soils. Furthermore, sidewalk repairs would be performed in accordance with Los Angeles County Low Impact Development Standards. New sidewalks would closely follow existing contours and direct stormwater runoff toward existing infrastructure. For further discussion regarding stormwater impacts, see Chapter 3.8, *Hydrology and Water Quality*.

Therefore, construction activities would not substantially increase stormwater runoff from the construction site(s) and require new or expanded stormwater drainage facilities. Again, due to the nominal contribution of the Project's construction to the overall Citywide wastewater flows (particularly in the context of the amount of runoff currently generated by the ongoing Citywide sidewalk repair program), which would utilize the existing network of drainage pipes, it is expected that the Project would not exceed the future planned drainage capacity as defined in the City General Plan. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

UT-4. Would the proposed Project's total estimated waste water flow exceed the existing sewer capacity?

This impact would be less than significant during construction.

During the proposed construction scenarios, water would be primarily used for mixing concrete as well as for the mitigation of fugitive dust associated with construction activities. Water used in concrete pouring would not require the use of sewer capacity as the dried mixture would be used to lay new sidewalk. Additionally, construction workers would consume water and generate a nominal amount of unquantified wastewater. Due to the nominal contribution of the continuing construction activities from the Project to the overall Citywide flows (particularly in the context of the amount of wastewater currently generated by the ongoing Citywide sidewalk repairs), which would utilize the existing network of drainage pipes, and the unused capacity available at the City's treatment facilities, it is expected that the Project would not exceed the existing sewer capacity. Similarly, construction of the Project would not exceed the wastewater treatment requirements of the Los Angeles RWQCB. Therefore, construction impacts would be less than significant.

Mitigation Measures

No mitigation is required.

UT-5. Would the proposed Project conflict with solid waste policies and objectives in the City of Los Angeles Solid Waste Management Policy Plan, Framework Element or the Source Reduction and Recycling Element?

There would be no impact during construction.

Under the *California Integrated Waste Management Act* (AB 939), the City adopted the Construction and Demolition Waste Recycling Ordinance (Ordinance 181,519), which requires solid waste haulers and contractors to obtain a permit prior to transporting construction and demolition waste, and stipulates that such waste may only be processed at City-certified construction and demolition waste-processing facilities. Construction of the Project would comply with this ordinance, as well as solid waste policies and objectives in the City Solid Waste Management Policy Plan, Framework Element or the Source Reduction and Recycling Element. No conflicts with solid waste policies and objectives would occur and there would be no impacts.

Mitigation Measures

No mitigation is required.

UT-6. Would the proposed Project result in a need for an additional solid waste collection route, or recycling or disposal facility to adequately handle Project-generated waste?

This impact would be less than significant during construction.

During the proposed construction scenarios, waste would be primarily generated by the removal of existing portions of sidewalk (concrete), the use of any necessary falsework, and street tree removal and replacement. As discussed in Section 3.14.2, *Environmental Setting*, concrete, asphalt, and street tree material removed under existing sidewalk repairs are recycled at City facilities to the maximum extent feasible. Waste generation estimates are conservatively based on several assumptions. Concrete weighs approximately 150 pounds per cubic foot (Anderson pers. comm.). Assuming a 4-inch thick sidewalk, concrete removed would weigh approximately 50 pounds per square foot. It is also assumed that falsework would weigh approximately 3 pounds per square foot of ¾-inch thick Douglas fir. Based on a 6-inch width, falsework would weigh approximately 3 pounds per linear foot of sidewalk repaired (assuming both sides of the sidewalk have falsework). Therefore, assuming a 6-foot wide sidewalk, repair work would require 3 pounds of falsework for every 6 square feet of sidewalk (1' length x 6' width), or 0.5 pounds per square foot. Trees with a diameter of 12 inches at a height of 50 feet usually weigh approximately 2,000 pounds.

The Project may repair up to 42,719,225 square feet of sidewalk over 30 years, and the total corresponding concrete to be removed would be approximately 1,067,980 tons. The falsework removed would weigh approximately 10,585 tons over the total 30-year period. Additionally, 12,860 tons of street trees would be removed and the green waste generated would be approximately 429 tons annually. Harbor Yard Trimming Facility can handle approximately 20,000 tons of green waste annually. The concrete and falsework will be disposed of at one of the existing Class I, II, or III facilities mentioned in Section 3.14.2.4, *Solid Waste*, above. Therefore, the total waste generation associated with construction activities over the lifetime of the Project would be approximately 1,091,425 tons, or 36,380 tons annually.

Mitigation Measures

No mitigation is required.

3.14.3.5 Operational Impacts

The continuation of operational activities from the Project would include sidewalk inspection and street tree monitoring and watering with a hose that is attached to a water tank on a pick-up truck. During construction activities, the street trees would have been planted in a 4- by 6-foot street tree well, per the proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program. As discussed Chapter 2, *Project Description,* the street trees will be manually watered 33 times annually. For the times when manual watering is not feasible, two 15-gallon water bags would be placed in the street tree well for the new street trees until the next scheduled manual watering. Other than routine watering and inspection, there are no additional operations associated with the Project. As a result of the proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, there would be an increase in the number of street trees from the baseline count of 711,248 to 728,793 and an approximate 0.72 percent net increase of the street tree canopy cover.

UT-1. Would the total estimated water demand for the proposed Project exceed the existing and planned water supply? To what degree would scheduled water infrastructure improvements or proposed Project design features reduce or offset potential water service impacts associated with water supply?

This impact would be less than significant during operation.

Operational activities from the Project include watering and inspecting the street trees that are newly planted during sidewalk repair. The street trees would receive regular watering for the first three years following their planting. Water consumption estimates are conservatively based on the assumption that each street tree planted would require 30 gallons of water for 33 weeks annually. As a result, each street tree would require 2,970 gallons of water during the last 5 years of the Project when the peak activity occurs. Table 3.14-4 summarizes the water demand in 5-year increments and presents annual average water demand.

Table 3.14-4. Operational Water Demand

Years	Estimated Street Tree Replacement (# trees)	Estimated Water Required for First Three Years (gallons)	Estimated Water Required for First Three Years (AF)	Average Annual Water Demand (AFY)[a]
1–5	2,915	8,657,550	26.6	5.3
6–10	3,360	9,979,200	30.6	6.1
11–15	5,820	17,285,400	53.0	10.6
16–20	6,705	19,913,850	61.1	12.2
21–25	5,665	16,825,050	51.6	10.3
26–30	5,940	17,641,800	54.1	10.8
Total	30,405	90,302,850	277.1	9.2

Source: Anderson pers. comm.

[a] Based on tree replacement ratio of 2:1 for years 1–10, 3:1 for years 11–21, and 2:1 for years 22–30.

The Project includes planting a total of approximately 30,405 street trees over 30 years. Therefore, the total water consumption associated with street tree watering over the lifetime of the Project would be approximately 90,302,850 gallons, or 277.1 AF. This corresponds to an average annual use of 9.2 AFY, with most water use in years 16–20 (2034 through 2038) of 12.2 AFY. Estimated water demand in 2040 is 675,700 AF per the current UWMP. The maximum of 12.2 AF between 2034 and 2038 that would be required for replacement street tree watering would represent approximately 0.018 percent of the anticipated water demand for 2040. Future demand beyond 2040 would be considered and planned for in subsequent updates to the UWMP through the life of the Project. Therefore, it is not anticipated that Project's water demand would exceed the existing supply over the lifetime of the Project.

Operational activities from the Project would require, on average, approximately 9.2 AFY of water, and is not expected to result in significant impacts related to water supply. This demand is less than the 123-AFY threshold for preparation of a Water Supply Assessment, as confirmed by LADWP. Over the 33-year period required for watering of replacement street trees, a total of 277.1 AF or 9.2 AFY would be required. As the Project does not qualify as a water-demand project, per Section 10912 of the Water Code, it is not subject to the Section 10910-10915 of the Water Code. In addition, when a permanent irrigation system is not available for street trees, a temporary system would be used to provide adequate watering during the establishment period, without erosion that would be detrimental to the planting (PDF-HyWQ-1). This watering system could include, but would not be limited to, tree gator bags for deep watering, which would be used for street trees; the water would ultimately be absorbed into the existing root system and water table. As a result, impacts are expected to be less than significant. For further discussion as to how the Project, in consideration with other projects that would occur over the next 33 years, would relate to the regional supply and availability of water resources, please see Chapter 3.17, *Cumulative Impacts*.

UT-2. Would the proposed Project under built-out conditions be adequately served by the existing and planned water infrastructure?

This impact would be less than significant during operation.

As discussed above under Section 3.14.3.3, operational activities from the Project include watering and inspecting the street trees that are newly planted during sidewalk repair. Operational water demand is expected to be up to approximately 90,302,850 gallons, or 277.1 AF. This corresponds to an average annual use of 9.2 AFY, which represents 0.018 percent of the anticipated water demand for 2040 as projected by LADWP. Because this percentage is so small, it is expected that existing and future water infrastructure would be adequate to accommodate the Project's water demands during operation.

As mentioned, wastewater generation is assumed to be 90 percent of water consumption. However, since operational water use would be associated only with watering street trees, operational activities from the Project are not expected to generate wastewater as the waster for the street tree will be absorbed by the tree roots and the soil. Water demand associated with operation of the Project would not require the construction of new water facilities to ensure an adequate supply, since the Project would utilize the existing network of pipes. As a result, impacts would be less than significant.

UT-3. Would the proposed Project constrain or exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan?

This impact would be less than significant during operation.

As discussed above, operational water use would be associated with the watering of newly planted street trees. The best available deep-watering technology, such as tree gator water bags (PDF-HyWQ-1), would be utilized to water street trees; the water would ultimately be absorbed into the existing root system and water table. Again, because operational water use would be associated only with watering replacement street trees, the Project, once operational, would not generate stormwater. Therefore, it would not exceed the future planned drainage capacity, as defined in the City General Plan. As a result, impacts would be less than significant.

UT-4. Would the proposed Project's total estimated waste water flow exceed the existing sewer capacity?

This impact would be less than significant during operation.

As described in more detail above under Section 3.14.3.3, operational activities from the Project would not generate wastewater. Therefore, it would not exceed the existing sewer capacity, and impacts would be less than significant.

UT-5. Would the proposed Project conflict with solid waste policies and objectives in the City of Los Angeles Solid Waste Management Policy Plan, Framework Element or the Source Reduction and Recycling Element?

There would be no impact.

Operational activities from the Project would involve inspection and street tree watering, which would not generate or dispose of solid waste. Therefore, there would be no conflicts with solid waste policies and objectives and no impact.

UT-6. Would the proposed Project result in a need for an additional solid waste collection route, or recycling or disposal facility to adequately handle Project-generated waste?

There would be no impact.

The Project's operational activities are not expected to generate solid waste. Therefore, it would not result in a need for an additional solid waste collection route, or recycling or disposal facility to adequately handle Project-generated waste, and would be adequately served by existing waste infrastructure. As a result, there would be no impact.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.14.3.6 Summary of Combined Construction and Operation Impacts

Because construction activities would occur over the lifetime of the Project simultaneously with operation activities at various times and locations, Table 3.14-5 provides a summary of the potential effects of the Project on utilities and service systems on an aggregate basis, combining the effects of construction and operation, as a worst-case scenario.

Table 3.14-5. Summary of Construction Plus Operations Impacts

Threshold of Significance	Construction	Operation	Aggregate Impacts
UT-1. The total estimated water demand for the proposed Project would not exceed the existing and planned water supply.	Construction would require an average of 7.3 AFY of water, and a total of 222.1 AF over the lifetime of the Project.	Operation would require an average of 9.2 AFY of water, and a total of 277.1 AF over the lifetime of the Project.	Construction and operation would require an average total of 16.5 AFY of water, and a total of 499 AF over the 33-year lifetime of the Project. The impact would be less than significant.
UT-2. The proposed Project under built-out conditions would be adequately served by the existing and planned water infrastructure.	Water demand would represent 0.015% of total projected water demand in 2040. Water flow from the Project site(s) would be approximately 291,020 cubic feet or 6.7 AFY. The Project would be adequately served by the existing and planned water infrastructure.	Water demand would represent 0.018% of total projected water demand in 2040. The Project would be adequately served by the existing and planned water infrastructure.	The Project would be adequately served by the existing and planned water infrastructure. The impact would be less than significant.
UT-3. The proposed Project would not constrain or exceed the future planned drainage capacity, as defined in the City of Los Angeles General Plan.	The Project would not exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan.	No impacts related to operation.	The impact would be less than significant.
UT-4. The proposed Project's total estimated wastewater flow would not exceed the existing sewer capacity.	The Project would contribute to approximately 0.00015% of the average Citywide wastewater flows and would not exceed existing sewer capacity.	Operational activities from the Project would not contribute to wastewater flows.	The impact would be less than significant.
UT-5. The proposed Project would not conflict with solid waste policies and objectives in the City of Los Angeles Solid Waste Management Policy Plan, Framework Element, or the Source Reduction and Recycling Element.	No conflicts with solid waste policies and objectives would occur.	No conflicts with solid waste policies and objectives would occur.	No impacts.

Threshold of Significance	Construction	Operation	Aggregate Impacts
UT-6. The proposed Project would not result in a need for an additional solid waste collection route or recycling or disposal facility to adequately handle Project-generated waste and would be adequately served by existing waste infrastructure.	The waste infrastructure that would be necessary over the life of the Project would be addressed and planned for in subsequent iterations of the relevant planning documents, such as the SWIRP. As a result, impacts are expected to be less than significant.	No impacts would occur.	The impact would be less than significant.

3.14.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to utilities and service systems would occur.