DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SIDEWALK REPAIR PROGRAM

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List of Acronyms

Acronym	Definition
°F	degrees Fahrenheit
AB	Assembly Bill
AB 1327	California Solid Waste Reuse and Recycling Access Act of 1991
Act	Energy Independence and Security Act of 2007
ADA	Americans with Disabilities Act of 1990
AF	acre-feet
ANSI	American National Standards Institute
APCs	Area Planning Commissions
APE	Area of Potential Effects
AQMP	Air Quality Management Plan
BACT	best available control technology
Basin	South Coast Air Basin
BCA	Bureau of Contract Administration
Bicycle Plan or 2010 Plan	City of Los Angeles 2010 Bicycle Plan
BMP	best management practice
BMPs	Best Management Practices
Board	Board of Public Works Department
BOE	Bureau of Engineering
BP	Before Present
BSS	Bureau of Street Services
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal OSHA	California Division of Occupational Safety and Health
Cal/EPA	California Environmental Protection Agency
CalARP	California Accidental Release Prevention
Cal-EPA	California Environmental Protection Agency
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CA-MUTCD	California Manual on Uniform Traffic Control Devices
CAO	City Administrative Officer
CAP	Climate Action Plan
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCA	California Coastal Act of 1976

Acronym	Definition
CCAA	California Clean Air Act
CCR	California Code of Regulations
CELA	Central Los Angeles station
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH4	methane
CIR	Color Infrared
City	City of Los Angeles
CIWMP	County Integrated Waste Management Plan
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	carbon dioxide
CO2e	CO2 equivalents
COHb	carboxyhemoglobin
Commission	California Coastal Commission
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CSE	Countywide Siting Element
CTC	county transportation commission
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWA	Clean Water Act
DDT	dichlorodiphenyltrichloroethane
DEM	Digital Elevation Model
DOT	Department of Transportation's
DSM	Digital Surface Model
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EMS	emergency medical services
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESA	Environmentally Sensitive Area

Acronym	Definition
ESHA	Environmentally Sensitive Habitat Area
EV	electric vehicle
F	Fahrenheit
FEMA	Federal Emergency Management Agency
Fire Code	City of Los Angeles Fire Code
Fire Plan	California Fire Plan
FIRM	Flood Insurance Rate Map
FMP	Floodplain Management Plan
FPS	Fire Preemption System
Framework	City of Los Angeles General Plan Framework Element
g/hr	grams per hour
g/mi	grams per mile
GHG	greenhouse gas
GIS	geographic information system
GW	gigawatt
GWP	global warming potential
H2S	Hydrogen Sulfide
HCM	Historic-Cultural Monument
HD National Program	Heavy-Duty Vehicle Program
HFCs	hydro-fluorocarbons
HI	Hazard Index
HMBP	Hazardous Materials Business Plan
HPOZ	Historic Preservation Overlay Zone
HQTAs	high quality transit areas
HSC	Health and Safety Code
HTP	Hyperion Treatment Plant
HUC	Hydrologic Unit Code
I-	Interstate
IPAC	Information for Planning and Consulting
IRWMP	Integrated Regional Water Management Plan
ISA	International Society of Arboriculture
LA Metro	Los Angeles County Metropolitan Transportation Authority
LABOE	Los Angeles Department of Public Works, Bureau of Engineering
LACFCD	County of Los Angeles Flood Control District
LACFCD	County of Los Angeles Flood Control District
LACI	Los Angeles Cleantech Incubator
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department

Acronym	Definition
LAMC	Los Angeles Municipal Code
LAPD	Los Angeles Police Department
LAR-IAC	Los Angeles Region Imagery Acquisition Consortium
LAUSD	Los Angeles Unified School District
LAX	Los Angeles International Airport
lb/day	pound per day
LCPs	Local Coastal Programs
LEA	Local Enforcement Agency
LEV	Low Emission Vehicle
LID	low impact development
LID	Low Impact Development
LOS	Level of Service
LST	localized significance threshold
Ma	million years ago
MATES-IV	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
MEP	maximum extent practicable
Metro	Los Angeles County Metropolitan Transportation Authority
mgd	million gallons per day
M_{max}	maximum moment magnitude
MMTCO2e	million metric tons of carbon dioxide equivalent
mpg	miles per gallon
MPO	Metropolitan Planning Organization
MS4	Municipal Separate Storm Sewer System
MTCO2e	metric tons of carbon dioxide equivalent
MUTCD	Manual on Uniform Traffic Control Devices
MW	megawatts
MWD	Metropolitan Water District
MWh	megawatt hours
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCP	National Contingency Plan
NFEP	National Fuel Efficiency Policy
NFIP	National Floodplain Insurance Program
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Services
NO	Nitric oxide
NO2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration

Acronym	Definition
NOP	Notice of Preparation
NOX	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NTR	National Toxics Rule
O3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA's	Occupational Safety and Health Administration's
Pb	lead
PCBs	polychlorinated biphenyls
PFCs	perfluorocarbons
PIRP	Power Integrated Resource Plan
pLAn	Sustainable City pLAn
PM10	particulate matter ten microns or less in diameter
PM2.5	fine particulate matter 2.5 microns or less in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppd	per person per day
ppm	parts-per-million
PRC	Public Resources Code
Prioritization System	Prioritization Matrix and Scoring System
PSD	Prevention of Significant Deterioration
PUC	Public Utility Commission
PVC	polyvinyl chloride
PWD	Public Works Department
RARE	Rare, Threatened, or Endangered Species
RCB	Root Control Barriers
RCRA	Resource Conservation and Recovery Act of 1976
RENEW LA	Recovering Energy, Natural Resources, and Economic Benefit from Waste for Los Angeles
ROW	right-of-way
RTP	regional transportation plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RTPs	Regional Transportation Plans
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

Acronym	Definition
SCE	Southern California Edison
Scoping Plan	CARB AB 32 Scoping Plan
SCS	sustainable communities strategy
SEA	Significant Ecological Area
Settlement	Willits vs. City of Los Angeles Settlement Term Sheet
SF6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMU	Site Mitigation Unit
SO2	Sulfur Dioxide
SOI	Secretary of the Interior
SOX	sulfur oxides
SR-	State Route
SRAs	Source Receptors Areas
Summary Plan	Management Summary Plan
SWIRP	Solid Waste Integrated Resources Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminants
TCR	Tribal Cultural Resource
TDM	Transportation Demand Management
TEP	Transportation Electrification Partnership
TIA	traffic impact analysis
TMDL	develop total maximum daily loads
tpd	tons per day
TSCA	Toxic Substances Control Act
UFD	Urban Forestry Division
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
US-	United States Highway
USACE	U.S. Army Corps of Engineers
USC	United States Code
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
USTs	underground storage tanks
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
VOC	volatile organic compounds
WATCH	Work Area Traffic Control Handbook
WDRs	Waste Discharge Requirements

Acronym	Definition
WIRP	Water Integrated Resources Plan
WoS	waters of the state
WoUS	water of the United States
WQS	water quality standards
WRCC	Western Regional Climate Center
WSA	water supply assessment
WTCP	Worksite Traffic Control Plan
X-SO42-	Sulfates
μg/m3	micrograms per cubic meter

ES.1 Introduction and Background

This Environmental Impact Report (EIR) evaluates the City of Los Angeles' (City) proposed Sidewalk Repair Program (Project) under the California Environmental Quality Act (CEQA). Per CEQA, the City is the lead agency. This executive summary provides an overview of the Project and its environmental effects.

The Project is a Citywide program to modify the manner in which sidewalk repair projects are undertaken pursuant to the City's obligations under the *Willits* Settlement Agreement (Settlement), which includes various City actions that provide improved access to persons with mobility disabilities in accordance with local, state, and federal accessibility requirements. The Project is an infrastructure project and consists of continuation of sidewalk repairs; curb ramp repairs; crosswalk paving; street tree retention, removal and replacement; canopy pruning; root pruning; and applicable utility work for 30 years within the City.

Currently, the City is complying with the Settlement using existing ordinances and policies. The existing process requires case-by-case review and approval of each sidewalk repair project funded as a result of the Settlement. With the Project, the City is proposing to adopt a new ordinance to revise the way sidewalk repairs undertaken pursuant to the *Willits* Settlement are reviewed and approved, with a primary goal of streamlining the Settlement implementation process, including ministerial review of certain individual sidewalk repairs.

Under the Project, impacts in individual construction projects would generally be less than significant, except in: (1) some construction projects where, despite adherence to program design features (PDFs), which include regulatory compliance measures and other standard conditions, impacts would be significant and unavoidable where sensitive uses are in close proximity to certain noise and vibratory sensitive receptors; and (2) rare construction projects where, despite adherence to PDFs, impacts would be significant and unavoidable for certain aesthetic, cultural resources, and tribal cultural resources impacts.

The EIR process, as defined by CEQA, requires preparation of an objective, full-disclosure document to: (a) inform agency decision makers and the general public of the direct and indirect environmental effects of a proposed project; (b) identify, where feasible, mitigation measures to reduce or eliminate any identified significant adverse impacts; and (c) identify and evaluate alternatives to the proposed project that might lessen or avoid some or all of the identified significant impacts of the project.

ES.2 Proposed Project Summary

The Project would consist of adoption of new ordinance that would revise the way individual sidewalk repairs undertaken pursuant to the *Willits* Settlement are reviewed and approved, and would consist of:

1. Specific parameters to enable most sidewalk repairs to proceed as ministerial approvals under CEQA, not subject to further environmental review applicable to discretionary actions. This portion of the ordinance would provide that all sidewalk repair projects under the *Willits*

Settlement are subject to, notwithstanding anything in the City code to the contrary (except for the City of Los Angeles Cultural Heritage Ordinance, City of Los Angeles Administrative Code (LAAC) Section 22.171), a ministerial approval issued by the City Engineer or designee, so long as the individual project meets the following specified parameters:

a. It is for the repair or reconstruction of a sidewalk or other facilities in compliance with disability law accessibility requirements being implemented under the *Willits* Settlement;

b. It is within specific parameters of the construction scenarios for the EIR assessment described in Chapter 2, *Project Description*, Section 2.4.3 (Scenarios 1 and 2), specifically sidewalk repairs lasting no more than 30 non-consecutive construction days in duration and excavation depth of no greater than 30 feet;

c. It would not cause a substantial adverse change to significance of a known historic, known tribal cultural, known unique archaeological, or known unique paleontological resource, as those terms are defined by CEQA;

d. It complies with the Revised Street Tree Retention, Removal and Replacement Policy for Sidewalk Repair Program, as described more fully in Chapter 2, *Project Description*, Section 2.4.4; and

e. It complies with PDFs included in the ordinance, as described in Chapter 3, *Environmental Impact Analysis* and summarized in in Section ES.3 below.

2. A streamlined discretionary approval process under CEQA for sidewalk repair projects falling outside the specific parameters allowed for a ministerial sidewalk repair approval. The new streamlined discretionary approval process would provide that these sidewalk repair sites would be subject to, notwithstanding anything in the City code to the contrary (except for the Cultural Heritage Ordinance, LAAC Section 22.171), a discretionary approval issued by the City Engineer or designee, so long as:

   a. It is for the repair or reconstruction of a sidewalk or other facilities in compliance with the *Willits* Settlement;

   b. It complies with the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program as described more fully in Chapter 2, *Project Description*, Section 2.4.4; and

   c. It complies with the PDFs as described in Chapter 3, *Environmental Impact Analysis* and summarized in Section ES.3 below.

   For these discretionary approvals, this EIR would serve as programmatic analysis of the impacts, and further project-level environmental review would be performed as necessary depending on whether the project is within the scope of the EIR pursuant to CEQA Guidelines Section 15168.

3. A Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, as set forth more fully at Chapter 2, *Project Description*, Section 2.4.4, establishing a 2:1 street tree replacement to removal ratio requirement for the first 10 years (starting from July 2017), a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the 30-year program; and

4. Mandatory Project Design Features (PDFs), as described in Chapter 3, *Environmental Impact Analysis*, generally consisting of regulatory compliance measures and standard construction conditions, and summarized in Section ES.3 below.

Please see Chapter 2, *Project Description*, for a more detailed description of the Project. Figure ES-1, Project Location Map, shows the location of the Project.

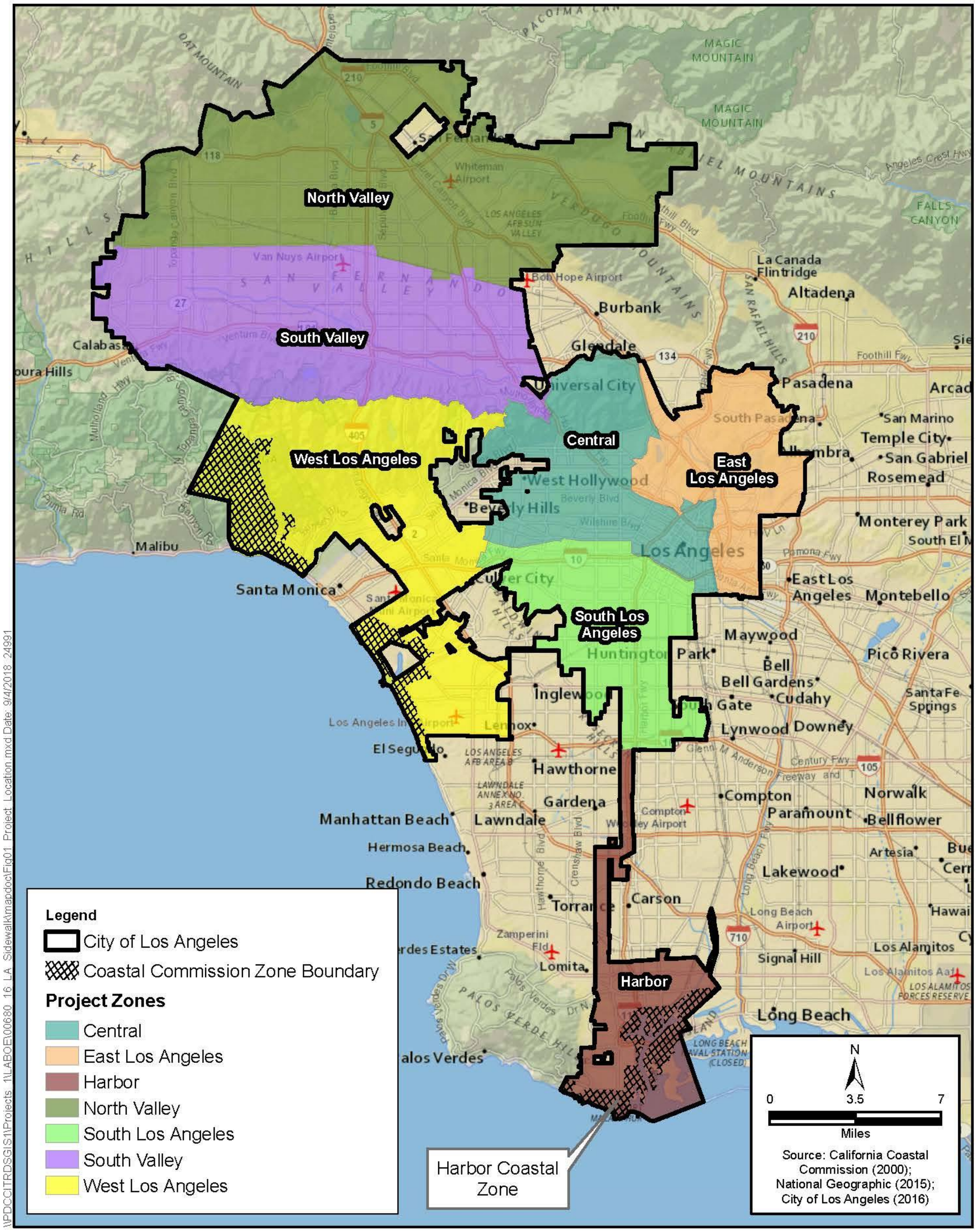

Figure ES-1
Project Location

ES.3 Mandatory Project Design Features

As part of Chapter 3, *Environmental Impact Analysis*, each environmental resource area analysis provides, as applicable, PDFs consisting of regulatory compliance measures and other standard conditions for sidewalk repair construction sites under the Project. These PDFs are summarized below:

BIOLOGY:

PDF-BIO-1: The program will have a 2:1 street tree replacement ratio for years 1–10, 3:1 for years 11–21, and 2:1 for the remaining years of the program. All replacement street trees will be planted within 1 year of removal. See Chapter 2, *Project Description.*

PDF-BIO-2: Prior to being removed, all street trees would be thoroughly surveyed for the presence of nesting birds/bats/raptors by a qualified biologist (or qualified arborist) within 3 days prior to any street tree removal. If any active nests are detected, the area will be flagged, and a minimum 250-foot (500-foot for raptors) non-disturbance buffer would be established (a modification to this buffer would be determined by the monitoring biologist and in consultation with U.S. Fish and Wildlife Service and California Department of Fish and Wildlife), and would be avoided until the nesting cycle has been completed or the monitoring biologist determines that the nest has failed. If nesting birds are found, an avoidance area will be established in consultation with the resource agencies, as appropriate, around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site will be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season. A preconstruction nesting bird survey would be submitted at the conclusion of the site survey.

PDF-BIO-3: All street tree removal work would be performed under the management of a Tree Risk Assessment Qualification (TRAC) Certified Urban Forestry Division (UFD) Tree Supervisor, including any pre- and post-pruning street tree inspection. It should be noted that a root-pruning permit would not be necessary for the street tree pruning and root-pruning work under the Project. See Chapter 2, *Project Description.*

PDF-BIO-4: Replacement street trees will be monitored and those which do not survive in the first 3 years would be replaced at a 1:1 ratio. See Chapter 2, *Project Description.*

PDF-BIO-5: Construction activities in or near an Environmental Sensitive Habitat Areas (ESHA) would be pursuant to Public Resources Code (PRC) Sections 30251, 30240, 30230 and 30231 as compliance with the California Coastal Commission. A 50-foot buffer strip for all activities in or near an ESHA (measured from the outer limit of riparian vegetation or, if the waters are estuarian, a minimum of 100 feet from the outer limit of estuarian vegetation) shall be required in new development to protect the habitat value of riparian areas where the opportunity exists.

CULTURAL RESOURCES:

PDF-CUL-1: Prior to any approval of an individual sidewalk repair project under the proposed Project, the project site shall be assessed to determine whether a substantial adverse change would occur to the significance of a historic, tribal cultural, unique archaeological, and/or unique paleontological resource.

PDF-CUL-2: Where an individual sidewalk repair project would cause a substantial adverse change to the significance of a historic resource, the Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall be followed.

PDF-CUL-3: Where an individual sidewalk repair project would cause a substantial adverse change to the significance of a unique archaeological resource, the City shall prepare an archaeological treatment plan (ATP) that ensures the long-term protection and proper treatment of archaeological resources of significance. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation, California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report,* Recommended Contents and Format (1989), and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the Advisory Council on Historic Preservation's publication *Treatment of Archaeological Properties: A Handbook.* The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the National Historic Preservation Act. In addition, those steps outlined in Public Resources Code Sections 21083.2(b) and 21083.2(i) and Section 15064.S(f) of the CEQA Guidelines shall be implemented, as necessary.

PDF-CUL-4: Where an individual sidewalk repair project would cause a substantial adverse change to the significance of a unique paleontological resource, a qualified paleontologist shall be retained by the City to develop an acceptable monitoring and fossil remains treatment plan (Paleontological Management Treatment Plan - PMTP) for construction-related activities that could disturb potential unique paleontological resources within the project area. The selection of the paleontologist and the development of the PMTP shall be subject to approval by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County to comply with paleontological requirements, as appropriate.

PDF-CUL-5: Pursuant to the City Engineer Standard Specifications, Section 6-3.2, (Greenbook, 2012), if, during construction activities, an unexpected discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. PDF-CUL-3 and PDF-CUL-4 would be followed, as appropriate.

GEOLOGY & SOILS:

PDF-GEO-1: A Shoring Plan may be needed where excavation will be greater than 5 feet to accommodate existing underground utilities, per Section 7-10.4.2.2 of the Shoring Plan of the Los Angeles Bureau of Engineering Standard Specifications for Public Works Construction, or the "Greenbook" (2012). The Shoring Plan must meet the specifications of the most recently adopted Greenbook at the time.

HAZARDS AND HAZARDOUS MATERIALS:

PDF-HAZ-1: For each Project site a database search pursuant to California Government Code Section 65962.5 would be conducted to identify applicability of any regulatory requirements or hazardous material risks associated with the Project site or the adjacent sites.

PDF-HAZ-2: In events of spills, leaks, or other contamination, the protocols pursuant to the *Hazardous Materials Incident Contingency Plan* published by the California Office of Emergency Services would be followed. A checklist for protocol notification to the public agencies can be found in Appendix E1. This would include notification to the City Los Angeles Fire Department (LAFD), who would make recommendations as to which outside agencies, such as Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), Department of Health Services, etc., would be consulted.

PDF-HAZ-3: If the Project site is on a public right-of-way and contains contaminated soil then work would be Pursuant to the BOE Standard Specification Section No. 02310 *Earthwork* Subsection No. 3.3, *Contaminated Soils*, which specifies the requirements and procedures, including handling and disposing of contaminated soils or debris encountered during site excavations would be implemented.

PDF-HAZ-4: If the Project site on a public right-of-way contains contaminated ground water, BOE Standard Specification Section No. 02235 *Dewatering* would be implemented. This requires National Pollutant Discharge Elimination System (NPDES) permitting, and it also includes Waste Discharge Requirements (WDR) for discharges into the storm drain. If discharged to the sanitary sewer system, an Industrial Waste Permit through the Bureau of Sanitation would be implemented.

HYDROLOGY AND WATER QUALITY:

PDF-HyWQ-1: Pursuant to Section 308-4.9.5-*Watering of the Standard Specification for Public Works Construction* "Greenbook," all planted areas would be kept moist during the establishment period. When a permanent irrigation system is not available, any temporary system would be used to provide adequate watering during the establishment period without erosion detrimental to planting.

NOISE:

PDF-NOI-1: As feasible during construction, a 10-foot distance between construction equipment and a commercial use sensitive receptor, and a 20-foot distance between construction equipment and residential sensitive receptor should be maintained, per the Los Angeles Zoning Code typical setback distances for these uses.

PDF-NOI-2: As feasible during construction, noise best management practices (BMPs) will be implemented as provided below:

1. Unnecessary idling of internal combustion engines should be strictly prohibited.
2. All equipment should be kept in good repair with all worn, loose and unbalanced machine parts to be replaced.
3. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from neighboring houses.

4. Construction would occur in the daytime hours as allowable by LAMC Section 41.40 - Construction Noise.

5. Notify all adjacent property owners and land users of the construction length, duration, and hours of noise and vibration producing construction activities, in writing.

6. Provide and make available contact information for Sidewalk Repair concerns, on construction activities, prior to and on-site during construction.

PDF-NOI-3: As feasible during construction, vibration BMPs will be implemented as provided below:

1. Use lower powered equipment or techniques such as concrete saws instead of jack hammers, as much as practicable.

2. Minimize the time of use of vibration generating equipment as much as practicable.

3. Notify all adjacent property owners and land users of the construction length, duration, and hours of noise and vibration producing construction activities, in writing.

4. Provide and make available contact information for Sidewalk Repair concerns, on construction activities, prior to and on-site during construction.

TRANSPORTATION/TRAFFIC:

PDF-TR-1: Per the California Manual of Uniform Traffic Control Devices, the construction manager is responsible for ensuring that all work is in full compliance with the current edition of the Work Area Traffic Control Handbook (WATCH) manual, including the requirement of flaggers in Section 9 (Flagger Temporary Traffic Control) for lane closures during street tree removal or other any other construction activity that disrupts the flow of vehicles, pedestrians, or bicyclists.

PDF-TR-2: When construction occurs at an intersection, stopping sight distance would be maintained for vehicles and bicyclists approaching the intersection, per WATCH Flagger Temporary Traffic Control.

PDF-TR-3: Adjacent property owners, whether public or private, would be notified of any upcoming construction. Signage would also be posted in advance of construction, notifying the public of any construction-related lane closures or parking restrictions, in accordance with Section 7-10, Public Convenience and Safety, and Section 302-4.5, Scheduling, Public Convenience and Traffic Control, of the Standard Specifications of Public Works Construction, or the “Greenbook” (2012).

PDF-TR-4: Temporary accessibility-compliant access would be provided and signage would be used, where needed, to direct pedestrians to alternative pedestrian routes or through the use of a temporary walkway, physically separated from vehicle traffic, to provide a more direct detour, in accordance with Section 7-10, Public Convenience and Safety, of the Standard Specifications of Public Works Construction, or the “Greenbook” (2012).

PDF-TR-5: If construction requires a temporary closure of an on-street bicycle facility, signage would be placed to inform drivers and bicyclists of the upcoming bicycle facility closure, indicating a shared lane ahead per WATCH Bicycle Considerations.

PDF-TR-6: If construction requires a temporary closure of an existing transit facility (e.g., bus stop), the project manager shall be responsible for coordinating with the affected transit provider to ensure users are informed of the temporary stop relocations.

PDF-TR-7: Per City's Department of Public Works "Brownbook 7th edition", in Storage of Equipment and Materials, a permit from the Bureau of Street Services shall be obtained before any construction materials or equipment are stored in the public right-of way. All storage of equipment and materials shall be done under approved pollution prevention and erosion control plan as required by California Construction Permit Order No. 2009-009-DWQ.

PDF-TR-8: Truck trips would be coordinated to arrive and depart at off-peak commute times to the extent feasible, pursuant to LAMC Section 62.61.

PDF-TR-9: Any work involving signal disruption would be coordinated with LADOT and the Los Angeles Police Department (LAPD) to identify and implement temporary traffic control needs per the 2012 "Greenbook" Standard Specification for Public Works Construction Section 307-5 et seq., Temporary Street Lighting and Traffic Signal Systems.

WILDFIRE:

PDF-WF-1: The Project Manager is responsible for compliance with applicable LAMC Fire Code Section 57 et seq. for construction sites on, adjacent to or in the immediate vicinity of a Very High Fire Hazard Severity Zone (VHFHSZ) as designated through LAMC Sections 57.4908.1.1 through 57.4908.1.3 and identified on City maintained databases such as NavigateLA and Zone information and Map Access System (Zimas) (which have digitalized LA General Plan and zoning maps).

PDF-WF-2: No person shall travel or trespass upon any firebreak or fire road as stated in Section 57.4908.8.2 of the LAMC.

PDF-WF-3: Pursuant to LAMC Section 57.4908.5 open flame is prohibited upon any road, street, or fire road with the VHFHSZ.

PDF-WF-4: No smoking is allowed where conditions are such as to make smoking a hazard and in spaces where flammable or combustible materials are stored or handled per Section 310.2 of the California Fire Code. Further, it shall be unlawful for any person to light, ignite or smoke any cigar, cigarette, tobacco in a pipe or other form of smoldering substance within VHFHZ compliant with LAMC Section 57.4908.6. The Section also prohibits open flame upon any road, street, or fire road within the VHFHSZ.

PDF-WF-5: No person, except one authorized and acting within the scope of his official duties, shall remove, deface, mar, mutilate, or change the position of any sign, installed by the Chief pursuant to this article, designating "CLOSED AREA," "NO SMOKING," "NO OPEN FIRES," "RESTRICTED ENTRY," or other sign or device installed to give warning and to regulate persons' actions within the VHFHSZ as stated in Section 57.4908.9.1.

PDF-WF-6: Pursuant to Ordinance No. 185789 which added Sections 57.305.5.2, 57.305.5.2.1, 57.322.1.1.10 and 57.322.1.1.10.1, and amended Section 57.322.1.1 to Article 7, Chapter V of the LAMC, the applicable requirements for brush clearing activities in the VHFHSZ would apply including, but not limited to:

- Use of metal cutting blades for grass or brush clearance shall be limited to those which are non-ferrous/non-sparking.
- Brush clearance cannot be done on red flag days, when fire weather conditions are at their peak.
- Individuals engaged in brush clearance operations shall not engage in any other activities during their actual clearance of grass or brush.
- Individuals engaged in grass or brush clearance operations shall use an appropriate extinguishing agent immediately to extinguish a fire.

- All fires, regardless of size, shall be reported immediately via the 9-1-1 system to the Fire Department.
- An approved fire extinguisher, or a pressurized garden hose with attached nozzle shall be within 10 feet of any grass or brush clearance operation, to quickly extinguish a small fire before it burns out of control.
- Where a gasoline container is present at the site of the grass or brush clearance operation, a minimum 4A 60 BC dry chemical fire extinguisher shall be within 10 feet of the brush clearance operation.
- A cell phone capable of dialing 9-1-1 shall be charged and readily accessible to the grass or brush clearance operation.
- A safety strap shall be used at all times for any tool or appliance with hot exhaust. Hot exhaust shall not come in contact with any brush, grass, flash fuels, or other flammable material.

ES.4 Project Objectives

The underlying purpose of the Project is to ensure compliance with the *Willits* Settlement and streamline review of sidewalk repair projects consistent with applicable accessibility standards. The following is a list of objectives for the Project that support the underlying purpose, including the fundamental project objective which is to:

- Ensure the continued and efficient compliance with the requirements of the *Willits* Settlement while amending the existing program for sidewalk and curb ramp improvements within the City, in accordance with the applicable accessibility requirements, including those required by the Americans with Disabilities Act.

The following additional project objectives have also been identified:

- Retain existing street trees that are the cause of sidewalk barriers to the extent feasible, and provided the sidewalk improvements would not result in street tree mortality or compromise public safety;
- If the removal of one or more street trees is required, ensure compliance with the City's replacement requirements adopted to ensure no net street tree canopy loss at the end of the Project implementation period.
- Identify the criteria and process for ministerial approval of future sidewalk improvements and street tree removals and replacements, with the goal of avoiding the need to undertake individualized environmental review of every repair of every City sidewalk or of every street tree removal and replacement and the potential legal challenge to each such approval; thereby streamlining the *Willits* Settlement implementation and providing certainty to the City and the disability community.

ES.5 Required Project Approvals

This Draft EIR is both a project EIR which considers the potential effects of the new City ordinance governing sidewalk repairs under the *Willits* Settlement (CEQA Guidelines Section 15161) for those individual projects which meet the specified parameters, and a program EIR (CEQA Guidelines Section 15168), for purposes of considering the effects of implementation of the Project and whether future activities fall within the scope of the impacts analyzed in the EIR for those individual projects that do not meet the specified parameters.

Certification of the final EIR would be required prior to approval of the ordinance. The City is the lead agency for the Project. Implementation of the Project may require discretionary actions and permits from the agencies identified in Table ES-1.

Table ES-1. Anticipated Permits and Approvals for Project

Agency	Permit/Approval	Issue
Local		
City of Los Angeles, City Council	CEQA document and proposed ordinance	Certification of the EIR and related findings. Ordinance would govern implementation for all Project activities over the next approximately 30 years
City of Los Angeles, Department of Public Works, Bureau of Engineering	Local Coastal Development Permit	City will obtain any required local coastal approvals in a coastal zone for Project activities.
Regional		
Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System Construction Stormwater Pollution Prevention Plan Permit	Water quality and the placement of discharges associated with dewatering activities, if required; no permit required for discharges to sewer (general permit may be used).
State		
California Coastal Commission	State Coastal Development Permit or other approval	City will obtain any required local coastal approvals in a coastal zone for Project activities.

ES.6 Comments Received on the Notice of Preparation

A Notice of Preparation (NOP) and Initial Study were circulated from July 27, 2017 to September 15, 2017. During this extended 45-day review period, the lead agency requested comments on the scope and content of the environmental information to be included in the Draft EIR.

Copies of the NOP/IS were made available for review at 35 library locations and mailed to more than 500 governmental and agency stakeholders. There were six digital announcements sent to approximately 567 email addresses constituting of community residents, stakeholders, and interested constituents from NOP/IS process, public agencies, non-profit groups, etc. were sent during the extended 45-day public review period. Electronic advertisements on the public meetings and the Project were in Facebook, EmpowerLA, Los Angeles Sentinel, La Opinion (digital), and LA Times (digital). Public notices were printed in Los Angeles Times, Daily Breeze, and La Opinion newspapers. Staff attended 11 neighborhood council meetings prior to the end of the scoping period to invite stakeholders to comment on the NOP and attend the scoping meetings. All 15 City of Los Angeles Council Offices were contacted to post announcements about the environmental review process via their communications channels, and 9 council offices posted announcements. Three public scoping meetings were held to obtain input on the NOP/IS and the scope and contents of the EIR:

- August 9, 2017, 6 p.m.–8 p.m., Ronald F. Deaton Civic Auditorium, 100 W 1st St (Main), Los Angeles, CA 90012
- August 14, 2017, 6 p.m.–8 p.m., Mid-Valley Senior Citizen Center, 8825 Kester Ave, Panorama City, CA 91402
- August 24, 2017, 6 p.m.–8 p.m., Westchester Senior Citizen Center, 8740 Lincoln Boulevard, Los Angeles, CA 90045

Public comments submitted during the scoping period expressed concerns regarding the following issues:

- Aesthetics
- Air Quality
- Biological Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Noise and Vibration

The NOP/IS and public comments are also included in Appendix A1 and A2. A summary of public outreach conducted during the NOP/IS scoping period is included in Appendix A3 of this EIR.

ES.7 Summary of Environmental Impacts

ES.7.1 Effects Found Not to Be Significant

In the IS, the City determined that the Project would result in no impact for the following resource areas and, therefore, eliminated them from further analysis in the Draft EIR:

- Agriculture and Forestry Resources
- Mineral Resources
- Population and Housing
- Recreation

The analyses presented in Chapter 3, *Environmental Impact Analysis*, concluded that the Project would result in a less-than significant impact, without any required mitigation, for the following resource areas:

- Aesthetics (Scenarios 1 and 2 Construction projects only; see Chapter 2, *Project Description*, for a discussion of the construction scenarios)
- Air Quality
- Biological Resources
- Cultural Resources (Scenarios 1 and 2 Construction projects only; see Chapter 2, *Project Description*, for a discussion of the construction scenarios)
- Energy
- Geology and Soils

- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources (Scenarios 1 and 2 Construction projects only; see Chapter 2, *Project Description*, for a discussion of the construction scenarios)
- Utilities and Service Systems
- Wildfire Hazards

ES.7.2 Significant and Unavoidable Adverse Impacts

The analyses presented in Chapter 3, *Environmental Impact Analysis*, concluded that the Project would result in significant and unavoidable adverse impacts, with no feasible mitigation, for the following resource areas:

- Aesthetics (Scenario 3 only) – Significant and unavoidable adverse impacts to aesthetics would occur in Scenario 3 construction projects where *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (SOI Standards) cannot be fully implemented and a historic resource is demolished, destroyed, or damaged in such a way that its integrity and importance is impacted.
- Cultural Resources (Scenario 3 only) - Significant and unavoidable adverse impacts to historical, archeological, and paleontological resources would occur in Scenario 3 construction projects where despite the implementation of SOI Standards, archaeological treatment plans (ATPs), and paleontological management treatment plans, the significance of the historical, archaeological, and/or paleontological resource cannot be maintained.
- Noise - Significant and unavoidable adverse impacts related to construction noise and construction vibration would occur in the limited instances where: a 10-foot distance for commercial sensitive receptors and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source; an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor; and/or a 23-foot distance cannot be maintained from the vibratory equipment to the nearest occupied space of a sensitive receptor.
- Tribal Cultural Resources (Scenario 3 only) - Significant and unavoidable adverse impacts to tribal cultural resources would occur in Scenario 3 construction projects where despite the implementation of SOI Standards and ATPs, the significance of the tribal cultural resource cannot be maintained.

ES.8 Cumulative Impacts

Based on the analysis included in the Draft EIR in Chapter 3.17, *Cumulative Impacts*, the Project would result in the following cumulatively considerable impacts.

Aesthetics

- Under Scenario 3, impacts on HCM street trees or other historic street trees within the public right-of-way may occur; therefore, the Project would result in a cumulatively considerable contribution to a cumulatively significant aesthetic impact.

Cultural Resources

- The Project would contribute to significant cumulative cultural resource impacts (historical and paleontological) to a cumulatively considerable degree.

Tribal Cultural Resources

- Through the consultation process with area tribes, mutual agreement could not be reached as to whether a significant effect exists and/or any measures to mitigate or avoid a significant effect on TCRs. Therefore, the Project would result in a cumulatively considerable contribution to a significant cumulative impact on TCRs.

ES.9 Summary of Environmental Impacts of the Project

Table ES-2 at the end of this Executive Summary contains a summary of impacts by environmental resource area. The following are provided for each impact: the significance determination before mitigation, required mitigation measures (if any), and any remaining impacts after the implementation of mitigation.

ES.10 Summary of Project Alternatives Analysis

The City considered several alternatives to the proposed Project during the development of this Draft EIR for the proposed Project. Potential alternatives were developed to identify means other than the proposed Project to attain key project objectives while lessening or avoiding potentially significant environmental impacts caused by the proposed Project. Scoping comments received for this EIR inform the identification and development of alternatives to the proposed Project.

ES.10.1 Alternatives Considered

Based on initial consideration, the following represent a reasonable range of alternatives to the proposed Project and have been identified by the City for consideration in this EIR. A detailed description of each of these is provided in Chapter 5, Comparison of Alternatives.

- No Project Alternative.
- Alternative 1. Ordinance to repair sidewalks and avoid removal of any street trees.
- Alternative 2. Ordinance to exclude sidewalk repairs and street tree removals within 23 feet of the nearest occupied space façade of the closest sensitive receptor (residential or commercial use).
- Alternative 3. Ordinance will exclude sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources; such projects would proceed as discretionary projects under existing codes and policies.

- Alternative 4. The City will expend accelerate its annual funding commitment(s) in sidewalk repair funds pursuant to the Willits Settlement in 15 years rather than the Settlement's 30-year compliance period.
- Alternative 5. Ordinance to require use of only hand tools, for example, no jackhammering, no power tools, and no heavy equipment.
- Alternative 6. Avoid sidewalk repairs and street tree removals that would last longer than 30 construction days or require excavation greater than 30 feet.
- Alternative 7. Ordinance to obtain ROW acquisition of private property to retain all street trees by meandering sidewalks and to place a construction noise barrier.
- Alternative 8. Ordinance to mandate/test use of alternative/green/recycled construction materials for sidewalk and curb ramp repairs, where applicable.
- Alternative 9. Ordinance to include revision to the current BPW street tree policy for a higher than 2:1 street tree replacement to removal ratio.

ES.10.2 Alternatives Rejected From Further Consideration

Pursuant to State CEQA Guidelines §15126.6(c), an EIR need not carry forward and analyze all alternatives considered and may eliminate alternatives from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects. However, the lead agency must briefly explain the reasons underlying the lead agency's determination for rejecting some alternatives. As discussed in Section 5.3, Alternatives 4 through 9 have been not been carried forward for full analysis in this EIR.

ES.10.3 Summary Analysis of Alternatives Carried Forward

The following table ES-2 provides a comparative analysis of the impacts associated with each of the alternatives carried forward (No Project Alternative and Alternatives 1, 2, and 3) relative to the proposed Project. Additional detailed analysis is provided in Chapter 5, Comparison of Alternatives.

Table ES-2. Comparison of Impacts for Alternatives Carried Forward

Environmental Resource	Proposed Project	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Aesthetics	Significant	Significant +	Significant -	Significant =	Significant =
Air Quality	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Biological Resources	Less than Significant	Less than Significant +	Less than Significant -	Less than Significant =	Less than Significant =
Cultural Resources	Significant	Significant =	Significant =	Significant =	Less than Significant -
Energy	Less than Significant	Less than Significant +	Less than Significant -	Less than Significant =	Less than Significant =
Geology and Soils	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Greenhouse Gas Emissions	Less than Significant	Less than Significant +	Less than Significant -	Less Than Significant =	Less than Significant =
Hazards and Hazardous Materials	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Hydrology and Water Quality	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Land Use and Planning	Less than Significant	Less than Significant =	Less than Significant +	Less than Significant =	Less than Significant =
Noise	Significant	Significant =	Significant -	Less Than Significant -	Significant =

Environmental Resource	Proposed Project	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Public Services	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Transportation	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Tribal Cultural Resources	Significant	Significant =	Significant =	Significant =	Less than Significant -
Utilities and Service Systems	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Wildfire Hazards	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Relative Impact Score		**+4**	**-8**	**-1**	**-2**

Notes: The + (plus) and - (minus) indicate relative comparison of impacts to the proposed Project.
(+) = Alternative would increase impact when compared with the proposed Project.
(–) = Alternative would reduce impact when compared with the proposed Project.
(=) = Alternative would have similar impacts when compared with the proposed Project and would be considered neutral.

Alternative 1 is the environmentally superior alternative due to the implementation of an ordinance that would streamline sidewalk repairs and avoid all street tree removals. Under this alternative, less sidewalk would be repaired than under the Project because not all sidewalks can be made compliant with accessibility requirements pursuant to the *Willits* Settlement without removal of street trees. In addition, because there would be no street tree removals or replacements, associated operations activities of new street tree monitoring and watering would not be required. Therefore, overall construction activities would be reduced and no street trees would be removed under Alternative 1. Accordingly, impacts related to aesthetics, air quality, biological resources, GHG emissions, noise, public services, transportation, utilities, and energy would be less under Alternative 1 than the proposed Project. Alternative 1 would not meet the Project objectives of ensuring continued and efficient compliance with the requirements of the *Willits* Settlement, in accordance with the applicable accessibility requirements, because some sidewalks would require street tree removals to achieve compliance with applicable accessibility requirements pursuant to the *Willits* Settlement.

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Table ES-3. Summary of Impacts, Project Design Features, and Mitigation Measures

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Chapter 3.0, Section 3.1, *Aesthetics*			
AES-1: Would the proposed Project substantially damage or degrade a designated scenic vista or state scenic highway?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
AES-2: Would the proposed Project substantially damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, in City of LA adopted land use plans?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
AES-3: Would the proposed Project substantially damage or degrade existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
AES-4: Would the proposed Project substantially damage visual landscape, including but not limited to street trees, utility poles, or historic structures within public right-of-way?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
AES-5: Would the proposed Project result in a substantial loss of shading as a result of street tree retention, removal or replacement throughout the project buildout?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.2, *Air Quality*			
AQ-1: Would the proposed Project conflict with or obstruct implementation of the SCAQMD AQMP?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
AQ-2: Would the proposed Project generate air pollutant emissions during construction activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
AQ-3: Would the proposed Project generate air pollutant emissions during operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
AQ-4: Would the proposed Project expose sensitive receptors to substantial TAC concentrations?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.3, *Biological Resources*			
BIO-1: Would the proposed Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-2: Would the proposed Project result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-3: Would the proposed Project result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-4: Would the proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-5: Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-6: Would the proposed Project conflict with the provisions of an adopted local street tree preservation policy or ordinance?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
BIO-7: Would the proposed Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Chapter 3.0, Section 3.4*, Cultural Resources*			
CUL-1: Would the proposed Project result in the demolition of a significant historical resource as defined in Section 15064.5(a) of the CEQA Guidelines?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
CUL-2: Would the proposed Project result in relocation that does not maintain the integrity and significance of a significant historical resource?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
CUL-3: Would the proposed Project result in the conversion, rehabilitation, or alteration of a significant historical resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
CUL-4: Would the proposed Project disturb, damage, or degrade an archaeological resource, or its setting, that is found to be important because it: 1. Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory; 2. Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions; 3. Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind; 4. Is at least 100 years old and possesses substantial stratigraphic integrity; or 5. Involves important research questions that historical research has shown can be answered only with archaeological methods?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
CUL-5: Would the proposed Project result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance? *LA CEQA Thresholds Guide.*	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
CUL-6: Would the proposed Project cause disturbance of human remains, including remains interred outside of formal cemeteries?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
Chapter 3.0, Section 3.5, *Geology & Soils*			
GEO-1: Would the proposed Project cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or directly or indirectly cause substantial risk of injury resulting from rupture of a known earthquake fault; landslides; and seismic ground shaking or seismic ground shaking or seismic-related ground failure, including liquefaction?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
GEO-2: Would the proposed Project destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
GEO-3: Would the proposed Project constitute a geologic hazard to other properties by causing or accelerating instability from erosion?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
GEO-4: Would the proposed Project accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on-site?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
GEO-5: Would the proposed Project be located on unstable soil or would result in an on-site or off-site landslide, collapse, or lateral spreading?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Chapter 3.0, Section 3.6, *Greenhouse Gas Emissions*			
GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
GHG-2: Conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs**?**	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.7, *Hazards & Hazardous Materials*			
HAZ-1: Would the proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handling in such a way as to involve the release of hazardous materials into the environment?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HAZ-2: Would the proposed Project emit/handle/involve hazardous materials and/or waste within one-quarter mile of an existing or proposed school?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HAZ-3: Would the proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HAZ-4: Would the proposed Project hinder or impair an adopted emergency response or evacuation plan or route?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.8, *Hydrology & Water Quality*			
HyWQ-1: Would the proposed Project cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-2: Would the proposed Project substantially reduce or increase the amount of surface water in a water body?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-3: Would the proposed Project result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-4: Would discharges associated with the proposed Project create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *L.A. CEQA Thresholds Guide*), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-5: Would the proposed Project result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on-site or off-site?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-6: Would the proposed Project result in structures being placed within a 100-year flood hazard area?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
HyWQ-7: Would runoff from the proposed Project site exceed the stormwater drainage capacity or degrade water quality?	Less than significant (construction) No impact (operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.9, *Land Use & Planning*			
LU&P-01: Would the proposed Project be consistent with adopted land use goals, objectives, or policies of applicable lands use plans?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
LU&P-02: Would the proposed Project create incompatible land uses with the immediate surrounding land uses?	Less than significant (construction and operation)	No mitigation measures required	Not applicable

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
Chapter 3.0, Section 3.10, *Noise and Vibration*			
NOI-1: Would the proposed Project exceed an interior noise level of 85 dBA L_{eq} (8-hr) and result in an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted L_{eq}) during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive use?	Significant related to construction noise in the limited instances where a 10-foot distance for commercial sensitive receptors and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source	No feasible mitigation measures	Significant related to construction noise in the limited instances where a 10-foot distance for commercial sensitive receptors and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source
NOI-2: In terms of potential building damage, would the proposed Project result in ground-borne vibration caused by construction exceeding a velocity of 0.3 ips PPV at the building foundations of the nearest structure?	Significant related to construction vibration in the limited instances where an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor	No feasible mitigation measures	Significant related to construction vibration in the limited instances where an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor
NOI-3: In terms of potential human annoyance, would the proposed Project result in ground-borne vibration caused by construction exceeding 0.1 ips PPV at the nearest occupied space of a sensitive use?	Significant related to construction vibration in the limited instances where a 23-foot distance cannot be maintained from the vibratory equipment to the nearest occupied space of a sensitive receptor	No feasible mitigation measures	Significant related to construction vibration in the limited instances where a 23-foot distance cannot be maintained from the vibratory equipment to the nearest occupied space of a sensitive receptor
NOI-4: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the proposed Project expose people residing or working in the project area to excessive noise levels?	Less than significant	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.11, *Public Services*			
PS-1: Would the demand for police services at the time of the proposed Project build-out compared to the expected level of service available result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
PS-2: Would the Project require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.12, *Transportation/Traffic*			
TR-1: Would the proposed Project result in temporary traffic constraints due to construction? The determination of significance shall be made on a case-by-case basis, considering the following factors: • The length of time of temporary street closures or closures of two or more traffic lanes; • The classification of the street (major arterial, state highway) affected; • The existing congestion levels on the affected street segments and intersections; • Whether the affected street directly leads to a freeway on- or off-ramp or other state highway; • Potential safety issues involved with street or lane closures; and • The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.	Less than significant (construction)	No mitigation measures required	Not applicable
TR-2: Would the proposed Project result in the temporary loss of access due to construction? The determination of significance shall be made on a case-by-case basis, considering the following factors: • The length of time of any loss of pedestrian or bicycle circulation past a construction area; • The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area; • The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;	Less than significant (construction)	No mitigation measures required	Not applicable

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
• The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access; and • The type of land uses affected, and related safety, convenience, and/or economic issues.			
TR-3: Would the proposed Project result in the temporary loss of bus stops or the rerouting of bus lines due to construction? The determination of significance shall be made on a case-by-case basis, considering the following factors: • The length of time that an existing bus stop would be unavailable or that existing service would be interrupted; • The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated; • The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes; and • Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).	Less than significant (construction)	No mitigation measures required	Not applicable
TR-4: Would the proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(2) by substantially inducing additional automobile travel due to operations?	Less than significant (operation)	No mitigation measures required	Not applicable
TR-5: Would the proposed Project negatively affect residential streets due to operations?	Less than significant (operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.13, *Tribal Cultural Resources*			
TCR-1: Would the proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k) or **ii.** A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)	No feasible mitigation measures	Less than significant (Construction Scenarios 1 and 2) Significant (Construction Scenario 3) No impact (operation)
Chapter 3.0, Section 3.14, *Utilities*			
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?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
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?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
UT-3: Would the proposed Project constrain or exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
UT-4: Would the proposed Project's total estimated waste water flow exceed the existing sewer capacity?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
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?	No impact (construction and operation)	No mitigation measures required	Not applicable

Environmental Impact	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.15, *Energy*			
EN-1: Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 3.0, Section 3.16, *Wildfire*			
WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Less than significant (construction and operation)	No mitigation measures required	Not applicable
Chapter 4.0, *Cumulative Impacts*			
Aesthetics - Under Scenario 3, impacts on HCM street trees or other historic street trees within the public right-of-way may occur; therefore, the Project would result in a cumulatively considerable contribution to a cumulatively significant aesthetic impact.	Significant	No feasible mitigation available	Significant contribution
Cultural Resources - The Project would contribute to significant cumulative cultural resource impacts (historical and paleontological) to a cumulatively considerable degree.	Significant	No feasible mitigation available	Significant contribution
Tribal Cultural Resources - Through the consultation process with area tribes, mutual agreement could not be reached as to whether a significant effect exists and/or any measures to mitigate or avoid a significant effect on TCRs. Therefore, the Project would result in a cumulatively considerable contribution to a significant cumulative impact on TCRs.	Significant	No feasible mitigation available	Significant contribution

Chapter 1
Introduction

1.1 Background and Project Overview

The proposed Project is a Citywide program to modify the manner in which sidewalk repair projects are undertaken pursuant to the City of Los Angeles' (City) obligations under the *Willits* Settlement Agreement (Settlement), which includes various City actions that provide improved access to persons with mobility disabilities in accordance with local, state, and federal accessibility requirements. Currently, the City is complying with the Settlement using existing ordinances and policies. The existing process requires case-by-case review and approval of each sidewalk repair project funded as a result of the Settlement.

With the Project, the City is proposing to adopt a new ordinance to revise the way sidewalk repairs undertaken pursuant to the *Willits* Settlement are reviewed and approved, with a primary goal of streamlining the Settlement implementation process. The key components of the ordinance include:

- Specific parameters to enable most sidewalk repairs to proceed as ministerial approvals under the California Environmental Quality Act (CEQA), not subject to further environmental review applicable to discretionary actions;
- A streamlined discretionary approval process under CEQA for sidewalk repair projects falling outside the specific parameters allowed for a ministerial sidewalk repair approval;
- A revised Street Tree Retention, Removal and Replacement Policy establishing a 2:1 street tree replacement to removal ratio requirement for the first 10 years (starting from July 2017), a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the 30-year program; and
- Mandatory Project Design Features (PDFs) generally consisting of regulatory compliance measures and standard construction conditions.

1.2 Purpose and Intended Use of This EIR

The purpose of this environmental impact report (EIR) is to inform decision-makers and the general public of the potential environmental impacts that could result from the proposed Project. An EIR is the most comprehensive form of environmental documentation under CEQA. EIRs are intended to provide an objective, factually supported full-disclosure analysis of the environmental consequences associated with a project that has the potential to result in significant, adverse environmental impacts.

CEQA requires the decision-making body to balance, as applicable, the economic, legal, social, or other benefits of the project against the unavoidable environmental risks when determining whether to approve the project. The EIR is prepared by and under the direction of the Los Angeles Department of Public Works, Bureau of Engineering (LABOE), which also has primary responsibility for recommending approval of and implementing the proposed Project. A detailed description of the proposed Project is provided in Chapter 2, *Project Description*.

The proposed Project requires certain discretionary approvals from the City and other public agencies (see below and Chapter 2). The City is the lead agency under CEQA for the proposed Project.

As shown in Figure 1-1, EIR Process Overview, an EIR is prepared in three key stages. The CEQA process is initiated when the lead agency identifies a project. The lead agency then normally prepares an Initial Study to identify the preliminary environmental impacts of the project. The Initial Study for the proposed Project determined that the proposed Project could have significant environmental impacts that would require further study and implementation of mitigation measures. Therefore, the lead agency has decided to prepare an EIR.

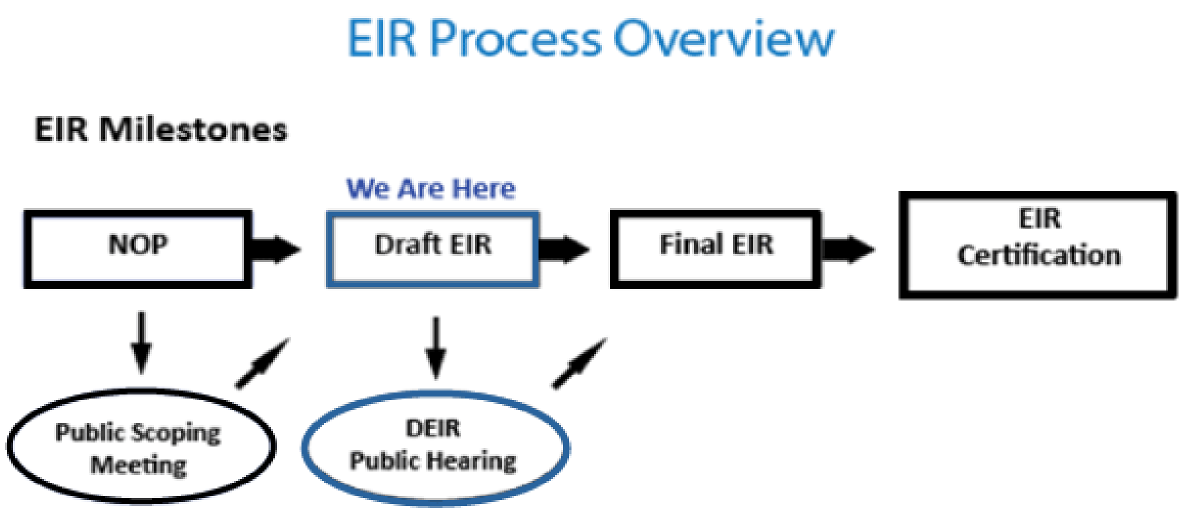

Figure 1-1. EIR Process Overview

1.3 Scope and Content of the Draft EIR

In accordance with the requirements of CEQA, the City prepared an Initial Study (see below), dated July 27, 2017, which identified the topics to be analyzed in the EIR. The Initial Study is contained in Appendix A (Notice of Preparation/Initial Study and Public Comments on the Notice of Preparation/Initial Study) of this Draft EIR.

Because the analysis contained in the Initial Study determined that the proposed Project would result in less-than-significant or no impacts related to agriculture and forestry resources, mineral resources, population and housing, and recreation, no further analysis is required in the EIR. Therefore, the focus of this EIR has been limited to the following environmental impact areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils

- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation/Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Energy
- Wildfire Hazards
- Mandatory Findings of Significance

1.4 Public Outreach Efforts

1.4.1 Notice of Preparation

A Notice of Preparation (NOP) and Initial Study (IS) were circulated from July 27, 2017 to September 15, 2017. During this extended 45-day review period, the lead agency requested comments on the scope and content of the environmental information to be included in the Draft EIR.

Copies of the NOP/IS were made available for review at 35 library locations and mailed to more than 500 governmental and agency stakeholders. During the extended 45-day public review period, six digital announcements were sent to approximately 567 email addresses consisting of community residents, stakeholders, and interested constituents from the NOP/IS process; public agencies; non-profit groups; and others. Electronic advertisements on the public meetings and the Project were posted via Facebook, EmpowerLA, Los Angeles Sentinel, La Opinion (digital), and LA Times (digital). Public notices were printed in *Los Angeles Times*, *Daily Breeze*, and *La Opinion* newspapers. Staff attended 11 neighborhood council meetings prior to the end of the scoping period to invite stakeholders to comment on the NOP and attend the scoping meetings. All 15 City of Los Angeles Council Offices were contacted to post announcements about the environmental review process via their communications channels, and nine council offices posted announcements. Three public scoping meetings were held to obtain input on the NOP/IS and the scope and contents of the EIR:

- August 9, 2017, 6 p.m.–8 p.m., Ronald F. Deaton Civic Auditorium, 100 W 1st St (Main), Los Angeles, CA 90012
- August 14, 2017, 6 p.m.–8 p.m., Mid-Valley Senior Citizen Center, 8825 Kester Ave, Panorama City, CA 91402
- August 24, 2017, 6 p.m.–8 p.m., Westchester Senior Citizen Center, 8740 Lincoln Boulevard, Los Angeles, CA 90045

Approximately 300 written comments were received. The comments primarily discussed alternative designs and materials for sidewalk repair; dual function like sidewalk and stormwater capture; a higher street tree ratio; public participation, aesthetics of City tree canopy; funding questions, etc. Commenters included Los Angeles Metro, Native American Heritage Commission, South Coast Air Quality District, neighborhood councils, environmental groups, and non-profit organizations. Comments on the NOP/IS were considered by BOE during preparation of the Draft EIR, and are available in Appendix A3 along with the comments on the NOP/IS.

1.4.2 Review of Draft EIR

CEQA requires a Draft EIR to be submitted to the State Clearinghouse for circulation and for a 45-day review and comment period. This provides agencies and the general public an opportunity to review and comment on the adequacy of the analysis and the findings regarding potential environmental impacts of a proposed Project. The circulation period for the Draft EIR is December 26, 2019 through February 26, 2020 which is an extended 60-day review and comment period. A total of seven public meetings will be held on the dates and times and at the locations below:

- **January 29, 2020 – Sunland – Tujunga Branch Library**
  7771 Foothill Blvd., Tujunga, CA 91042, 5:00–7:00 p.m.
- **January 30, 2020 – Watts Senior Citizen Center**
  1657 E. Century Blvd., Los Angeles, CA 90002, 6:00–8:00 p.m.
- **February 5, 2020 – Lafayette Multipurpose Community Center**
  625 S Lafayette Park Pl., Los Angeles, CA 90057, 6:00–8:00 p.m.
- **February 6, 2020 – Reseda Recreation Center**
  18411 Victory Blvd., Reseda, CA 91335, 6:00–8:00 p.m.
- **February 12, 2020 – Westchester Senior Citizen Center**
  8740 Lincoln Blvd., Los Angeles, CA 90045, 6:00–8:00 p.m.
- **February 13, 2020 – Normandale Recreation Center**
  22400 Halldale Ave., Torrance, CA 90501, 6:00–8:00 p.m.
- **February 15, 2020 – Robert Louis Stevenson Branch Library**
  803 Spence St., Los Angeles, CA 90023, 10:00 a.m.–12:00 p.m.

After the close of the 60-day review and comment period, responses to all comments received on the Draft EIR are prepared. The lead agency prepares a Final EIR, which incorporates the Draft EIR or a revision to the Draft EIR, Draft EIR comments and a list of commenters, and responses to comments. In addition, the lead agency must prepare the Findings of Fact; the Statement of Overriding Considerations, if there are significant impacts that cannot be mitigated; and a Mitigation Monitoring Program, if applicable. These are components of a Final EIR.

The Board of Public Works will consider the Final EIR and make a recommendation to the City Council, as the governing body of the City, regarding certification of the Final EIR and the approval of the proposed Project. Approval of the Final EIR and the proposed Project are at the discretion of the City Council.

1.5 Organization of the Draft EIR

A list of the document's chapters, including and a brief description of their content, is provided here to assist the reader in locating information.

Executive Summary: Located at the front of this document, the Executive Summary provides a brief description of the proposed Project, including an overview of the impact analysis, recommended mitigation measures, and net residual impact.

Chapter 1: Introduction: The Introduction provides general background information regarding project development and the need for the proposed Project, along with information regarding the purpose of CEQA and this Draft EIR, including the Draft EIR scoping process; the availability of documents; and the Draft EIR review process.

Chapter 2. Project Description: Chapter 2 presents a statement of the proposed Project's objectives, a description of the location and setting of the proposed Project, a detailed description of the proposed Project's characteristics, and related information on phasing and implementation.

Chapter 3. Environmental Impact Analysis: This chapter analyzes the potential impacts (direct and indirect) that could occur as a result of implementation of the proposed Project. The impact discussion is organized by topical issue (i.e., issues that have been found to have the potential to result in significant impacts).

Chapter 4. Alternatives: The comparison of Alternatives includes a discussion of the proposed alternatives and provides the comparative merits of each alternative.

Chapter 5. Other Environmental Considerations: Chapter 5 summarizes effects not found to be significant, significant and unavoidable adverse environmental impacts, and significant irreversible environmental changes. It also evaluates the contextual impacts related to growth-inducing effects.

Chapter 6. Persons Consulted: This chapter lists those persons who were consulted to obtain the information that was used in the preparation of this Draft EIR.

Chapter 7. List of Preparers: This chapter lists the persons who prepared this Draft EIR.

Chapter 8. References: This chapter lists the sources of information that were referenced for the analyses contained within this Draft EIR.

Chapter 2
Project Description

2.1 Project Overview

The proposed Sidewalk Repair Program (also referred to as the Project) is a Citywide program to modify the manner in which sidewalk repair projects are undertaken pursuant to the City of Los Angeles' (City) obligations under the *Willits* Settlement Agreement (Settlement).[1] Currently, the City is complying with the Settlement using existing ordinances and policies. The existing process requires case-by-case review and approval of each sidewalk repair project funded as a result of the Settlement. With the Project, the City is proposing to adopt a new uncodified ordinance[2] to revise the way sidewalk repairs undertaken pursuant to the *Willits* Settlement are reviewed and approved, with a primary goal of streamlining the Settlement implementation process. As explained more fully below, the key components of the ordinance include:

- A ministerial approval process to enable sidewalk repair projects falling within certain specified parameters to proceed upon approval by the City Engineer or a designee, without undergoing further environmental review under the California Environmental Quality Act (CEQA);
- A streamlined discretionary approval process for sidewalk repair projects falling outside the specific parameters for a ministerial sidewalk repair approval;
- A revised Street Tree Retention, Removal and Replacement Policy establishing a 2:1 street tree replacement to removal ratio requirement for years 1-10, 3:1 for years 11-21, and 2:1 for years 22-30, and;
- Mandatory Project Design Features (PDFs) generally consisting of regulatory compliance measures and standard construction conditions and procedures.

The City is the Lead Agency for purposes of CEQA review for the Project, as discussed in Chapter 1, *Introduction*. The Los Angeles City Council is the City entity responsible for approval of the Project, and the Bureau of Engineering of the City's Department of Public Works (BOE) is the City department responsible for implementation of the Project.

2.2 Project Approvals and Intended Uses of the EIR

The statutory provisions of CEQA, found within the Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, found within Title 14 of the California Code of Regulations at Section 15000 et seq., authorize lead agencies to prepare various types of EIRs, depending on the circumstances of a particular project and in order to render the environmental review as efficient and useful as possible.

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[1] *Mark Willits, et al. v. City of Los Angeles* (U.S. Dist. Court Case No. CV10-05782 CBM (RZX), Term Sheet approved by City Council on April 1, 2015, also referred to as the *Willits* Settlement Agreement.

[2] Generally, uncodified ordinances are those for specific and non-permanent matters (such as modifying the way the Settlement obligations are implemented), while codified ordinances in the City's municipal and administrative codes are those for general and permanent matters.

The types of EIRs available to lead agencies under CEQA are:

- Project EIRs (CEQA Guidelines Section 15161),
- EIRs as part of general plans (Section 15166),
- master EIRs (Sections 15175–15179.5),
- program EIRs (Section 15168),
- staged EIRs (Section 15167),
- subsequent EIRs (Section 15162), and
- supplements to EIRs (Section 15163).

The EIR types listed above "are not exclusive" (CEQA Guidelines Section 15160). The various types of EIRs allow agencies to tailor their environmental analysis depending on the nature of a proposed project. The different types of EIRs also allow agencies to avoid needless redundancy and duplication. By choosing the most appropriate form of EIR, lead agencies can effectively analyze the foreseeable consequences of a proposed project, including cumulative impacts (CEQA Guidelines Section 15160).

Here, the City determined that the most appropriate type of EIR for the Project is a hybrid project specific and program EIR. The EIR's analysis is project specific to the extent it considers the reasonably foreseeable and potentially significant direct and cumulative significant adverse impacts of the ordinance proposed to govern the majority of sidewalk repairs under the *Willits* Settlement, including all phases of the sidewalk improvements proposed for future ministerial approval, included in Scenarios 1 and 2 described below. The EIR is also programmatic in its analysis of specific sidewalk improvement projects described as Scenario 3, that may require future discretionary approval(s) because of the potential to have a substantial adverse change on a historically significant resource, including any resource identified as a Historic-Cultural Monument or encompassed within the City's Cultural Heritage Ordinance; unique archaeological resource; unique paleontological resource; tribal cultural resource; and aesthetic resource as affected by a substantial adverse change to ta cultural resource. (Los Angeles Administrative Code Section 22.171; see also CEQA Guidelines Sections 15152, 15162-15164, 15168.)

The City has determined that each proposed sidewalk improvement segment, including those that were previously approved or are ongoing, has independent utility justifying their separate processing and approval. Each improved segment, for example, would serve a viable purpose by ensuring continued disability law compliance, consistent with the terms of the Settlement Agreement, even if other segments are never built. One improved sidewalk segment, moreover, does not cause the need for other improvements. (See *Del Mar Terrace Conservancy, Inc. v. City Council of the City of San Diego* (1992) 10 Cal.App.4th 712, 728-729 [upholding an EIR that treated as the "project" at issue one freeway segment within a long-term, multi-segment regional plan to expand the freeway system throughout San Diego County].) The City has nevertheless determined that preparation of an EIR which considers all the reasonably foreseeable effects of the proposed ordinance and Scenarios 1-3, to the extent feasible, will render the City's existing sidewalk improvement process more efficient, thereby ensuring timely compliance with the terms of the *Willits* Settlement.

As such, the EIR serves as an informational document for the general public and the Project's decision-makers. The Final EIR must be certified as adequate prior to adoption of the ordinance.

Implementation of the Project may require discretionary actions and permits from the agencies identified in Table 2-1, below.

Table 2-1. Anticipated Permits and Approvals for Project

Agency	Permit/Approval	Issue
Local		
City of Los Angeles, City Council	CEQA document and proposed ordinance	Certification of the EIR and related findings. Ordinance would govern implementation for all Project activities over the next approximately 30 years
City of Los Angeles, Department of Public Works, Bureau of Engineering	Local Coastal Development Permit	City will obtain any required local coastal approvals in a coastal zone for Project activities.
Regional		
Los Angeles Regional Water Quality Control Board	National Pollutant Discharge Elimination System Construction Stormwater Pollution Prevention Plan Permit	Water quality and the placement of discharges associated with dewatering activities, if required; no permit required for discharges to sewer (general permit may be used).
State		
California Coastal Commission	State Coastal Development Permit or other approval	City will obtain any required local coastal approvals in a coastal zone for Project activities.

2.2.1 Baseline Year

This Draft Environmental Impact Report (Draft EIR) uses July 2017 as the baseline year against which Project impacts are compared. This baseline was selected to reflect the physical environmental conditions at the time the Notice of Preparation (NOP) was published, including ongoing sidewalk repair projects occurring in 2017 and leading up to the NOP, consistent with CEQA Guidelines Section 15125(a)(1).

In 2017–2018, approximately 24 miles of sidewalks were repaired in the City. In that same 12-month period, 211 street trees were removed and 484 new street trees were planted. Data from this past work is used to make projections and assumptions for analysis in this Draft EIR. The analysis of Project impacts was prepared assuming that the maximum construction activities possible as a result of City's commitments under the *Willits* settlement will occur.

2.2.2 Background

2.1.2.1 Accessibility Laws

Several federal and state accessibility laws, including the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973, the Unruh Act, the Disabled Persons Act, and Title 24 of the California Building Code, among others, contain provisions pertaining to accessibility to certain covered public facilities for persons with disabilities. Public sidewalks and pathways are among the facilities covered by these federal and state accessibility laws and standards. For example, the ADA specifies parameters for width, slope, and texture requirements for public sidewalks, as well as how curb ramps shall be designed to ensure sidewalks are readily accessible and usable by individuals with disabilities. (See https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm#c1 [DOJ 2010 ADA Standards for Accessible Design] and https://www.ada.gov/regs2010/2010ADAStandards/Guidance_2010ADAStandards.pdf [2010 Guidance on the ADA Standards for Accessible Design]).

2.1.2.2 *Willits* Settlement

Between December 2006 and March 2011, three separate lawsuits against the City were filed in which the plaintiffs alleged various claims arising under state and federal accessibility laws and involving the alleged conditions of existing City sidewalks. While the City did not admit any wrongdoing and affirmatively denied all of the allegations made by the plaintiff groups, during the pendency of the three lawsuits, the parties entered into the *Willits* Settlement Agreement (*Willits* Settlement).

Prior to entering into the *Willits* Settlement, the City Council instructed BOE to work with various other City departments to utilize existing City contracts for sidewalk repairs adjacent to City facilities as a matter of "urgent necessity" and established BOE as the program manager. Sidewalks adjacent to facilities of the United States, the State of California, the County of Los Angeles, or other governmental entities including, Los Angeles Unified School District facilities, state parks and lands, county parks and waterways, federal lands, Los Angeles County Metropolitan Transportation Authority, California Department of Transportation, and other third parties were not included in the City Council instruction because repair of those sidewalks are the responsibility of those non-City organizations/agencies.

The City Council approved the terms of the *Willits* Settlement in April 2015, and Judge Consuelo Marshall of the Federal District Court approved the Settlement in August 2016.[3] Generally speaking, the *Willits* Settlement provides that the City will expend approximately $1.3 billion on sidewalk repairs during the agreement's 30-year compliance period. The total amount of funding is broken down into annual commitments specified in 5-year increments. For example, the City shall expend $31 million per year for the first five years of the compliance period, increasing to $63 million per year in the final five years of the compliance period. Repair activities covered by the *Willits* Settlement encompass:

- Installation of missing curb ramps;
- Repair of damage caused by street tree roots to sidewalk or walkway surface so that the sidewalk or walkway surfaces are made accessible to and usable by persons with mobility disabilities;
- Upgrading of existing curb ramps;
- Repair of broken and/or uneven pavement in the pedestrian rights of way deeper or wider than ½ inch;
- Repair of vertical or horizontal displacement or upheaval of the sidewalk or crosswalk surface greater than ½ inch;

[3] *Mark Willits, et al. v. City of Los Angeles* (U.S. Dist. Court Case No. CV10-05782 CBM (RZX), Term Sheet approved by City Council on April 1, 2015, also referred to as the Willits Settlement Agreement or Willits Term Sheet.

- Correction of non-compliant cross-slopes in sidewalks or sections of sidewalks;
- Removal of protruding and overhanging objects and/or obstructions that narrow pedestrian rights of way to less than 4 feet of accessible width;
- Widening of pedestrian rights of way and sections thereof to provide 4 feet of accessible width;
- Providing 4 feet of clearance to the entrances of public bus shelters;
- Repair of excessive gutter slopes at the bottom of curb ramps leading into crosswalks;
- Elimination of curb ramp lips on curb ramps;
- Installation of accessible street tree grates, or other compliant remediation, where such grates are missing from street tree wells;
- Installation of missing utility covers where such covers are missing from sidewalks, crosswalks or pathways; and
- Remediating other conditions as appropriate for improving pedestrian access and complying with the Settlement.

Following the District Court's final approval of the *Willits* Settlement, the City Administrative Officer (CAO) released a report[4] that recommended consideration of new sidewalk repair policies for a City program that: (1) is permanent and ongoing, (2) is consistent with the *Willits* Settlement, (3) shares responsibility for maintenance and repair with adjacent property owners, and (4) ensures accessibility in areas with the most significant safety hazards. The *Willits* Settlement defines pedestrian facilities as "any sidewalk, intersection, crosswalk, street, curb, curb ramp, walkway, pedestrian right-of-way (ROW), pedestrian undercrossing, pedestrian overcrossing, or other pedestrian pathway or walkway of any kind that is, in whole or in part, owned, controlled, or maintained by or otherwise within the responsibility of the City of Los Angeles." The CAO report was prepared in consultation with various City departments and agencies. According to the CAO report, the City should prioritize sidewalk-related access improvements; address access barriers; and repair the most significant safety hazards.

2.1.2.3 Existing *Willits* Settlement Sidewalk Repairs

The City's current repairs of individual sidewalks required by the *Willits* Settlement are approved on a case-by-case basis. In November 2016, the City adopted Ordinance No. 184596 that amended Los Angeles Municipal Code (LAMC) Section 62.104 and established a "fix and release" program. The City inspects sidewalks for compliance with applicable accessibility requirements. If the inspection reveals that the sidewalk is not compliant with applicable accessibility requirements, then the City repairs the sidewalk. Repairs of sidewalks are undertaken pursuant to Sidewalks Standard Plan S-440-0, adopted by the City Engineer on June 25, 2014.

Once a sidewalk is repaired and compliant with applicable accessibility requirements, the City issues a Certificate of Sidewalk Compliance. When issued, a sidewalk repair warranty period of 20 years for residential property and 5 years for commercial property begins. During the warranty period, the City guarantees a one-time repair of the sidewalk, as deemed necessary. However, this sidewalk

[4] City of Los Angeles. 2015. "New Policy for Repair and Management of Sidewalks Adjacent to Private Property." May 26, 2015. Available: https://investinginplace.files.wordpress.com/2015/06/cao-report_5-26-15.pdf Accessed Sept. 4, 2019.

repair warranty is waived if the property owner elects to retain a street tree that has been recommended for removal. Once the warranty ends, the responsibility for maintenance is transferred back to the property owner.

Ordinance No. 184596 excludes any sidewalk adjacent to a lot owned by a governmental entity, including, but not limited to, the Federal Government, the State of California, any political or administrative subdivision of the Federal Government or State of California, and any county, city and county, municipal corporation other than the City, irrigation district, transit district, school district, or other district established by law.

As required under the terms of the *Willits* Settlement, in conjunction with criteria set forth by the City Council, BOE has developed a Prioritization and Scoring System (Prioritization System) to guide implementation of *Willits* Settlement repairs. Due to the significant number of requests received for sidewalk repair, the Prioritization System provides clear and objective direction for prioritizing work, including as follows: City government offices and facilities; transportation corridors; hospitals, medical facilities, assisted living facilities and other similar facilities; places of public accommodation such as commercial and business zones; facilities containing employers; and other areas such as residential neighborhoods and undeveloped areas. (Willits Term Sheet, p. 1.) The Prioritization System was adopted by the City Council in January 2018 (Council File No. 14-0163-S3).

The City offers three programs for sidewalk repairs: Access Request, Rebate, and Report a Sidewalk Problem. Constituents may submit requests under these programs, discussed further below, through the MyLA311 service request system.

Currently, individual sidewalk projects under the *Willits* Settlement are reviewed on a case-by-case basis under CEQA. CEQA Guidelines Sections 15300 to 15333 identify classes of projects that are categorically exempt from provisions of CEQA because they do not ordinarily result in a significant effect on the environment. Individual sidewalk repairs typically fit the definition of a Class 1 existing facility repair and maintenance, as identified under CEQA Guidelines Section 15301(c). However, this Draft EIR was prepared because, as explained above, the Project consists of a new proposed ordinance that revises the manner in which implementation of sidewalk repairs under the *Willits* Settlement will be implemented, including making certain sidewalk improvement approvals ministerial to avoid the need to undertake case-by-case sidewalk repair CEQA review.

2.1.2.4 Access Request

Under the Access Request Program, individuals with a mobility disability may submit a request to the City for sidewalk repairs related to physical access barriers, such as broken sidewalks, missing or broken curb ramps, or other access barriers in the public City ROW.

2.1.2.5 Rebate

Under the Rebate Program, any residential or commercial property owner may voluntarily undertake sidewalk repair work that meets accessibility requirements, then receive a rebate in a specified amount. The Rebate Program is intended to accelerate sidewalk repairs in residential and commercial areas and leverage available City funds.

2.1.2.6 Report a Sidewalk Problem

By submitting information under the Report a Sidewalk Problem, the general public may report a sidewalk that is in need of repair. (See https://sidewalks.lacity.org.)

2.1.2.7 Sidewalk Accessibility Grievance Policy and Procedure

Consistent with the *Willits* Settlement, the Sidewalk Accessibility Grievance Policy and Procedure system was launched on January 1, 2018. Under this policy, members of the Settlement class may submit grievances or complaints regarding access to the City's pedestrian ROW for persons with mobility disabilities.

2.3 Project Objectives

CEQA requires that an EIR include a statement of objectives sought by the project, and that the objectives include the underlying purpose of the project. These objectives help the lead agency determine the alternatives to evaluate in the EIR (see CEQA Guidelines Section 15124(a)). The fundamental and underlying purpose of the Project is to ensure the City's timely and efficient compliance with the *Willits* Settlement, including by streamlining review of future sidewalk repair projects consistent with applicable accessibility standards. The following is a list of objectives for the Project that support the underlying purpose, including the fundamental project objective which is to:

- Ensure the continued and efficient compliance with the requirements of the *Willits* Settlement while amending the existing program for sidewalk and curb ramp improvements within the City, in accordance with the applicable accessibility requirements, including those required by the Americans with Disabilities Act.

The following additional project objectives have also been identified:

- Retain existing street trees that are the cause of sidewalk barriers to the extent feasible, provided the sidewalk improvements would not result in street tree mortality or compromise public safety;
- If the removal of one or more street trees is required, ensure compliance with the City's replacement requirements adopted to ensure no net street tree canopy loss at the end of the Project implementation period.
- Identify the criteria and process for ministerial approval of future sidewalk improvements and street tree removals and replacements, with the goal of avoiding the need to undertake individualized environmental review of every repair of every City sidewalk or of every street tree removal and replacement and the potential legal challenge to each such approval; thereby streamlining the *Willits* Settlement implementation and providing certainty to the City and its disability community.

2.4 Project Location and Setting

2.4.1 Location

The City, located within Los Angeles County, covers approximately 467 square miles[5] (see Figure 2-1, Project Location). The City maintains approximately 9,000 miles of sidewalks. In Fiscal Year 2017-2018, the first year of the compliance period, the City completed 24.4 miles of sidewalk repair. Additional sidewalk within the City is privately owned by entities such as the Los Angeles Unified School District, which is responsible for its maintenance.

Los Angeles is bordered by the cities of Calabasas, Hidden Hills, and Santa Monica and the Pacific Ocean to the west; the cities of Burbank, Glendale, and Pasadena and the Angeles National Forest to the north; the cities of South Pasadena, Alhambra, Commerce, Vernon, and South Gate to the east; and the cities of Compton, Carson, Gardena, Inglewood, Culver City, and El Segundo to the south. In addition, West Hollywood, Beverly Hills, and San Fernando are “islands” within the City, and pockets of unincorporated Los Angeles County land lie within and adjacent to the City (see Figure 2-1, Project Location). Within the City, the following communities (either totally or partially) are located within the Coastal Zone: Brentwood/Pacific Palisades, Venice. Palms/Mar Vista/Del Rey, Winchester/Playa Del Rey, San Pedro, and Wilmington/Harbor City. Also located within the Coastal Zone is the Los Angeles Harbor Complex.

[5] Los Angeles Department of City Planning. 2013. *Citywide Demographic Profile* (based on Census 2010). January 2. Available http://planning.lacity.org/censusinfo/census2010/censusRpt2010.pdf. Accessed: September 6, 2018.

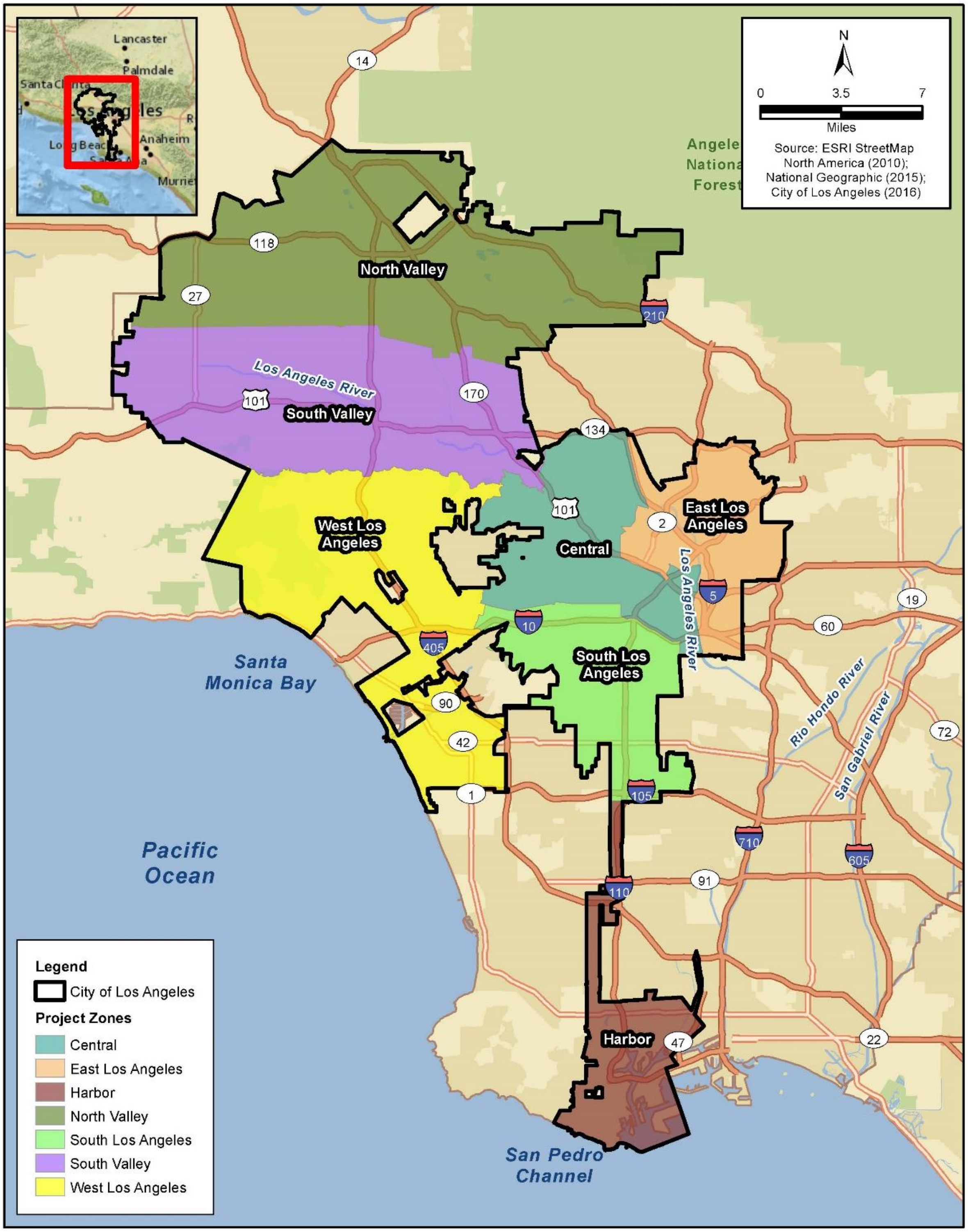


Figure 2-1. Project Location

2.4.2 Setting

2.4.2.1 Project Zones

To organize the environmental setting within the Project area into manageable descriptive units, the City has been organized into seven regional project zones that overlap the boundaries of existing Area Planning Commissions (APCs) within the City: North Valley, South Valley, West Los Angeles, Central Los Angeles, East Los Angeles, South Los Angeles, and Harbor. APCs are used by the City Planning Department to determine significant planning and land use issues for proposed plans and projects. Details regarding the geographic project zones that correlate with the seven APCs within the City are summarized in Table 2-2. All data pertaining to each project zone APC were obtained from the City Planning Department website.[6]

Table 2-2. Project Zone Summary

Project Zone	Total Area (square miles)	Council Districts	Population	Housing Units
North Valley	126.8	2,3,6,7,12	707,390	203,971
South Valley	97.6	2,3,4,5,6, 12	758,815	288,505
West Los Angeles	90.0	4,5,11	431,348	194,409
Central Los Angeles	48.8	1, 4, 5, 9, 10, 13,14	733,525	291,297
East Los Angeles	37.6	1,4, 13,14	432,611	130,516
South Los Angeles	43.8	1, 8, 9, 10, 15	734,593	218,287
Harbor	33.9	15	205,218	67,000

The project zones range from approximately 33.9 to 126.8 square miles. The City is also divided into 15 Council Districts. In most cases, the project zones contain more than one Council District, and Council Districts are located in more than one project zone, as shown in Figure 2-2. In many sections of the Draft EIR, the existing environmental setting is divided according to the Project Zones.

North Valley

The North Valley project zone is in the northernmost portion of the City and covers approximately 127 square miles. It includes the following communities: Chatsworth-Porter Ranch, Northridge, Granada Hills-Knollwood, Mission Hills-Panorama City-North Hills, Sylmar, Arleta-Pacoima, Sun Valley-La Tuna Canyon, and Sunland-Tujunga-Shadow Hills-Lakeview Terrace-East La Tuna Canyon.

[6] Los Angeles Department of City Planning. 2018. *Population and Housing Data by Area Planning Commission.* Demographic Research & Graphic Services Section. Available: http://cityplanning.lacity.org/dru/Locl/LocRpt.cfm?geo=AP&sgo=CP. Accessed September 6, 2018.

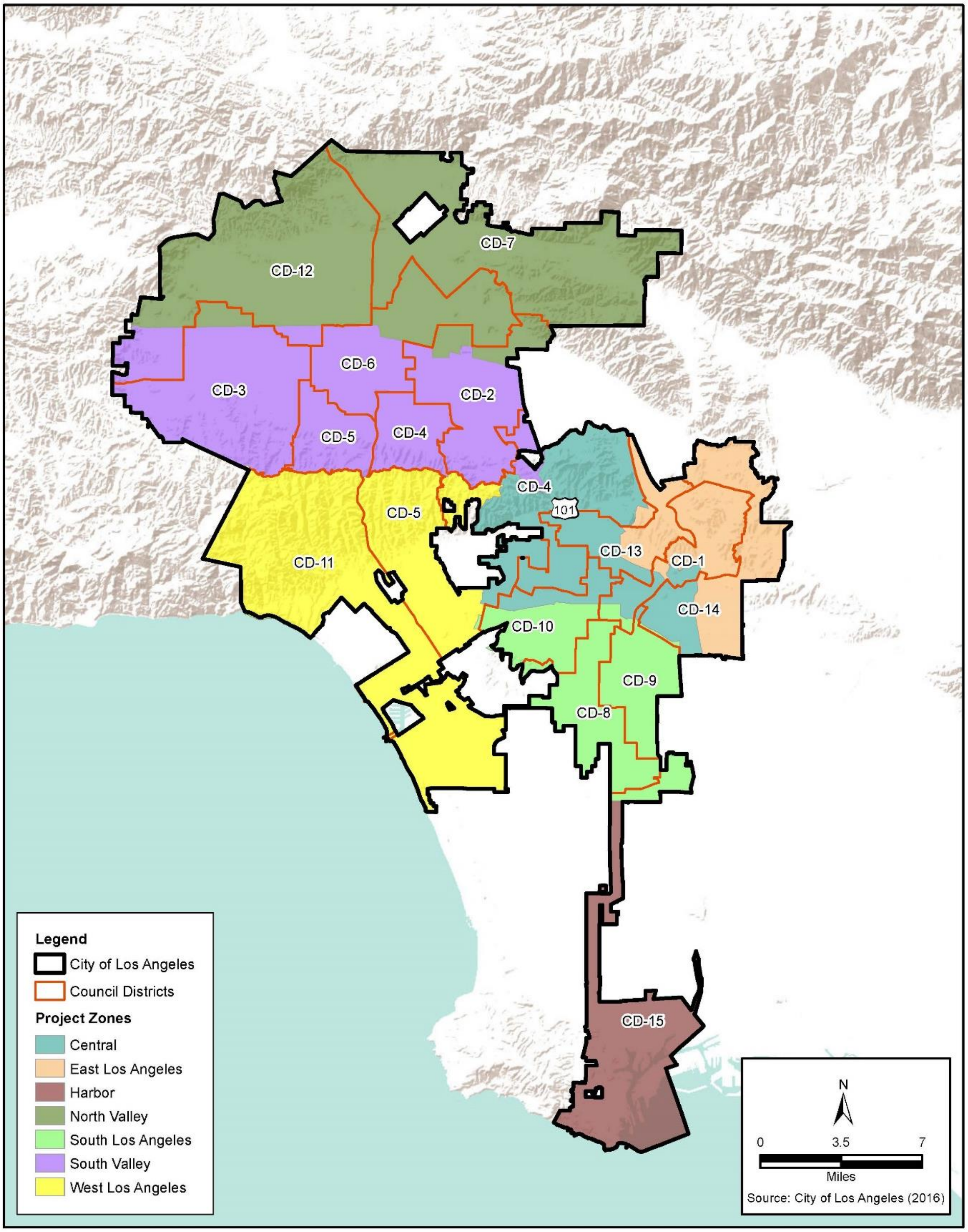


Figure 2-2. City of Los Angeles Council Districts

South Valley

The South Valley project zone is south of the North Valley project zone and covers approximately 98 square miles. It includes the following communities: Canoga Park-West Hills-Winnetka-Woodland Hills, Reseda-West Van Nuys, Encino-Tarzana, Van Nuys-North Sherman Oaks, Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass, and North Hollywood-Valley Village.

West Los Angeles

The West Los Angeles project zone is in the western portion of the City, below the South Valley project zone; covers approximately 90 square miles; and falls within the California Coastal Zone. This project zone includes the following communities: Brentwood-Pacific Palisades, Bel Air-Beverly Crest, Westwood, West Los Angeles, Palms-Mar Vista, Venice, Del Rey, Westchester, Playa Del Rey, and Los Angeles International Airport. Street tree removals and replacements in the California Coastal Zone would require approval from the California Coastal Commission and the City.

Central Los Angeles

The Central Los Angeles project zone is in the central portion of the City and covers approximately 49 square miles. It includes the following communities: Hollywood, Wilshire, Westlake, Central City, and Central North.

East Los Angeles

The East Los Angeles project zone is east of the Central Los Angeles project zone and covers approximately 38 square miles. It includes the following communities: Silver Lake-Echo Park, Northeast Los Angeles, and Boyle Heights.

South Los Angeles

The South Los Angeles project zone is south of the Central and East Los Angeles project zones. It covers approximately 44 square miles and includes the following communities: West Adams-Baldwin Hills-Leimert, South Los Angeles, and Southeast Los Angeles.

Harbor

The Harbor project zone is in the southernmost portion of the City and covers approximately 34 square miles; it also falls within the California Coastal Zone. The Harbor project zone includes the following communities: Harbor-Gateway, Wilmington-Harbor City, San Pedro, and the Port of Los Angeles. Street tree removals and replacements in the California Coastal Zone would require approval from the California Coastal Commission and the City.

The percent distribution of land uses by project zones is shown in Table 2-3. Specifically, the table shows the variations in the types of land uses within the seven project zones.

Table 2-3. Percent Distribution of Land Uses by Project Zone (in percent) [a]

Project Zone	Agricultural	Commercial	Education	Extraction	Industrial	Military	Open Space	Public Facilities[b]	Residential	Transportation[c]	Undeveloped[d]	Utility Facilities[e]	Unknown[f]	Water-Related Uses[g]
North Valley	1.0	8.9	2.9	1.3	4.0	0.0	12.3	2.1	43.0	0.9	17.2	5.7	0.5	0.2
South Valley	0.3	13.2	3.5	0.5	2.6	0.0	7.6	2.2	59.8	1.7	7.2	0.9	0.5	0.0
Central	0.0	15.1	2.0	0.8	5.3	0.0	16.0	4.9	41.1	1.5	7.3	4.4	0.8	0.8
East	0.2	10.6	3.9	1.0	4.7	0.0	10.1	2.9	52.7	3.4	7.8	1.7	0.4	0.7
West	0.1	8.6	2.5	0.5	1.4	0.0	7.6	2.0	33.4	6.0	32.0	1.3	4.0	0.6
South	0.2	11.9	5.3	0.8	4.9	0.0	2.6	3.3	68.3	0.9	0.5	0.5	0.9	0.0
Harbor	0.3	15.4	2.7	6.4	3.8	3.8	7.1	1.6	31.2	20.5	1.9	3.6	0.5	1.1

a. Percentages rounded to the nearest decimal.

b. Public facilities include government offices, police/sheriff stations, fire stations, hospitals, religious facilities, convention centers, libraries, community centers, auditoriums, theaters, observatories, museums, correctional facilities, special care facilities, other special uses (i.e., youth organizations, homeless shelters).

c. Transportation facilities include airports, railroads, freeways and major roads, park-and-ride lots, bus terminals and yards, truck terminals, land portion of harbor facilities.

d. Undeveloped lands also include hillside conserved lands.

e. Utility facilities include power facilities, water facilities, and waste facilities.

f. Unknown land uses include development under construction or unidentified at the time of data collection.

g. Water-related uses include water portion of harbor facilities and water bodies.

Source: SCAG, *2015 Parcel-Based Existing Land Use Dataset*

2.4.3 Infrastructure and Streets

Approximately 21 percent (63,888 acres) of all land in the City is developed for streets, storm drainage channels, utility facilities, and reservoirs. The streets are characterized by a grid-like linear pattern that crosses the City. Other infrastructure includes Chatsworth Reservoir, Sepulveda Basin, Los Angeles Reservoir, Hansen Dam, and the areas abutting Hansen Dam to the southwest.

2.4.3.1 Ongoing Sidewalk Repairs

Figures 2-3a and 2-3b depict examples of existing conditions with respect to sidewalks in the City. As shown in Figures 2-3a and 2-3b, existing conditions vary. Some of the examples show sidewalks and curbs that require repair work as a result of street tree uprooting or other effects. Maintenance has consisted of asphalt patching. Figures 2-4a and 2-4b show before-and-after photos of curb ramp installations and sidewalk repair with root pruning.

Figures 2-5a, 2-5b, and 2-5c provide three representative site plans for sidewalk repair and curb ramp installation work required to ensure compliance with accessibility standards. These are illustrative of the type and intensity of work that is associated with any given sidewalk repair. Figure 2-5a illustrates a typical construction site along an arterial street. In this instance, the sidewalks in front of a series of residences are being repaired and the street trees are being root pruned. In addition, the curb ramp at the southern end of the block is being repaired. Figure 2-5b illustrates the installation of two curb ramps. Curb ramp repair/installation includes an assessment of the four corners of an intersection. In this particular case, two of the corners already had compliant curb ramps. At one curb ramp, construction extends into private property to ensure that the walkway at the residence is accessible by conforming to the grade of the new curb ramp. Figure 2-5c illustrates curb ramp improvements and street tree removal at a park and community center. Street tree removal was necessary to improve the curb ramp to accessibility standards. Figure 2-6 shows removal of existing sidewalk and root pruning. In general, the sidewalk is 4 inches deep and, at times, includes 4 inches of base material. Figure 2-7 shows a sidewalk repair where a street tree is retained and the roots pruned. The sidewalk repair extends beyond the first property to the neighboring one. Figure 2-8 shows the intersection of a sidewalk repair with a curb ramp installation, with the sidewalk conforming to a private property walkway. Figures 2-9a and 2-9b show street tree root pruning associated with sidewalk repair. The root mass tends to be shallow, growing in a pan formation because of the presence of water for landscaping in adjacent yards. The roots do not grow deep because there is usually not enough groundwater to sustain them. Figures 2-10a and 2-10b show the location of a street tree removal. The street tree is removed in pieces, and the stump and roots are mulched.

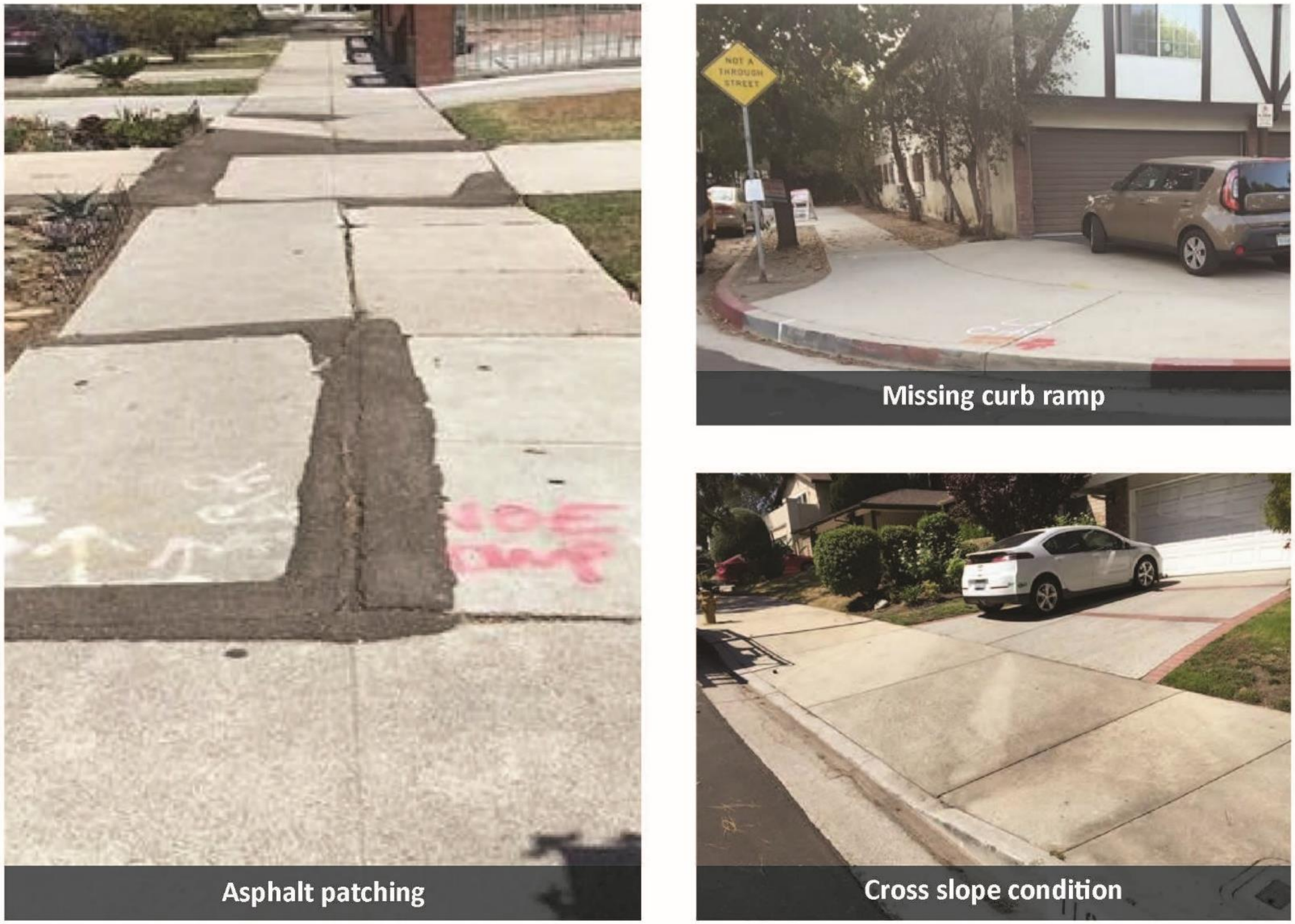


Figure 2-3a. Existing Sidewalk Conditions

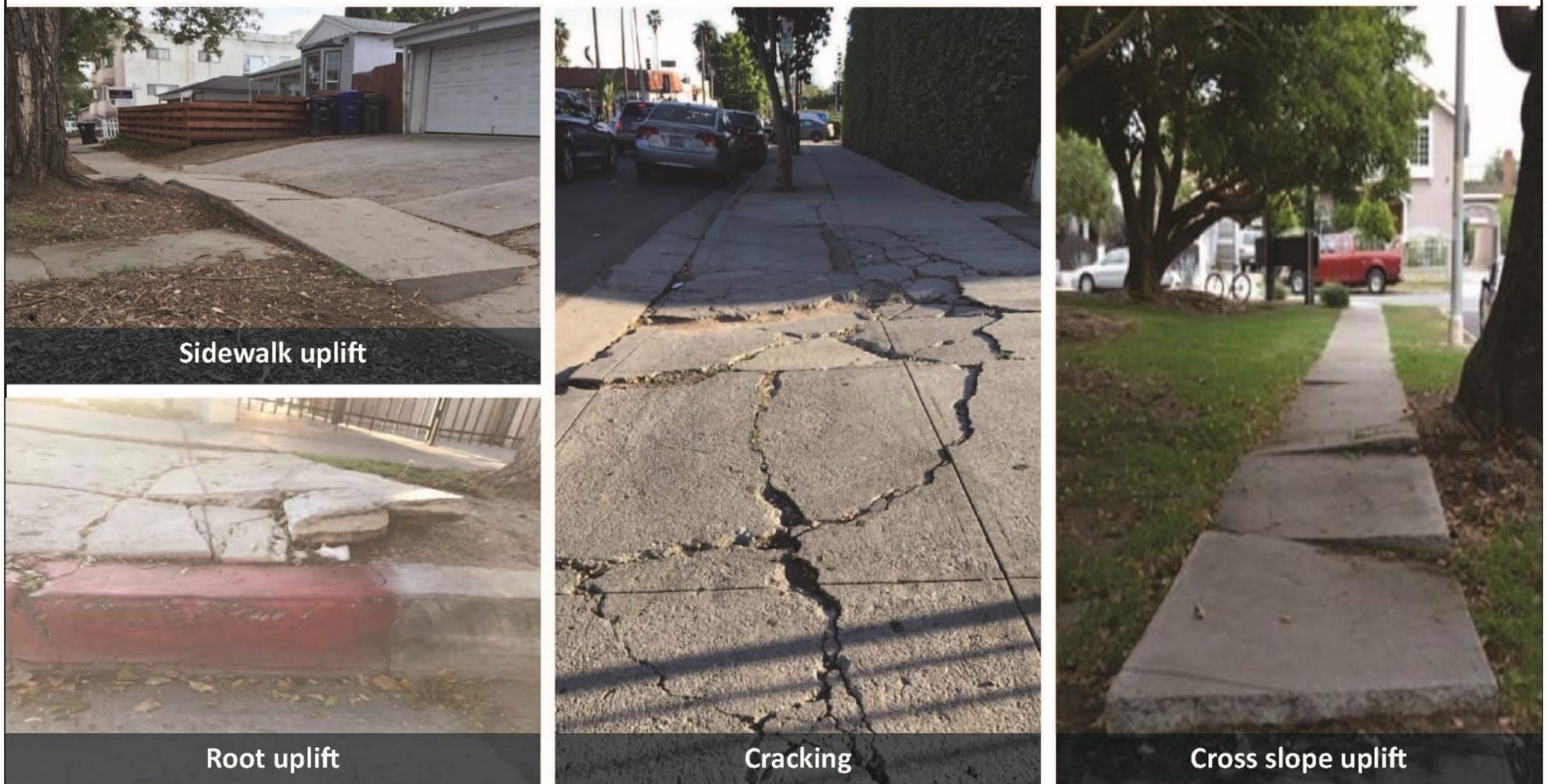


Figure 2-3b. Existing Sidewalk Conditions

Figures 2-4a. Sidewalk Repair – Before and After

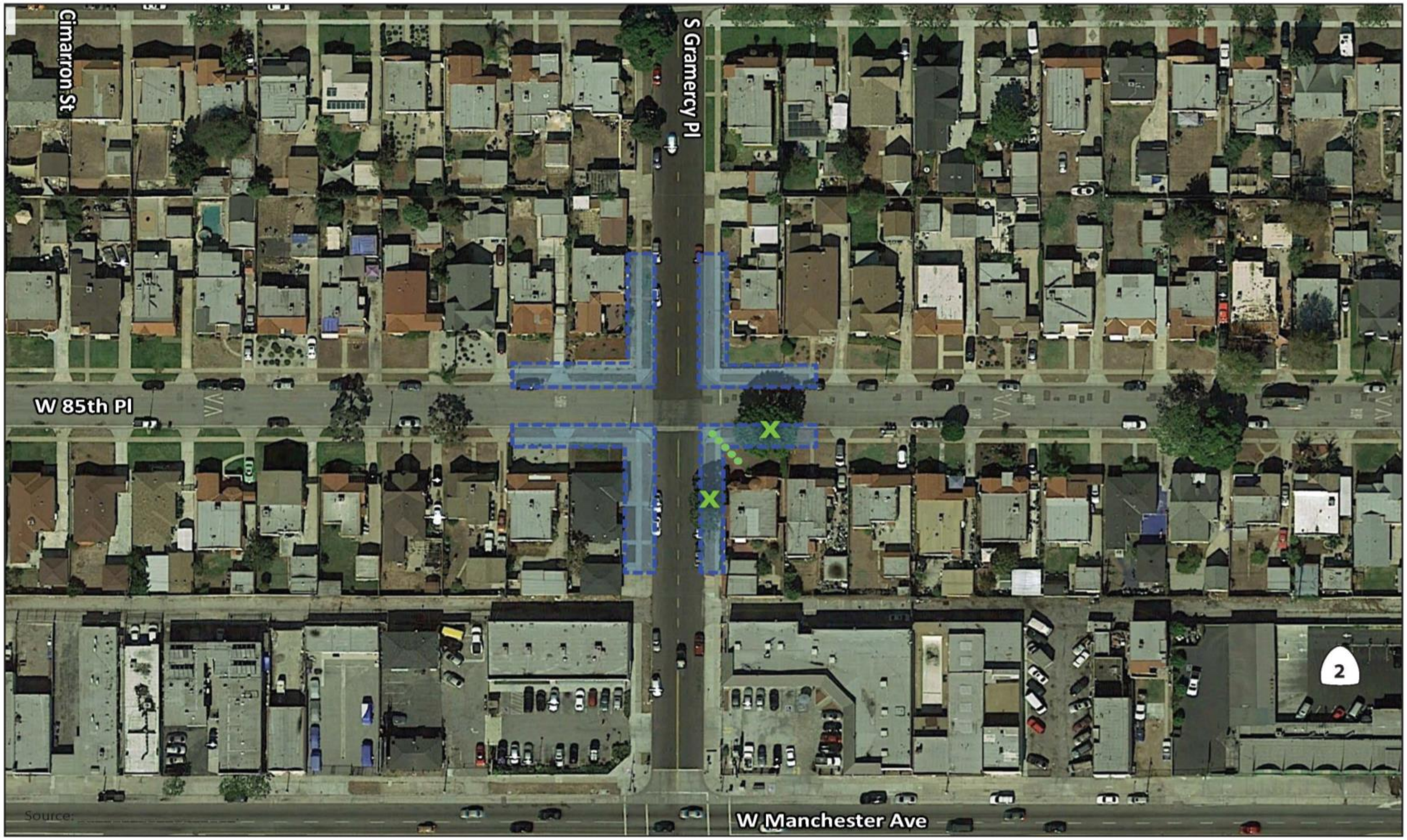
Figure 2-4b. Sidewalk Repair – Before and After

Legend

X Tree Pruning or Removal

Area of Sidewalk Repair

Figure 2-5a. Representative Site Plan for Sidewalk Repair

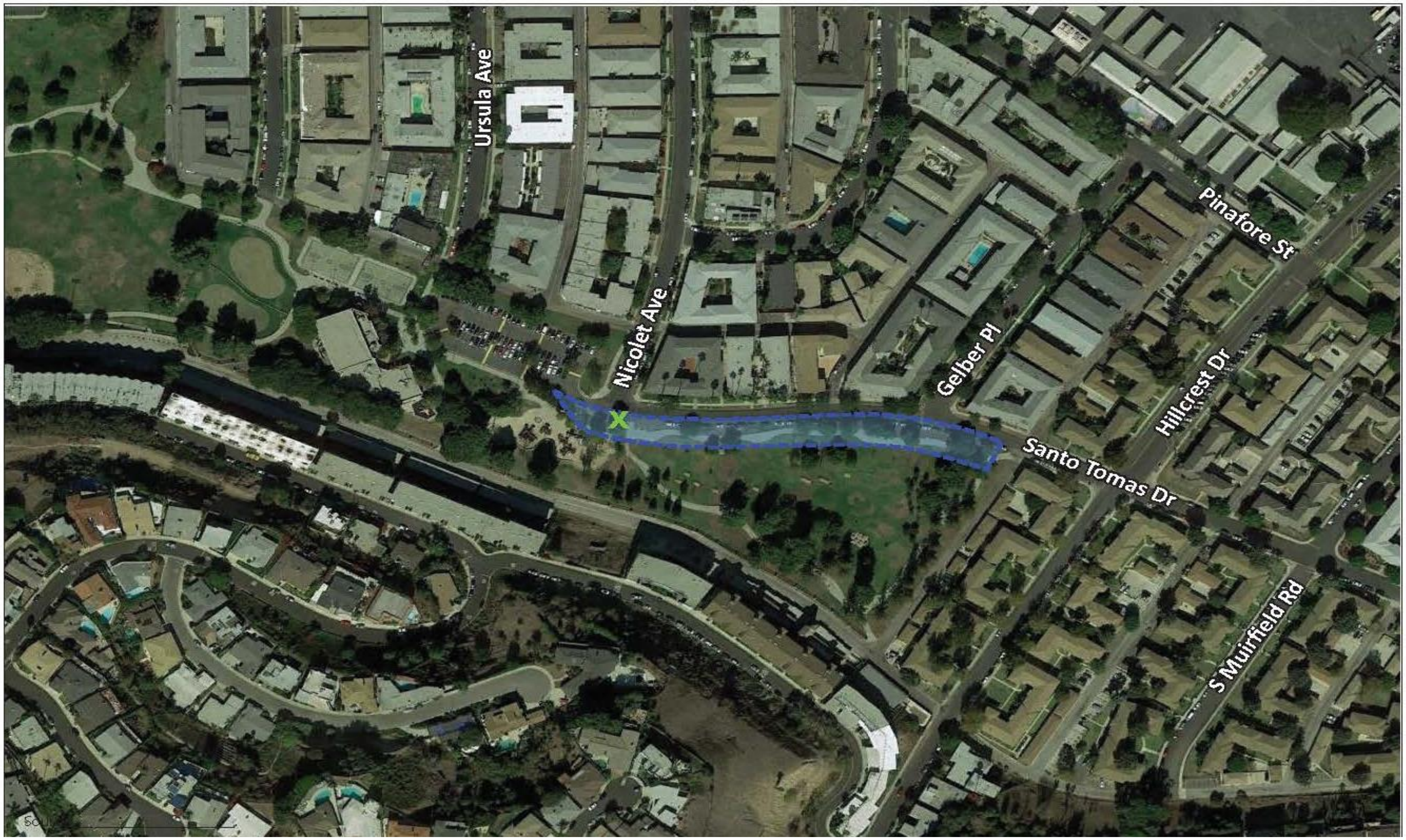


Legend

X **Tree Pruning or Removal**

Area of Sidewalk Repair

Figure 2-5b. Representative Site Plan for Curb Ramp Repair



Legend

X **Tree Pruning or Removal**

Area of Sidewalk Repair

Figure 2-5c. Representative Site Plan for Community Facility Access Repair

Figure 2-6. Photos of Existing Curb and Sidewalk Removed (above)
Photo of Construction – Root Pruning – Existing Sidewalk Removed (below)

Figure 2-7. Existing Sidewalk Removed and Root Pruning Complete

Figure 2-8. Photo of Construction Affecting Private Walkway

Figure 2-9. Photo of Construction – Street Tree Root Pruning – Existing Sidewalk Removed

Figure 2-10a. Photo of Construction – Street Tree Removal

Figure 2-10b. Photo of Construction – Street Tree Removal

2.4.3.2 Street Trees

Per LAMC Sections 62.161–62.177, the Board of Public Works and Bureau of Street Services (BSS) have certain specified jurisdiction over the trees within City streets. These trees, commonly referred to as street trees, are a subset of the urban forest that contains trees, plants, shrubs, and other vegetative material within private property, parks, state parkland, City facilities, and wildland areas.

BSS exercises management responsibility over street trees and, in coordination with the Los Angeles City Planning Department, "protected trees," as proscribed in LAMC Sections 46.00–46.06. According to the U.S. Department of Agriculture Tree Canopy Assessment (January 2008), the City's urban forest contains approximately 10 million trees. A street tree inventory was conducted in 2014 by the City. This inventory identified 711,248 individual street trees comprising 585 species (including a few species that have had a scientific name change). See *Biology Appendix* for further discussion.

The native tree population, mainly within mountainous areas, was not included in the Tree Canopy Assessment; therefore, these population statistics are unknown.[7]

According to BSS, at this time, the percentage of sidewalk coverage by a street tree canopy is unknown; however, citywide canopy cover is estimated to be 21 percent.[8] Also, it is estimated that 88 percent of the available 800,000 street tree well sites are planted.[9]

An important component of the *Willits* Settlement sidewalk repairs is street tree root pruning as well as the removal and replacement of street trees. In June 2015, the Board of Public Works adopted the Street Tree Removal Permit and Tree Replacement Condition Policies. The Policies require all removed street trees to be replaced on a 2:1 basis. (See Policies, at: http://boe.lacity.org/docs/dpw/agendas/2015/201506/20150617/bss/20150617_ag_br_bss_1.pdf.)

Presently, the City considers whether to exempt or conduct further environmental review for individual sidewalk improvement projects on a case by case basis. As part of this process, every effort is made to plant replacement street trees at the same street tree removal location. BSS determines the appropriate species and location for the replacement street trees.

2.5 Proposed Project

2.5.1 Summary of New Ordinance and Primary Components

The Project is the proposed adoption of a new ordinance that revises the way sidewalk repairs pursuant to the *Willits* Settlement are reviewed and approved and is intended generally to improve and streamline the implementation process. The primary components of the ordinance include:

- Specific parameters to enable most sidewalk repairs to proceed as ministerial approvals, not subject to further environmental review applicable to discretionary actions;

[7] Sauceda, Nazario, Director, Bureau of Street Services, Office of the City Clerk. October 22, 2015—City Council Instruction for Bureau of Street Services to Report Relative Health of City of Los Angeles Trees (CF 15-0467).
[8] Information provided by Urban Forestry Division, September 12, 2017
[9] Ibid.

- A streamlined discretionary approval process for sidewalk repair projects falling outside the specific parameters allowed for a ministerial sidewalk repair approval;
- A revised Street Tree Retention, Removal and Replacement Policy establishing a 2:1 street tree replacement to removal ratio requirement for the first 10 years (starting from July 2017), a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the 30-year program; and
- Mandatory Project Design Features (PDFs) generally consisting of regulatory compliance measures and standard construction conditions and procedures.

Each of these primary components is further described below.

2.5.2 Specific Parameters under Which Individual Sidewalk Repairs Would Proceed Ministerially

The new ordinance would enable, notwithstanding anything in the City code to the contrary (except for the City of Los Angeles Cultural Heritage Ordinance, City of Los Angeles Administrative Code (LAAC) Section 22.171), all sidewalk repair projects under the *Willits* Settlement to be subject to ministerial approval by the City Engineer or designee, so long as the individual project meets the following specified parameters:

(1) It is for the repair or reconstruction of a sidewalk or other facilities in compliance with disability law accessibility requirements being implemented under the *Willits* Settlement;

(2) It is within specific parameters of the construction scenarios for the EIR assessment described below (Scenarios 1 and 2), specifically sidewalk repairs lasting no more than 30 non-consecutive construction days in duration and requiring excavation depth of no greater than 30 feet;

(3) It would not cause a substantial adverse change to significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource, as those terms are defined by CEQA;

(4) It complies with the Revised Street Tree Retention, Removal and Replacement Policy, as described below in Section 2.4.4; and

(5) It complies with PDFs included in the ordinance, as described in Chapter 3, *Environmental Impact Analysis* and summarized in the *Executive Summary*, Section ES.3.

If the individual project does not meet all the specific parameters listed above, it would be subject to (notwithstanding anything in the City code to the contrary, except for the Cultural Heritage Ordinance, LAAC Section 22.171), discretionary approval by the City Engineer or designee. Individual sidewalk repair projects subject to the future discretionary approval process still must: (1) be for the repair or reconstruction of a sidewalk or other facilities in compliance with the *Willits* Settlement; (2) comply with the Revised Street Tree Retention, Removal and Replacement Policy as described below in Section 2.4.4; and (3) comply with the PDFs as described in Chapter 3, *Environmental Impact Analysis* and summarized in the *Executive Summary*, Section ES.3. For these discretionary approvals, this EIR would serve as programmatic analysis of the impacts, and further project-level environmental review would be performed as necessary depending on whether the project is within the scope of the EIR pursuant to CEQA Guidelines Section 15168.

2.5.3 Construction Scenarios Assumed for EIR Analysis

2.5.3.1 Overview

The impacts analyzed for the Project are based on the City's commitments under the *Willits* Settlement, and the maximum construction activity possible in any single year over the course of the 30 year implementation period, from June 2017 through June 2047. For quantitative analysis purposes in this Draft EIR, an average site is assumed to be 650 linear feet long and 5 feet wide for each construction site. This assumption is based on data gathered from past work. As a conservative approach, it is also assumed that each repair site would include a street tree removal when the street tree cannot survive root pruning. The actual work completed in 2017-2018 (the first year of the *Willits* Settlement) was approximately 24.4 miles of sidewalk repair, 211 street tree removals, 484 new street trees replanted (at a 2:1 ratio) and no overhead utility relocation.

This environmental analysis is informed by past work completed pursuant to the *Willits* Settlement. Therefore, it was assumed that up to 37 miles per year of repair work will occur for the first five years and that repair work will increase thereafter based on varying financial commitments every five years, per the *Willits* Settlement.

With respect to construction activities, the sidewalk and curb ramp repair work throughout the City is anticipated to increase every five years of the Project as resources are available and efficient processes are implemented. Table 2-4 shows the projected total square feet of sidewalk and curb ramp proposed to be repaired every 5 years, with 37 miles annually for the first 5 years, increasing to approximately 75 miles annually during the last 5 years. Hence, the amount of sidewalk and curb ramp repair increases, and the number of construction activities and crew increases. The number of street trees removed per site, however, remains constant at one street tree removed per site.

Therefore, the analysis in this Draft EIR represents a conservative maximum construction work scenario from an environmental impact standpoint for air quality, canopy loss, greenhouse gas emissions, street tree removals, water demand, hydrology, transportation and use of construction equipment, and other resources that are affected by the amount of sidewalk repair completed by Year 30.

Additionally, as described further below, the City intends to achieve a "net neutral" street tree canopy by the end year of the Project. Net neutral means the amount of street tree canopy cover removed as a result of sidewalk repairs over the life of the Project would be completely offset by the growth in replacement street tree canopy cover by year 30 of the Project. As described in this Draft EIR, the Project includes a 2:1 street tree replacement ratio for years 1 through 10; a 3:1 street tree replacement ratio for years 11 through 21; and a 2:1 street tree replacement ratio for years 22 through 30. Following this replacement ratio, for the projected number of street trees removed, would provide the City with net neutral street tree canopy by year 30. As described in Section 2.5.4 below, the City will also monitor and replace dead or dying street trees replaced as part of a sidewalk improvement.

Street trees would be retained to the maximum extent feasible. However, there may be instances that street tree removal and replacement is necessary to ensure pedestrian facilities comply with the applicable accessibility requirements. The following table identifies the estimated maximum sidewalk repairs and street tree removal and replacements that would occur under the Project in 5-year increments.

Table 2-4. Estimated Maximum Sidewalk Repair and Street Tree Removal under the Project

Year	Estimated Sidewalk Repair (square feet)	Estimated Street Tree Removal (trees)	Estimated Street Tree Replacement (trees)[1]
1–5	4,843,750	1,460	2,915
6–10	5,584,845	1,680	3,360
11–15	6,437,500	1,940	5,820
16–20	7,421,875	2,235	6,705
21–25	8,560,940	2,575	5,665
26–30	9,870,315	2,970	5,940
TOTAL	42,719,225	12,860	30,405

Source: BOE 2018.

1. Based on street tree replacement of 2:1 for years 1-10, 3:1 for years 11-21, and 2:1 for years 22-30

2.5.3.2 Types of improvements for Individual Sidewalk Repair Projects

Based on the work already being performed under existing City programs, the repair projects proposed to be implemented under the Project may include the following types of improvements to meet applicable accessibility requirements:

- Install missing curb ramps;
- Repair street tree damage to sidewalk or walkway surfaces;
- Upgrade existing curb ramps;
- Repair broken and/or uneven pavement in the pedestrian ROW;
- Repair vertical or horizontal displacement or upheaval of the sidewalk or crosswalk surfaces;
- Correct non-compliant cross slopes in sidewalks or sections of sidewalks;
- Remove protruding and overhanging objects and/or obstructions;
- Widen restricted pedestrian ROW when required;
- Provide clearance to the entrances of public bus shelters;
- Repair excessive gutter slopes at the bottom of curb ramps leading into crosswalks;
- Eliminate of curb ramp lips on curb ramps;
- Install utility covers;
- Repair driveways, curbs, and gutters;
- Repair gaps and missing sidewalk sections;
- Retain, remove, and/or replace street trees as needed;
- Widen street tree wells, to 4’ by 6’ as needed;
- Prune street tree roots and/or canopy as needed; and
- Addressing other non-compliant accessibility conditions, as required.

2.5.3.3 Assumptions for Individual Sidewalk Repair Projects

As described further below, all sidewalk repair segments involve common procedures and requirements. As explained herein, and for purposes of analyzing the maximum extent of activities and potential impacts under the three identified scenarios, this Draft EIR provides an analysis of the least complex to the most complex activities in order to describe the full range of construction activities that could occur, as required under CEQA.

2.5.3.4 General Requirements for all Construction Scenarios

Construction Equipment

Project components under each of the construction scenarios could vary slightly, depending on the location of construction sites. For example, not all sidewalks would include removal and replacement of a street tree. One street removal and replacement in each scenario is included for analysis purposes in this Draft EIR, based on one, as the average, street tree removal and replacement for the majority of sidewalk segment improvements occurring at the time of the NOP release for the Project.

Construction equipment associated with implementation of the Project under all scenarios would typically include a concrete mixer, power tools (e.g., concrete cutting saws, chain saws), hand tools, dump trucks, bucket trucks with aerial lifts, and concrete trucks. In addition, traffic control measures, including traffic signs and traffic cones, would be required. During construction, pedestrian and/or car traffic may need to be routed around construction, and street parking may be temporarily limited in the area. Information regarding the construction equipment, duration, and activity assumptions used in this Draft EIR analysis is in Chapter 3.2, *Air Quality and Greenhouse Gas Emissions*, and is summarized below:

Table 2-5. Summary of Activities for Each Construction Scenario

Event/Phase	Duration (days)	Daily Equipment Type (count)	Daily Workers	Truck Trips
Construction Scenario 1				
Mobilization	5	Compressor (1) Small Generator (1)	4	2
Traffic Control/ Demolition/Removal	1	Pneumatic Jackhammer (2) Concrete Saw (2) Skid-Steer Loader (1) Tractor (1)	4	2
Grading/Formwork	1	3 Ton Roller (1)	5	2
Concrete Pouring	1	Concrete Mixer (1) Concrete Vibrator (2)	9	2
Utility Adjustment	2	Manhole Cutter (1) Concrete Saw (1) Concrete Mixer (1)	5	2
Street Tree Removal	1	Bucket Truck (1) Chainsaw (1) Wood Chipper (1) Stump Grinder (1) Skid-Steer Loader (1)	5	0

Event/Phase	Duration (days)	Daily Equipment Type (count)	Daily Workers	Truck Trips
Street Tree Planting	1	Mini Excavator (1)	3	0
Cleanup	1	N/A	3	2
Construction Scenario 2				
Mobilization	5	Same equipment as under Construction Scenario 1	4	2
Traffic Control/ Demolition/Removal	1	Same equipment as under Construction Scenario 1	4	2
Grading/Formwork	1	Same equipment as under Construction Scenario 1	5	2
Concrete Pouring	1	Same equipment as under Construction Scenario 1	9	2
Utility Relocation	20	Concrete/Industrial Saw (1) Excavator (1) Vibratory Plate Compactor (1) Asphalt Paver (1)	5	2
Crosswalk Repaving	5	Concrete/Industrial Saw (1) Skid Steer Loader (1) Asphalt Paver (1) Line Striper (1)	4	1
Street Tree Removal	1	Same equipment as under Construction Scenario 1	5	0
Street Tree Planting	1	Same equipment as under Construction Scenario 1	3	0
Cleanup	1	N/A	4	2

Source: LABOE, 2018.
N/A = Not Available

Construction Crew

It is estimated that the number of construction crews expected at any one time Citywide would range from six crews in the first 5 years, increasing incrementally in years 6–24, to 12 crews in the last 5 years of the Project. Crews would vary in composition and range from 3 to 9 workers per site for both construction scenarios. There would be approximately 298 crew teams for the first 5 years, or six crew teams at one time for 50 weeks. In the last 5 years of the Project, there would be approximately 607 crew teams, or 12 crew teams at one time.

Table 2-6. Summary of Approximate Project Construction Crew Activities

Program Period (Years)	Total Period Estimated Sidewalk Repair (square feet)	Annual Estimated Sidewalk Repair (square feet)	Annual Number of Repair Sites	Number of Weekly Active Crew Teams
1–5	4,843,750	968,750	298	6
6–10	5,584,845	1,116,969	344	7
11–15	6,437,500	1,287,500	396	8
16-20	7,421,875	1,484,375	457	9
21–25	8,560,940	1,712,188	527	11
26–30	9,870,315	1,974,063	607	12

Source: MARRS Services, Inc., 2018.

The remainder of this section offers a description of how the typical construction process would proceed. It should be noted that the actual construction process and schedule would be determined by the City and/or contractor at the time of mobilization, consistent with the approval given by the City Engineer for the individual sidewalk project under the Project; therefore, the information presented below should be regarded as illustrative of typical construction processes under each scenario as described above. All construction would be performed in accordance with the BOE Standard Plans and designs. The Standard Plans are divided into several series and contain standard plans for City infrastructure. The *Streets* section provides details regarding sidewalk repairs, street tree planting, curb ramps, and pedestrian walkways; other sections provide details related to sidewalk culverts, sidewalk outlet structure, curbside grating, and catch basin remodeling. BOE Master Specifications prescribe methodologies for shoring practices for trenching, environmental measures, treatment of historic resources, types of replacement materials, etc. (see BOE Master Specifications Library at http://boe.lacity.org/bms/menu.cfm?mid=0&did=2).

Days of Construction

Construction activities could be for a minimum of approximately 5 non-consecutive construction days to up to 30 non-consecutive construction days; for example, a construction site that requires only minimal sidewalk repair would require a minimum of 5 non-consecutive construction days to complete (Scenario 1), whereas more extensive repair that would involve above- or below-ground utility relocation and street tree removal could require up to 30 non-consecutive days of construction (Scenario 2).

Table 2-7. Summary of Approximate Construction Phases and Duration

Construction Scenario/Phase	Number of Work Days	
	2:1 ratio (years 1-10, 22-30)	3:1 ratio (years 11-21)
1. Scenario #1		
Mobilization, Traffic Control, Demolition, and Removal	2	2
Grading/formwork	1	1
Concrete pouring	1	1
Utility Adjustment	2	2
Street Tree Removal and Replacement	2	3
Cleanup	1	1
SUBTOTAL	5	5
2. Scenario #2		
Mobilization, Traffic Control, Demolition, and Removal	2	2
Grading/formwork	1	1
Concrete pouring	1	1
Utilities relocation	20	20
Crosswalk Repaving	5	5
Street Tree Removal and Replacement	2	3
Cleanup	1	1
SUBTOTAL	30	30

Table 2-8. Approximate Total Project Construction

Year	Estimated Sidewalk Repair (square feet)	Estimated Sidewalk Repair Per Year (sq ft)	Crew Teams Per Year	Crew Teams Per Week
1–5	4,843,750	968,750	298	6
6–10	5,584,845	1,116,969	344	7
11–15	6,437,500	1,287,500	396	8
16–20	7,421,875	1,484,375	457	9
21–25	8,560,940	1,712,188	527	11
26–30	9,870,315	1,974,063	607	12
TOTAL	42,719,225			

Construction Hours

Construction would occur Monday through Friday between 7:00 a.m. and 4:00 p.m. On occasion, work may take place on a Saturday between 8:00 a.m. and 5:00 p.m. In select locations, work hours may be reduced to accommodate rush-hour restrictions. No construction would occur on Sundays or holidays. (See General Conditions 00210 and LAMC Section 41.40.)

2.5.3.5 Typical Construction Scenarios

The two prototypical construction scenarios below are developed for illustrative purposes to represent the most frequent sidewalk repair (Scenario 1) and the less frequent sidewalk repair (Scenario 2). An additional, rare, construction scenario (Scenario 3) was also developed for a programmatic analysis of repair projects that may result in significant impacts for illustrative purposes, particularly for the analysis of project alternatives. These scenarios are representative of various configurations, depending on the conditions of each site. All components described below may not occur at each project location.

The numerical estimates for sidewalk and curb ramp repairs are based on past data and past work for Scenario 1, whereas Scenario 2 is based on the same data with the addition of assumptions for future work.

Scenario 1: Sidewalk Repair with Curb Ramp Repairs, Street Tree Removal and Replacement, and Minor Utility Work

This scenario includes the following construction activities and any combination thereof:

- Sidewalk repair work, including fixing broken concrete, cracks, uplifts, driveways, and curb and gutter, and making required accessibility improvements such as cross-slope work.
- Curb ramp repairs or installation.
- Street tree retention, removal, and replacement.
- Minor utility work, such as irrigation and curb drain replacements, and utility box adjustments.

Sidewalk Repair

Typical sidewalk repair at one construction location takes approximately 5 non-consecutive construction days for a 650-linear-foot site for a 6 to 8-person crew. On average, sidewalk repair requires the following: 1 day for demolition of the existing sidewalk, 1 day for grading and formwork, 1 day for street tree removal and replacement, 1 day for construction of the new sidewalk, and 1 day for cleanup and restoration of the parkway. In some instances, soil compaction may be required. The depth of excavation for sidewalks usually would typically be approximately 8 inches (i.e., 3 to 4 inches for concrete removal and 4 inches for untreated base material). Excavation at driveways would be up to approximately a foot deep (i.e., 6 inches for concrete removal and 6 inches for untreated base material). Excavations for street tree replacement and minor utility relocation could involve excavation extending to depths of 36 inches (3 feet). Construction equipment for sidewalk repair may include the following standard tools: concrete saws and backhoe for removing the existing sidewalk, a concrete truck for delivery of new concrete, vibratory plate compactor for soil/gravel compaction, and a dump truck to haul removed concrete.

Curb Ramp Repairs

Curb ramp repairs may be needed as part of the sidewalk repair and may require a similar level of effort and equipment as sidewalk repair. A curb ramp repair typically lasts 3 to 4 days. Curb ramps could have an impact on pedestrian traffic and require temporary ramps. Temporary ramps would not damage existing pavement, curbs, or gutters near the proposed work. Curb ramp repairs would occur concurrently with other sidewalk repair activities.

Street Tree Retention, Removal and Replacement

Street tree removal equipment consists of chainsaws, wood chipper, skid steer, rigging equipment, rope, wedges, and clearing and cleaning tools. Street tree removal vehicles, bucket truck and stump grinders may be on-site for 1 to 2 days. The street would not be closed to vehicular traffic, but traffic flagpersons and/or devices would need to be in place during street tree removal to protect vehicles from unforeseen falling debris. Bicycle lanes will most likely be merged into traffic lanes if adequate lane width is available. If the traffic lane width is not adequate, then bicyclists would most likely be routed to an adjacent street. Pedestrians would be rerouted to the other side of the street for the entire block in most cases.

Underground Service Alert may be contacted prior to excavation to identify existing utilities in or near the tree wells for all street tree plantings. Depending on the location of the existing utilities and the number of plantings to be performed, equipment could include a mini excavator, or shovel. Root barrier installation is recommended between the street tree and the sidewalk. This would involve an area of around 18 inches deep and about 10 feet long. The street tree is planted, and stakes are typically installed and secured to the street tree. Decomposed granite is often placed in street tree wells, and soil is placed in parkways. New street trees would be watered for a 3-year establishment period, typically with a water truck. When manual watering is not available, other watering practices such as water bags may be used. See Chapter 3.3, *Biological Resources* and appendix for further discussion.

Street Sign Relocation

As part of sidewalk and curb ramp repairs, street signs, such as stop signs, pedestrian signs, crosswalk signs, etc., may need to be relocated. Such street signs are used for vehicle and pedestrian safety[10]. Trenching for pole-top street signs could be up to approximately 36 inches deep. Vehicles and pedestrians may be rerouted. Typically, this construction work takes approximately 4 hours and hand tools to complete.

Minor Utility Work

Minor utility relocations are usually due to utility laterals that interfere with sidewalk construction (e.g., gas and water service laterals to businesses and homes). Utilities that may be encountered include electrical (e.g., street lighting, Department of Water and Power lines), water and gas. If an existing utility lid or cover is damaged or missing, it will be replaced. Prior to construction, utility work involves coordination with property owners and utility agencies. Utility relocation typically requires trenching up to approximately 36 inches deep; mini-excavators; staging areas for excavated soils; and a vibratory plate compactor as part of sidewalk and/or curb ramp repairs for 650-linear-foot site with a 6 to 8-person crew.

Staging

Construction staging would be adjacent to the sidewalk improvements when possible and could occupy 3 or 4 parking spaces. Signage would be posted to reroute pedestrians and vehicles. When the concrete is being poured, cement trucks generally occupy one lane in the right of way and private driveways would be restricted to allow for concrete curing. A typical construction site would

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[10] City of Los Angeles, Department of Transportation, September 1, 2016, *Special Provisions and Standard Drawings for the Installation and Modification of Traffic Signals.* Available: http://ladot.lacity.org/sites/g/files/wph266/f/RED%20BOOK%209-1-16.pdf. Accessed 6-25-2018.

include pickup trucks with trailers for equipment and a backhoe or skid steer. All construction vehicles, with the exception of backhoes, skid steers and portable toilets, would be removed daily from the construction site location.

Scenario 2: Sidewalk Repair with Curb Ramp Repairs, Crosswalk Repaving, Street Tree Removals and Replacements, and Substantial Utility Work

This scenario represents the following construction activities and any combination thereof:

- Sidewalk repair work, including fixing broken concrete, cracks, uplifts, driveways, and curb and gutter, and making required accessibility improvements such as cross-slope work.
- Curb ramp repairs or installations.
- Crosswalk repaving.
- Street tree retention, removal, and replacement.
- Substantial underground and/or overhead utility work.

Sidewalk Repair

Same as Scenario 1, and may include the removal of more than on street tree, with the potential addition of required coordination between subcontractors because of substantial utility work under this scenario.

Curb Ramp Repairs

Same as Scenario 1, with the potential addition of required coordination between subcontractors because of substantial utility work under this scenario.

Crosswalk Repaving

Crosswalk construction may include saw cutting, removal of existing asphalt, and paving, to alleviate existing shoving, cracks, or uplifts from curb ramp to curb ramp. Crosswalk construction is generally performed outside of peak travel times, which are typically the morning and afternoon commute period. Curb ramps leading to the crosswalk must be barricaded in a manner that allows walkways to remain accessible. Equipment may include concrete saw, skid steer, asphalt pavers, and dump truck.

Street Tree Removal and Replacement

This would be similar to work anticipated under Scenario 1, with the potential addition of required coordination between subcontractors because of substantial utility work under this scenario.

Street Sign Relocation

This would be similar to work anticipated under Scenario 1, with the potential addition of required coordination between subcontractors because of substantial utility work under this scenario.

Substantial Utility Work

Substantial utility relocation (e.g., overhead lines) could be possible at a site, from intersection to intersection. This is relevant when overhead poles are placed on or near a sidewalk that restricts the path of travel to less than the required width. Depending on the number of overhead lines, relocation of an overhead line at one construction site could take approximately 1 to 2 weeks, while removal and replacement of several lines could take approximately 4 to 5 weeks. Utility relocations may require improvement plans from the utility owner for construction. These utility plans generally take about 6 to 12 months of design work prior to acceptance and approval from a utility company. Construction of the utility relocation may require a minimum of two trucks with bucket loaders for each pole installation, an auger for removal of soil for a new base, and a concrete truck for delivery of structural base concrete. This may require closing one lane of traffic, which could have the same traffic constraints as sidewalk construction. Coordination would be required with the utility company for disconnection and reconnection and recommissioning.

Depending on the type of utility being relocated, additional trucks and equipment could be needed, which would require more space for construction staging and parking. Traffic signals may be affected, and coordination will be required with the authorizing agencies, including LADOT for flagpersons. For underground utility relocation, excavation of up to approximately 30 feet with, approximately 36- to 76-inch-deep trenching and shoring, could be required in the relocation areas. The construction equipment may include mini-excavators, four-wheel-drive backhoes, shoring equipment, and compactors as well as a staging area for holding excavated soils. These utilities may require the same traffic control measures as needed for overhead power lines where power to those receivers will be interrupted. Plates would have to be placed over the trenching areas during non-working hours.

Catch Basin and Storm Drain Reconstruction

Catch basin reconstruction typically involves reconstructing the lid only. Full catch basin and storm drain reconstruction may be necessary for sidewalk repairs in compliance with applicable accessibility requirements. Reconstruction of these structures would require excavation and trenching to a minimum depth of 15 feet and a maximum depth of 30 feet, depending on the elevation of the outflow pipes and whether full replacement of the structure, is required. Additional trucks and equipment, such as excavators, backhoes, shoring equipment, compactors, and additional concrete trucks, may be necessary, along with additional staging and parking areas. This work could require an additional 3 to 7 days for cast-in-place structures.

Staging

This would be similar to work expected under Scenario 1, with the potential addition of required coordination between subcontractors because of substantial utility work under this scenario. As discussed, construction durations may be longer with the additional and more complex work related to this construction scenario.

Scenario 3: Sidewalk Repair under Specific Environmental Conditions

In rare instances, environmental site conditions for sidewalk repairs may be such that construction activities similar to those encompassed within Scenarios 1 and 2 have the potential to result in additional potentially significant adverse impacts. This construction scenario is described as Construction Scenario 3. For purposes of this Draft EIR, analysis of Construction Scenario 3 is particularly relevant to the discussion in Chapter 4, *Alternatives*.

Construction Scenario 3 projects would include any combination of activities described for Construction Scenario 1 and Construction Scenario 2, however, Scenario 3 would also include one or more of the following conditions:

- A substantial adverse change to the significance of a historic, tribal, unique archeological or unique paleontological resource; or
- A substantial adverse change to the significance of a historic, tribal, unique archeological or unique paleontological resource resulting in a significant aesthetic impact.

2.5.4 Revised Street Tree Retention, Removal and Replacement Policy

2.5.4.1 Introduction

A street tree is a tree, typically planted by the City, usually in a parkway or within 5 feet of the back of the sidewalk, within the public ROW or a public easement. In some residential neighborhoods, the sidewalk is adjacent to the curb; the easement is situated in the area between the house and the sidewalk. Although it would be ideal to have all healthy, mature street trees preserved, this may not be possible where some sidewalk improvements are needed because of the small areas in which street trees exist and the potential for root or other damage.

Development of the Project has been based on arboriculture best management practices (BMPs), City practices, and research. This uniform policy is necessary to streamline the current street tree permit and approval process.

In general, under the revised street tree policy, street trees will be replaced at a 2:1 ratio for the first 10 years (starting from July 2017), consistent with current City policy (i.e., Board of Public Works adopted Street Tree Removal Permit and Tree Replacement Condition Policies), at a 3:1 ratio for years 11 to 21, and at a 2:1 ratio for the last 9 years of the program. The revised street tree policy would also have the following new standards, as set forth below.

2.5.4.2 Purpose

The purpose of this Policy, in conjunction with the proposed ordinance is:

1. To set forth ministerial permit requirements for street trees retained, removed, or replaced as part of the Sidewalk Repair Program where street trees are the cause of sidewalk damage.
2. To provide objective standards, guidelines, and procedures for a more efficient approval process for Sidewalk Repair Program–related street trees.
3. To have a mixed-age tree population, adequate species diversity, and an appropriate mix of street tree types to provide a diverse urban forest ecosystem that is able to adapt to changing environmental pressures, such as disease, pest infestation, climate, etc.
4. To identify street trees that have varied forms, textures, structures, flowering characteristics, and other aesthetic benefits to enhance the types of street environments found in the City.

2.5.4.3 Responsible City Entities and Current Duties

Department of Public Works (DPW) – DPW is responsible for street trees in all public ROW as defined in LAMC Section 62.162.

Board of Public Works (Board) – The Board is responsible for approving street tree permits for three or more street tree removals.

DPW, Bureau of Engineering (BOE) – BOE is responsible for managing and implementing the Sidewalk Repair Program.

DPW, Bureau of Street Services (BSS) – BSS is the responsible agency for the initial sidewalk assessment, for performing sidewalk repairs, all ancillary tree work, inspection, and the issuance of the Sidewalk Certificate of Compliance for work BSS performs. BSS is typically responsible for performing work required under the Access Request Program

DPW, BSS, Urban Forestry Division (UFD) – UFD is the responsible agency for assessing the disposition of street trees causing damage to the sidewalk. UFD will determine if root pruning is allowed or if tree removal and replacement are necessary. UFD is responsible for issuing the proper street tree permits, for some street tree removal and planting work, including maintenance, and monitoring under the Sidewalk Repair Program.

DPW, Bureau of Contract Administration (BCA) – BCA is the responsible agency for the initial assessment of the locations included in the Rebate Program to determine the required scope of all concrete work (e.g., sidewalk, curb/gutter, driveway). BCA also performs the inspection for all private contract work, including City Facilities and Rebate, and is responsible for the issuance of the Sidewalk Certificate of Compliance.

Root Pruning

The objective of the root-pruning program is to ensure that roots are pruned prior to a sidewalk becoming non-compliant with applicable accessibility requirements. City root-pruning standards are applicable to tree species that could be considered for root pruning, which would be limited to only one side of the planting area where the tree is planted. This practice would continue to be applied under the Project as a method of street tree retention.

Root pruning is a practice wherein street tree roots that create an off-grade sidewalk condition are cut, allowing the sidewalk to be reconstructed on grade in compliance with applicable accessibility requirements. Root pruning may be hazardous to both a street tree's structural stability and/or health. Although every individual tree of a particular species, as well as species within the global street tree population, grows at different rates, root-pruning guidelines consider the lowest common denominator for conflict recurrence. The selection of street trees that can be root-pruned considers street tree species, the distance from the trunk that the roots are pruned, the size of the pruned roots, and the volume of root plate affected by root pruning.

International Society of Arboriculture (ISA) BMP and arboriculture research generally agree that root pruning any closer than three to five times a tree's diameter is highly discouraged. Utilizing these limits even at the low end (three times the diameter) would nearly preclude all street trees from being root-pruned. For example, a 10-inch-diameter tree would not be able to be root-pruned any closer than 10 inches × 3 = 30 inches, or 2.5 feet. A 5-foot parkway or street tree well would preclude root pruning because the root pruning would occur too close to the trunk. This example is extreme because most street trees that damage sidewalks are much larger than 10 inches in diameter. The size of the average open parkway is 5 to 6 feet. The average street tree well size would be 4 feet by 6 feet. In other words, the use of BMPs would preclude root pruning as a street tree retention method. UFD would prune street trees at 3-year intervals. All street-tree pruning under the Project would comply with the ISA *Tree Pruning Guidelines*; the American National Standards Institute (ANSI) *Trees, Shrubs, and Other Woody Plants Maintenance Standard Practices* (ANSI A300); and the City *Tree Trimming Standards* to ensure proper pruning practices.

Canopy Pruning

Canopy pruning may be necessary to comply with accessibility requirements if the street tree canopy is obstructing the pedestrian access route. Minimum clearance of 80" is required above the sidewalk. The following would be the procedures for street tree canopy pruning:

1. Certified UFD Street Tree Supervisor
   - The arborist shall hold a valid C61/D49 state contractor's license.
   - Ask for local references.
2. Proper cuts
   - Pruning cuts shall be made in branch tissue just outside the branch bark ridge and collar, without causing injury to the street tree.
   - No flush-cuts shall be made.
   - No stubs shall be left in the street tree.
   - Cuts shall have no ripping or tearing of the bark.
3. Proper thinning
   - Seldom should more than 25 percent of the street tree's foliage shall be removed.
   - Sufficient branch structure should remain in the interior of the street tree.
   - Foliage shall be removed in a manner that leaves the street tree in symmetrical balance.
4. Proper crown raising
   - Street trees shall be raised to conform to LAMC Section 62.163.
5. Correcting defects
   - Remove dead, diseased, damaged, or crossing limbs.
   - Remove any broken hanging limbs.
   - Perform crown restoration on previously topped or severely pruned street trees.
6. No topping cuts shall be made
   - Topping cuts invite insects and decay.
   - New growth is weak and promotes profuse water sprout growth.
   - Topping cuts deplete trees' energy stores, reduce photosynthesis, and prohibit trees' ability to gather and process sunlight, reducing survivability.
7. Inspection
   - All street tree inspections shall be conducted by a Certified UFD Street Tree Supervisor.

All pre- and post-pruning street tree inspections would be performed by a Certified UFD Street Tree Supervisor. It should be noted that a root-pruning permit would not be necessary for street tree pruning and root pruning under the Project. Furthermore, street tree canopy pruning and root pruning would occur in compliance with the *Migratory Bird Treaty Act* (MBTA) and California Fish and Wildlife Code, as discussed in detail in Chapter 3.3, *Biological Resources*.

2.5.4.4 Street Tree Removal Criteria

For the removal and replacement of street trees, the UFD Chief Forester has been designated as the officer with the authority to ensure future sidewalk repair projects falling under the proposed ordinance comply with the Revised Street Tree Retention, Removal and Replacement Policy. A thorough inspection and review would be undertaken for each street tree removal and replacement using the aforementioned practices.

Prior to a street tree removal, each removal would be evaluated by the UFD per the criteria below.

- Street trees that are dead, diseased, or unable to be retained by root pruning alone would be removed.
- Street trees exhibiting crown dieback in excess of 50 percent would be removed.
- Street trees with a 50 percent or greater foliated crown would be removed.
- Street trees exhibiting signs of *Xylella* or other severe pest infestations (e.g., crown dieback, cankers, exudates) would be removed.

Street Tree Well – Street tree wells would be enlarged to 4 feet by 6 feet and roots would be pruned as necessary, while still maintaining applicable accessibility requirements.

Sidewalk Ramping – In public ROW types where continuous planting strips (parkways) exist with street trees, the reconstructed sidewalk may be placed on top of the root plate (ramped). Ramping requires enough linear space on each side of the highest point of the ramp to allow for a slope of no more than 5% and cross-slopes of 2%. Utilization of ramping may void the sidewalk warranty.

Sidewalk Minimizing – In public ROW types where continuous planting strips (parkways) exist with street trees, sidewalks may be reduced in width to allow more root growth area and root pruning, as necessary, if the remaining sidewalk width still maintains ADA accessibility requirements.

Meandering Sidewalk - In some locations it may be possible to meander the sidewalk around existing trees to allow additional room for root growth. Meandering may require an additional sidewalk dedication or easement.

Private Property Trees - Private Property trees are required to be maintained by the property owner. The Project will not perform any root pruning or removal of private property trees causing damage to the sidewalk or direction on measures to be taken.

Native Trees

The City is home to several native tree species. The native tree population is a significant part of the City's urban forest. In recognition of native trees' contribution to the natural environment, the citizens and government of the City enacted an ordinance to protect certain non-planted native trees against removal or damage. By their very nature, native tree species have unique environmental and growth needs that are often not present in a street tree environment. Generally, because of native trees' growth needs and habits, the planting of native tree species requires larger planting areas. Additionally, the two most prevalent native tree species in the Los Angeles area, coast live oak (*Quercus agrifolia*) and western or California sycamore (*Platanus racemosa*), are both considered high biogenic emitters. Therefore, widespread use of native tree species must be thoroughly evaluated before being implemented. All efforts would be made to plant native trees; however, if the existing street tree well location or size is not suitable for a native tree, a UFD acceptable street tree species would be planted. (See Appendix D.)

2.5.4.5 Historical Cultural Monuments

The City has recognized and designated several street tree locations as worthy of Historic-Cultural Monument status. These include:

- Monument #148.0 – Coral (*Erythrina caffra*) street trees on San Vicente Boulevard between Bringham Avenue and 26th Street
- Monument #465.0 – Sycamore (*Platanus racemosa*) street trees on Bienvenida Avenue between Sunset Boulevard and the dead-end south of Sunset Boulevard
- Monument #93.0 – California pepper (*Schinus molle*) street trees on Canoga Avenue between Ventura Boulevard and Saltillo Street
- Monument #49.0 – Olive (*Olea europea*) street trees on Lassen Street between Topanga Canyon Boulevard and Farralone Avenue
- Monument #24.0 – Coast live oak (*Quercus agrifolia*) (deceased) in median island on Louise Avenue 210 feet south of Ventura Boulevard
- Monument #41.0 – Deodar cedar (*Cedrus deodar*) street trees on White Oak Avenue between Devonshire Street and Ronald Reagan Freeway (State Route 118)
- Monument #94.0 – Median island Queen Palm (*Syagrus romanzoffianum*) and Mexican Fan Palm (*Washingtonia robusta*) street trees on Highland Avenue
- Monument #509.0 – Camphor (*Cinnamomum camphora*) street trees in the 1200 block of Lakme Avenue
- Monument #67.0 – Deodar cedar (*Cedrus deodar*) street trees on Los Feliz Boulevard between Riverside Drive and Western Avenue

The City Cultural Heritage Ordinance, LAAC Section 22.171, would still apply to Historic Cultural Monuments under the Project.

2.5.4.6 Public Notification Criteria

Under the Project, the current practice of street tree removal notification would continue with a few modifications. A 7-day notice would be posted on the street tree to be removed. The information would include, but not be limited to, the date and reason for the removal, location and species of the planted or replanted street tree(s), location and species of the replacement street tree to be planted, and a contact name with associated phone number and email.

2.5.4.7 Street Tree Bird/Bat/Raptor Nesting Survey Criteria

Street trees that require pruning or relocation/removal under the Project would be subject to compliance with the MBTA Compliance and California Fish and Game Code sections. The MBTA protects migratory birds and their parts (including eggs, nests, and feathers). The MBTA prohibits killing, possessing, or trading migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior.

In compliance with the MBTA and California Fish and Game Code Sections 3503 and 3503.5, street tree removal activities would take place outside of the nesting bird season (February 1 to September 1) to the extent feasible. In accordance with these regulatory requirements, efforts would be made to schedule removal of mature street trees between September 2 and January 31 to avoid the nesting bird season.

Prior to being removed, all street trees would be thoroughly surveyed for the presence of nesting birds/bats/raptors by a Certified UFD Street Tree Supervisor within 3 days prior to any street tree removal. If any active nests are detected, the area would be flagged, and a minimum 250-foot (500-foot for raptors) non-disturbance buffer would be established for at least 30 days until the nesting cycle has been completed or the UFD tree supervisor determines that the nest has failed.[11] If nesting birds are found, an avoidance area would be established around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The Project site would be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season.

A pre-construction nesting bird survey would be submitted at the conclusion of the site survey.

All street tree removal work would be performed under the management of a UFD tree supervisor, including any pre- and post-pruning street tree inspection.

2.5.4.8 Street Tree Planting Specifications

Starting from July 2017, a 2:1 replacement to removal ratio would be followed for years 1-10 (starting July 2017), 3:1 for years 11-21, and 2:1 for years 22-30.

Climate – Southern California is known for its Mediterranean climate, which, for the most part, is conducive to the growth of most of the world's tree species. Because of its large geographic size, the City has several micro-climates and varying soil types within its boundaries. Therefore, determining the correct species for a specific location would address these considerations.

Site Selection – The location would be determined by a UFD tree supervisor. Street tree design is unique because of the relationship between public and private infrastructure and the linear orientation. Species selection should be based on "right tree, right place" considerations. Because street trees are generally planted along street sides, species selection should consider uniformity along blocks and street segments. Uniformity would allow for similar street tree maintenance and would provide design continuity. Generally, street tree species selection at a given location is determined by the predominant street tree species on a block.

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[11] U.S. Fish and Wildlife Service. 2018. Threatened & Endangered Species Active Critical Habitat Report. July. Available: https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

The following areas would be considered for street tree planting, in order of priority:

1. If space exists for a new street tree planting at the location of the removed street tree, a street tree would always be planted back in that location.
2. Planting would take place on either side of the same street/block.
3. All new street trees would be planted on the immediate street to the north, south, east, or west of the removed street tree location.
4. All new street tree would be planted in the neighborhood/community in which the street tree removal(s) occurred (within 0.25 mile).
5. All new street trees would be planted in historically low-canopy areas or in areas with a high index rating of "heat island" or in areas of the City with poor air quality as determined by the South Coast Air Quality Management District, the California Office of Environmental Health Hazard Assessment, or the California EPA.[12]

Street Tree Selection Guide – The current guide lists 150 street tree species that can be planted in the City. These species can be grown and survive in the City because of the City's Mediterranean climate (see Appendix D).

Street Tree Planting Standards – Street trees would be planted according to the specifications put forth in BOE Standard Plan(s) S-450-3, S-455-2, and S-456-2.

Street Tree Size – The standard street tree stock replacement size would be a 24-inch box. The 24-inch box size realizes a compromise between street tree establishment ability and a street tree's resistance to vandalism while providing a reasonable length of time for canopy replacement (7 to 10 years).

Street Tree Root Control Barriers (RCB) – Much arboriculture research on the use of RCBs has been conducted, often with various and sometimes conflicting outcomes. However, most research has shown that the use of RCBs can increase the time in which conflict with the infrastructure the barrier is meant to protect may occur. Therefore, RCBs are required to be installed on street tree plantings per Standard Plan S-456-2.

2.5.4.9 Street Tree Maintenance and Monitoring Requirements

Any person in charge of repair, alteration, or removal of any sidewalk or ancillary structure in any street, sidewalk, parkway, alley, or other public ROW would protect any street tree, shrub, or plant in the vicinity of such repair work with sufficient guards or protectors as to prevent injury to said street tree, shrub, or plant arising out of or by reason of said repair alteration or removal. All green waste generated by the repair of sidewalks or retention, removal, and replacement of street tree(s) as part of the Sidewalk Repair Program would be composted, mulched or disposed of in accordance with title 14 of the California Code of Regulations governing compost quality, as applicable.

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[12] Urban heat island maps can be accessed at https://calepa.ca.gov/climate/urban-heat-island-index-for-california/urban-heat-island-interactive-maps/. Current air quality data can be accessed at http://www.aqmd.gov/home/air-quality/current-air-quality-data. Communities most affected by poor air quality can be identified at https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

For the first three years of planting, UFD would maintain and monitor growth through visual inspections at the time when street trees are manually watered every three weeks. Young street trees that do not survive in the first 3 years would be replaced at a 1:1 ratio.

The young street trees must be able to withstand slight to moderate drought or other stress. The street trees will continue to be maintained by UFD and, as such, the current practice of watering a planted street tree 33 times a year would continue. Mandatory Project Design Features

As part of Chapter 3, *Environmental Impact Analysis*, each environmental resource area analysis provides, as applicable, PDFs consisting of regulatory compliance measures and other standard conditions for sidewalk repair projects under the Project. These PDFs are summarized in *Executive Summary*, Section ES.3. Each individual sidewalk repair project under the Project would comply with all applicable PDFs.

2.5.5 Illustrative Examples of Application of Proposed Project/Ordinance

For illustrative purposes only, below are hypothetical future individual project characteristics and how they would be treated under the proposed Project/ordinance. All these hypothetical future individual sidewalk repair projects are assumed to: (a) be implemented under the *Willits* settlement; (b) comply with the Revised Street Tree Retention, Removal and Replacement Policy; and (c) comply with the PDFs as summarized in *Executive Summary*, Section ES.3.

<u>Hypothetical Future Individual Project #1:</u>

- Lasts no more than 30 non-consecutive days and requires excavation depth of no greater than 30 feet; and
- Would not cause a substantial adverse change to the significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource.

Project #1 would be subject to ministerial approval by the City Engineer or designee, with no further CEQA environmental review necessary.

<u>Hypothetical Future Individual Project #2:</u>

- Lasts no more than 30 non-consecutive days and requires excavation depth of no greater than 30 feet;
- Involves a known historic resource but determined through pre-screening not to cause a substantial adverse change to the known historic resource; and
- Would not cause a substantial adverse change to the significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource.

Project #2 would be subject to ministerial approval by the City Engineer or designee, with no further CEQA environmental review necessary.

<u>Hypothetical Future Individual Project #3:</u>

- Lasts no more than 30 non-consecutive days and requires excavation depth of no greater than 30 feet;

- Construction is less than 10 feet from a commercial sensitive use and therefore results in a significant noise impact per the analysis in Chapter 3.10, *Noise*; and
- Would not cause a substantial adverse change to the significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource.

Project #3 would be subject to ministerial approval by the City Engineer or designee, with no further CEQA environmental review necessary.

<u>Hypothetical Future Individual Project #4:</u>

- Lasts <u>more</u> than 30 non-consecutive days and/or requires excavation depth of <u>greater</u> than 30 feet; and
- Would not cause a substantial adverse change to the significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource.

Project #4 would be subject to discretionary approval by the City Engineer or designee, with further project-level CEQA environmental review performed as necessary.

<u>Hypothetical Future Individual Project #5:</u>

- Lasts no more than 30 non-consecutive days and requires excavation depth of no greater than 30 feet; and
- Would cause a substantial adverse change to the significance of a known historic, tribal cultural, unique archaeological, or unique paleontological resource, based on pre-approval screening.

Project #5 would be subject to discretionary approval by the City Engineer or designee, with further project-level CEQA environmental review performed as necessary.

<u>Hypothetical Future Individual Project #6:</u>

- Lasts no more than 30 non-consecutive days and requires excavation depth of no greater than 30 feet; and
- Would cause a substantial adverse change to the significance of a City Historical Cultural Monument.

Project #6 would be subject to discretionary approval by the City Engineer or designee, with further project-level CEQA environmental review performed as necessary. In addition, Project #6 would be subject to the Cultural Heritage Ordinance, LAAC 22.171.

Chapter 3
Environmental Impact Analysis

3.0 CEQA Screening and Significance Thresholds

On July 27, 2017, the City of Los Angeles (City) issued the Notice of Preparation and Initial Study/Environmental Checklist for the proposed Project (Project). The Initial Study, as provided under the California Environmental Quality Act (CEQA), utilized CEQA Guidelines (14 California Code of Regulations), Appendix G, to determine if the project may have a significant effect on the environment. The City concluded that the Project may have a significant effect on the environment and that an environmental impact report (EIR) would be prepared.

In the preparation of the Draft EIR, the City opted to be guided by a combination of Appendix G and the City of Los Angeles' 2006 *L.A. CEQA Thresholds Guide*, a guidance document adopted by the City Council of the City of Los Angeles pursuant to CEQA Guidelines Section 15064.7(b) to assist in responding to the questions in the State's Appendix G and to provide significance thresholds to assist in determining whether a project's impacts would be significant, to formulate the CEQA screening and significance thresholds for the Project.

While the Draft EIR was being prepared for finalization, on December 28, 2018, the State Office of Administrative Law approved and made effective revised CEQA Guidelines, including a revised Appendix G, submitted by the State Natural Resources Agency. The Resources Agency stated in its Final Statement of Reasons for the revised CEQA Guidelines, dated November 18, 2018, that it "reiterates that Appendix G is only a sample form," that it is "only suggested and public agencies are free to devise their own format for an initial study," and that "CEQA grants agencies discretion to develop their own thresholds of significance."

For purposes of the screening and significance thresholds for the Draft EIR, the City re-evaluated the proposed thresholds it was intending to utilize for the Project in light of the 2018 revisions to Appendix G. A summary of the re-evaluation is provided below in Table 3.0-1. Pursuant to this re-evaluation, the City, in its discretion as provided under CEQA, has elected for the Draft EIR to revise some of the previous thresholds it had developed before the 2018 revisions to Appendix G, and has elected to retain the rest of the previous Project specific thresholds it had developed before the 2018 revisions Appendix G, since they are consistent with the 2018 revisions to Appendix G.

For transportation impacts, on July 30, 2019, the City Council, pursuant to CEQA Guidelines 15064.7(b), approved the Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines (LADOT Guidelines) that were prepared consistent with the 2018 revisions to the CEQA Guidelines and Appendix G. The Draft EIR has elected to use thresholds consistent with the LADOT Guidelines.

Table 3.0-1 Evaluation of Proposed Thresholds with 2018 Revised Appendix G

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
AESTHETICS	AES-1. Would the proposed Project substantially damage or degrade a designated scenic vista or state scenic highway?	a) Have a substantial adverse effect on a scenic vista?	No change to threshold, no effect on document
	AES-2. Would the proposed Project substantially damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, in City of LA adopted land use plans?	b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?	No change to threshold, no effect on document
	AES-3. Would the proposed Project substantially damage or degrade existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees? • The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image. • The degree to which the project would contribute to the area's aesthetic value. • The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment	<u>c) In non-urbanized areas,</u> substantially degrade the existing visual character or quality of <u>public views of</u> the site and its surroundings? <u>(Public views are those that are experienced from publicly accessible vantage point).</u>	Limits the threshold to public views. This is consistent with the threshold that is in use.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	AES-4. Would the proposed Project substantially damage visual landscape, including but not limited to street trees, utility poles, or historic structures within public right- of- way		Addressed above in AES-3
	AES-5. Would the proposed Project conflict with applicable guidelines and regulations on aesthetics of the project site?	c) (continued) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	New threshold is consistent with AES-5 language. No action recommended.
	AES-6. Would the proposed Project result in the substantial loss of shading as a result of street tree retention, removal, or replacement throughout the project buildout?		No applicable appendix G threshold
		d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No change to threshold and not applicable
AIR QUALITY	AQ-1: Would the proposed Project conflict with or obstruct implementation of the SCAQMD AQMP?	Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?	Clarification of threshold – no change recommended
	AQ-2: Would the proposed Project generate air pollutant emissions during construction activities of sufficient quantity to exceed the Air Quality	~~b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?~~	Because SCAQMD still has thresholds for CO and Sox, these two pollutants, we recommend that we continue to analyze

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	Significance Thresholds established by the SCAQMD?	b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in nonattainment status under an applicable federal or state ambient air quality standard ~~(this includes the release emissions the exceed quantitative thresholds for zone precursors~~)?	these pollutants. We can add footnote in our emission tables to say that while the region is in attainment for these pollutants, we are still evaluating the pollutants consistent with SCAQMD's established thresholds anyway
	AQ-3: Would the proposed Project generate air pollutant emissions during operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD?		Addressed above in AQ-2
	AQ-4: Would the proposed Project expose sensitive receptors to substantial TAC concentrations?	c) Expose sensitive receptors to substantial pollutant concentrations?	No change to threshold, no effect on document
	AQ-5: Would the proposed Project create objectionable odors affecting a substantial number of people?	d) Result in other emissions (such as those leading to odors ~~that would affect~~ adversely effecting a substantial number of people?	Clarification – This edit could be included in the City threshold. Potential Action Item. Would not change analysis.
BIOLOGICAL RESOURCES	BIO-1: Would the proposed Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?	a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	BIO-2: Would the proposed Project result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community?	b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	No change to threshold, no effect on document
	BIO-3: Would the proposed Project result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species?		No threshold, no effect on document
	BIO-4: Would the proposed Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	c) Have a substantial adverse effect on state or federally protected wetlands~~, as defined by Section 404 of the Clean Water Act~~ (including marshes, vernal pools, coastal areas, etc.), through direct removal, filling, hydrological interruption, or other means?	Clarification – This edit could be included in the City threshold. Potential Action Item
	BIO-5: Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	BIO-6: Would the proposed Project conflict with any local policies or ordinances protecting a street tree preservation policy or ordinance?	e) Conflict with any local policies or ordinances to protect biological resources, such as a tree preservation policy or ordinance?	No change to threshold, no effect on document
	BIO-7: Would the proposed Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	No change to threshold, no effect on document
CULTURAL RESOURCES	CUL-1: Would the proposed Project result in the demolition of a significant historical resource as defined in Section 15064.5(A) of the CEQA guidelines?	a) Cause a substantial adverse change in the significance of a historical resource ~~as defined~~ pursuant to ~~in~~ § 15064.5	Clarification to language, no change recommended.
	CUL-2: Would the proposed Project result in relocation that does not maintain the integrity and significance of a significant historical resource?		No appendix G threshold, no effect on document
	CUL-3: Would the proposed Project result in the conversion, rehabilitation, or alteration of a significant historical resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings?		No appendix G threshold, no effect on document
	CUL-4: Would the proposed Project disturb, damage, or degrade an archaeological resource, or its setting, that is found to be important because it:	b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	• Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory; • Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions; • Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind; • Is at least 100 years old and possesses substantial stratigraphic integrity; or • Involves important research questions that historical research has shown can be answered only with archaeological methods.	15064.5 of the State CEQA Guidelines?	
	CUL-5: Would the proposed Project result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance?	~~c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?~~	Deletion – Removal of this threshold could occur. Potential Action Item

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	CUL-6: Would the proposed Project cause disturbance of human remains, including remains interred outside of formal cemeteries?	c) Disturb any human remains, including those interred outside of formal cemeteries?	No change to threshold, no effect on document
ENERGY	1. Result in the wasteful, inefficient, or unnecessary consumption of energy.	<u>a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?</u>	New threshold addressed in document, no action recommended
	2. Result in a substantial increase in demand for transmission service, resulting in the need for new or expanded sources of energy or new or expanded energy delivery systems or infrastructure.		
		<u>b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?</u>	New threshold not yet addressed in document – potential action item
GEOLOGY AND SOILS	GEO-1: Would the proposed Project cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or expose people to substantial risk of injury resulting from rupture of a known earthquake fault; landslides; and seismic ground shaking or seismic ground shaking or seismic-related ground failure, including liquefaction?	a) ~~Expose people or structures to~~ <u>Directly or indirectly cause</u> potential substantial adverse effects, including the risk of loss, injury, or death, involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology	Clarification in language – no action recommended

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		Special Publication 42. ii) Strong seismic ground shaking? iii) Seismically related ground failure, including liquefaction? iv) Landslides?	
	GEO-2: Would the proposed Project destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands?	f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	New threshold is addressed in the document, no action recommended
	GEO-3: Would the proposed Project constitute a geologic hazard to other properties by causing or accelerating instability from erosion?	b) Result in substantial soil erosion or the loss of topsoil?	No change to threshold, no effect on document
	GEO-4: Would the proposed Project accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on-site?		No applicable Appendix G threshold
	GEO-5: Would the proposed Project be located on unstable soil or would result in an on-site or off-site landslide, collapse, or lateral spreading?	c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in on- or off-site landslides, lateral spreading,	Clarifications in language are consistent with threshold used in document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		subsidence, liquefaction, or collapse?	
		d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	
		e) Have soils that are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater	No change to threshold, no effect on document
GREENHOUSE GAS EMISSIONS	GHG-1. Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No change to threshold, no effect on document
	GHG-2. Conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs?	b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases	No change to threshold, no effect on document
HAZARDS AND HAZARDOUS MATERIALS	HAZ-1: Would the proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handle in such a way as to involve the release of hazardous materials into the environment?	a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	HAZ-2: Would the proposed Project emit/handle/involve hazardous materials and/or waste within one-quarter mile of an existing or proposed school?	c) Emit hazardous emissions or require the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	No change to threshold, no effect on document
	HAZ-3: Would the proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to U.S. Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	No change to threshold, no effect on document
	HAZ-4: Would the proposed Project hinder or impair an adopted emergency response or evacuation plan or route?		No applicable Appendix G threshold
		e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard <u>or excessive noise</u> for people residing or working in the project area?	Change to threshold has not been addressed in NOP. Item to be discussed.
		f) ~~For a project in the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?~~Impair implementation of or physically interfere with an adopted emergency evacuation plan?	Threshold was addressed in NOP, no action recommended

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury, or death involving wildland fires~~, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands~~?	Clarification in language; item was addressed in NOP, no action recommended
HYDROLOGY AND WATER QUALITY	HyWQ-1. Would the proposed Project cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources?	~~d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?~~	Current analysis addresses deleted threshold. No action recommended
	HyWQ-2. Would the proposed Project substantially reduce or increase the amount of surface water in a water body?		No applicable Appendix G threshold
	HyWQ-3. Would the proposed Project result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow?		No applicable Appendix G threshold
	HyWQ-4. Would discharges associated with the proposed Project create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the L.A. CEQA	a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	These deleted and clarified topics were addressed in the NOP. These changes in language are consistent with the analysis that was done. No action recommended.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	Thresholds Guide), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body?		
		b) Substantially ~~deplete~~ decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin ~~there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)~~?	Clarification reflect a higher threshold than that evaluated in the NOP, no action recommended
	HyWQ-5. Would the proposed Project result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on-site or off-site?	c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	Clarifies this threshold and makes it a higher bar. Current analysis likely overstates impacts and is conservative, no action recommended.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows?	
	HyWQ-6. Would the proposed Project result in structures being placed within a 100-year flood hazard area?	d) In flood hazards, tsunami, or seiche zones, risk release of pollutants due to project inundation? ~~Place within a 100-year flood hazard area structures that would impede or redirect flood flows?~~	Clarifies this threshold and makes it a higher bar. Current analysis likely overstates impacts and is conservative, no action recommended.
		~~g) Place housing within a 100-year flood hazard area, as mapped on a Federal Flood Hazard Boundary Map or Flood Insurance Rate Map or other flood hazard delineation map?~~	
	HyWQ-7. Would runoff from the proposed Project site exceed the stormwater drainage capacity or degrade water quality?	~~e) Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?~~	Deletes this threshold. Current analysis likely overstates impacts and is conservative, no action recommended.
		e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	New threshold. Need to discuss.
		~~f) Otherwise substantially degrade water quality?~~	Addressed above in HyWQ-4 and -7

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		~~i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?~~	Deleted threshold, no action recommended
		~~j) Inundation by seiche, tsunami, or mudflow?~~	
LAND USE AND PLANNING	LU&P-01. Would the proposed Project be consistent with adopted land use goals, objectives, or policies of applicable lands use plans?	b) Cause a significant environmental impact due to a conflict ~~Conflict~~ with any ~~applicable~~ land use plan, policy, or regulation ~~of any agency with jurisdiction over the project (including a general plan, specific plan, local coastal program, or zoning ordinance)~~ adopted for the purpose of avoiding or mitigating an environmental effect?	Clarification in language is consistent with analysis in current document
	Would the proposed Project create incompatible land uses with the immediate surrounding land uses?		No applicable Appendix G threshold, no action
		a) Physically divide an established community?	No change to threshold no action
		~~c) Conflict with any applicable habitat conservation plan or natural community conservation plan?~~	Threshold deleted, item for discussion.
NOISE	NOI-1: ~~Construction activities lasting more than one day, up to a maximum of 10 days, at a single construction site would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive receptor. (The noise increase should be assessed for the 8-hour~~	a) ~~Exposure of persons to or generation~~ Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or ordinance or applicable standards of other agencies?	Clarification in language is consistent with analysis in current document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	~~average noise level [8-hour Leq] for the proposed workday, relative to the baseline ambient over the same time period. Construction noise levels should be assessed at the primary exterior area of frequent human use [such as a patio or back yard] or the façade of habitable portions of the building, whichever is anticipated to receive the highest construction noise levels as a result of the project.)~~ Would the proposed Project result in an interior noise level of 85 dBA Leq (8-hr) to be exceeded and an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted Leq) to be exceeded during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive use?		
	NOI-2: ~~Construction activities lasting more than 10 days in a three-month period at a single construction site would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive receptor. (The noise increase should be assessed for the 8-hour average noise level [8-hour Leq] for the proposed workday, relative to the baseline ambient over the same time period. Construction noise levels should be assessed at the primary~~	~~d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?~~	Threshold has been deleted. No action recommended

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	~~exterior area of frequent human use [such as a patio or back yard] or the façade of habitable portions of the building, whichever is anticipated to receive the highest construction noise levels as a result of the project.)~~ In terms of potential building damage, would the proposed Project result in ground-borne vibration caused by construction exceeding a velocity of 0.3 ips PPV at the building foundations of the nearest structure? NOI-3: ~~Construction activities would occur within 500 feet of any occupied residential property (including inpatient hospitals, nursing homes, long-term care facilities, etc.) between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on any Saturday or national holiday, or at any time on Sunday.~~ In terms of potential human annoyance, would the proposed Project result in ground-borne vibration caused by construction exceeding 0.1 ips PPV at the nearest occupied space of a sensitive use? NOI-4: ~~Construction activities would generate groundborne vibration at any existing building in excess of the guideline building damage criteria provided by Caltrans publication Transportation and~~		

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	~~Construction Vibration Guidance Manual, 2013, Table 19 (reproduced above as Table 3.10-2 of this Draft EIR).~~ For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the proposed Project expose people residing or working in the project area to excessive noise levels?		
	~~NOI-5: Construction activities lasting more than 10 days in a three-month period at a single construction site would generate groundborne vibration at a sensitive receptor in excess of the guideline "strongly perceptible" response criterion provided by the Caltrans publication Transportation and Construction Vibration Guidance Manual, 2013, Table 20 (reproduced above as Table 3.10-3 of this Draft EIR). Vibration levels should be assessed at the closest occupied portion of the sensitive building.~~	b) ~~Exposure of persons to or g~~Generation of excessive groundborne vibration or groundborne noise levels?	Clarification in language is consistent with analysis in current document
		~~c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?~~	Deleted threshold addressed in NOP – no action recommended
		c) For a project located within ~~an~~ the vicinity of a private airstrip or an	Not addressed in current document – item for discussion.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? ~~f) For a project in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?~~	
PUBLIC SERVICES	PS-1: Would the demand for police and fire protection services anticipated at the time of proposed Project build-out compared to the expected level of service increase, resulting in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities? If so, does the proposed Project include security and/or design features that would reduce the demand for police and fire protection services?	a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services: • Fire protection? • Police protection • Schools? • Parks? • Other public facilities?	No change to threshold, no effect on document. School, parks, and other public facilities addressed in NOP.
RECREATION		a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		deterioration of the facilities would occur or be accelerated? b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	
TRANSPORTA-TION/TRAFFIC	TRAF-1. Temporary Traffic Impacts (L.A. CEQA Thresholds Guide, L.8): Would the proposed Project result in temporary traffic impacts? The determination of significance shall be made on a case-by-case basis, considering temporary Traffic Impacts: • The length of time of temporary street closures or closures of two or more traffic lanes; • The classification of the street (major arterial, state highway) affected; • The existing traffic levels and LOS on the affected street segments and intersections; • Whether the affected street directly leads to a freeway on- or off-ramp or other state highway; • Potential safety issues involved with street or lane closures; and • The presence of emergency services	a) Conflict with ~~an applicable~~a program plan, ordinance, or policy ~~establishing measures of effectiveness for~~addressing the ~~performance of the~~ circulation system, including transit, roadway, bicycle and pedestrian facilities ~~taking into account all modes of transportation, including mass transit and non-motorized travel, and relevant components of the circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?~~ b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)~~Conflict with an applicable congestion management program, including LOS and travel demand measures, or other standards established by the county Congestion Management Agency for designated roads or highways?~~	The use of VMT instead of LOS could apply to the construction vehicles. Item for discussion. Fehr & Peers included VMT language not applicable.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	(fire, hospital, etc.) located nearby that regularly use the affected street.	~~c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that would result in substantial safety risks?~~ ~~f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle facilities, or pedestrian facilities or otherwise decrease the performance or safety of such facilities?~~	
	TRAF-2. Temporary Los of Access (L.A. CEQA Thresholds Guide, L.8): Would the proposed Project result in the temporary loss of access? • The determination of significance shall be made on a case-by-case basis, considering temporary loss of access; • The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area; • The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access; and • The type of land uses affected, and related safety, convenience, and/or economic issues.		Threshold changes are consistent with emphasis on non-traffic impacts. No other action needed.
	TRAF-3. Temporary Loss of Bus Stops or Rerouting of Bus Lines (L.A. CEQA		Threshold changes are consistent with emphasis on non-

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	Thresholds Guide, L.8): Would the proposed Project result in the temporary loss of bus stops or the rerouting of bus lines? The determination of significance shall be made on a case-by-case basis, considering temporary loss of Bus Stops or Rerouting of Bus Lines: • The length of time that an existing bus stop would be unavailable or that existing service would be interrupted; • The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated; • The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes; and • Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).		traffic impacts. No other action needed.
	TRAF-4. Safety Hazards (Project-specific Threshold Derived from LA City CEQA Thresholds and CEQA Appendix G): Would the proposed Project result in design features/physical features	c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Clarification in language does not affect analysis – no action recommended.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	that would result in bicycle, pedestrian and vehicular safety hazards? The determination of significance shall be on a case-by-case basis, considering the following Bicycle, Pedestrian and Vehicular Safety factors: • The amount of pedestrian activity at project construction sites; • Design features/physical configurations that affect the visibility of pedestrians and bicyclists to drivers at the project construction site, and the visibility of cars to pedestrians and bicyclists; • The type of bicycle facility adjacent to the project construction site and the level of utilization; and • The physical conditions of the project construction site and surrounding area, such as curves, slopes, walls, landscaping or other barriers, that could result in vehicle/pedestrian, vehicle/bicycle or vehicle/vehicle impacts.	d) Result in inadequate emergency access?	
	TRAF-5. Alternative Transportation Plan Conflicts (Project-specific Threshold Derived from		Threshold changes are consistent with emphasis on non-

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	LA City CEQA Thresholds and CEQA Appendix G): Would the project conflict with adopted policies, plans, or programs supporting alternative transportation?		traffic impacts. No other action needed.
TRIBAL CULTURAL RESOURCES	TCR-1: Would the proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of	a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of	No change to threshold, no effect on document

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	
UTILITIES AND SERVICE SYSTEMS	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?	a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities ~~or the expansion of existing facilities,~~ the construction or relocation of which could cause significant environmental effects? b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.~~from existing entitlements and resources, or are new or expanded entitlements needed?~~	Item for discussion, this clarification addresses more infrastructure than typically addressed.
	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?		Addressed above in UT-1

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised 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?	~~c) Require or result in the construction of new stormwater drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects?~~	Addressed above in UT-1
	UT-4: Would the proposed Project's total estimated waste water flow exceed the existing sewer capacity?	~~a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?~~ c) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to existing commitments?	Clarification in language consistent with existing analysis in document. No action recommended.
	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?	d) <u>Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</u> ~~Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?~~	Clarification in language is consistent with analysis in document. No action recommended.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
	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?	e) Comply with federal, state, and local management and ~~statutes~~ reduction statutes and regulations related to solid waste?	Clarification in language is already addressed in analysis. No action recommended.
WILDFIRE		If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan? b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? d) Expose people or structures to significant risks, including downslope or downstream flooding or	This is a new topic and four new thresholds that have been added to SRP analysis. Action already taken.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		landslides, as a result of runoff, post-fire slope instability, or drainage changes?	
MANDATORY FINDINGS OF SIGNIFICANCE		a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) c) Does the project have environmental effects that could cause substantial adverse effects on human beings,	Any substantial changes that rise to the level of significance are identified here. This is a higher threshold than considered in the analysis. No action recommended.

Environmental Factors Evaluated in the EIR	Sidewalk Repair Project Thresholds	2018 Revised Appendix G of the CEQA Guidelines	Evaluation of the 2018 Revised Appendix G of the CEQA Guidelines
		either directly or indirectly?	

3.1 Aesthetics

This chapter describes the aesthetic setting in and around the proposed Project (Project) area, and analyzes the potential for impacts on aesthetic resources to result from implementation of the Project. Potential impacts are evaluated with respect to existing scenic views, visual character, and applicable planning policies for aesthetic resources. The Project impacts were evaluated for significance in accordance with Appendix G of the CEQA Guidelines and the *L.A. CEQA Thresholds Guide* (2006). Mitigation measures, where appropriate, are recommended to avoid or substantially lessen significant aesthetic impacts.

3.1.1 Regulatory Setting

This section describes existing laws and regulations related to aesthetics that are applicable to the Project.

3.1.1.1 Federal

Secretary of the Interior's Standards for the Treatment of Historic Properties

Pursuant to the authority granted in the National Historic Preservation Act, the Secretary of the Interior (SOI) has established a series of professional standards and guidance for the preservation of the nation's historic properties. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (SOI Standards) address four concepts: preservation, rehabilitation, restoration, and reconstruction of historic properties. The SOI has also prepared advisory guidelines that offer general design and technical recommendations to assist in applying the Standards, including those that would be most relevant to the Project. These include the *Guidelines for the Treatment of Historic Properties* and the *Guidelines for the Treatment of Cultural Landscapes*. Together the SOI's Standards and guidelines provide a framework and guidance for decision-making and work or changes to a historic property. Further discussion of the SOI Standards and guidelines and their application to the Project is provided in the Chapter 3.4, *Cultural Resources*.

National Register of Historic Places

The National Register of Historic Places (NRHP) recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a property must be significant in American history, architecture, archaeology, engineering, or culture under one or more of the criterion. Further discussion of the NRHP is provided in Chapter 3.4, *Cultural Resources*.

3.1.1.2 State

California Department of Transportation Scenic Highways Program

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The California Streets and Highways Code, Division 1, Sections 260–263 implement the Scenic Highway Program. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The California Department of Transportation (Caltrans) defines a State Scenic Highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Eligibility for designation as a State Scenic Highway is based on vividness, intactness, and unity of the roadway. The status of a proposed State Scenic Highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a State Scenic Highway. There is one officially designated State Scenic Highway within the City of Los Angeles (City) boundaries, SR 27 (Topanga Canyon Boulevard) between Pacific Coast Highway and Mulholland Drive. There is one Designated Historic Parkway, the Arroyo Seco (SR 110). There are five additional segments of highways within the City that are eligible for designation as a State Scenic Highway under the Caltrans State Scenic Highways Program: SR 118 (Simi Valley Freeway) west of DeSoto Avenue to the western City Limits, I-5 north of SR 210 to northern City limits, SR 210 in Sylmar/Sunland-Tujunga to eastern City limits, US Highway 1: Pacific Coast Highway north of I-10 within City limits, and US 101 west of Topanga Canyon Boulevard to the western City limits.

California Coastal Act

The *California Coastal Act of 1976* (Coastal Act) was adopted after state voters approved Proposition 20 in 1972. A key factor that led to the passage of this landmark legislation was the visible deterioration of the coastal environment as well as development pressures from a growing population (California Coastal Act 2014). Section 30251 of the Coastal Act is pertinent to visual resources preservation, stating that:

[S]cenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The Coastal Act is discussed in further detail in Chapter 3.9, *Land Use.*

California Register of Historical Resources

"Historical resources" include any resource listed or determined eligible for listing in the California Register of Historical Resources (CRHR). Properties listed or determined eligible for listing in the NRHP, such as those identified in the Section 106 process, are automatically listed in the CRHR pursuant to Title 14, Section 4851, subdivision (a)(1) of the California Code of Regulations. Therefore, all *historic properties* under federal preservation law are automatically *historical resources* under state preservation law. Historical resources are also presumed to be significant if they are included in a local register of historical resources or identified as significant in a qualified historical resource survey. Properties that are part of the CRHR within the City are listed by the City at https://preservation.lacity.org/surveyla-findings-and-reports. Further discussion of historical resources is provided in the Chapter 3.4, *Cultural Resources*.

3.1.1.3 Local

City of Los Angeles General Plan

The City General Plan is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City. The City's General Plan includes the Framework Element, Plan for a Healthy Los Angeles – Health and Wellness Element, Housing Element, Mobility Element (i.e., Mobility Plan 2035), Noise Element, Air Quality Element, Conservation Element, Open Space Element, Safety Element, and Service Systems Element/Public Recreation Plan. These elements provide long-range Citywide policy and direction and consider Citywide goals and needs.

The Conservation Element, adopted in 2001, includes a discussion of the existing landforms and scenic vistas in the City. Objectives, policies, and programs included in this element are intended to ensure the protection of natural terrain and landforms, unique site features, scenic highways, and panoramic public views as City staff and decision-makers consider future land use development and infrastructure projects. The Mobility Plan 2035, adopted in 2016, provides an inventory of City-designated scenic highways and includes special controls for protection and enhancement of scenic resources. The Mobility Plan 2035 includes Scenic Highway Guidelines for those designated scenic highways for which there is no adopted scenic corridor plan. A complete list of City-designated scenic highways is provided in Appendix B: Inventory of Designated Scenic Highways and Guidelines of the Mobility Plan 2035 Element and is reproduced in Appendix C of this Draft EIR. It should be noted that several segments of highways within the City are designated as a "state scenic highway" in this appendix but do not appear in the Caltrans Scenic Highways Program.

City of Los Angeles General Plan Framework Element

The City's Framework Element, adopted in December 1996 and amended in August 2001, establishes the broad overall policy and direction for the entire General Plan. The Framework Element provides that scenic resources are intended to improve community and neighborhood livability in the City. The Framework Element's open space and conservation policies seek to conserve significant resources and use open space to enhance community and neighborhood character in the City. Applicable goals, objectives, and policies of the General Plan are shown in Table 3.1-1.

City of Los Angeles Tree Planting Ordinance

Ordinance No. 183474 amended Sections 61.162, 62.163 and 62.169 of the Los Angeles Municipal Code to clarify that responsibility for planting and maintaining street trees and vegetation within City streets rests with the City, and further clarifies that a property owner in a residential zone may remove and plant vegetation within a parkway, but that street trees may not be removed without a permit.

Table 3.1-1. Applicable Goals, Objectives, and Policies of the City of Los Angeles General Plan

Goal/Objective/Policy	Descriptions
GENERAL PLAN FRAMEWORK- CHAPTER 5 – URBAN FORM AND NEIGHBORHOOD DESIGN	
Goal 5A	A livable city for existing and future residents and one that is attractive to future investment. A city of interconnected, diverse neighborhoods that builds on the strengths of those neighborhoods and functions at both the neighborhood and citywide scales.
Objective 5.5	Enhance the livability of all neighborhoods by upgrading the quality of development and improving the quality of the public realm.
Policy 5.5.4	Determine the appropriate urban design elements at the neighborhood level, such as sidewalk width and materials, street lights and trees, bus shelters and benches, and other street furniture.
Objective 5.8	Reinforce or encourage the establishment of a strong pedestrian orientation in designated neighborhood districts, community centers, and pedestrian-oriented subareas within regional centers, so that these districts and centers can serve as a focus of activity for the surrounding community and a focus for investment in the community.
Policy 5.8.2	The primary commercial streets within pedestrian-oriented districts and centers should have the following characteristics: • Sidewalks: 15-17 feet wide (see illustrative street cross-sections). • Mid-block medians (between intersections): landscaped where feasible. • Shade trees, pruned above business signs, to provide a continuous canopy along the sidewalk and/or palm trees to provide visibility from a distance. • Pedestrian amenities (e.g., benches, pedestrian-scale lighting, special paving, window boxes, and planters).
GENERAL PLAN FRAMEWORK- CHAPTER 9 – INFRASTRUCTURE AND PUBLIC SERVICES	
GOAL 9Q	A sustainable urban forest that contributes to overall quality of life.
Objective 9.41	Ensure that the elements of urban forestry are included in planning and programming of infrastructure projects which involve modification of dedicated parkway, sidewalk and/or raised median islands.
Objective 9.42	Facilitate the planting of large canopied trees in street parkways
Objective 9.43	Improve city tree selection, placement and maintenance.
Policy 9.43.3	Develop a uniform care standard with focus on pruning which can be utilized by appropriate City departments
MOBILITY PLAN 2035	
Objective 11	Preserve and enhance access to scenic resources and regional open space.
Policy 11.2	Provide for protection and enhancement of views of scenic resources along or visible from designated scenic highways through implementation of guidelines set forth in this 2035 Mobility Plan.

Source: City of Los Angeles, *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*, re-adopted 2001; City of Los Angeles, *Conservation Element of the City of Los Angeles General Plan*, adopted 2001; City of Los Angeles General Plan, *Mobility Plan 2035*: *An Element of the General Plan*, adopted 2016; TAHA, 2018.

Board of Public Works Street Tree Removal Permit and Tree Replacement Condition Policies

The City Board of Public Works adopted *Street Tree Removal Permit and Tree Replacement Condition Policies* on June 17, 2015. These adopted policies formalize existing City practice and: (1) designate the Bureau of Street Services, Chief Forester, as the authorized officer and employee to issue street tree removal permits; (2) require public notification of the proposed removal of three or more street trees; (3) require a Board of Public Works public hearing for consideration of removal of three or more street trees at a specific address; and (4) require as a condition of a street tree removal permit that replacement street trees be provided on a 2:1 basis with 24-inch box size tree stock and be watered for a minimum 3-year period. The Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program would replace these policies with respect to the individual sidewalk repairs implemented under the Project.

City of Los Angeles Cultural Heritage Ordinance

The City maintains a list of all sites, buildings, and structures that have been designated Historic-Cultural Monuments (HCMs) under the Cultural Heritage Ordinance, Los Angeles Administrative Code Section 22.171. The Cultural Heritage Ordinance states that an HCM is any site (including street trees), building, or structure of particular historic of cultural significance specifically designated by the City. HCMs are included in a local register of historical resources and therefore are considered to be historical resources for the purposes of CEQA. The Cultural Heritage Ordinance would continue to apply to all individual sidewalk repairs under the Project.

3.1.2 Environmental Setting

Scenic resources contribute to the visual character of a given area and consist of both natural and urban features. Natural features can include open space, native or ornamental vegetation and landscaping; topographic or geologic features; and natural water sources. Urban or built features include structures of architectural/historical significance or visual prominence, public plazas or art, and landscaped medians. Natural features and urban features that contribute to City scenic vistas, views, and visual character are discussed in detail below.

The visual character of the City is the overall image formed by various physical elements, including natural features and the built environment, such as topography, open space, the street grid, buildings, and major transportation infrastructure. Visual character can be subjective as filtered through the lens and judgment of individuals, is differentiated by neighborhood types, and is based on public views, meaning what is visible from a sidewalk, roadway, or other public right-of-way.

3.1.2.1 Scenic Vistas and Focal Views

The term “views” generally refers to visual access to, or the visibility of, a particular natural or man-made visual resource from a given vantage point or corridor. Focal views focus on particular objects, scene, setting, or feature of visual interest. Panoramic views, or scenic vistas, provide visual access to a large geographic area, for which the field of view can be wide and extend into the distance. Examples of scenic vistas might include an urban skyline, a valley, a mountain range, the ocean, or other water bodies. The City’s General Plan Conservation Element defines scenic views or vistas as the panoramic public view access to natural features, including views of the ocean, striking or unusual natural terrain, or unique urban or historic features. Public views of the mountains can be seen from within and outside the City, along various roadways and freeways, and from various public rights-of-way. Public access to these views is typically from parklands, publicly owned sites, and public rights-of-way. Community-specific scenic vistas are detailed in each of the 35 community plans and associated specific plans.

3.1.2.2 Natural Features

Landforms and Geology

The City is characterized as an urbanized area framed by natural features, including the Santa Monica Mountains, San Gabriel Mountains, Santa Susana Mountains, and Baldwin Hills, that define its geography and influences the City's development patterns.

The Santa Monica Mountain range extends approximately 40 miles east-west along the northern boundaries of the City from the Hollywood Hills community in the City to Point Mugu in Ventura County. The Santa Monica Mountains are parallel to the Santa Susana Mountains, which are located north of the Santa Monica Mountains. The mountain range highest peak point is approximately 3,000 feet and includes the 1,600-foot peak at Mount Hollywood in the Hollywood Hills.

The Santa Susana Mountain peaks range from an average of 2,500 feet to over 3,700 feet. The southeastern slopes of the Santa Susana Mountains are part of the City. The Baldwin Hills range reaches a peak of 500 feet and is located southwest of downtown Los Angeles and borders Culver City.

The San Gabriel Mountain range extends approximately 68 miles and surrounds the eastern boundaries of the City. The mountain range lies between the Los Angeles Basin and the Mojave Desert, with Interstate 5 Freeway to the west and Interstate 15 Freeway to the east. The highest peak in the San Gabriel Mountain, Mount Baldy, is over 10,000 feet. Mount Wilson is another famous peak and is known for the Mount Wilson Observatory and antenna farm that houses several local media transmitters. The San Gabriel Mountains are characterized by pine forests.

Open Space

Open space in the City includes the scenic views of the Santa Monica and San Gabriel Mountain Ranges, beaches, network of rivers and trails, pedestrian paths, approximately 36,000 acres of park and recreation spaces, and 92 miles of hiking trails that contribute to the City's vast natural resources. The City also includes Griffith Park, one of the largest urban parks in North America, and home to several historic venues and landmarks, including the Griffith Observatory, Greek Theatre, and Hollywood Sign. Beaches include Cabrillo Beach and Venice Beach, and open water facilities include Del Rey Lagoon, Debs Lake, Echo Park Lake, Hansen Dam Aquatic Center, Hollenbeck Lake, Lake Balboa, Lincoln Park Lake, Macarthur Park Lake, and Ken Malloy Harbor Park Lake.

3.1.2.3 Urban/Built Features

Streetscapes

The City of Los Angeles is visually diverse, characterized by large areas of low-rise buildings and scattered clusters of high-rise buildings. Existing development occurs primarily in the basins between the mountain ranges in or around the City. Older, established neighborhoods abound, with newer suburban development in the San Fernando Valley that began after the end of World War II. Even in older, established neighborhoods, new structures are replacing existing older buildings as infill development.

The City's urban forest contributes to its visual character and street trees are a highly visible component of the urban forest. There are more than 711,000 street trees comprising nearly 600 different species. The City's street tree population contains the most species diversity and is one of the largest street tree populations in the world.[1]

Prominent Structures and Historic Resources

The City contains many structures of architectural/historical significance or visual prominence, with numerous properties listed in the National Register of Historic Places, California Register of Historical Resources, and locally designated HCMs. Historical resources are discussed in more detail in Chapter 3.4, *Cultural Resources*, of this Draft EIR. Public views of historical resources are typically limited to close foreground views from adjacent streets and sidewalks.

Scenic Highways

Table 3.1-2 identifies the officially designated or eligible state scenic highways and historic parkways, as determined by Caltrans, as well as highway segments that are identified as state scenic highways in the General Plan Mobility Element 2035. These are mapped in Figures 3.1-1 and 3.1-2.

3.1.3 Environmental Impact Analysis

3.1.3.1 Approach

Impacts to scenic resources, views, and the visual character of the City as a result of the Project were evaluated by determining whether temporary or permanent obstructions or changes to views of scenic resources or the visual character would result with the implementation of the Project. As discussed in Chapter 2, *Project Description*, the Project is the modification to the manner in which a citywide sidewalk repair and maintenance program would occur over a span of 30 years. Implementation of the Project consists of the continuation of construction- and maintenance-related activities but is primarily construction in nature. Impacts related to the Project are anticipated to occur during the construction period rather than the operational period. The only activities that would occur during operation of the Project are periodic street tree watering and inspection. While construction and maintenance watering would occur simultaneously over the life of the Project, these activities would be spread out across different areas of the City and impacts would not combine with regard to aesthetics and visual quality. Therefore, a discussion of combined effects of construction and operation is not required.

3.1.3.2 Project Design Features

No project design features specific to aesthetics are proposed, although project design features related to cultural resources (see Chapter 3.4, *Cultural Resources* for further detail) may affect aesthetic resources and are referenced where appropriate**.**

[1] City of Los Angeles, Urban Forestry Division, http://bss.lacity.org/urbanforestry/FAQs.htm. Accessed July 30, 2018.

Table 3.1-2. Scenic Highways in the City of Los Angeles

Designation	Scenic Highway	Alignment	Sidewalk
Caltrans State Scenic Highways Program			
Officially Designated State Scenic Highway	CA State Route 27: Topanga Canyon Road	Pacific Coast Highway to Mulholland Drive within City limits	Primarily no sidewalk; sidewalk south of Mulholland Dr.
Eligible State Scenic Highway	Interstate 5	From Interstate 210 to northern City limit	No sidewalk; major freeway
Eligible State Scenic Highway	US Highway 101	Topanga Canyon Boulevard to western City limit	No sidewalk
Eligible State Scenic Highway	CA State Route 118	DeSoto Avenue to western City limit	No sidewalk
Eligible State Scenic Highway	Interstate 210	From Interstate 5 to eastern City limit	No sidewalk
Eligible State Scenic Highway	US Highway 1: Pacific Coast Highway	Entire alignment north of Interstate 10 within the City boundary	Minimal sidewalk
Historic Parkway	CA State Route 110	Arroyo Seco Historic Parkway; Figueroa Street/Avenue 26 in Los Angeles to Glenarm Street in Pasadena	No sidewalk
City of Los Angeles General Plan Mobility Element 2035			
State Scenic Highway	US Highway 1: Lincoln Blvd.	Venice Boulevard to City boundary with Santa Monica	Sidewalk, urbanized

Source: Caltrans State Scenic Highways Program, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm. Accessed June 27, 2018; City of Los Angeles, *Mobility Plan 2035*: *An Element of the General Plan*, adopted 2016; TAHA and ICF, 2018.

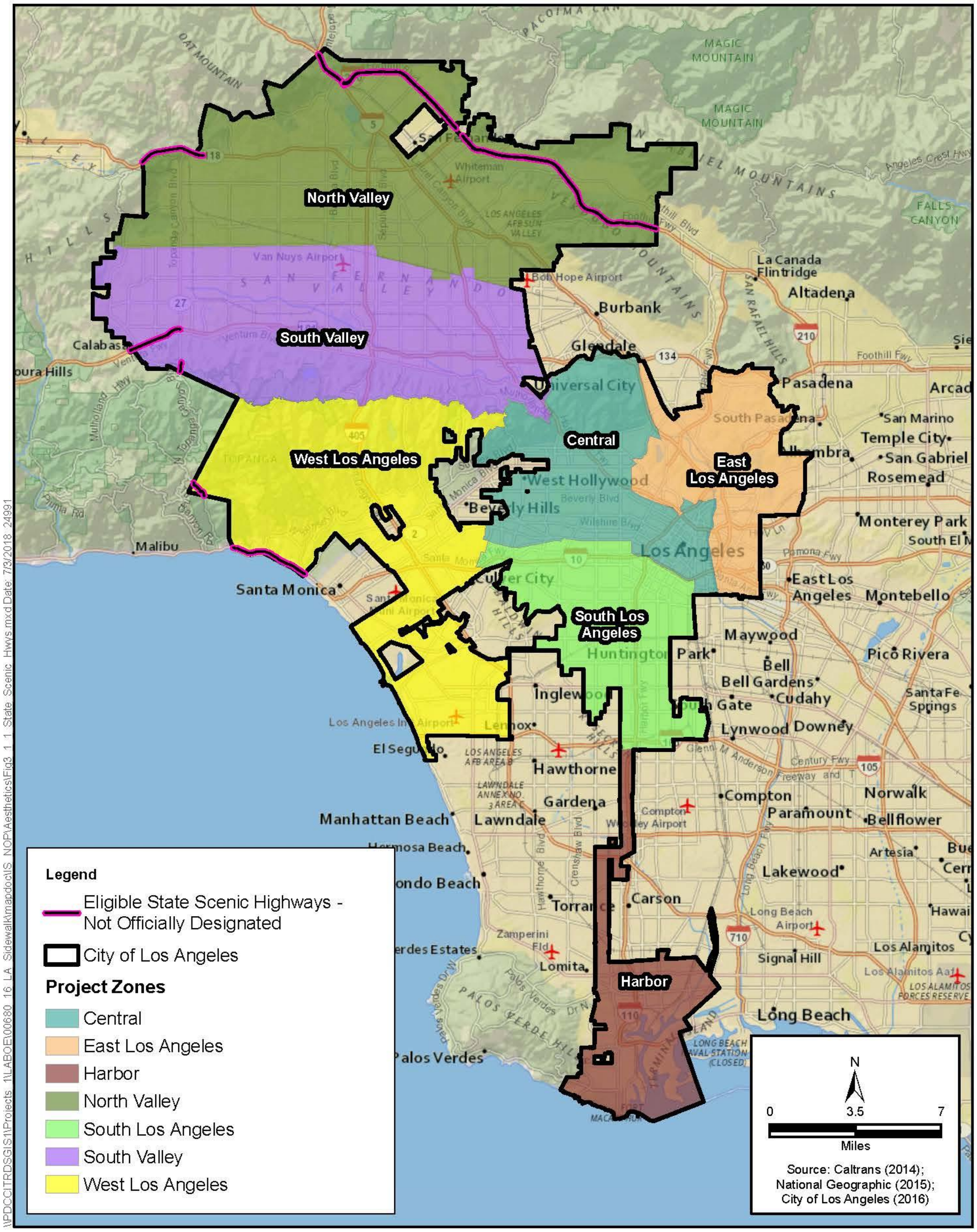


Figure 3.1-1
State Scenic Highways in the Caltrans Program
Citywide Sidewalk Repair Program

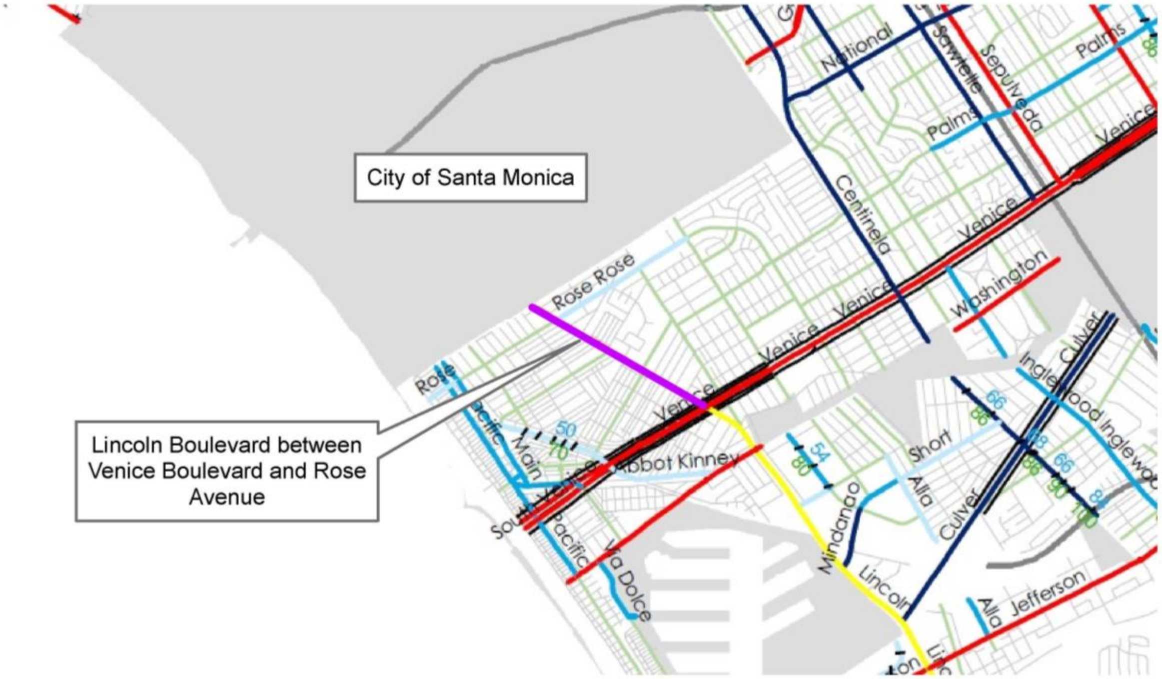


Figure 3.1-2. City of Los Angeles General Plan Mobility Element 2035 Scenic Highway

3.1.3.3 Thresholds of Significance

Consistent with Appendix G of the *CEQA Guidelines* and the City's 2006 *L.A. CEQA Thresholds Guide*, a determination of significance shall be made on a case by-case basis. A project would normally have a significant impact on aesthetics if the following would occur:

- **AES-1:** Would the proposed Project substantially damage or degrade a designated scenic vista or state scenic highway? *Appendix G of the CEQA Guidelines*
- **AES-2:** Would the proposed Project substantially damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, in City of LA adopted land use plans? *L.A. CEQA Thresholds Guide, Appendix G of the CEQA Guidelines*
- **AES-3:** Would the proposed Project substantially damage or degrade existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees? *L.A. CEQA Thresholds Guide*
  - The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image.
  - The degree to which the project would contribute to the area's aesthetic value.
  - The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment)
- **AES-4:** Would the proposed Project substantially damage visual landscape, including but not limited to street trees, utility poles, or historic structures within public right-of-way? *L.A. CEQA Thresholds Guide.*
- **AES-5:** Would the proposed Project result in a substantial loss of shading as a result of street tree retention, removal or replacement throughout the project buildout? *L.A. CEQA Thresholds Guide.*

The Initial Study (Appendix A) considered the CEQA Guidelines Appendix G aesthetics sample question for new sources of substantial light or glare, and determined that the impact would be less than significant. Consistent with the analysis in the Initial Study and the *L.A. CEQA Thresholds Guide* screening criteria, the continuing sidewalk repair activities under the Project would not increase ambient nighttime illumination levels and would not include lighting that would routinely spillover onto a light-sensitive land use, since nighttime construction is not anticipated and any operational lighting would be relocation or replacement of existing light sources in the public right-of-way. Therefore, there would be no significant light or glare impacts from the Project, and no further analysis is provided in the Draft EIR.

3.1.3.4 Construction Impacts

As discussed in Chapter 2, *Project Description*, implementation of the Project would include the continuation of a variety of construction activities in different locations in the City at various times, including one or more of the following: street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk demolition and repaving, relocation of street signs and street lights, and relocation of utility covers. In an effort to analyze the full extent of potential impacts from the Project, two different construction scenarios reflecting varying degrees of intensity were analyzed: Scenario 1 and Scenario 2. A Scenario 3 was also created for purposes of describing rare instances in individual projects under Scenarios 1 and 2 where environmental site conditions may result in certain significant impacts.

The Project would be implemented over the next 30 years, resulting in the continuation of sidewalk repair activities resulting in approximately 42,719,225 square feet of repaired sidewalks, removal of up to 12,860 street trees, and the planting of approximately 30,405 new street trees. The Project includes the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, which would establish criteria for street tree preservation, removal and replacement where street trees are the cause of sidewalk damage. Pursuant to the Policy, replacement street trees would be planted at a 2:1 ratio for the first 10 years of the program, at a 3:1 ratio for years 11 through 21 of the program, and again at a 2:1 ratio for the remaining 9 years of the 30-year program.

Sidewalk and curb ramp repair construction activities are temporary and may occur simultaneously at different sites. Generally, construction activities would occur within public rights-of-way.

AES-1. Would the proposed Project substantially damage or degrade a designated scenic vista or state scenic highway?

The impact would be less than significant during construction.

Implementation of the Project would result in the continuation of sidewalk construction activities at various times and sites throughout the City and could be located in areas in which views of designated scenic vistas or views from state scenic highways exist.

Construction activities under all construction scenarios would include repairs on local sidewalks, potential street tree removals/replacements, and utility relocation activities that may be required to repair, enhance, and improve damaged sidewalks. Existing mature street trees do not generally contribute to any identified scenic vistas, which are considered to be panoramic views of large topographical features or bodies of water. While some Project construction activities would occur within designated view corridors, none of the construction activities or street tree replacements would substantially alter or otherwise degrade scenic vistas of mountains, the ocean, or other natural features. Construction activities would be temporary, would be limited to small areas, do not require much construction equipment, and would occur at or below ground-level for the more intensive construction work. Therefore, there would be less-than-significant impacts on scenic vistas under the construction scenario.

Table 3.1-2 lists one officially designated state scenic highway, seven eligible state scenic highways, and one historic parkway are identified within City boundaries, in addition to one City-designated roadway listed in the City's *Mobility 2035 Plan*. Identified scenic highways are typically major freeways and highways and do not have sidewalks along the route with the exception of Lincoln Boulevard and Pacific Coast Highway. There are no sidewalks along Topanga Canyon Boulevard in the segment designated as a state scenic highway. Street trees are also not typically located along these scenic highways, as these areas are primarily characterized with native plants, shrubs, and vegetation. US Highway 1: Lincoln Boulevard is identified in the City's Mobility *Element* 2035 as a state scenic highway, although it is not officially identified as such in the Caltrans State Scenic Highways Program. The portion of Lincoln Boulevard between Venice Boulevard north to Rose Avenue (City of Santa Monica boundary) is characterized by developed sidewalks and scattered street trees.

As previously discussed, scenic highways identified in the City are typically major freeways and highways and do not have sidewalks along the route. Along the portions that have sidewalks, sidewalk and curb ramp repair activities may occur. Sidewalk and curb ramp repair activities at each site would be temporary and would not require a large amount of construction equipment at any one site. Construction activities include a one-time sidewalk repair and street tree removals and replacements. Accordingly, for these reasons and the fact that the repair activities occur in urban areas that do not conflict with the existing zoning, the sidewalk repair activities would have no impact or a less-than-significant impact on designated scenic highways.

There are some street trees on both sides of Lincoln Boulevard in the designated scenic segment between Venice Boulevard and Santa Monica City limits to the north. These street trees are scattered and separated by long expanses of non-vegetated sidewalk. Most of these street trees are relatively small; do not provide a mature canopy; do not contribute to the visual quality of the streetscape; and are not causing sidewalk damage, as can be seen in Figures 3.1-3 and 3.1-4. There are no street trees along Pacific Coast Highway in the sections containing sidewalks. Street trees are not located along the remaining scenic highways, as these areas are primarily characterized with native plants, shrubs, and vegetation. For portions of designated scenic highways that may have street trees, street tree preservation, removal and/or replacement, and pruning activities may be required, but given the relative lack of street trees along the two designated scenic highways that contain sidewalks, the quality of the views along these scenic highways would not be impacted by the Project. Therefore, construction activities associated with the Project would not substantially damage or degrade a designated scenic vista or state scenic highway. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

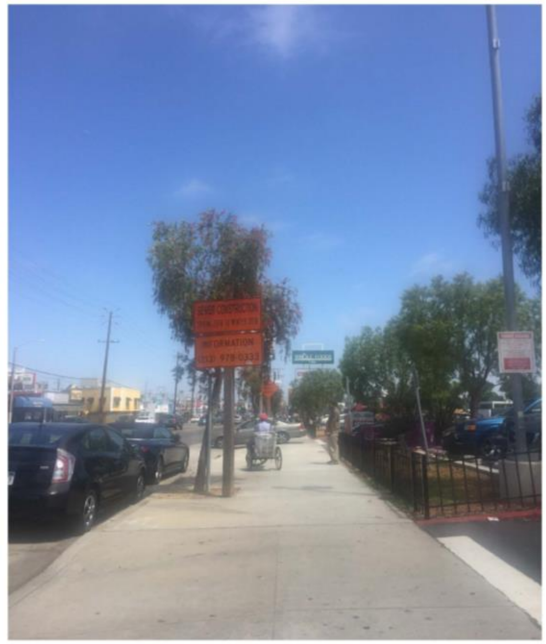
AES-2. Would the proposed Project substantially damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, in City of LA adopted land use plans?

The impact would be less than significant during construction.

As discussed in Section 3.1.2, Environmental Setting, valued views of natural resources include natural views of topography, mountains, oceans, or man-made visual features. Implementation of the Project would be Citywide and could be located in areas in which valued views may be compromised. However, overall, activities under the Project would be temporary and site specific within pedestrian rights-of-way.

Sidewalk, curb ramp repair, and street tree pruning, removal, and replacement could occur on streets that provide focal views of topography, mountains, oceans, or man-made visual features such as the iconic Hollywood sign. Due to the temporary nature of the activities and site-specific locations of the repair activities, sidewalk repair activities and street tree pruning, removal, or replacement would not substantially block, damage, or degrade recognized or valued views. By repairing damaged sidewalks, the overall characteristics of recognized or valued views of the surrounding area would be improved. No permanent damage or degradation of existing valued views would be impacted by sidewalk and curb ramp repair activities. Utility relocation activities would consist of low-profile construction activities at or below ground surface. Above-ground utility work would include relocating the utility poles near the original location. As a result, utility relocation activities are not anticipated to substantially damage or degrade recognized or valued views.

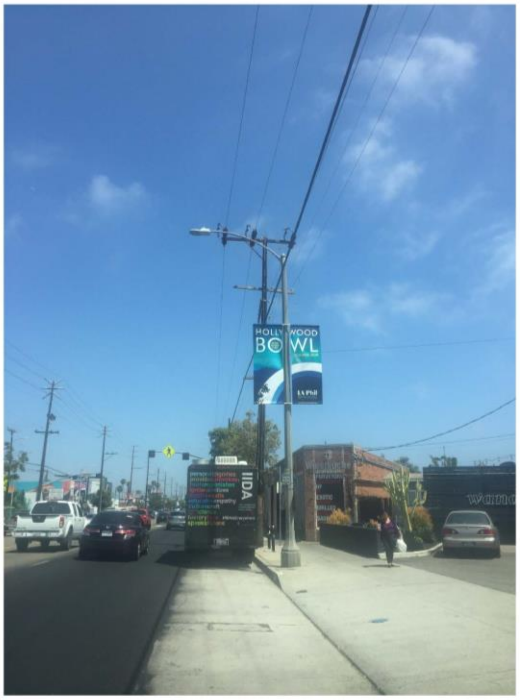
US Highway 1: Lincoln Boulevard Looking South at Ozone St-Ave



US Highway 1: Lincoln Boulevard Looking South at Machado Dr

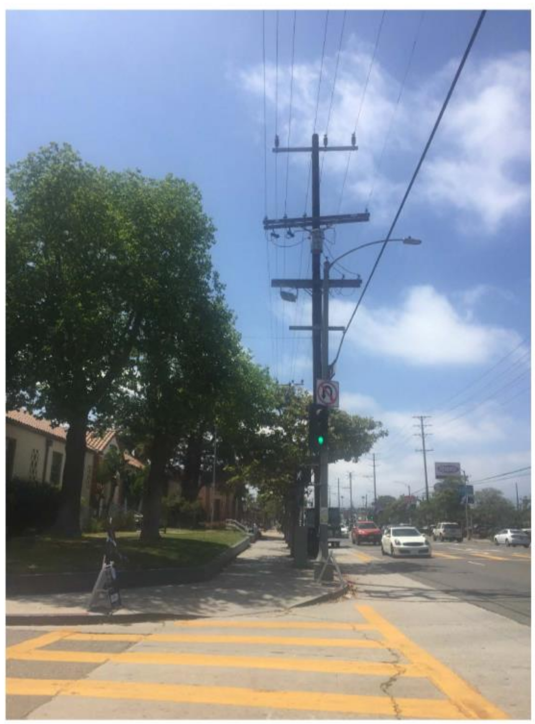
US Highway 1: Lincoln Boulevard Looking North at Sunset Ave

Figure 3.1-3. View of US Highway 1: Lincoln Boulevard



US Highway 1: Lincoln Boulevard Looking North at Sunset Ave

US Highway 1: Lincoln Boulevard Looking South at Superba Ave



US Highway 1: Lincoln Boulevard Looking South at California Ave

Figure 3.1-4. View of US Highway 1: Lincoln Boulevard

With street trees being removed and replaced, the growth of the younger street trees over the longer term would replenish the street tree canopy of the area with healthy and disease-free street trees, providing an overall benefit to the surrounding area. On a site-specific level, street tree replacement at either a 2:1 or 3:1 ratio, as provided in the proposed street tree policy with the ratio varying by year of implementation, would result in an increase in localized street tree canopy as the replacement street trees reach maturity in 15 years. The street tree replacement requirements would result in the planting of approximately 30,405 new street trees over the span of 30 years. In addition, planting of new street trees would be at the same locations of the removed street trees whenever feasible. This would result in a localized increase in street tree canopy as the replacement street trees reach maturity in 15 years from the time they are planted. Street tree activities would also be beneficial to the aesthetic nature of communities by providing compatible streetscapes. The Project would not damage or degrade recognized or valued views in adopted City land use plans; rather, the biodiversity of the urban forest would be considered and maintained by ensuring species of street trees planted are diverse and compatible with the streetscape and community. The City would have a larger urban canopy size than at the start of the Project, and the urban forest would be enhanced by removing potentially diseased, dead, or damaged street trees.

For the reasons stated above, Project-related construction activities would not damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

AES-3. Would the proposed Project substantially damage or degrade existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees?

- **The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image.**
- **The degree to which the project would contribute to the area's aesthetic value.**
- **The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment)**

The impact would be less than significant for construction scenarios 1 and 2. The impact would be significant and unavoidable for construction scenario 3.

Visual character can be subjective as it is filtered through the lens and judgment of individuals and is based on public views, meaning what is visible from a sidewalk, roadway, or other public right-of-way. Existing features of a community, such as the street trees that are of importance and recognized by the federal/state or local laws, may also create the visual character of a community or neighborhood.

In the City, there are a limited number of street trees that have been designated as an HCM by the City Council (more discussion on HCM in 3.1.1.3 *Local* and in *Cultural Resources*). These HCM street trees contribute to the overall cultural history of the neighborhood and/or the City. HCM street tree construction activities, such as root pruning, canopy pruning or other street tree-related construction activity would need to comply with the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Removal Program designed to implement arboriculture best management practices and provide objective standards and processes. All Project construction activities involving historic resources would also be subject to SOI Standards in order to preserve the integrity of the HCM street trees in the public right-of-away as much as possible.

Alteration of HCM street trees for Project activities would be considered a significant impact where SOI Standards cannot feasibly be implemented. This is due to the HCM street tree designation, which provides its uniqueness to the visual character of the neighborhood. The SOI Standards guidelines are outlined in Chapter 3.4, *Cultural Resources*. The SOI Standards would be applicable for alteration (including, but not limited to root pruning, canopy pruning, watering, etc.) because once the HCM street tree is removed or demolished, it cannot be restored to its original conditions and its historic integrity would be compromised. Furthermore, any construction activities adversely affecting HCM street trees are not included in the ministerial process proposed by the Project, but instead would be subject to an additional discretionary process and the existing HCM review procedures. These discretionary processes would include project-specific environmental review that could result in further conditions of approval, mitigation, or non-approval.

Scenario 3, as discussed in Chapter 2, *Project Description*, consists of sidewalk and curb ramp repairs which would occur under unusual circumstances or environments. In instances where the integrity of the cultural resource cannot be maintained, there may be a potentially significant impact in the aesthetics or in the visual character due to the Project. Such unusual circumstances and environments include maintaining the aesthetic integrity of a known cultural resource that is a contributing factor in a Historical Preservation Overlay Zone, or within a High Sensitive Cultural Resources area, as defined in the Conservation Element of the Los Angeles General Plan, or a known archeological, paleontological, and tribal artifact or designation or an HCM Street Tree. All local, state, and federal standards would be complied with, where applicable; nonetheless, there still may be Project sites over the next 30 years where maintaining the look and details of a cultural resource may not be possible due to accessibility requirements or because following SOI Standards is infeasible. Moreover, like with HCMs, any construction activities that would significantly affect identified cultural resources are not included in the ministerial process proposed by the Project. Instead, these projects would be subject to an additional discretionary process that could include further project-specific environmental review, as well as further conditions of approval, mitigation, or non-approval.

Such cases where there would be a significant impact for an individual project under Scenario 3 would be very few under the Project. However, because impacts to HCM street trees or other historic street trees within the public right way may occur as a result of the Project, it is conservatively assumed that impacts in this area would be significant

Mitigation Measures

- For the large majority of the Project in Scenarios 1 and 2, impacts would be less than significant, and no mitigation measures are required
- Demolition and/material alteration of a significant cultural resource in Scenario 3 would be considered significant and unavoidable where implementation of limited instances in Scenario 3 projects where implementation of PDF-CUL-1 through PDF-CUL-5 related to assessment, SOI Standards, archaeological treatment plans, and paleontological management treatment plans would not maintain the significance of the cultural resource. No other feasible mitigation measures have been identified at this time. For further discussion, see Chapter 3.4, *Cultural Resources*.

AES-4. Would the proposed Project substantially damage visual landscape, including but not limited to street trees, utility poles, or historic structures within public right-of-way?

The impact would be less than significant for construction scenarios 1 and 2. The impact would be significant and unavoidable for construction scenario 3.

As previously discussed, the visual landscape of the City includes such features as the urban forest, infrastructure, and prominent structures, including historic structures. The continuation of activities under the Project has the potential to alter the visual landscape of a community or neighborhood through the removal of street trees; however, compliance with applicable laws and regulations and PDFs would ensure impacts to the visual landscape would be less than significant. Pursuant to the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, any street trees removed would be replaced at a 2:1 or 3:1 ratio. Furthermore, implementation of the Project would yield aesthetic benefits in the form of repaired sidewalks and a healthy urban forest, thereby improving visual landscapes.

Repair projects requiring utility relocation activities are similarly not anticipated to substantially damage the visual landscape. Repair projects requiring minor utility relocation would entail temporary, low-profile construction activities at or below ground surface. Where sidewalk repairs require more substantial utility work, including the relocation of utility poles, construction activities would be temporary and poles would be relocated near the original location.

As noted in the discussion for Impact AES-3, the removal of mature street trees has the potential to alter the visual character of neighborhoods where street trees are an integral part of the visual landscape or in residential neighborhoods with mature street tree canopies but it would not substantially degrade the visual landscape. The removal and replacement of street trees would be incremental and change every 5 years based on the specified individual project activity increases required by the Settlement in combination with the proposed street tree replacement policy. In fact, 15 years into the Project, a street tree planted during the first year would reach maturity and contribute to the area's aesthetic value. In addition, within the first 15 years, there would be two or three street trees at maturity for every mature street tree removed. In total, 30,405 new street trees that would be disease- and damage-free would be planted. Therefore, in the long term, or after 30 years, the overall visual landscape and the immediate surrounding area would be improved and the urban canopy would be larger than at the start of the Project. As noted above, there would be net neutral gain in street tree canopy beginning in year 30 of the Project. At the end of the Project, the City would have a larger ratio of street trees to urban canopy than it did before the Project started.

Scenario 3, as discussed in Chapter 2, Project Description and above, consists of sidewalk and curb ramp repairs which would occur under unusual circumstances or environments. In the rare instances where the integrity of the cultural resource cannot be maintained, there may be a potentially significant impact in the aesthetics or in the visual character due to the Project. Any construction activities that would significantly affect identified cultural resources are not included in the ministerial process proposed by the Project. However, because impacts on HCM street trees, utility poles, or other historic structures within the public right way may occur as a result of the Project, it is conservatively assumed that impacts in this area would be significant for those instances, and they are characterized as Scenario 3.

Mitigation Measures

- For the large majority of the Project in Scenarios 1 and 2, impacts would be less than significant, and no mitigation measures are required
- Demolition and/material alteration of a significant historical resource in Scenario 3 would be considered significant and unavoidable where implementation of limited instances in Scenario 3 projects where implementation of PDF-CUL-1 through PDF-CUL-2 related to assessment and SOI Standards would not maintain the significance of the historical resource. No other feasible mitigation measures have been identified at this time. For further discussion, see Chapter 3.4, Cultural Resources.

AES-5. Would the proposed Project result in a substantial loss of shading as a result of street tree retention, removal, or replacement throughout the project buildout?

The impact would be less than significant during construction.

Construction activities, such as sidewalk repair and utility relocation, could result in removal of street trees and thus the loss of mature street tree canopies which provide shade. Construction activities include an estimated 1,460 street tree removals in the first 5 years and incremental removal to a total of 12,860 street trees by year 30 of the Project. In most instances where sidewalk repair is needed, the mature street tree roots are the cause of sidewalk damage (see Chapter 2, *Project Description*). The Project would employ street tree retention through root pruning and canopy pruning to the extent feasible—in order to avoid removal of a street tree—and would also replace removed street trees with younger, healthy street trees at a minimum 2:1 replacement ratio for the first 10 years, 3:1 for the next 11 years, and 2:1 for the remaining 9 years (PDF-BIO-2). In other words, the Project would include planting approximately 2,900 replacement street trees in the first 5 years and incremental planting of approximately 30,405 replacement street trees over the 30 years of the Project. This would result in a net increase of approximately 17,544 street trees, which is an approximately 2.5% increase in street trees in the City. Temporary impacts on the City's urban forest and street tree canopy may occur because a new replacement street tree would require approximately 15 years to mature, on average (see *Biological Resources*). However, at approximately Year 30 of the Project, the City would be at net neutral for street tree canopy and shade would be reestablished to the level at the start of the Project. This would mean no loss or gain by approximately Year 30, because all the urban canopy would have been restored. In the long term, Project would not only replenish the street tree canopy, but starting from approximately Year 30 there would also be a net increase of approximately 298.3 acres to street tree canopy cover. These 298.3 acres represent an increase of approximately 0.72% canopy cover above the street tree baseline by year 46 with a healthy, disease-free, and diverse street tree population.

There would be a temporary impact due to the removal of street trees; however, this would only last until replacement street trees reach maturity (approximately 15 years), and street tree removals would occur throughout the City at different times. With each consecutive year of the Project, as street trees are being removed, they are also being replaced within a year in an existing street tree well. Additionally, the removal and replacement of street trees would be incremental. Therefore, 15 years into the program, the street trees planted during the first year would be mature and would contribute to the area's aesthetic value and provide the shade that was temporarily lost. There would be a localized impact on shade as a result of removal of street trees until replacement street trees reach maturity at a specific tree well for an individual sidewalk repair. Although shade would be temporarily reduced at some specific sites, the growth of more, younger replacement street trees in the long term would replenish the street tree canopy of the area with healthy and disease-free street trees, providing an overall benefit to the surrounding area. Thus, the temporary impact on shade due to removal of street trees would be less than significant.

Notwithstanding the temporary localized impacts, the overall shade in the City would not be significantly impacted because street trees make up only a small percentage of the citywide canopy. There are approximately 711,248 street trees providing 17,670 acres of street tree canopy cover in the City, whereas the total citywide canopy cover is 45,061 acres. The total number of street trees to be removed incrementally represents approximately 1.8%, or approximately 344 acres, of the overall street tree canopy cover, which is 0.76% of the citywide tree canopy. Thus, when looking at one site where, on average, one tree is removed, the amount of shade lost is negligible in relation to the citywide canopy cover. As street trees are being removed through the Project term, two or three times as many replacement street trees would be planted every year. At year 30, the shade would be reestablished due to the maturation of the replaced street trees. After year 30, the replaced street trees from the latter years of the Project would mature and contribute to a greater amount of shade in the City compared to the baseline. This means at the end of the Project the City will have a greater ratio of street trees to urban canopy than it did before the Project started.

Specifically, the Project is expected to create an additional 298.3 acres of street tree canopy cover in the City (see *Biological Resources* for more information).

Communities where street tree canopies are minimal may also benefit if newly planted street trees provide greater canopy than what is currently there now. The Bureau of Engineering, in partnership with the Bureau of Street Services, would maintain and monitor growth, ensuring survival of all preserved and newly planted street trees for 3 years from the time of planting under the Project. Overall, there would be a net gain in street tree canopy Citywide that would result in additional shading. Growth of street trees would continue to be monitored through the Bureau of Street Service and the Urban Forestry Division. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

3.1.3.5 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.

AES-1. Would the proposed Project substantially damage or degrade a designated scenic vista or state scenic highway?

There would be no impact during operation.

Operation of the Project would involve only the continuation of replacement street tree watering and routine inspection activities. There would be no impact on designated scenic vistas or state scenic highways during operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

AES-2. Would the proposed Project substantially damage or degrade recognized or valued views, including natural views of topography, mountains, oceans, or man-made visual features, in City of LA adopted land use plans?

There would be no impact during operation.

Operation of the Project would involve only the continuation of replacement street tree watering and routine inspection activities. Routine watering and inspection activities would not obstruct scenic vistas or focal views. There would be no impact on recognized or valued views during operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

AES-3. Would the proposed Project substantially damage or degrade existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees?

- **The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image.**
- **The degree to which the project would contribute to the area's aesthetic value.**
- **The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment).**

There would be no impact during operation.

Operation of the Project would involve only the continuation of replacement street tree watering and routine inspection activities. A watering or inspection truck periodically traveling through a neighborhood would not alter the visual character of the environment. There would be no impact during operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

AES-4. Would the proposed Project substantially damage visual landscape, including but not limited to street trees, utility poles, or historic structures within public right-of-way?

There would be no impact during operation.

Operation of the Project would involve only the continuation of replacement street tree watering and routine inspection activities. A watering or inspection truck periodically traveling through a neighborhood would not alter the visual character of the environment. There would be no impact during operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

AES-5. Would the proposed Project result in a substantial loss of shading as a result of street tree retention, removal, or replacement throughout the project buildout?

There would be no impact during operation.

Operation of the Project would involve only the continuation of replacement street tree watering and routine inspection activities. Newly planted young street trees would need an average of approximately 15 years, depending on species, for the street tree canopy to mature and provide substantial shade. Therefore, while Project construction is continuing after Year 15, the street trees planted within the first year would be “operational” or mature to provide shade in the City. Also, these would be twice as many in number compared to the street trees removed. Street tree replacements would, in the long term, create a sustainable urban forest that contributes to overall quality of life and would ensure that the elements of urban forestry are included in planning and programming of infrastructure projects. Through the operation of the Project, after 30 years, there would be a 344.2 acre-feet of net gain in urban canopy in the City. There would be no impact related to loss of shade during Project operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.1.4 Significant Unavoidable Adverse Impacts

As analyzed above, there may be a few sidewalk and curb ramp repair sites where potentially significant impacts to aesthetics and visual character would occur when SOI Standards cannot be implemented, as discussed in Chapter 3.4, *Cultural Resources*. This would mean that the historic resource is demolished, destroy, or damaged in such a way that its integrity and importance is impacted, despite the implementation of design features and any feasible mitigation. In these rare Scenario 3 projects, the impacts on aesthetics are significant and unavoidable.

3.2 Air Quality

This chapter examines the degree to which the proposed Project (Project) may result in changes to air quality on regional and local scales. This chapter also describes the characteristics and effects of air pollutants, the applicable regulatory framework, and the existing air quality conditions in the City of Los Angeles (City). This chapter assesses the potential significance of air pollutant emissions associated with construction and operation of the continuation of sidewalk repair activities under the Project. Emissions are quantified in terms of pounds of pollutant emitted into the atmosphere on a daily pound per day (lb/day) basis. The concentration of a pollutant in ambient air is defined by the amount of air pollutant per volumetric unit of air, expressed in terms of parts-per-million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

3.2.1 Air Pollutant Characteristics and Effects

Air quality is characterized by ambient air concentrations of seven specific pollutants identified by the United States Environmental Protection Agency (U.S. EPA) to be of concern with respect to health and welfare of the general public. These specific pollutants, known as “criteria air pollutants,” are pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal ambient concentration criteria are known as the National Ambient Air Quality Standards (NAAQS), and the California ambient concentration criteria are referred to as the California Ambient Air Quality Standards (CAAQS). Federal criteria air pollutants include ground-level ozone (O_3), nitrogen oxides (NO_X), carbon monoxide (CO), sulfur oxides (SO_X), respirable particulate matter 10 microns or less in diameter (PM_{10}), fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), and lead (Pb). The following descriptions of each criteria air pollutant and their health effects are based on information provided by the South Coast Air Quality Management District (SCAQMD 2017c).

3.2.1.1 Federal Criteria Air Pollutants

Ozone (O_3). O_3, a colorless gas with a sharp odor, is a highly reactive form of oxygen (O). High O_3 concentrations exist naturally in the stratosphere. However, it is also formed in the atmosphere when volatile organic compounds (VOC) and NO_X react in the presence of ultraviolet sunlight (also known as smog). The primary sources of VOC and NO_X, the components of O_3, are automobile exhaust and industrial sources. Some mixing of stratospheric O_3 downward through the troposphere to the earth’s surface does occur; however, the extent of O_3 transport is limited.

The propensity of O_3 for reacting with organic materials causes it to be damaging to living cells and cause health effects. O3 enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system’s ability to remove inhaled particles and fight infection. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for O_3 effects.

Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in communities with high O_3.

Nitrogen Dioxide (NO_2). NO_2 is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from nitrogen (N_2) and oxygen (O_2) under conditions of high temperature and pressure which are generally present during combustion of fuels (e.g., motor vehicles); NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NO_X. In the presence of sunlight, atmospheric NO_2 reacts and splits to form an NO molecule and an oxygen atom. The oxygen atom can react further to form O_3, via a complex series of chemical reactions involving hydrocarbons.

Population-based studies suggest that an increase in acute respiratory illness—including infections and respiratory symptoms in children (not infants)—is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient NO_2 levels found in Southern California homes that generally have fewer or no stoves. In healthy people, increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 (SCAQMD 2017c). Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO_2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

Carbon Monoxide (CO). CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, CO occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include those with diseases involving heart and blood vessels, fetuses (unborn babies), and people with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Sulfur Dioxide (SO_2). SO_2 is a colorless gas with a sharp odor. It reacts in air to form sulfuric acid, which contributes to acid precipitation, and sulfates, which are components of particulate matter. Main sources of SO_2 include coal and oil used in power plants and industries. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO_2. In asthmatics, increase in resistance to airflow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses, even after exposure to higher concentrations of SO_2.

Particulate Matter (PM_{10} and $PM_{2.5}$). Particles small enough to be inhaled into the deepest parts of the lung are of great concern to public health. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Emissions of $PM_{2.5}$ result from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X, and VOC.

Respirable particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM. A consistent correlation between elevated ambient fine particulate matter ($PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by $PM_{2.5}$ and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children, and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to PM. In addition to children, the elderly and people with pre-existing respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM_{10} and $PM_{2.5}$.

Lead (Pb). Pb in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric Pb over the past three decades. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death. There is no evidence to suggest that there are direct effects of Pb on the respiratory system.

3.2.1.2 California Criteria Air Pollutants

The State of California has established CAAQS for the following pollutants in addition to those that are regulated under the NAAQS.

Visibility-Reducing Particles. Deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality. Visibility reduction from air pollution is often due to the presence of sulfur and NO_X, as well as PM.

Sulfates ($X\text{-}SO_4^{2-}$). $X\text{-}SO_4^{2-}$ are chemical compounds which contain the sulfate ion (SO_4^{2-}) and are part of the mixture of solid materials that comprise PM_{10}. Most of SO_X in the atmosphere are produced by oxidation of SO_2. Oxidation of SO_2 yields sulfur trioxide, which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields SO_4^{2-}, a component of PM_{10} and $PM_{2.5}$. Both mortality and morbidity effects have been observed with an increase in ambient SO_4^{2-} concentrations. However, studies to separate the effects of SO_4^{2-} from the effects of other pollutants have generally not been successful. Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure.

Hydrogen Sulfide (H_2S). H_2S is a colorless, flammable, poisonous compound having a characteristic rotten-egg odor. It is used as a reagent and as an intermediate in the preparation of other reduced sulfur compounds. It is also a by-product of the desulfurization processes in the oil and gas industries and rayon production, sewage treatment, and leather tanning. Geothermal power plants, petroleum production and refining, and sewer gas are specific sources of H_2S in California. High H_2S exposure has been documented as a cause of sudden death in the workplace.

Vinyl Chloride. Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified as a known carcinogen by the American Conference of Governmental Industrial Hygienists and the International Agency for Research on Cancer. At room temperature, vinyl chloride is a gas with a sickly-sweet odor that is easily condensed. However, it is stored at cooler temperatures as a liquid. Due to the hazardous nature of vinyl chloride to human health, there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product.

Vinyl chloride is an important industrial chemical chiefly used to produce polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles. Vinyl chloride is not only used to make PVC products, but it is also a natural degradation product of chlorinated industrial solvents (e.g., perchloroethylene, trichloroethene, etc.). Vinyl chloride emissions are historically associated primarily with landfills and sites contaminated with chlorinated solvents.

3.2.1.3 Toxic Air Contaminants

Toxic air contaminants (TAC) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. Air toxics are also defined as an air pollutant that may increase a person’s risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Air toxics are emitted by a variety of industrial processes that include petroleum refining, electric utility and chrome plating operations, commercial operations, such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases).

Air toxics include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources. According to the 2006 *California Almanac of Emissions and Air Quality,* the majority of the estimated health risks from air toxics can be attributed to relatively few compounds, the most important being PM from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other air toxics in that it is a complex mixture of hundreds of substances rather than a single substance.

Diesel PM is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra-fine diesel PM are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, SO_X, nitrates, metals and other trace elements. Diesel PM is emitted from a broad range of diesel engines; the on-road diesel engines of trucks, buses, and cars and the off-road diesel engines that include locomotives, marine vessels, and heavy-duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, and some neurological effects, such as lightheadedness. Acute exposure may also elicit a cough or nausea, as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies has shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel PM is a likely carcinogen. Human epidemiological studies have demonstrated an association between diesel PM exposure and increased lung cancer rates in occupational settings.

3.2.1 Regulatory Setting

The federal *Clean Air Act* (CAA) governs air quality in the United States. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the *California Clean Air Act* (CCAA). At the federal level, the CAA is administered by the U.S. EPA. In California, the CCAA is administered by the California Air Resources Board (CARB) at the state level and by the air quality management districts and air pollution control districts at the regional and local levels.

This section focuses on criteria pollutant, O_3 precursor, and TAC emissions. The regulations established to control these pollutants often indirectly control greenhouse gas emissions (GHG; e.g., engine regulations). The reverse is also accurate that regulations designed to control GHG emissions often indirectly affect criteria pollutant, ozone precursor, and toxic air contaminant emissions. Refer to Chapter 3.6, *Greenhouse Gas Emissions*, for regulations related to GHG emissions.

3.2.1.1 Federal

Clean Air Act of 1977

The CAA governs air quality at the national level and the U.S. EPA is responsible for enforcing the regulations provided in the CAA. Under the CAA, the U.S. EPA is authorized to establish NAAQS that set protective limits on concentrations of air pollutants in ambient air. Enforcement of the NAAQS is required under the CAA and its amendments. The U.S. EPA also regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California.

As required by the CAA, NAAQS have been established for the seven criteria air pollutants: O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$, and Pb. These pollutants are common byproducts of human activities and have been documented through scientific research to cause adverse health effects. The CAA grants the U.S. EPA authority to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS concentrations have been met on a regional scale relying upon air monitoring data from the most recent three-year period. The NAAQS are summarized in Table 3.2-1.

As part of its enforcement responsibilities, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP. The U.S. EPA also regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by the CARB.

3.2.1.2 State

California Clean Air Act

In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the CCAA. In California, CCAA is administered by CARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the state requirements of the CAA, administering the CCAA, and establishing the CAAQS. The CCAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS.

The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The state standards are summarized in Table 3.2-1, along with the current attainment status designations for the South Coast Air Basin (Basin) under the NAAQS and CAAQS.

Table 3.2-1. Air Quality Standards and Attainment Status Designations for the City of Los Angeles

		California Standards		National Standards		
Pollutant	**Averaging Time**	**Concentration**	**Attainment Status**	**Primary**	**Secondary**	**Attainment Status**
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	Nonattainment	—	Same as Primary	Nonattainment (Extreme)
	8 Hour	0.070 ppm (137 μg/m^3)	Nonattainment	0.070 ppm (137 μg/m^3)	Same as Primary	Pending - Nonattainment
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 μg/m^3)	Attainment	0.100 ppm (188 μg/m^3)	—	Attainment/ Unclassifiable
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Attainment	0.053 ppm (100 μg/m^3)	Same as Primary	Attainment (Maintenance)
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	—	Attainment (Maintenance)
	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	—	Attainment (Maintenance)
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm (655 μg/m^3)	Attainment	0.075 ppm (196 μg/m^3)	—	Attainment/ Unclassifiable
	3 Hour	—	Attainment	—	0.5 ppm (1300 μg/m^3)	Attainment/ Unclassifiable
	24 Hour	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (certain areas)	—	Attainment/ Unclassifiable
	Annual Arithmetic Mean	—	Attainment	0.030 ppm (certain areas)	—	Attainment/ Unclassifiable
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m^3	Nonattainment	150 μg/m^3	Same as Primary	Attainment (Maintenance)
	Annual Arithmetic Mean	20 μg/m^3	Nonattainment	—	—	—
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	—	—	35 μg/m^3	Same as Primary	Nonattainment
	Annual Arithmetic Mean	12 μg/m^3	Nonattainment	12.0 μg/m^3	15 μg/m^3	Nonattainment

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	**Attainment Status**	**Primary**	**Secondary**	**Attainment Status**
Lead (Pb)	30 Day Average	1.5 µg/m³	Attainment	—	—	—
	Calendar Quarter	—	—	1.5 µg/m³ (certain areas)	Same as Primary	Attainment/ Unclassifiable
	Rolling 3-Month Average	—	—	0.15 µg/m³	Same as Primary	Attainment/ Unclassifiable
Visibility Reducing Particles	8 Hour	Extinction of 0.23 per kilometer	—	No National Standards		
Sulfates	24 Hour	25 µg/m³	Attainment			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Attainment			
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m³)	Attainment			

Source: SCAQMD, *NAAQS and CAAQS Attainment Status for the South Coast Air Basin*, February 2016.
ppm = parts per million; µg/m³ = micrograms per cubic meter

Toxic Air Contaminant Identification and Control Act

The CARB's statewide comprehensive air toxics program was established in the early 1980s. The *Toxic Air Contaminant Identification and Control Act* created California's program to reduce exposure to air toxics. Under this act, the CARB is required to prioritize the identification and control of air toxics emissions. In selecting substances for review, the CARB must consider criteria relating to the risk of harm to public health, such as amount or potential amount of emissions, manner of and exposure to usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community.

The *Toxic Air Contaminant Identification and Control Act* also require CARB to use available information gathered from the *Air Toxics Hot Spots Information and Assessment Act* to include in the prioritization of compounds. The *Air Toxics Hot Spots Information and Assessment Act* (Health and Safety Code Section 44360) supplements the *Toxic Air Contaminant Identification and Control Act* by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The *Hot Spots Act* also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

3.2.1.3 Regional

Lewis-Presley Air Quality Management Act

The 1977 *Lewis Air Quality Management Act* established the South Coast Air Quality Management District (SCAQMD) in order to coordinate air quality planning efforts throughout Southern California. This act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under this act, renamed the *Lewis-Presley Air Quality Management Act* in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district.

The SCAQMD has jurisdiction over a total area of 10,743 square miles, consisting of the Basin—which comprises 6,745 square miles including Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties—and the Riverside County portion of the Salton Sea and Mojave Desert Air Basins. The Project would involve the continuation of activities located throughout the City, which is situated in the Los Angeles County portion of the Basin and is entirely within the jurisdiction of the SCAQMD. The geographic extent of the Basin and the boundary of the City are shown on Figure 3.2-1.

SCAQMD Air Quality Management Plan

The SCAQMD is tasked with preparing regional programs and policies designed to improve air quality within the Basin, which are assessed and published in the form of the Air Quality Management Plan (AQMP). The AQMP is updated every four years to evaluate the effectiveness of the adopted programs and policies and to forecast attainment dates for nonattainment pollutants to support the California SIP based on measured regional air quality and anticipated implementation of new technologies and emissions reductions. The most recent publication is the 2016 AQMP, which is intended to serve as a regional blueprint for achieving the federal air quality standards and healthful air.

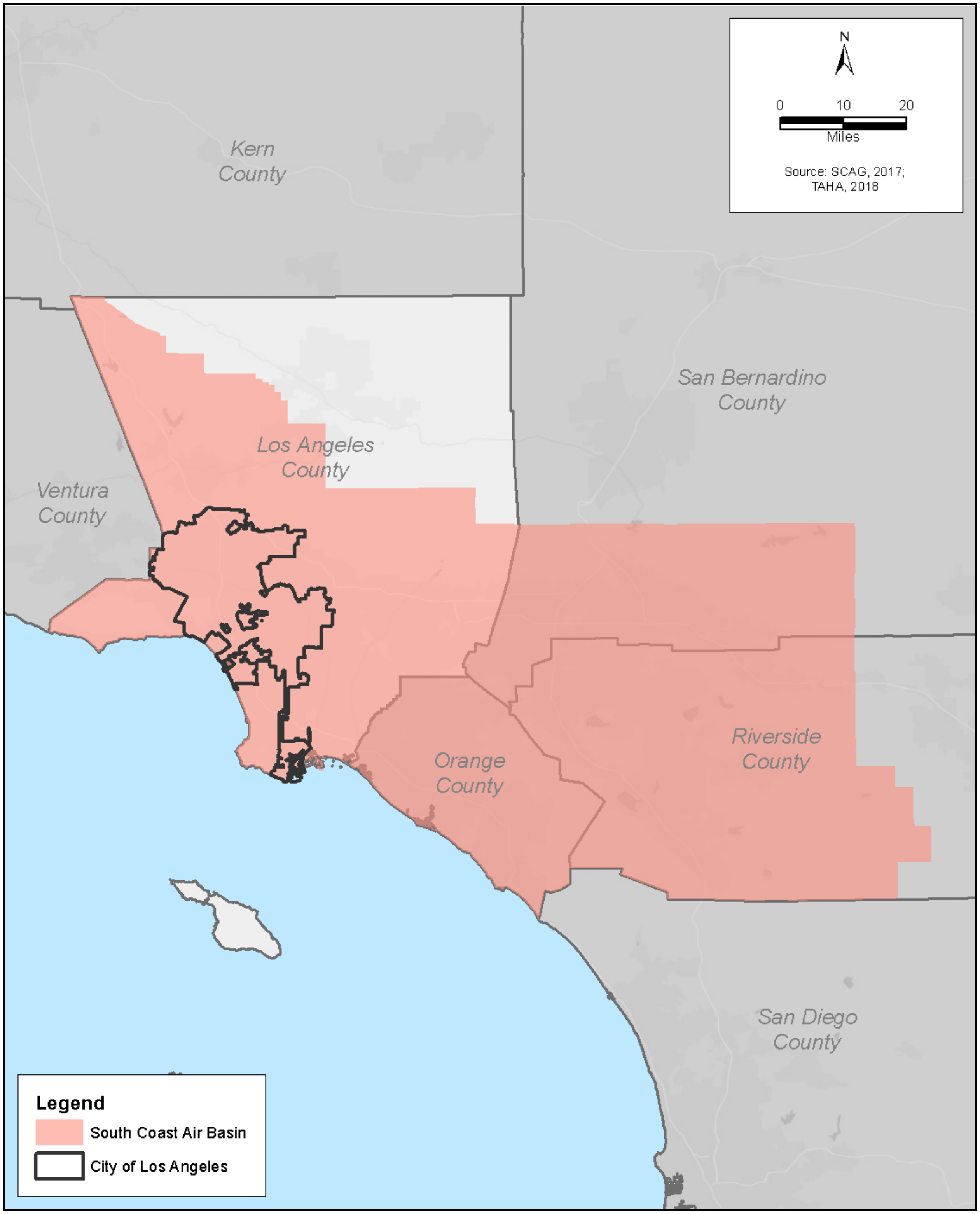


Figure 3.2-1. South Coast Air Basin

The 2016 AQMP represents a thorough analysis of existing and potential regulatory control options, and includes available, proven, and cost-effective strategies to pursue multiple goals in promoting reductions in GHG emissions and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The 2016 AQMP focuses on demonstrating NAAQS attainment dates for the 2008 8-hour O_3 standard, the 2012 annual $PM_{2.5}$ standard, and the 2006 24-hour $PM_{2.5}$ standard. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approach attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the NAAQS are not met by the established date.

The 2016 AQMP acknowledged that the most significant air quality challenge in the Basin is the reduction of NO_X emissions sufficient to meet the upcoming ozone standard deadlines. The 2016 AQMP includes an element that is related to transportation and sustainable communities planning. Pursuant to California Health and Safety Code Section 40450, the Southern California Association of Governments (SCAG)—the Metropolitan Planning Organization (MPO) for Southern California—has the responsibility of preparing and approving the portions of the 2016 AQMP relating to regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. The analysis incorporated into the 2016 AQMP is based on the forecasts contained within the SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Land use strategies outlined in the 2016–2040 RTP/SCS that will contribute to regional air quality improvements include: focusing new growth around transit/high quality transit areas (HQTAs), planning for growth around livable corridors, providing more options for short trips/neighborhood mobility areas, and supporting local sustainability planning. As the federally designated MPO for the six-county Southern California region encompassing Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial counties, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. The growth projections in the 2016-2040 RTP/SCS are based on projections originating under county and city general plans and are used in preparation of the air quality forecasts and consistency analyses included in the 2016 AQMP.

SCAQMD Rules and Regulations

The City will comply with all applicable SCAQMD Rules and Regulations pertaining to construction activities, including, but not limited to:

- Rule 401 (Visible Emissions) prohibits an air discharge that results in a plume that is as dark or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.
- Rule 402 (Nuisance) states that a person should not emit air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- Rule 403 (Fugitive Dust) controls fugitive dust through various requirements including, but not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, re-establishing ground cover as quickly as

possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, limiting vehicle speeds on unpaved roads to 15 miles per hour, and maintaining effective cover over exposed areas. Rule 403 also prohibits the release of fugitive dust emissions from any active operation, open storage piles, or disturbed surface area beyond the property line of the emission source and prohibits particulate matter deposits on public roadways.

- Rule 1113 (Architectural Coatings) limits VOC in architectural coatings used in the SCAQMD jurisdiction. These limits are application-specific and are updated as availability of low-VOC products expands.

3.2.1.4 Local

Local jurisdictions have the authority and responsibility to reduce air pollution through their decision-making and policy implementation. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions.

City of Los Angeles General Plan Air Quality Element

The City updated its general plan in 1992 and incorporated an Air Quality Element to address citywide goals, objectives, and policies designed to promote cleaner air and improved public health. The principal objective of the Air Quality Element of the general plan is to aid the region in attaining the state and federal ambient air quality standards while continuing economic growth and improvement in the quality of life afforded to City residents (City of Los Angeles 1992). The Air Quality Element also documents how the City will implement local programs contained in the general plan through recognition of the interrelationships between transportation and land use planning. The Air Quality Element establishes six citywide criteria for meeting its mobility and air quality goals:

- Good air quality in an environment of continued population growth and healthy economic structure;
- Less reliance on single-occupant vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures such as site orientation and tree planting; and
- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

In accordance with California Environmental Quality Act (CEQA) requirements, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City uses the SCAQMD's *CEQA Air Quality Handbook* and SCAQMD's supplemental online guidance/information for the environmental review of plans and development proposals within its jurisdiction.

3.2.2 Environmental Setting

This section summarizes the atmospheric mechanisms that affect fate and transport of air pollution within the Basin, the local climate conditions, the existing air quality conditions in terms of measured pollutant concentrations, and considerations for sensitive receptors in the context of air pollutant emissions associated with implementation of the continuing activities under the Project. All information presented reflects the most recent representation of the existing environmental setting.

3.2.2.1 South Coast Air Basin (Basin) Pollution Fate and Transport

The Basin is in an area of high air pollution potential due the immense magnitude of emissions sources and the combination of topography, low mean atmospheric mixing height, and abundant sunshine. Although the Basin has a semi-arid climate, air near the surface is generally moist because of the presence of a shallow marine layer. With very low average wind speeds a limited capacity to disperse air contaminants horizontally exists. The mountains and hills surrounding the Basin contribute to the variation of rainfall, temperature, and winds throughout the region.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter.

During the spring and early summer, pollution produced during any one day is typically blown out of the Basin through mountain passes or lifted by warm, vertical currents adjacent to mountain slopes. The vertical dispersion of air pollutants in the Basin is limited by temperature inversions in the atmosphere close to the Earth's surface. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants become more concentrated in urbanized areas with pollution sources of greater magnitude.

The Basin experiences frequent temperature inversions. Atmospheric temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog.

Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Because CO emissions are produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 concentrations are also generally higher during fall and winter days.

3.2.2.2 Local Climate Conditions

The mountains and hills within and surrounding the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. These variables characterize short-term weather conditions and observing long-term averages and trends in these characteristics provides a synopsis of typical climatological conditions in the Basin. These meteorological conditions affect the fate and transport of air pollution from emissions sources within the Basin. The Western Regional Climate Center (WRCC)—in collaboration with the National Oceanic and Atmospheric Administration (NOAA)—processes and publicizes regional climate summary data for the western United States (WRCC 2016). There are several meteorological stations located throughout the City that collect and record climatological data including temperature, precipitation, and wind speed and direction.

The two meteorological data stations that are most representative of local climate conditions within the City are the midtown Los Angeles station on the University of Southern California campus (KCQT) and the Los Angeles International Airport (LAX) station at LAX (KLAX). Average climate summary data for the period from 1996–2008 is the most recent extended period available and were obtained from the WRCC web portal for these two meteorological stations. A summary of the data is presented in Table 3.2-2.

Table 3.2-2. Local Climate Data Summary

Station	Average Annual Temp (°F)	Average Winter Temp (°F)	Average Summer Temp (°F)	Average Annual Precip. (in)	Average Winter Precip. (in)	Average Spring Precip. (in)	Average Summer Precip. (in)	Average Fall Precip. (in)
KCQT	65.4	58.2	72.7	14.9	9.9	2.9	0.2	1.9
KLAX	63.0	57.1	68.9	13.2	8.6	2.6	0.1	1.9

Source: WRCC, 2016.
°F = degrees Fahrenheit; in = inches

As shown in Table 3.2-2, the annual average temperature at the KCQT station is 65.4 degrees Fahrenheit (°F), with an average winter temperature of 58.2 °F and an average summer temperature of 72.7 °F. Total annual average precipitation as measured by the KCQT station is approximately 14.9 inches, with a majority occurring during the winter months (9.9 inches) and most of the remaining occurring during the spring (2.9 inches) and fall (1.9 inches) seasons. Precipitation is minimal during the dry summer season (0.2 inches).

At the KLAX station, the annual average temperature is 63.0°F, with an average winter temperature of 57.1°F and an average summer temperature of 68.9°F. The seasonal precipitation patterns at the KLAX station are similar to those at the KCQT station, with a majority of rainfall occurring during the winter months (8.6 inches) and most of the remaining occurring during the spring (2.6 inches) and fall (1.9 inches) seasons. Precipitation is minimal during the dry summer season (0.1 inches).

With regards to patterns of wind speed and direction distribution throughout the City, SCAQMD has compiled and publicized an online database of meteorological data for use in air dispersion modeling that contains detailed wind data over the period from 2012–2016. The three most representative stations where wind speed and direction are measured are the KCQT and KLAX stations and the Central Los Angeles station (CELA) located on North Main Street in downtown. Figure 3.2-2, Figure 3.2-3, and Figure 3.2-4 display the wind rose charts for the CELA, KCQT, and KLAX meteorological stations, respectively.

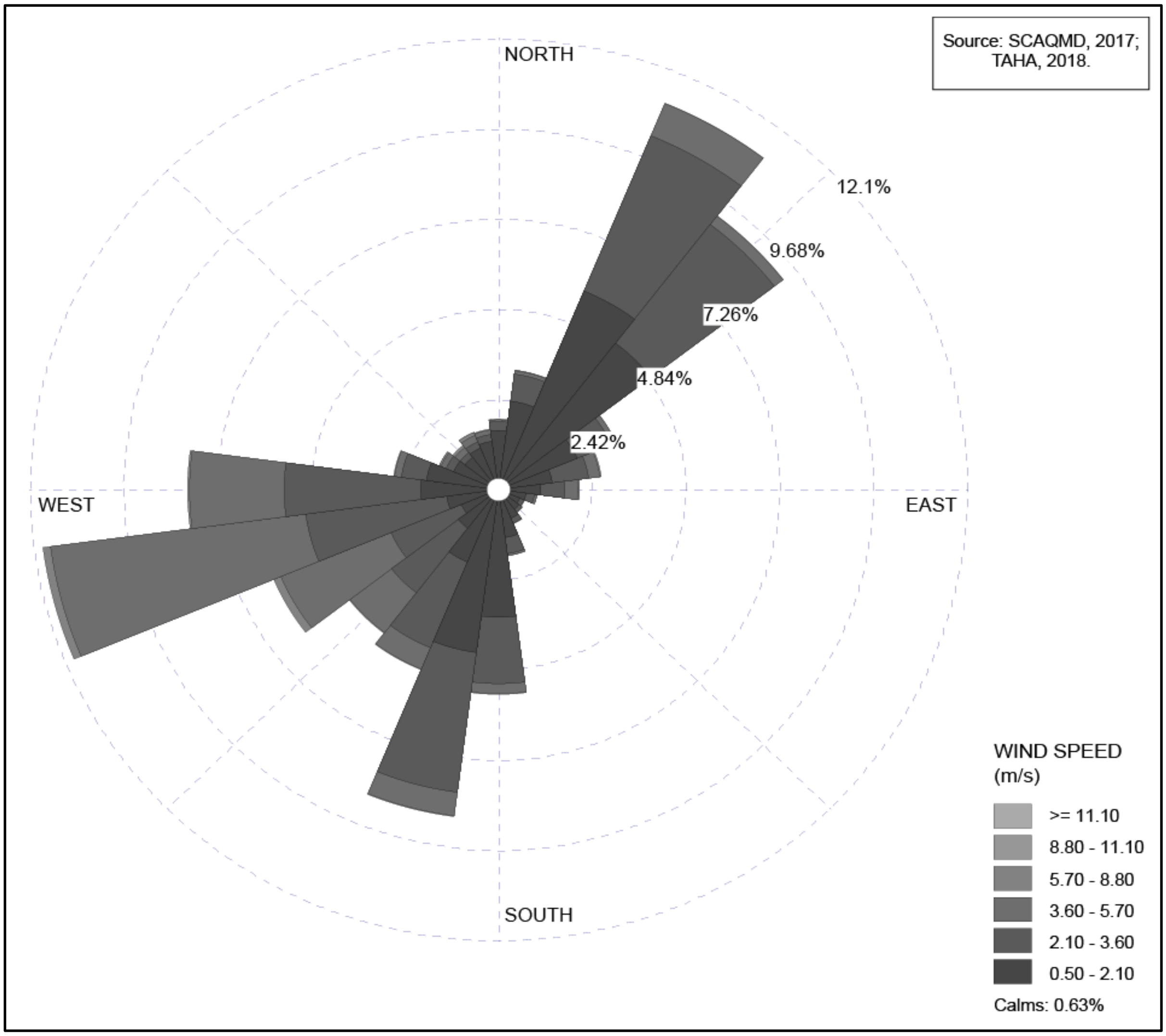


Figure 3.2-2. Windrose – CELA

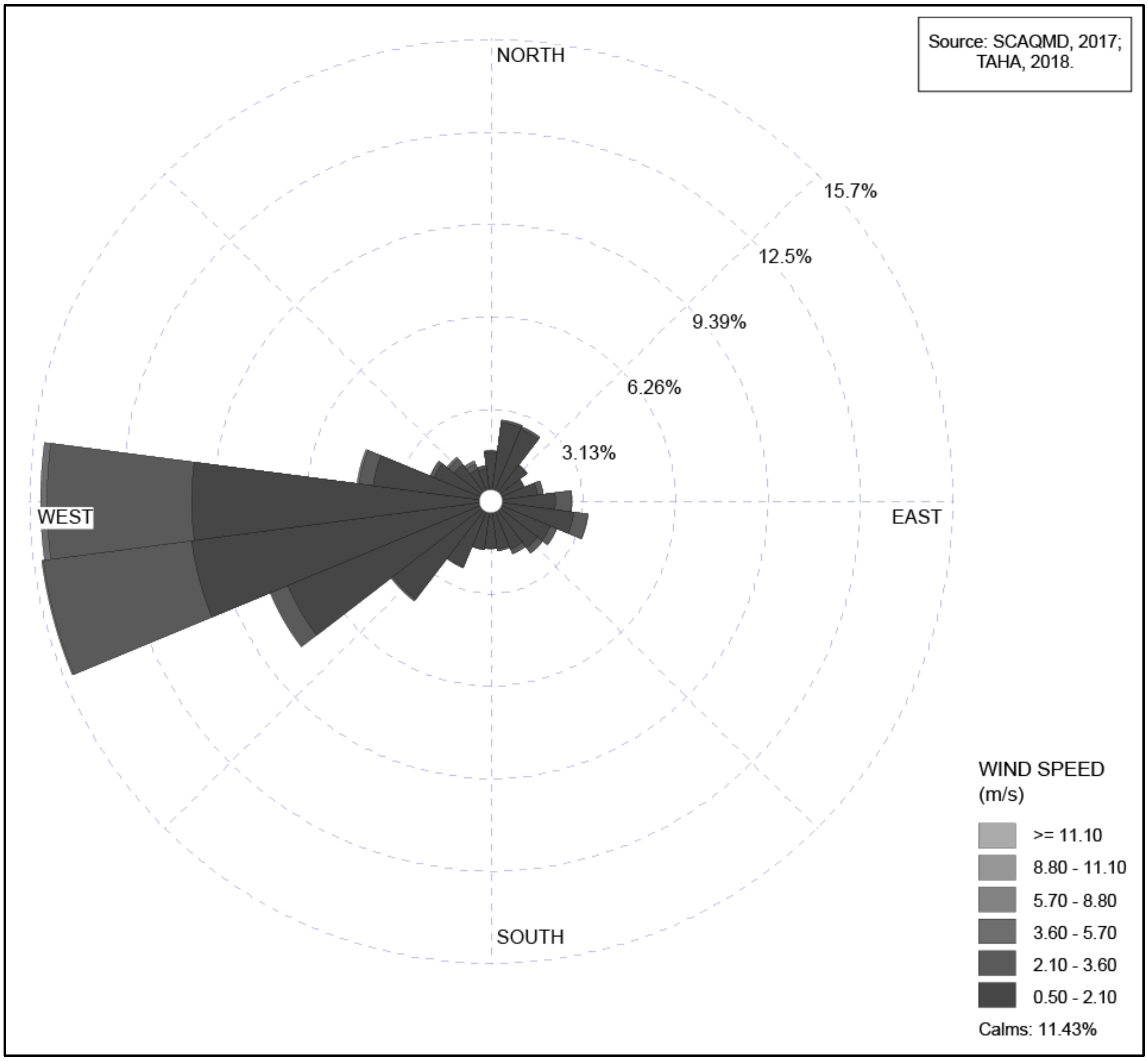


Figure 3.2-3. Windrose – KCQT

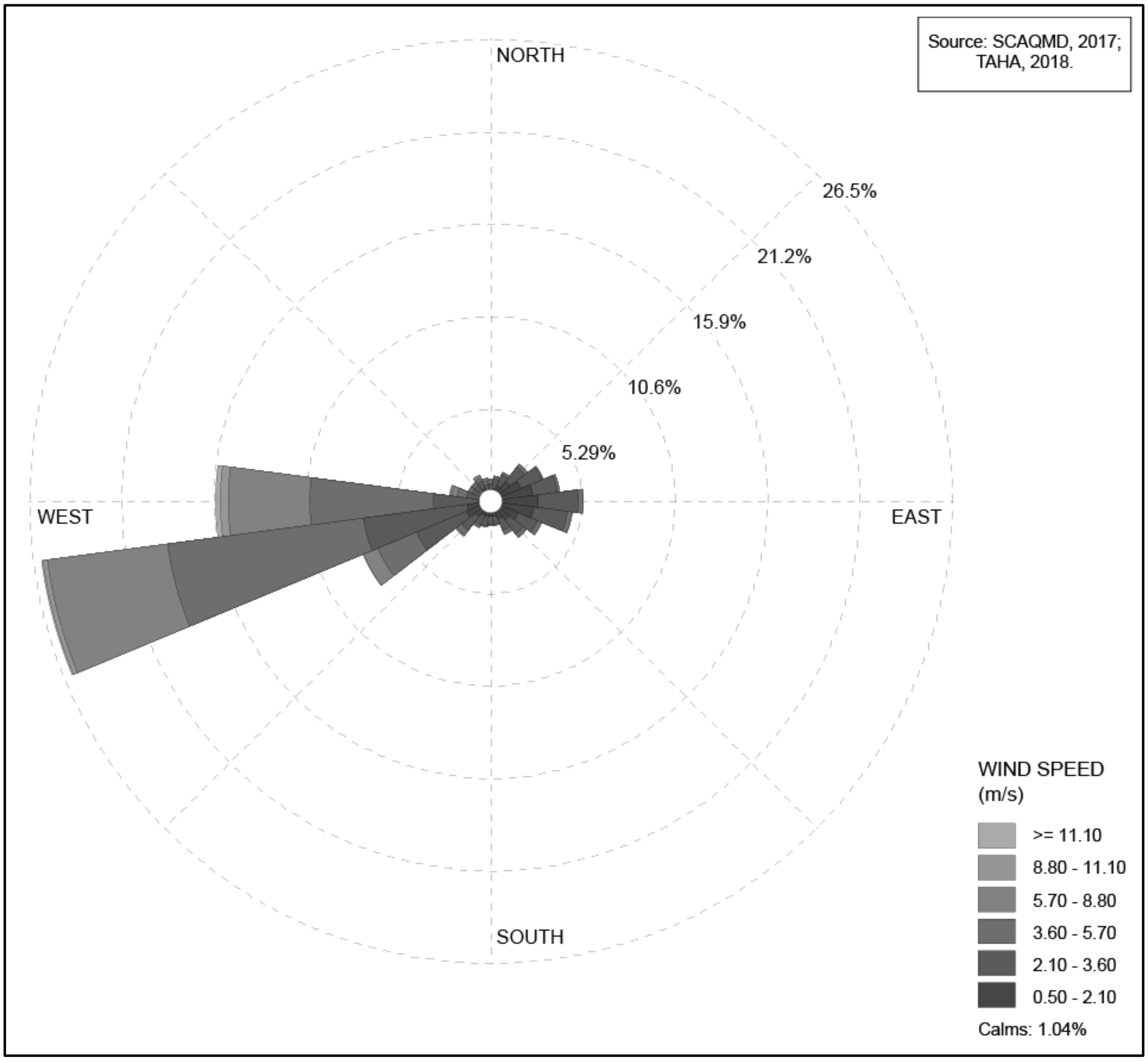


Figure 3.2-4. Windrose – KLAX

As shown in Figure 3.2-3 and Figure 3.2-4, wind patterns are similar at the KCQT and KLAX stations with predominant westerly winds, and the average wind speed at KLAX (7.8 miles per hour) is higher than that of KCQT (2.8 miles per hour) due to its coastal location, with KCQT and the midtown area having a much higher frequency of calm wind hours (11.4 percent). Figure 3.2-2 demonstrates that the CELA station and downtown area generally experience more winds from the northeast and southwest reflecting diurnal variations in direction, with an average speed of 5.2 miles per hour. Air quality in the downtown area is influenced more by westerly winds during the day time, and northeasterly winds at night. The variability in wind patterns throughout the City create certain areas that are more susceptible to air pollution than others.

3.2.2.3 Existing Air Quality Conditions

Air quality within the Basin region is characterized by concentrations of air pollutants measured at 40 monitoring stations located throughout the SCAQMD jurisdiction. The Basin is divided geographically into 38 Source Receptors Areas (SRAs), each of which contains an air quality monitoring station. The SRA boundaries were drawn based on the local emission inventories and surrounding topography. The City spans several SRAs—as shown on Figure 3.2-5—including the entirety of SRA 1 (Central Los Angeles County) and portions of SRA 2 (Northwest Coastal Los Angeles County), SRA 3 (Southwest Coastal Los Angeles County), SRA 4 (South Coastal Los Angeles County), SRA 6 (West San Fernando Valley), SRA 7 (East San Fernando Valley), SRA 8 (West San Gabriel Valley), and SRA 12 (South Central Los Angeles County).

Table 3.2-3 presents the representative air monitoring station for each SRA located within the City, including their name and geographic coordinates as well as the pollutants monitored at each location.

Table 3.2-3. City of Los Angeles Air Monitoring Network

SRA #	Station Name	Latitude	Longitude	Pollutants Monitored
1	Los Angeles – North Main Street	34.0664	-118.2267	O_3, NO_2, CO, SO_2, PM_{10}, $PM_{2.5}$
2	West Los Angeles – VA Hospital	34.0506	-118.4567	O_3, NO_2, CO
3	Los Angeles – Westchester Pkwy	33.9508	-118.4304	O_3, NO_2, CO, PM_{10}
4	Long Beach	33.8025	-118.2200	O_3, NO_2, CO, SO_2, PM_{10}
6	Reseda	34.1992	-118.5328	O_3, NO_2, CO, $PM_{2.5}$
7	Burbank	34.1758	-118.3169	N/A – Deactivated 2014
8	Pasadena	34.1322	-118.1278	O_3, NO_2, CO, $PM_{2.5}$
12	Compton	33.9014	-118.2050	O_3, NO_2, CO, $PM_{2.5}$

Source: SCAQMD, 2017.

The air monitoring network summarized in Table 3.2-3 measures and records concentrations of the criteria air pollutants O_3, NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ throughout the City of Los Angeles. In 2014, the SCAQMD discontinued publication of CO and SO_2 monitoring data after an extended period of demonstrated maintenance (CO) and attainment (SO_2) of the ambient air quality standards. Also, the SCAQMD deactivated the Burbank monitoring station for SRA 7 in 2014. As shown in Table 3.2-3, each monitor is not equipped to measure and record concentrations of all regulated pollutants. However, observing regional variability in concentrations can be illustrative of how topography and meteorological patterns affect air quality conditions throughout the City.

The CARB maintains an online database containing measured concentrations of air pollutants at monitoring locations throughout the state. Air monitoring data for SRA 1, SRA 2, SRA 3, SRA 4, SRA 6, SRA 8, and SRA 12 were obtained and synthesized from the CARB air monitoring data web portal to describe existing air quality conditions throughout the City (CARB 2017). As the Burbank monitor was deactivated in 2014, the data available are not representative of the most recent air quality conditions in the East San Fernando Valley area and have been omitted from consideration. The following tables present summary data for each monitored criteria pollutant during the period from 2014–2016: O_3 (Table 3.2-4), NO_2 (Table 3.2-5), PM_{10} (Table 3.2-6), and $PM_{2.5}$ (Table 3.2-7).

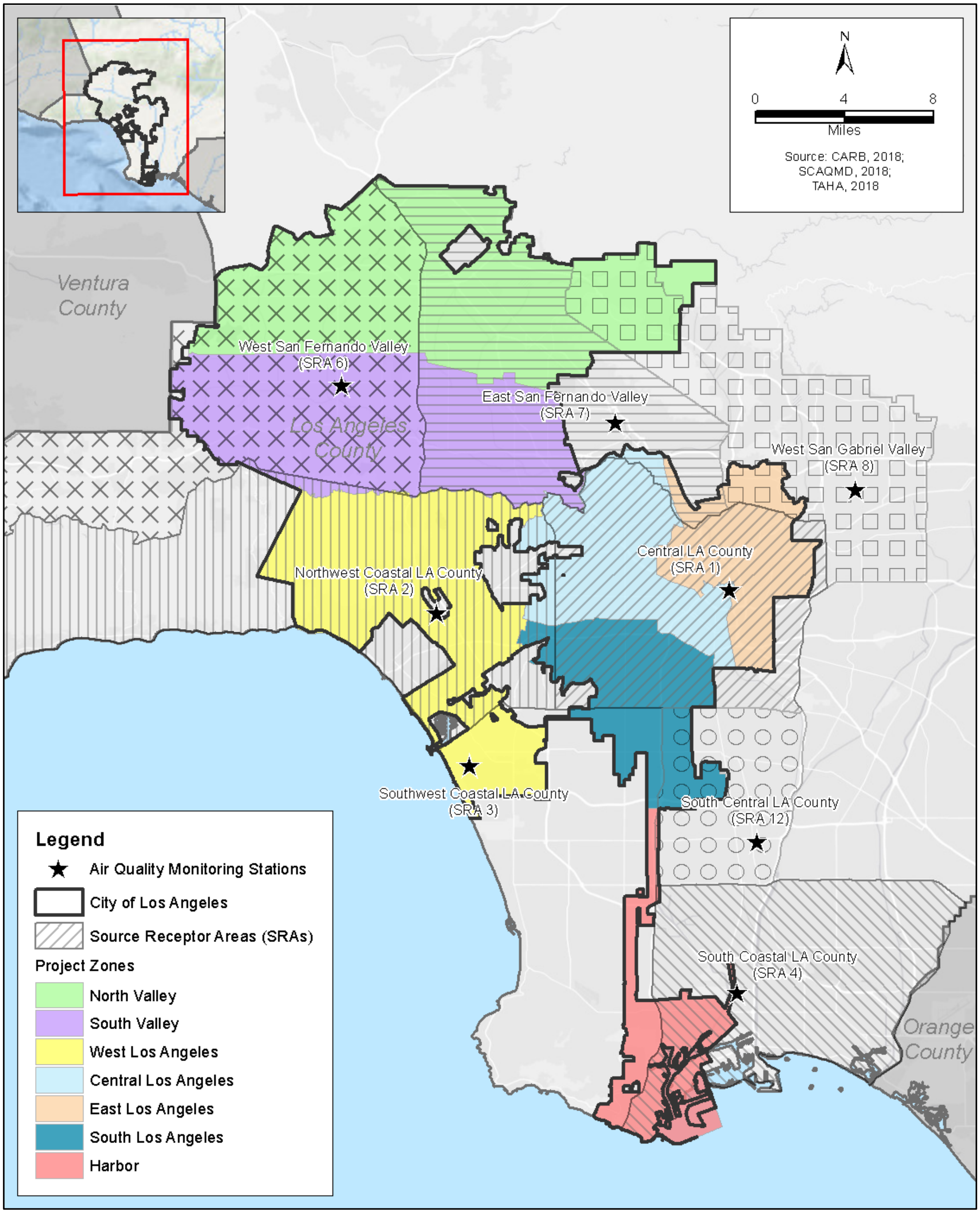


Figure 3.2-5. Air Quality Monitoring Stations

Table 3.2-4. Ambient Air Quality Data – Citywide O_3 Monitoring Summary

Monitoring Station	Parameter	Annual Maximum O_3 Concentrations and Frequencies of Exceeded Standards 2014	2015	2016
Los Angeles – North Main Street (SRA 1)	Maximum 1-hr Concentration (ppm)	0.113	0.104	0.103
	Days > 0.09 ppm (State 1-hr Standard)	3	2	2
	Maximum 8-hr Concentration (ppm)	0.094	0.074	0.078
	Days > 0.07 ppm (State & Federal 8-hr Standard)	6	6	4
West Los Angeles –VA Hospital (SRA 2)	Maximum 1-hr Concentration (ppm)	0.116	0.102	0.085
	Days > 0.09 ppm (State 1-hr Standard)	1	2	0
	Maximum 8-hr Concentration (ppm)	0.094	0.072	0.073
	Days > 0.07 ppm (State & Federal 8-hr Standard)	5	2	2
Los Angeles – Westchester Parkway (SRA 3)	Maximum 1-hr Concentration (ppm)	0.114	0.096	0.087
	Days > 0.09 ppm (State 1-hr Standard)	1	1	0
	Maximum 8-hr Concentration (ppm)	0.080	0.077	0.080
	Days > 0.07 ppm (State & Federal 8-hr Standard)	6	3	2
Long Beach (SRA 4)	Maximum 1-hr Concentration (ppm)	0.087	0.087	0.079
	Days > 0.09 ppm (State 1-hr Standard)	0	0	0
	Maximum 8-hr Concentration (ppm)	0.072	0.066	0.059
	Days > 0.07 ppm (State & Federal 8-hr Standard)	1	0	0
Reseda (SRA 6)	Maximum 1-hr Concentration (ppm)	0.116	0.119	0.122
	Days > 0.09 ppm (State 1-hr Standard)	6	11	9
	Maximum 8-hr Concentration (ppm)	0.092	0.094	0.098
	Days > 0.07 ppm (State & Federal 8-hr Standard)	27	32	23
Pasadena (SRA 8)	Maximum 1-hr Concentration (ppm)	0.124	0.111	0.126
	Days > 0.09 ppm (State 1-hr Standard)	6	12	12
	Maximum 8-hr Concentration (ppm)	0.096	0.084	0.090
	Days > 0.07 ppm (State & Federal 8-hr Standard)	13	18	18
Compton (SRA 12)	Maximum 1-hr Concentration (ppm)	0.094	0.091	0.098
	Days > 0.09 ppm (State 1-hr Standard)	0	0	1
	Maximum 8-hr Concentration (ppm)	0.081	0.072	0.071
	Days > 0.07 ppm (State & Federal 8-hr Standard)	4	1	1

Source: CARB, Air Quality Data Statistics, Top 4 Summary, accessed January 2018.
ppm = parts per million

Table 3.2-5. Ambient Air Quality Data – Citywide NO_2 Monitoring Summary

Monitoring Station	Parameter	Annual Maximum NO_2 Concentrations and Frequencies of Exceeded Standards		
		2014	2015	2016
Los Angeles – North Main Street (SRA 1)	Maximum 1-hr Concentration (ppm)	0.082	0.079	0.065
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	0.022	0.022	0.022
	Exceed Federal Standard (0.053 ppm)?	No	No	No
	Exceed State Standard (0.030 ppm)?	No	No	No
West Los Angeles – VA Hospital (SRA 2)	Maximum 1-hr Concentration (ppm)	0.064	0.068	0.055
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	0.013	0.011	0.011
	Exceed Federal Standard (0.053 ppm)?	No	No	No
	Exceed State Standard (0.030 ppm)?	No	No	No
Los Angeles – Westchester Parkway (SRA 3)	Maximum 1-hr Concentration (ppm)	0.087	0.087	0.082
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	0.012	0.011	0.010
	Exceed Federal Standard (0.053 ppm)?	No	No	0
	Exceed State Standard (0.030 ppm)?	No	No	0
Long Beach (SRA 4)	Maximum 1-hr Concentration (ppm)	0.136	0.102	0.076
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	2	1	0
	Annual Arithmetic Mean Concentration (ppm)	*	0.020	0.018
	Exceed Federal Standard (0.053 ppm)?	-	No	No
	Exceed State Standard (0.030 ppm)?	-	No	No
Reseda (SRA 6)	Maximum 1-hr Concentration (ppm)	0.059	0.073	0.056
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	*	0.013	0.012
	Exceed Federal Standard (0.053 ppm)?	-	No	No
	Exceed State Standard (0.030 ppm)?	-	No	No
Pasadena (SRA 8)	Maximum 1-hr Concentration (ppm)	0.075	0.075	0.072
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	*	0.015	0.015
	Exceed Federal Standard (0.053 ppm)?	-	No	No
	Exceed State Standard (0.030 ppm)?	-	No	No
Compton (SRA 12)	Maximum 1-hr Concentration (ppm)	0.068	0.074	0.064
	Days > 0.18 ppm (State 1-hr Standard)	0	0	0
	Days > 0.10 ppm (Federal 1-hr Standard)	0	0	0
	Annual Arithmetic Mean Concentration (ppm)	*	0.016	0.015
	Exceed Federal Standard (0.053 ppm)?	-	No	No
	Exceed State Standard (0.030 ppm)?	-	No	No

Source: CARB, Air Quality Data Statistics, *Top 4 Summary*, accessed January 2018.
ppm = parts per million; * = Insufficient Data

Table 3.2-6. Ambient Air Quality Data – Citywide PM_{10} Monitoring Summary

Monitoring Station	Parameter	Annual Maximum PM_{10} Concentrations and Frequencies of Exceeded Standards		
		2014	2015	2016
Los Angeles – North Main Street (SRA 1)	Maximum 24-hr Concentration (μg/m³)	86.8	88.5	74.6
	Days > 50 μg/m³ (State 24-hr standard)	38	30	21
	Days > 150 μg/m³ (Federal 24-hr standard)	0	0	0
	Annual Average Concentration (μg/m³)	30.2	27.0	*
	Exceed State Annual Standard (20 μg/m³)?	Yes	Yes	-
Los Angeles – Westchester Parkway (SRA 3)	Maximum 24-hr Concentration (μg/m³)	46.0	42.0	43.0
	Days > 50 μg/m³ (State 24-hr standard)	0	0	0
	Days > 150 μg/m³ (Federal 24-hr standard)	0	0	0
	Annual Average Concentration (μg/m³)	22.1	21.2	21.6
	Exceed State Annual Standard (20 μg/m³)?	Yes	Yes	Yes
Long Beach (SRA 4)	Maximum 24-hr Concentration (μg/m³)	84.0	80.0	75.0
	Days > 50 μg/m³ (State 24-hr standard)	3	6	N/A
	Days > 150 μg/m³ (Federal 24-hr standard)	0	0	0
	Annual Average Concentration (μg/m³)	29.5	31.3	*
	Exceed State Annual Standard (20 μg/m³)?	Yes	Yes	-

Source: CARB, Air Quality Data Statistics, *Top 4* Summary, accessed January 2018. μg/m³ = micrograms per cubic meter; * = Insufficient Data

Table 3.2-7. Ambient Air Quality Data – Citywide $PM_{2.5}$ Monitoring Summary

Monitoring Station	Parameter	Annual Maximum $PM_{2.5}$ Concentrations and Frequencies of Exceeded Standards 2014	2015	2016
Los Angeles – North Main Street (SRA 1)	Maximum 24-hr concentration (μg/m³)	59.9	56.4	44.3
	Days > 35 μg/m³ (Federal 24-hr Standard)	6	7	2
	Annual Arithmetic Mean Concentration (μg/m³)	*	12.5	12.0
	Exceed State/Federal Standard (12.0 μg/m³)?	-	Yes	No
Reseda (SRA 6)	Maximum 24-hr concentration (μg/m³)	27.2	36.8	30.0
	Days > 35 μg/m³ (Federal 24-hr Standard)	0	1	0
	Annual Arithmetic Mean Concentration (μg/m³)	*	*	16.9
	Exceed State/Federal Standard (12.0 μg/m³)?	-	-	Yes
Pasadena (SRA 8)	Maximum 24-hr concentration (μg/m³)	32.5	48.5	29.2
	Days > 35 μg/m³ (Federal 24-hr Standard)	0	2	0
	Annual Arithmetic Mean Concentration (μg/m³)	*	9.8	9.5
	Exceed State/Federal Standard (12.0 μg/m³)?	-	No	No
Compton (SRA 12)	Maximum 24-hr concentration (μg/m³)	35.8	41.3	36.3
	Days > 35 μg/m³ (Federal 24-hr Standard)	1	3	1
	Annual Arithmetic Mean Concentration (μg/m³)	*	11.7	11.0
	Exceed State/Federal Standard (12.0 μg/m³)?	-	No	No

Source: CARB 2017.
μg/m³ = micrograms per cubic meter; * = Insufficient Data

The O_3 monitoring data displayed in Table 3.2-6 is consistent with the "nonattainment" status designation for the Basin. Maximum O_3 concentrations during the three-year period exceeded the California 1-hour standard and the state/federal 8-hour standard on numerous occasions at all monitoring locations except the Long Beach (SRA 4) monitoring station, which measured only one occurrence of the 8-hour standard being exceeded in 2014.

The data generally reflect that O_3 concentrations are higher at inland locations (i.e., Reseda [SRA 6] and Pasadena [SRA 8]) where less atmospheric mixing occurs, and smog formation is more prevalent. Concentrations at the coastal locations (i.e., West Los Angeles – VA Hospital [SRA 2] and Long Beach [SRA 4]) were lower on average and experienced fewer days with exceeded O_3 standards. Concentrations at the Compton (SRA 12) monitoring station remained low due to the flat surrounding topography and the influence of onshore wind patterns from the coastal areas.

Table 3.2-5 above displays the NO_2 monitoring summary throughout the region spanned by the City from 2014–2016. NO_2 concentrations exceeded the one-hour NAAQS twice in 2014 and once in 2015 at the Long Beach monitor. Higher short-term NO_2 concentrations at this monitor are likely attributed to shipping and industrial activities at the nearby Port of Los Angeles. Annual average concentrations were highest at the Long Beach and Los Angeles – North Main Street monitors, the latter of which is situated in downtown where traffic congestion is regularly high. The air monitoring results corroborate the "attainment" designation for the Basin.

As shown in Table 3.2-6 above, concentrations of PM_{10} at the Los Angeles – North Main Street monitoring station exceeded the 24-hour CAAQS numerous times in each year between 2014 and 2016. Concentrations of PM_{10} at the Long Beach monitoring station exceeded the 24-hour CAAQS several times in 2014 and 2015, with incomplete data for 2016. The 24-hour NAAQS was not exceeded at any monitoring location during the three-year period. Annual average PM_{10} concentrations consistently exceeded the CAAQS at all monitoring locations. The PM_{10} monitoring results corroborate the regional "maintenance" designation for the NAAQS and the "nonattainment" designation for the CAAQS. Concentrations of PM_{10} were generally higher at the Los Angeles – North Main Street and Long Beach monitoring stations, which can be attributed to local traffic congestion and nearby port/industrial activity, respectively.

Table 3.2-7 below displays $PM_{2.5}$ concentrations measured at active monitoring locations throughout the Los Angeles area between 2014 and 2016. The 24-hour NAAQS was exceeded at all four active monitoring locations at least once during this period, with the highest concentrations and frequencies of exceeded standards occurring at the Los Angeles – North Main Street location. The annual average CAAQS/NAAQS was exceeded at the Los Angeles – North Main Street monitoring station in 2015 and 2016 and at the Reseda monitoring station in 2016. The elevated $PM_{2.5}$ concentrations are indicative of an ongoing fine particulate matter air quality concern and serve to corroborate the "nonattainment" designation for the Basin at both the state and federal levels.

The SCAQMD also operates and maintains an air monitoring network for TACs. The Multiple Air Toxics Exposure Study (MATES-IV) program measured concentrations of more than 30 air pollutants, including both gases and particulates, at 10 fixed sites throughout the Basin (SCAQMD 2015). The monitoring study was accompanied by a computer modeling exercise in which the SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-IV found that the annual average carcinogenic risk in the Basin declined from 1,194 in a million in 2005 to 418 in a million in 2012. The highest carcinogenic risk of about 2,500 in a million was found near the Ports of Los Angeles and Long Beach. The existing ambient carcinogenic risk near Central Los Angeles is slightly over 1,200 in a million.

3.2.2.4 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The CARB has identified the following population groups who are most likely to be affected by air pollution: children less than 14 years of age, adults over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. Land uses where these population groups are likely to spend a substantial amount of time are considered sensitive receptors. According to the SCAQMD, sensitive land uses include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

These sensitive land uses are prevalent throughout most areas of the City, which spans approximately 467 square miles, or 302,596 acres. As discussed in the Chapter 2, *Project Description*, approximately 60 percent of City acreage is residential, approximately 20 percent is public land, and approximately 7 percent is commercial and residential. The proximity of sensitive receptors to sources of air pollution at individual sidewalk repair sites under implementation of the continuing activities under the Project would vary from one location to the next. Refer to Chapter 3.9, *Land Use and Planning* for a more thorough discussion of the geographic distribution of sensitive land uses within City boundaries.

3.2.3 Environmental Impact Analysis

This section analyzes the potential for significant air quality impacts to occur from construction and operation of the continuing activities under the Project.

3.2.3.1 Approach

Implementation of the continuing activities under the Project would generate air pollutants during construction activities and future operational maintenance activities. The Project involves modification of the manner in which continuing construction activities and operational maintenance activities are implemented that would take place every year for the life of the Project. For the purpose of this analysis, certain assumptions are made regarding construction and operational activities, which represent the highest daily pollutant emissions that could occur from the continuing activities under the Project over the entire Project period.

The continuation of construction activities under the Project would involve a combination of two different "Scenarios" (1 and 2) depending on the type of work required at a given repair site. Construction Scenario 1 would involve the following activities:

- Sidewalk repair work, including fixing broken concrete, cracks, uplifts, driveways, curb and gutter, and making the required accessibility improvements such as cross slope work;
- Curb ramp repairs or installation;
- Street tree removal and replacement; and
- Minor utility work such as utility box adjustments.

Construction Scenario 2 would involve similar activities to Construction Scenario 1 with deeper excavation for utility poles and repaving of associated crosswalks. An overview of Construction Scenario 2 activities includes:

- Sidewalk repair work, including fixing broken concrete, cracks, uplifts, driveways, curb and gutter, and making the required accessibility improvements such as cross slope work;
- Curb ramp repairs or installation;
- Crosswalk repaving;
- Street tree removal and replacement; and
- Substantial underground and/or overhead utility relocation work.

For analysis purposes, an average site is assumed to be 650 linear feet long and 5 feet wide for each scenario. This assumption is based on data gathered from past work. As a conservative approach, it is also assumed that each repair site would include a street tree removal when the street tree cannot survive root pruning. Each Construction Scenario 1 repair project is anticipated to take a minimum average of 5 work days to complete, while Construction Scenario 2 is anticipated to take 30 work days to complete. Both Construction Scenario 1 and Construction Scenario 2 may be occurring simultaneously throughout the City at any given time. Of the approximately total 12 crews at peak construction activity during the last 5 years of the Project, it is assumed that up to 11 crews would be working on a Construction Scenario 1 site on a given day. Construction Scenario 2 would be more intensive than Construction Scenario 1 and would include substantial utility repair work as well as crosswalk repaving. Only a single crew is assumed to be conducting repairs for Construction

Scenario 2 on any given day, during the last years of the Project because that is when the greatest amount of sidewalk repair sites will be repaired.

The removal and replacement of street trees would be incremental and change every 5 years based on the specific individual project activity increase required by the *Settlement* in combination with the proposed Revised Street Tree Retention, Removal and Replacement for the Sidewalk Repair Project. For example, the Project would include planting approximately 2,900 replacement street trees in the first 5 years and incremental planting of approximately 30,405 replacement street trees of the life of the Project. Street tree replacement to removal ratios would be 2:1 during Project years 1–10; 3:1 from years 11–21; and 2:1 from years 22–30. With respect to construction activities, the number of worker crews throughout the City at a given time is anticipated to increase every 5 years of the Project because of the increase in sidewalk repair (i.e., 298 repair sites annually in years 1–5, 344 annually in years 6–10, 396 annually in years 11–15, 457 annually in years 16–20, 527 annually in years 21–25, and 607 annually in years 26–30), as shown below in Table 3.2-8.

Table 3.2-8. Summary of Project Construction Crew Activities

Project Period (Years)	Total Period Estimated Sidewalk Repair (square feet)	Annual Estimated Sidewalk Repair (square feet)	Annual Number of Repair Sites	Number of Weekly Active Crew Teams
1–5	4,843,750	968,750	298	6
6–10	5,584,845	1,116,969	344	7
11–15	6,437,500	1,287,500	396	8
16-20	7,421,875	1,484,375	457	9
21–25	8,560,940	1,712,188	527	11
26–30	9,870,315	1,974,063	607	12

Source: MARRS Services, Inc., 2018.

Activities associated with Construction Scenarios 1 and 2 would generate emissions of air pollutants from sources including the use of heavy-duty equipment, worker trips, material delivery and disposal trips, loading demolition debris into trucks (PM_{10} and $PM_{2.5}$), and off-gassing of VOC during asphalt paving. At Construction Scenario 1 sites, up to three individual activities could occur on the same day (including a street tree removal), and at the Construction Scenario 2 site up to four individual activities could occur on the same day (including a street tree removal). Therefore, the two sequential Construction Scenario 1 activities with the highest daily emissions and the three sequential Construction Scenario 2 activities with the highest daily emissions were identified and combined for the worst-case analysis. Additionally, at the peak construction activity (largest number of repair sites) during the last 5 years of the Project, it was conservatively assumed that half the crews would be removing street trees on a given day under the worst-case scenario.

Construction activities would generate air pollutant emissions from sources including off-road equipment exhaust, on-road vehicle trips to and from the construction sites, and off-gassing of VOC during crosswalk repaving. Daily air pollutant emissions that would be released by construction equipment were quantified using methodologies described in the California Emissions Estimator Model (CalEEMod2016.3.2) *User's Guide Appendix A Calculation Details for CalEEMod* (CAPCOA 2017). The construction equipment emissions calculations relied on emission factors extracted from the CARB OFFROAD2011 model that are contained in the *CalEEMod User's Guide Appendix D Default Data Tables* document (CAPCOA 2017). The emission factors are expressed in terms of grams of pollutant emitted per hour of equipment use (g/hr).

Table 3.2-9 below presents an overview of the individual events (phases) of construction activities under each scenario, the duration of each activity, the equipment required to complete the work, and the number of daily workers and total truck round trips anticipated for each event. As noted previously, one street tree removal and planting activity would occur per repair site. During the Project years 11–21, replacement street tree planting would occur at a 3:1 ratio, and during all other Project years replacement street tree planting would occur at a 2:1 ratio. The anticipated average daily use of each piece of equipment is presented in Table 3.2-9. Detailed construction equipment emissions calculations can be found in Appendix D.

Table 3.2-9. Summary of Activities for Each Construction Scenario

Event/Phase	Duration (days)	Daily Equipment Type (count)	Daily Workers	Truck Trips
Construction Scenario 1				
Mobilization	5	Compressor (1) Small Generator (1)	4	2
Traffic Control/ Demolition/Removal	1	Pneumatic Jackhammer (2) Concrete Saw (2) Skid-Steer Loader (1) Tractor (1)	4	2
Grading/Formwork	1	3 Ton Roller (1)	5	2
Concrete Pouring	1	Concrete Mixer (1) Concrete Vibrator (2)	9	2
Utility Adjustment	2	Manhole Cutter (1) Concrete Saw (1) Concrete Mixer (1)	5	2
Street Tree Removal	1	Bucket Truck (1) Chainsaw (1) Wood Chipper (1) Stump Grinder (1) Skid-Steer Loader (1)	5	0
Street Tree Planting	1	Mini Excavator (1)	3	0
Cleanup	1	N/A	3	2
Construction Scenario 2				
Mobilization	5	Same equipment as under Construction Scenario 1	4	2
Traffic Control/ Demolition/Removal	1	Same equipment as under Construction Scenario 1	4	2
Grading/Formwork	1	Same equipment as under Construction Scenario 1	5	2
Concrete Pouring	1	Same equipment as under Construction Scenario 1	9	2
Utility Relocation	20	Concrete/Industrial Saw (1) Excavator (1) Vibratory Plate Compactor (1) Asphalt Paver (1)	5	2

Event/Phase	Duration (days)	Daily Equipment Type (count)	Daily Workers	Truck Trips
Crosswalk Repaving	5	Concrete/Industrial Saw (1) Skid Steer Loader (1) Asphalt Paver (1) Line Striper (1)	4	1
Street Tree Removal	1	Same equipment as under Construction Scenario 1	5	0
Street Tree Planting	1	Same equipment as under Construction Scenario 1	3	0
Cleanup	1	N/A	4	2

Source: Los Angeles Department of Public Works, Bureau of Engineering (BOE), 2018.
N/A = Not Available

Air pollutant emissions that would be released by mobile vehicle trips (i.e., workers and trucks) were estimated using mobile source emission factors obtained from the CARB EMFAC2017 model. The EMFAC2017 model is a tool compiled by the CARB to assist mobile source emissions analysis for various projects throughout the state. The model generates average pollutant emission rates for various types of vehicles based on the regional climate conditions and year of analysis, accounting for mandatory improvements in engine and fuel efficiency required by programs implemented by the CARB into the future. Emission rates are expressed in terms of grams of pollutant emitted per vehicle mile traveled (g/mi). Construction worker trips would use a combination of light duty vehicles and construction truck trips were conservatively assumed to be heavy-heavy duty trucks. Detailed vehicle trip emissions calculations can be found in the Appendix D.

The *CalEEMod User's Guide Appendix A Calculation Details for CalEEMod* also provides equations to estimate air pollutant emissions from other sources associated with construction activities, including fugitive dust (PM_{10} and $PM_{2.5}$) generation from debris loading and VOC emissions off-gassing from paving activities. Using equations in the guidance document, it was determined that approximately 50 tons of debris (40 cubic yards) would be generated at each sidewalk repair site for every 650 linear feet of concrete sidewalk. Dust generation was determined to be negligible using equations for calculating truck loading of demolition debris, which are detailed in Appendix D.

Crosswalk repaving under Construction Scenario 2 would generate VOC emissions through off-gassing. Each Construction Scenario 2 repair would require that approximately 390 square feet of crosswalk asphalt would be displaced and repaved. Detailed calculations for VOC off-gassing can be found in Appendix D.

In addition to construction activities at repair sites, the continuation of operational activities under the Project would involve maintenance such as watering of newly planted street trees, up to six assessment crews working on construction, and for each crew up to eight sites per day with a total travel distance of approximately 20 miles. Therefore, operational site assessment activities would generate up to approximately 120 vehicle miles traveled (VMT) daily. Mobile source air pollutant emissions associated with assessment activities were estimated using emission rates obtained from the EMFAC2017 model; detailed calculations can be found in Appendix D.

According to the ongoing activities, inspection crews would be required to visit sites to verify compliance with applicable accessibility requirements and compile an inventory of sites repaired. The operational analysis assumed that a site inspector could visit four sites per day totaling approximately 20 miles of travel, and that up to four inspection crews could be working at a given time. Therefore, operational site inspection activities would generate up to approximately 80 VMT daily. Mobile source air pollutant emissions associated with inspection activities were estimated using emission rates obtained from the EMFAC2017 model; detailed calculations can be found in Appendix D.

Street tree operations and maintenance consists of four daily water trucks, one each for a repair site, which would water new street trees for the first 3 years following planting. Each street tree would be watered for about 33 times every year over the 3-year period. Six water trucks would be used daily to make the watering rounds, and each truck would travel up to 70 miles per day. The operational emissions analysis estimated daily emissions from 420 daily watering VMT using emission rates obtained from EMFAC2017; detailed calculations can be found in Appendix D.

3.2.3.2 Project Design Features

No project design features are anticipated.

3.2.3.3 Thresholds of Significance

The following significance criteria are based on CEQA Guidelines, Appendix G and the City's 2006 *L.A. CEQA Thresholds Guide* and provide the basis for determining significance of impacts associated with air quality resulting from the implementation of the Project. The determination of whether an air quality 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.

Impacts are considered significant if the Project would result in any of the following:

AQ-1: Would the proposed Project conflict with or obstruct implementation of the SCAQMD AQMP? *L.A. CEQA Thresholds Guide* and the *SCAQMD CEQA Air Quality Handbook*.

AQ-2: Would the proposed Project generate air pollutant emissions during construction activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD? *L.A. CEQA Thresholds Guide, Appendix G of the CEQA Guidelines,* and the *SCAQMD CEQA Air Quality Handbook*.

AQ-3: Would the proposed Project generate air pollutant emissions during operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD? *L.A. CEQA Thresholds Guide* and the SCAQMD *CEQA Air Quality Handbook*.

AQ-4: Would the proposed Project expose sensitive receptors to substantial TAC concentrations? *L.A. CEQA Thresholds Guide, Appendix G of the CEQA Guidelines,* and *the SCAQMD CEQA Air Quality Handbook*.

Initial Study

The Initial Study (Appendix A) considered the CEQA Guidelines Appendix G Air Quality sample question for objectionable odors and determined that the impact would be less than significant. Also, Chapter 3.7, *Hazards and Hazardous Materials* discusses odors as potential indicators of groundwater and soil contamination.

Moreover, consistent with the analysis in the Initial Study, Construction Scenario 1 would not disturb any sources of unexpected odors such as sewer lines, and the odors would be typical of most construction sites and temporary in nature. The demolition debris of sidewalks is not characterized by noxious odors, nor would the green waste produced by street tree removal produce noxious odors. In addition, as construction-related emissions dissipate away from the construction area, the odors associated with these emissions would also decrease and would be quickly diluted. The odors would be typical of most construction sites and impermanent in nature, ceasing entirely following the completion of construction activities. The intensity and magnitude of construction activities would not be sufficient to generate odors perceivable by a substantial number of people.

Construction Scenario 2 would involve utilities relocation, which may temporarily release odorous emissions when connecting to existing sewer lines, and during asphalt paving and lane restriping. Nevertheless, as construction-related emissions dissipate away from the construction area, the odors associated with these emissions would also decrease and would be quickly diluted. The intensity and magnitude of construction activities would not be sufficient to generate odors perceivable by a substantial number of people.

Consistent with the above and the 2006 *L.A. CEQA Thresholds Guide* screening criteria, the continuing sidewalk repair activities under the Project would not create an objectionable odor at the nearest sensitive receptor and would not affect a substantial number of people. Therefore, there would be no significant odor impacts from the Project, and no further analysis is provided in this chapter.

SCAQMD Thresholds

The 2006 *L.A. CEQA Thresholds Guide* suggests that, where available, the significance criteria established by the SCAQMD may be relied upon to make the impact determinations. The SCAQMD has developed Air Quality Significance Thresholds that are applicable to CEQA projects within its jurisdiction, which were originally published in its *CEQA Air Quality Handbook* and have since been updated through guidance publicized through the agency's web portal. The Air Quality Significance Thresholds were derived using regional emissions modeling to determine maximum allowable mass quantities of pollutant emissions that could be generated by individual projects without adversely affecting air quality and creating public health concerns based on existing pollution levels.

The SCAQMD established separate Air Quality Significance Thresholds for construction activities and future operation of proposed CEQA projects for mass daily emissions of O_3 precursors and criteria pollutants expressed in pounds per day (lb/day). Table 3.2-10 presents the mass daily thresholds for construction activities and operation of CEQA projects within the SCAQMD jurisdiction. These thresholds are applicable to regional emissions, which refer to all emissions of regulated pollutants generated both on and off the project site.

Table 3.2-10. SCAQMD Air Quality Significance Threshold

Pollutant	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Construction						
Regional Threshold (lb/day)	75	550	100	150	150	55
Operation						
Regional Threshold (lb/day)	55	550	55	150	150	55

Source: SCAQMD, 2018.

Sources of air pollutant emissions located on the construction site during construction activities include equipment exhaust, fugitive dust from truck loading, and off-gassing during asphalt paving. Sources of air pollutant emissions associated with off-site activities include vehicle exhaust generated by worker, cement, water, and haul truck trips, which would occur during both construction activities and future operations. A project may result in a significant air quality impact if maximum daily emissions generated by construction activities or future operations of a project were to exceed any applicable threshold presented in Table 3.2-10. Additionally, for projects where construction and operational activities would overlap, the SCAQMD recommends that the peak daily emissions generated from these overlapping activities should be combined and evaluated against SCAQMD's operational thresholds presented in Table 3.2-10.

In addition to the regional mass daily thresholds presented in Table 3.2-10, the SCAQMD developed localized significance threshold (LST) values for pollutants that are specific to the SRA in which a project is situated. The LST values developed by SCAQMD are only applicable to the following pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$. The SCAQMD relied upon local-scale air dispersion modeling to determine maximum allowable quantities of NO_X, CO, PM_{10}, and $PM_{2.5}$ that could be released by sources on a project site without potentially exceeding the air quality standards based on existing background concentrations measured by the active air monitoring stations throughout the Basin. The applicable LST values to a given project are based on the SRA in which the project is proposed, the size of the project's construction site, and the proximity of sensitive receptors.

Construction activities associated with the Project would take place throughout the eight SRAs identified in Table 3.2-3. An average repair site for the Project would be 650 linear feet and thus, could occur near sensitive receptors. Table 3.2-11 presents the LST values for the applicable pollutants (i.e., NO_X, CO, PM_{10}, and $PM_{2.5}$) in each SRA spanned by the City for construction sites less than one acre in close proximity (80 feet) to sensitive receptors. For the purpose of conducting a conservative analysis, the most stringent LST values for each pollutant identified amongst the various SRAs spanned by the City are used to evaluate the localized air quality impacts associated with the onsite emissions generated by the Project's construction activities. These most stringent LST values are also shown at the bottom of Table 3.2-11.

Table 3.2-11. SCAQMD Localized Significance Threshold Values – Construction

SRA #	SRA Name	CO (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
1	Central Los Angeles County	680	74	5	3
2	Northwest Coastal Los Angeles County	562	103	4	3
3	Southwest Coastal Los Angeles County	664	91	5	3
4	South Coastal Los Angeles County	585	57	4	3
6	West San Fernando Valley	426	103	4	3
7	East San Fernando Valley	498	80	4	3
8	West San Gabriel Valley	535	69	4	3
12	South Central Los Angeles County	231	46	4	3
Minimum		231	46	4	3

Source: SCAQMD 2009.

The regional thresholds and LST values for O_3 precursors and criteria pollutants presented in Table 3.2-10 and Table 3.2-11, respectively, are used to support impact determinations for the

Environmental Checklist items AQ-1, AQ-2, and AQ-3. The SCAQMD has also established quantitative thresholds for exposure to TAC emissions. A significant air quality impact may occur under threshold AQ-4 if TAC emissions from construction or operation of a project were to result in a sensitive receptor being subjected to an increased carcinogenic risk of greater than 10 excess cancers per million (1×10^{-6}) or being exposed to a composition of TAC concentrations that collectively constitute a noncarcinogenic Hazard Index (HI) greater than 1.0. Carcinogenic risk is expressed in terms of the incrementally increased likelihood of cancer in a population, and the HI is calculated by comparing TAC concentrations to reference values established through epidemiological studies.

As discussed under Section 3.2.4.1, *Approach*, each individual sidewalk repair construction site would be active for approximately a minimum of 5 days during Construction Scenario 1 or approximately 30 nonconsecutive construction days during Construction Scenario 2. Carcinogenic risks are typically assessed for chronic exposures over long time periods, for example a residential exposure is considered over 30 years according to the most recent guidance published by the Office of Environmental Health Hazard Assessment (OEHHA). OEHHA's guidance on the preparation of health risk assessments is informally referred to by SCAQMD for use by facilities that need to prepare such assessments per the requirements of the *Air Toxics Hot Spots Information and Assessment Act* (SCAQMD 2018). In particular, OEHHA states in its guidance that assessing cancer risk for projects lasting less than 2 months at an exposed receptor is not recommended due to the uncertainty in assessing cancer risk from very short-term exposures (OEHHA 2015). Given that activities at each individual sidewalk repair construction site would only last for a minimum of approximately 5 days during Construction Scenario 1 and approximately 30 nonconsecutive construction days during Construction Scenario 2, receptors located in the immediate proximity of any particular sidewalk repair construction site would be exposed to TAC emissions for a period much shorter than 2 months. As such, based on OEHHA's recommendation, the short-term exposure period for receptors located in proximity to a sidewalk repair construction site would not warrant an assessment of health risks. Furthermore, construction activities at each repair site of the Project would involve only a few pieces of equipment that would be used intermittently each day as progress is made on the sidewalk repair. The brevity of the construction period at each site and the limited equipment inventory feasibly accommodated based on site size do not warrant an assessment of sensitive receptor exposures to TAC emissions.

3.2.3.4 Construction Impacts

The following discussions address each of the Thresholds of Significance with regards to air pollutant emissions associated with construction activities. The continuation of construction activities will occur for 30 years under the Project, during which time fuel and engine efficiency standards will become more stringent, thereby reducing daily emissions. As discussed previously and shown in Table 3.2-8, the number of worker crews operating throughout the City at a given time is anticipated to increase in step-wise increments every 5 years of the Project (i.e., 298 annually in years one through five, 344 annually in years six through 10, 396 annually in years 11–15, 457 annually in years 16–20, 527 annually in years 21–25, and 607 annually in years 26–30). Thus, for the purposes of this impacts assessment, the representative maximum daily air pollutant emissions that would be generated by construction activities during each 5-year increment period of the 30-year Project are disclosed and evaluated against the applicable SCAQMD thresholds. Each impact criterion addresses air quality impacts associated with

Construction Scenario 1, Construction Scenario 2, and the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program.

AQ-1. Would the proposed Project conflict with or obstruct implementation of the SCAQMD AQMP?

The impact would be less than significant during construction.

The following analysis applies to both Construction Scenarios 1 and 2. The analysis addresses the consistency with applicable SCAQMD and SCAG policies, including the SCAQMD's 2016 AQMP and growth projections within the SCAG 2016–2040 RTP/SCS. In accordance with the procedures established in the SCAQMD's *CEQA Air Quality Handbook*, the following criteria are required to be addressed in order to determine the consistency with applicable SCAQMD and SCAG policies:

- Would the project result in any of the following:
  - An increase in the frequency or severity of existing air quality violations; or
  - Cause or contribute to new air quality violations; or
  - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- Would the project exceed the assumptions utilized in preparing the AQMP?
  - Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
  - Does the Project include air quality mitigation measures; or
  - To what extent is Project development consistent with the AQMP land use policies?

With respect to the first criterion, as discussed below, localized concentrations of NO_2 as NO_X, CO, PM_{10}, and $PM_{2.5}$ have been analyzed for the Project. SO_2 emissions, assessed as SO_X within the SCAQMD thresholds, would be negligible during construction and long-term operations, and, therefore, would not have the potential to cause or affect a violation of the SO_2 ambient air quality standard. Because VOCs are not a criteria pollutant, there is no ambient standard or localized threshold for VOCs. Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant, and only a regional emissions threshold has been established.

NO_2, CO, PM_{10}, and $PM_{2.5}$ emissions were analyzed in order to: (1) ascertain potential effects on localized concentrations and (2) determine if there is a potential for such emissions to cause or affect a violation of the ambient air quality standards. As demonstrated in the analysis below (see Tables 3.2-13 and 3.2-14 later in this section), localized emissions would not exceed the SCAQMD-recommended localized thresholds.

With respect to the determination of consistency with AQMP growth assumptions, the projections in the AQMP for achieving air quality goals are based on assumptions in SCAG's 2016–2040 RTP/SCS regarding population, housing, and growth trends. Determining if a project exceeds the assumptions reflected in the AQMP involves the evaluation of three criteria: (1) consistency with applicable population, housing, and employment growth projections; (2) project mitigation measures; and (3) appropriate incorporation of AQMP land use planning strategies. The following discussion provides an analysis with respect to each of these three criteria.

- Is the project consistent with the population, housing, and employment growth projections upon which AQMP forecasted emission levels are based?

Construction activities would have no effect on population or housing growth projects. It is not anticipated that the Project would result in significant new regional employment opportunities. Therefore, construction activities would not affect growth projections used in the AQMP.

- Does the project implement feasible air quality mitigation measures?

The Project would comply with all applicable regulatory standards (e.g., SCAQMD Rule 403) as required by the SCAQMD. As demonstrated in this analysis, the Project would not result in significant air quality impacts, and no mitigation measures are required to reduce emissions. As such, the Project meets this AQMP consistency criterion.

- To what extent is project development consistent with the land use policies set forth by the City of Los Angeles?

The Project would be implemented over the next 30 years, resulting in the continuation of sidewalk repair activities that would result in approximately 42,719,225 square feet of repaired sidewalks, a possible removal of 12,860 street trees, and the planting of 30,405 new street trees. Replacement trees would be planted at a 2:1 ratio for the first 10 years of the Project, at a 3:1 ratio for years 11 through 21 of the Project, and again at a 2:1 ratio for the remaining 9 years of the 30-year Project. Street trees would be retained to the extent feasible with the condition that the street trees are not damaging to the sidewalks, and are disease free and can withstand root pruning. The inspection crews will be responsible for examining these conditions and making site-specific determinations regarding street tree replacement. Construction activities would result in the improvement and enhancement of the livability of surrounding neighborhoods through the sidewalk repairs and improvements and street tree maintenance activities, consistent with City plans.

During the intermittent construction period spanning 30 years, detours and construction-related signage would be provided, directing pedestrians to a safe alternative route. Consistent with the applicable objectives and policies of the General Plan and General Plan Framework, the sidewalk repair and maintenance activities recognize the importance of ensuring high quality and safe pedestrian access for all. Construction would also be consistent with the policies as the construction activities would result in accommodating the mobility needs of people with disabilities, especially those with mobility disabilities. Construction would make all sidewalks compliant with applicable accessibility requirements during the 30-year span of the Project. Thus, as the Project would be consistent with applicable SCAQMD and SCAG policies, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

AQ-2. Would the proposed Project generate air pollutant emissions during construction activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD?

The impact would be less than significant during construction.

The SCAQMD guidance for assessing emissions from a project emphasizes the importance of analyzing emissions on both regional and localized scales. Regional emissions include all emissions associated with project activities within the Basin (i.e., both a project's off-site and on-site emissions), while localized emissions refer only to emissions released from sources specifically located on the project site (i.e., a project's on-site emissions). In the case of the Project, the localized emissions pertain to those generated at each sidewalk repair site throughout the City. Both regional and localized emissions associated with construction of the Project are addressed below.

Regional Emissions

The regional emissions analysis for the Project must consider the worst-case combination of possible activities occurring throughout the City on a daily basis, which is represented by concurrent construction at 14 individual Construction Scenario 1 repair sites and one Construction Scenario 2 repair site for a total of 15 repair sites per day Thus, given the 15 repair sites that are assumed to occur on a daily basis, it is also assumed that all of those sites would involve street tree removals as well under the worst-case scenario. The regional emissions analysis accounts for air pollutant emissions from on-site construction equipment and on-road motor vehicle trips associated with workers and hauling activities.

For the purpose of identifying the worst-case combination of possible construction activities that would continue under the Project, estimates of daily emissions were quantified for each event presented in Table 3.2-9. Detailed emissions calculations for the individual activities can be found in Appendix D. Review of the estimated emissions determined that the maximum possible daily emissions under a worst-case scenario would consist of the following combination of activities:

- Concrete Pouring and Utility Adjustment at Construction Scenario 1 sites;
- Grading/Formwork, Concrete Pouring, and Utility Relocation at a Construction Scenario 2 site; and
- Street tree removal is assumed to occur at half of the repair sites under a worst-case scenario.

Table 3.2-12 presents the results of maximum daily emissions modeling for the worst-case scenario. Regional construction emissions for Scenarios 1 and 2 sites would not exceed any Air Quality Significance Thresholds, and therefore the impact is less than significant.

Table 3.2-12. Estimated Daily Emissions – Worst-Case Regional Emissions

	Maximum Emissions (Pounds Per Day)					
Scenario/Activity and Source Location	**VOC**	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Project Years 1–5 (2:1 Street Tree Replacement)						
Construction Scenario 1 (5 Crews Daily)	13.8	85.9	32.6	<0.1	2.1	1.8
Construction Scenario 2 (1 Crews Daily)	7.8	40.6	13.6	<0.1	0.9	0.8
Maximum Regional (6 Crews Daily)	***21.6***	***126.5***	***46.2***	***0.1***	***3.0***	***2.6***
Project Years 6–10 (2:1 Street Tree Replacement)						
Construction Scenario 1 (6 Crews Daily)	17.5	112.9	25.0	0.2	2.0	1.6
Construction Scenario 2 (1 Crews Daily)	7.4	38.6	8.5	<0.1	0.7	0.6
Maximum Regional (7 Crews Daily)	***24.9***	***151.5***	***33.6***	***0.3***	***2.7***	***2.2***

Scenario/Activity and Source Location	Maximum Emissions (Pounds Per Day)					
	VOC	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Project Years 11–15 (3:1 Street Tree Replacement)						
Construction Scenario 1 (7 Crews Daily)	17.5	114.1	27.2	0.2	2.1	1.7
Construction Scenario 2 (1 Crews Daily)	7.5	38.1	7.9	<0.1	0.6	0.5
Maximum Regional (8 Crews Daily)	***25.0***	***152.2***	***35.1***	***0.3***	***2.7***	***2.2***
Project Years 16–20 (3:1 Street Tree Replacement)						
Construction Scenario 1 (8 Crews Daily)	22.8	147.5	29.6	0.2	2.5	1.9
Construction Scenario 2 (1 Crews Daily)	7.8	38.1	6.8	<0.1	0.6	0.5
Maximum Regional (9 Crews Daily)	***30.5***	***185.6***	***36.4***	***0.3***	***3.0***	***2.4***
Project Years 21–25 (3:1 Street Tree Replacement Years 21, 2:1 Street Tree Replacement Thereafter)						
Construction Scenario 1 (10 Crews Daily)	28.2	185.0	36.7	0.3	3.1	2.4
Construction Scenario 2 (1 Crews Daily)	8.1	38.0	6.4	<0.1	0.5	0.4
Maximum Regional (11 Crews Daily)	***36.3***	***222.9***	***43.0***	***0.3***	***3.6***	***2.8***
Project Years 26–30 (2:1 Street Tree Replacement)						
Construction Scenario 1 (11 Crews Daily)	28.3	187.7	39.3	0.3	3.2	2.4
Construction Scenario 2 (1 Crews Daily)	8.2	37.9	6.2	<0.1	0.5	0.4
Maximum Regional (12 Crews Daily)	***36.6***	***225.5***	***45.5***	***0.3***	***3.7***	***2.8***
Regional Analysis						
Maximum Daily Regional Emissions	***36.6***	***225.5***	***46.2***	***0.3***	***3.7***	***2.8***
Regional Significance Threshold	75	550	100	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in Appendix D; numbers may not sum precisely due to rounding.

Localized Emissions

The localized emissions analysis focuses specifically on sources of emissions that would be located exclusively on the construction site itself. Given that Construction Scenario 1 and Construction Scenario 2 involve different sequences of activities on sites that are not located in proximity to one another such that they would affect the same sensitive receptors, and that each individual repair site would require its own equipment inventory and crew of workers, it is appropriate to assess maximum daily localized emissions separately for a Construction Scenario 1 sidewalk repair and a Construction Scenario 2 sidewalk repair. Each repair site is treated as its own construction site for the purposes of the LST analysis.

Construction Scenario 1

A significant impact would occur if maximum daily localized air pollutant emissions from sources at a Construction Scenario 1 site were to exceed the minimum LST values presented in Table 3.2-11. On-site sources of emissions under Construction Scenario 1 would include heavy-duty construction equipment and fugitive dust emissions from truck loading of demolition debris. Table 3.2-13 displays the results of emissions modeling for on-site sources for each individual activity associated with a Construction Scenario 1 sidewalk repair. As a conservative approach, the LST values used for the comparison are the most stringent values for all areas of the City, as shown in Table 3.2-11. No heavy-duty equipment would be required during cleanup activities.

Table 3.2-13. Estimated Daily Emissions – Construction Scenario 1 Localized

	Maximum Emissions (Pounds Per Day)			
Scenario/Activity and Source Location	**CO**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Project Years 1–5 (2:1 Street Tree Replacement)	32.9	3.4	0.4	0.4
Project Years 6–10 (2:1 Street Tree Replacement)	32.2	2.6	0.4	0.4
Project Years 11–15 (3:1 Street Tree Replacement)	32.2	2.5	0.4	0.4
Project Years 16–20 (3:1 Street Tree Replacement)	32.2	2.3	0.3	0.3
Project Years 21–25 (3:1 Street Tree Replacement Year 21, 2:1 Thereafter)	32.2	2.2	0.3	0.3
Project Years 26–30 (2:1 Street Tree Replacement)	32.2	2.1	0.3	0.3
Localized Analysis				
Maximum Daily Localized Emissions	**32.9**	**3.4**	**0.4**	**0.4**
Localized Significance Threshold	231	46	4	3
Exceed Localized Threshold?	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in Appendix D; numbers may not sum precisely due to rounding.

Construction Scenario 1 localized emissions modeling results presented in Table 3.2-13 demonstrate that maximum daily emissions from sources located at the repair site would not exceed any applicable LST value for NO_X, CO, PM_{10}, or $PM_{2.5}$. As such, localized air quality impacts at Construction Scenario 1 sites would not exceed any Air Quality Significance Thresholds and therefore the impact is less than significant.

Construction Scenario 2

A significant impact would occur if maximum daily localized air pollutant emissions from on-site emissions sources at a repair site were to exceed the minimum LST values presented in Table 3.2-11 during activities associated with Construction Scenario 2. On-site sources of emissions under Construction Scenario 2 would include heavy-duty construction equipment and fugitive dust emissions from trucks loading demolition debris. Table 3.2-14 displays the results of emissions modeling for on-site sources for each activity associated with a Construction Scenario 2 site. As a conservative approach, the LST values used for comparison are the most stringent values for all areas of the City, shown in Table 3.2-11. No heavy-duty equipment would be required during cleanup.

Construction Scenario 2 localized emissions modeling results presented in Table 3.2-14 demonstrate that maximum daily emissions from sources located at the repair site would not exceed any applicable LST value for NO_X, CO, PM_{10}, or $PM_{2.5}$. While the collective daily worst-case scenario emissions generated by all sources at all repair sites would exceed regional mass daily Air Quality Significance Thresholds for VOC and CO, maximum daily localized emissions at each individual Construction Scenario 2 site would remain substantially below all applicable LST values. Localized air quality impacts at Construction Scenario 2 sites would not exceed any Air Quality Significance Thresholds, and therefore the impact is less than significant.

Table 3.2-14. Estimated Daily Emissions – Construction Scenario 2 Localized

Scenario/Activity and Source Location	Maximum Emissions (pounds per day)			
	CO	NO_X	PM_{10}	$PM_{2.5}$
Project Years 1–5 (2:1 Street Tree Replacement)	36.7	9.0	0.7	0.7
Project Years 6–10 (2:1 Street Tree Replacement)	36.1	6.0	0.5	0.5
Project Years 11–15 (3:1 Street Tree Replacement)	36.0	5.5	0.5	0.5
Project Years 16–20 (3:1 Street Tree Replacement)	36.2	4.6	0.4	0.4
Project Years 21–25 (3:1 Street Tree Replacement Years 21, 2:1 Thereafter)	36.1	4.2	0.4	0.4
Project Years 26–30 (2:1 Street Tree Replacement)	36.1	4.1	0.4	0.4
Localized Analysis				
Maximum Daily Localized Emissions	**36.7**	**9.0**	**0.7**	**0.7**
Localized Significance Threshold	231	46	4	3
Exceed Localized Threshold?	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in Appendix D; numbers may not sum precisely due to rounding.

Health Implications of Criteria Pollutants

All criteria pollutants are associated with some form of health risk (e.g., asthma, asphyxiation). The potential health effects associated with criteria pollutants are described in Section 3.2.1, *Air Pollutant Characteristics and Effects*. However, negative health effects associated with criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). In particular, ozone can be formed through complex chemical reactions over long distances. Directly emitted PM also does not always equate to a specific localized impact because emissions can be transported and dispersed. Given factors that influence the formation and transportation of pollution, quantifying specific health consequences from the Project's construction emissions is not feasible because the models designed to evaluate future ozone and PM levels and resulting health effects are based on regional or national conditions. In other words, the minor increases in air pollution from the Project's construction activities would not result in material changes to ambient air quality or human health. SCAQMD has indicated that it would take a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. Specifically, SCAQMD's own modeling showed that reducing NO_X by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion (SCAQMD 2015b). Additionally, based on a health impact analysis conducted by SCAQMD, it was found that emissions of NO_X and VOC of 6,620 and 89,180 pounds per day, respectively, only resulted in 20 premature deaths per year. In turn, SCAQMD affirms that a project emitting NO_X or VOC below their threshold of 10 tons per year "is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models" and it would "not be feasible to directly correlate project emissions of VOC or NO_X with specific health impacts from ozone (SCAQMD 2015b)."

As shown above in Table 3.2.12, the continuation of repair activities under the Project would result in regional construction emissions that would not exceed any of SCAQMD's regional Air Quality

Significance Thresholds for any of the criteria pollutants. Additionally, given that the Project's peak daily construction regional emissions of 36.6 pounds per day for VOC and 46.2 pounds per day for NO_X would not exceed 10 tons per year for either pollutant, the Project would represent a relatively small project where it would not be feasible to directly correlate its emissions of VOC or NO_X with specific health impacts from ozone. Accordingly, an analysis correlating the relatively minor emissions generated by the Project with specific levels of health impacts would not yield reliable or accurate results and is therefore not conducted.

Furthermore, it should be noted that the NAAQS and CAAQS are health protective standards and define the maximum amount of ambient pollution that can be present without harming public health. SCAQMD's LSTs represent the level of pollutant emissions from onsite sources from a project that would not exceed the most stringent applicable federal or state ambient air quality standards. As such projects with emissions below the applicable LSTs will not be in violation of the NAAQS or CAAQS, and, thus, the U.S. EPA's and CARB's health protective standards. As shown in Tables 3.12-13 and 3.12-14, both the maximum daily emissions occurring under Construction Scenario 1 and Construction Scenario 2 would not exceed the applicable LSTs. Thus, there would be no violations of the health-protective CAAQS and NAAQS, and impacts will be less than significant.

Mitigation Measures

No mitigation is required.

AQ-4. Would the proposed Project expose sensitive receptors to substantial TAC concentrations?

The impact would be less than significant during construction.

As discussed under Section 3.2.4.3, *Thresholds of Significance*, the SCAQMD has established quantitative thresholds for sensitive receptor exposures to TAC concentrations. The carcinogenic exposure threshold is an incremental increase of 10 excess cancers per million and the non-carcinogenic exposure threshold is an HI value equal to or greater than 1.0. Sources of TAC emissions involved in activities under Construction Scenarios 1 and 2 include heavy-duty diesel equipment and heavy-duty diesel trucks, which release diesel PM into the atmosphere through exhaust. In accordance with CARB and SCAQMD rules and regulations, all equipment would be maintained in accordance with manufacturer specifications to ensure the optimal operating conditions are met.

Each individual Construction Scenario 1 repair site would only be active for up to approximately 5 days. Carcinogenic risks are generally assessed over an averaging period of 30 years. The brief duration of each individual Construction Scenario 1 repair site and the limited intensity of construction equipment use given site constraints would not pose carcinogenic risks to nearby sensitive receptors. Construction Scenario 1 repair sites would not expose sensitive receptors to substantial TAC concentrations, this impact would be less than significant.

Each individual Construction Scenario 2 repair site would only be active for approximately 30 days. Carcinogenic risks are generally assessed over an averaging period of 30 years. Given the brief duration of activities at each individual Construction Scenario 2 repair site and the limited intensity of construction equipment use due to site constraints, the Project would not pose carcinogenic risks to nearby sensitive receptors. Construction Scenario 2 repair sites would not expose sensitive receptors to substantial TAC concentrations, this impact would be less than significant.

Mitigation Measures

No mitigation is required.

3.2.3.5 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.

AQ-1. Would the proposed Project conflict with or obstruct implementation of the SCAQMD AQMP?

The impact would be less than significant during operation.

As stated above in the discussion of AQ-1 for construction impacts, in accordance with the procedures established in the SCAQMD's *CEQA Air Quality Handbook*, the following criteria are required to be addressed in order to determine the consistency with applicable SCAQMD and SCAG policies:

- Would the project result in any of the following:
  - An increase in the frequency or severity of existing air quality violations; or
  - Cause or contribute to new air quality violations; or
  - Delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
- Would the project exceed the assumptions utilized in preparing the AQMP?
  - Is the Project consistent with the population and employment growth projections upon which AQMP forecasted emission levels are based;
  - Does the Project include air quality mitigation measures; or
  - To what extent is Project development consistent with the AQMP land use policies?

With respect to the first criterion, as discussed below, localized concentrations of NO_2 as NO_X, CO, PM_{10}, and $PM_{2.5}$ have been analyzed for the Project. SO_2 emissions, assessed as SO_X within the SCAQMD thresholds, would be negligible during long-term operations, and, therefore, would not have the potential to cause or affect a violation of the SO_2 ambient air quality standard. Because VOCs are not a criteria pollutant, there is no ambient standard or localized threshold for VOCs. Due to the role VOCs play in O_3 formation, it is classified as a precursor pollutant, and only a regional emissions threshold has been established.

NO_2, CO, PM_{10}, and $PM_{2.5}$ emissions were analyzed in order to: (1) ascertain potential effects on localized concentrations and (2) determine if there is a potential for such emissions to cause or affect a violation of the ambient air quality standards.

As discussed below, an analysis of potential operational impacts was conducted. As demonstrated in the analysis below, operational impacts would be less than significant. Therefore, the Project would not increase the frequency or severity of an existing violation or cause or contribute to new violations for these pollutants. As the Project would not exceed any of the state and federal standards, the Project would also not delay timely attainment of air quality standards or interim emission reductions specified in the AQMP.

With respect to the determination of consistency with AQMP growth assumptions, the projections in the AQMP for achieving air quality goals are based on assumptions in SCAG's 2016–2040 RTP/SCS regarding population, housing, and growth trends. Determining if a project exceeds the assumptions reflected in the AQMP involves the evaluation of three criteria: (1) consistency with applicable population, housing, and employment growth projections; (2) project mitigation measures; and (3) appropriate incorporation of AQMP land use planning strategies. The following discussion provides an analysis with respect to each of these three criteria.

- Is the project consistent with the population, housing, and employment growth projections upon which AQMP forecasted emission levels are based?

Operations would have no effect on population or housing growth projects. It is not anticipated that the Project would significant new regional employment opportunities. Therefore, operations would not affect growth projections used in the AQMP.

- Does the project implement feasible air quality mitigation measures?

The Project would comply with all applicable regulatory standards (e.g., SCAQMD Rule 403) as required by the SCAQMD. As demonstrated in this analysis, the Project would not result in significant air quality impacts and no mitigation measures are required to reduce emissions. As such, the Project meets this AQMP consistency criterion.

- To what extent is project development consistent with the land use policies set forth by the City of Los Angeles?

The Project would be implemented over the next 30 years, resulting in approximately 42,719,225 square feet of repaired sidewalks, a possible removal of 12,860 street trees, and the planting of 30,405 new street trees. Replacement trees would be planted at a 2:1 ratio for the first 10 years of the Project, at a 3:1 ratio for years 11 through 21 of the Project, and again at a 2:1 ratio for the remaining 9 years of the 30-year Project. Approximately 140 species of trees have been identified that contribute to the biodiversity of the urban forest. The result of the street tree activities under the Project would continue to develop a sustainable urban forest throughout the City. Street trees would be retained to the extent feasible with the condition that the street trees are not damaging to the sidewalks and are disease free. However, to repair damaged sidewalks and ensure compliance with applicable accessibility requirements, street tree removal and replacement, root pruning, and tree canopy pruning activities may be required. The removed street trees would be replaced at a 2:1 ratio for the first 10 years of the Project at a 3:1 ratio for years 11 through 21 of the Project, and again at a 2:1 ratio for the remaining 9 years of the 30-year Project. The younger healthy trees that would provide canopy shade as the street tree matures. The Project would also be consistent with sustainability polices identified in the General Plan, General Plan Framework, and community plans, as identified above and provided in Chapter 2, *Project Description*, of this Draft EIR. Implementation of the Project would result in achieving accessibility and connectivity for all people, including those with mobility disabilities; a livable city for existing and future residents; a safe, clean, and healthy environment for all people; and a healthy and diverse urban forest. The Project would also help contribute to the Project's sustainability goal by providing objective standards and guidelines reflective of the City's overall sustainability plan.

Mitigation Measures

No mitigation is required.

AQ-3. Would the proposed Project generate air pollutant emissions during operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD?

The impact would be less than significant during operation.

Future operational conditions under the Project would generate approximately 620 total daily VMT associated with site assessments (120 VMT), site inspections (80 VMT), and street tree watering (420 VMT). A significant air quality impact may occur under this criterion if daily operational emissions of air pollutants were to exceed any of the Air Quality Significance Threshold values presented in Table 3.2-10. Daily operational emissions were estimated using emission factors obtained from the CARB EMFAC2017 mobile source emissions model for year 2018. This emissions analysis does not account for improvements in engine and fuel efficiency in subsequent years after initiation of the Project in 2018 that will ultimately reduce pollutant emissions per VMT as mandated CARB program requirements are phased in. Table 3.2-15 presents a comparison of daily operational emissions of the Project to the applicable Air Quality Significance Thresholds. As shown in the table, operational air pollutant emissions for the Project remain substantially below all applicable Air Quality Significance Thresholds. This impact would be less than significant.

Table 3.2-15. Estimated Daily Emissions – Regional Operations

Mobile Source	Daily Emissions (Pounds Per Day)					
	VOC	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Site Assessments	0.1	0.5	<0.1	<0.1	<0.1	<0.1
Site Inspections	<0.1	0.3	<0.1	<0.1	<0.1	<0.1
Tree Watering	0.2	1.8	0.2	<0.1	<0.1	<0.1
Regional Analysis						
Total Daily Regional Emissions	**0.3**	**2.7**	**0.3**	**<0.1**	**<0.1**	**<0.1**
Regional Significance Threshold	55	550	55	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in the Appendix D; numbers may not sum precisely due to rounding.

Health Implications of Criteria Pollutants

As discussed previously, SCAQMD has affirmed that a project emitting NO_X or VOC below their threshold of 10 tons per year "is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models" and it would "not be feasible to directly correlate project emissions of VOC or NO_X with specific health impacts from ozone (SCAQMD 2015b)." As shown above in Tables 3.2.15, the Project's continuation of activities resulting in regional operational emissions would not exceed any of SCAQMD's regional Air Quality Significance Thresholds for any of the criteria pollutants. Additionally, given that the Project's peak daily construction regional emissions of 0.3 pounds per day for VOC and NO_X would not exceed 10 tons per year for either pollutant, the Project would represent a relatively small project where it would not be feasible to directly correlate its emissions of VOC or NO_X with specific health impacts from ozone. Accordingly, an analysis correlating the relatively minor emissions generated by the project with specific levels of health impacts would not yield reliable or accurate results and is therefore not conducted.

Mitigation Measures

No mitigation is required.

AQ-4. Would the proposed Project expose sensitive receptors to substantial TAC concentrations?

The impact would be less than significant during operation.

Operation of the Project would not introduce any new substantial stationary or mobile sources of TAC emissions in the City. Operational VMT would be spread throughout the 503 square miles of the City to identify, inspect, and apply water to the newly planted street trees, and would not create mobile source emissions concentrated in any one location. This impact would be less than significant. Specifically, Section 2485 in Title 13 of the California Code of Regulations states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction must be limited to 5 minutes at any location to minimize exhaust emissions. Thus, this impact would be less than significant.

Mitigation Measures

No mitigation is required.

3.2.3.6 Summary of Combined Construction and Operation Impacts

The continuation of construction activities involving sidewalk repair would occur over 30 years at various locations within the City and simultaneously with operation activities. Table 3.2-16 presents a comparison of combined daily construction and operational emissions compared to the SCAQMD thresholds. As shown in Table 3.2-16, maximum regional daily emissions would not exceed applicable SCAQMD thresholds for operations under any Project year. The combined regional emissions would result in a less-than-significant impact.

Table 3.2-16. Combined Construction and Operations Emissions

Scenario/Activity and Source Location	Maximum Emissions (Pounds Per Day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Project Years 1–5 (2:1 Street Tree Replacement)						
Construction	21.6	126.5	46.2	<0.1	3.0	2.6
Operations	0.3	2.7	0.3	<0.1	<0.1	<0.1
Subtotal	***21.9***	***129.2***	***46.9***	***<0.1***	***3.1***	***2.6***
Project Years 6–10 (2:1 Street Tree Replacement)						
Construction	24.9	151.5	33.6	0.3	2.7	2.2

Scenario/Activity and Source Location	Maximum Emissions (Pounds Per Day)					
	VOC	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Operations	0.2	1.7	0.1	<0.1	<0.1	<0.1
Subtotal	***25.7***	***153.2***	***33.7***	***0.3***	***2.7***	***2.2***
Project Years 11–15 (3:1 Street Tree Replacement)						
Construction	25.0	152.2	35.1	0.3	2.7	2.2
Operations	0.1	1.4	0.1	<0.1	<0.1	<0.1
Subtotal	***25.1***	***153.6***	***35.2***	***0.3***	***2.7***	***2.2***
Project Years 16–20 (3:1 Street Tree Replacement)						
Construction	30.5	185.6	36.4	0.3	3.0	2.4
Operations	0.1	1.2	0.1	<0.1	<0.1	<0.1
Subtotal	***30.6***	***186.8***	***36.5***	***0.3***	***3.0***	***2.4***
Project Years 21–25 (3:1 Street Tree Replacement Years 21, 2:1 Street Tree Replacement Thereafter)						
Construction	36.3	222.9	43.0	0.3	3.6	2.8
Operations	0.1	1.1	0.1	<0.1	<0.1	<0.1
Subtotal	***36.4***	***224.0***	***43.1***	***0.3***	***3.6***	***2.8***
Project Years 26–30 (2:1 Street Tree Replacement)						
Construction	36.6	225.5	45.5	0.3	3.7	2.8
Operations	0.1	1.0	0.1	<0.1	<0.1	<0.1
Subtotal	***36.7***	***226.5***	***45.6***	***0.3***	***3.7***	***2.8***
Regional Analysis						
Maximum Concurrent Emissions	**36.7**	**226.5**	**46.9**	**0.3**	**3.7**	**2.8**
Construction Significance Threshold	75	550	100	150	150	55
Operational Significance Threshold	55	550	55	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Note: Emissions modeling files can be found in Appendix D; numbers may not sum precisely due to rounding.

Mitigation Measures

No mitigation is required.

3.2.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to air quality would occur.

3.3 Biological Resources

This chapter describes the existing conditions and applicable laws and regulations for biological resources, and analyzes if the Project would: (1) result in the loss of individuals or the reduction of existing habitat of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat; (2) result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community; (3) result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species; (4) have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the *Clean Water Act* (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means; (5) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; (6) conflict with any local policies or ordinances protecting a street tree preservation policy or ordinance; and (7) conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

3.3.1 Regulatory Setting

3.3.1.1 Federal

Rivers and Harbors Act (Section 10)

Pursuant to Section 10 of the *Rivers and Harbors Appropriation Act of 1899* (*Rivers and Harbors Act*), Section 408 (33 U.S. Code [USC] 408), the U.S. Army Corps of Engineers (USACE) is authorized to regulate any activity within or over any navigable water of the United States (WOTUS). *Rivers and Harbors Act* Section 10 jurisdiction is defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use, to transport interstate or foreign commerce" (33 Code of Federal Regulations [CFR] 322).

Rivers and Harbors Act (Section 14)

Authorized in Section 14 of the *River and Harbors Act* provides that the Secretary of the Army may, on recommendation of the Chief of Engineers, grant permission for the alteration of a public work so long as that alteration is not injurious to the public interest and will not impair the usefulness of the work. *Alterations* or *alter* refers to any action by any entity other than USACE that builds upon, changes, improves, moves, occupies, or otherwise affects the usefulness, or the structural or ecological integrity, of a USACE project. Alterations also include actions approved as "encroachments" pursuant to 33 CFR 208.10.

Endangered Species Act of 1973

Species listed as endangered and/or threatened by the U.S. Fish and Wildlife Service (USFWS) are protected under Section 9 of the federal *Endangered Species Act* (ESA), which forbids any person to take an endangered or threatened species. *Take* is defined in Section 3 of the act as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The U.S. Supreme Court ruled in 1995 that the term *harm* includes destruction or modification of habitat. Sections 7 and 10 of the act may authorize *incidental take* for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize survival or recovery of the species. Section 7 applies to projects where a federally listed species is present and there is a federal nexus, such as a federal CWA Section 404 permit (e.g., impacts on WOTUS) that is required. Section 10 applies when a federally listed species is present but no federal nexus is present.

Migratory Bird Treaty Act of 1918

The *Migratory Bird Treaty Act* (MBTA) was enacted in 1918 to prohibit the killing or transport of native migratory birds, or any part, nest, or egg of any such bird, unless allowed by another regulation adopted in accordance with the MBTA. A list of migratory bird species that are protected by the MBTA is maintained by USFWS, which regulates most aspects of the taking, possession, transportation, sale, purchase, barter, exportation, and importation of migratory birds. Under the MBTA, *take* means to kill, directly harm, or destroy individuals, eggs, or nests or to otherwise cause failure of an ongoing nesting effort. Permits are available under the MBTA through USFWS, and authorization for potential take under the MBTA is addressed as part of the ESA Section 7 consultation process. The Project must be analyzed to ensure consistency with the MBTA, including avoidance of take of nesting birds, their eggs, or activities that may cause nest failure. This applies for both terrestrial and marine migratory species protected under the MBTA that may be directly or indirectly affected by the Project. Any potential take must be either permitted through consultation with USFWS or avoided and minimized through mitigation measures.

Clean Water Act

The federal *Water Pollution Control Act Amendments of 1972*, commonly known as the *Clean Water Act* (CWA) (33 USC 1251–1376), as amended by the *Water Quality Act of 1987*, is the major federal legislation governing water quality. The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Discharges into WOTUS are regulated under CWA Section 404. WOTUS include: (1) all navigable waters (including all waters subject to the ebb and flow of the tide); (2) all interstate waters and wetlands; (3) all other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, or natural ponds; (4) all impoundments of waters mentioned above; (5) all tributaries to waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to waters mentioned above. Important applicable sections of the CWA are discussed below.

- **Section 303** requires states to develop water quality standards for inland surface and ocean waters and submit them to the U.S. Environmental Protection Agency for approval. Under Section 303(d), the states are required to list waters that do not meet water quality standards and to develop action plans, called total maximum daily loads, to improve water quality.
- **Section 304** provides for water quality standards, criteria, and guidelines.
- **Section 401** certification provides for the protection of the physical, chemical, and biological integrity of waters. Section 401 requires applicants for federal license or permit to conduct any activity which may result in any discharge into waters of the United States shall obtain

certification from the state that such discharge will comply with the provisions of the CWA. Applicants are required to meet the effluent limitations and monitoring requirements necessary to ensure compliance with the CWA. The continuing activities from the Project would not have dredge or fill activities to require a federal permit.

- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. The NPDES program is administered by the RWQCB. Conformance with Section 402 is typically addressed in conjunction with water quality certification under Section 401. All construction activities must be consistent with Section 402 of the CWA and avoid significant water quality-related impacts. See Chapter 3.8, *Hydrology and Water Quality*, for an analysis related to the impacts from the continuing activities arising from the Project on water quality.
- **Section 404** establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Section 404 provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the Nation's waters would be significantly degraded. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities). The continuing activities from the Project would have no dredge or fill activities and this section is not applicable.

3.3.1.2 State

California Coastal Act of 1976

The California Coastal Act of 1976 declares that the California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem. The State of California's basic goals (Coastal Act Section 30001.5) for the coastal zone are to (a) protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources; (b) assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state; (c) maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners; (d) assure priority for coastal-dependent and coastal-related development over other development on the coast; (e) encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The Coastal Act outlines standards for development within the coastal zone that seek to balance the right to develop with strong environmental policies aimed to protect coastal resources. It includes specific policies that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the Coastal Commission and by local governments, pursuant to the Coastal Act. The Coastal Commission plans and regulates the use of land and water in the coastal zone. If the continuation of activities from the Project would result in a needed repair within the coastal zone, the repairs are subject to the provisions of California Coastal Act and the authority of the Coastal Commission. Further, the California Coastal Act of 1976 is discussed in the Land Use section of this Draft EIR.

California Coastal Act Environmentally Sensitive Habitat Areas

The California Coastal Act Section 30240 provides protections for Environmentally Sensitive Habitat Areas (ESHAs), defined as any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or be degraded by human activities and developments. ESHAs in the Venice Coastal Zone include Ballona Lagoon and Grand Canal south of Washington Boulevard, and the Venice Canals north of Washington Boulevard, in addition to habitat buffer areas on the east and west banks of Ballona Lagoon, and the California least tern nesting areas on Venice Beach and within the Port of Los Angeles. The sand dunes, west of Los Angeles International Airport, are also a designated ESHA and include the (roughly 200-acre) El Segundo Blue Butterfly Habitat Restoration Area. Section 30240 provides that development in areas adjacent to ESHAs shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of the habitat areas.

California Endangered Species Act

The *California Endangered Species Act* (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state- and federally listed species, compliance with the federal ESA will satisfy the CESA if the California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is consistent with the CESA under California Fish and Game Code Section 2080.1. If the continuing activities from the Project would result in a take of a state-only listed species, the City must apply for a take permit under Section 2081(b).

California Fish and Game Code

The Fish and Game Code establishes the Fish and Game Commission, as authorized by Article IV, Section 20, of the Constitution of the State of California. The Fish and Game Commission is responsible, under the provisions of Fish and Game Code, Sections 200–221, for regulating the take of fish and game, not including the taking, processing, or use of fish, mollusks, crustaceans, kelp, or other aquatic plants for commercial purposes. However, the Fish and Game Commission does regulate aspects of commercial fishing, including fish reduction; shellfish cultivation; take of herring, lobster, sea urchins, and abalone; kelp leases; leases of state water bottoms for oyster allotments; aquaculture operations; and other activities. These resource protection responsibilities involve the setting of seasons, bag and size limits, and methods and areas of take, as well as prescribe the terms and conditions under which permits or licenses may be issued or revoked by CDFW. The Fish and Game Commission also oversees the establishment of wildlife areas and ecological reserves and regulates their use, as well as setting policy for CDFW.

Sections 3503, 3503.5, 3505, 3800, and 3801.6 of the Fish and Game Code protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Section 3503 specifically states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, and Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (e.g., hawks, owls, eagles, falcons), including their nests or eggs.

CDFW is a lead state agency that manages native fish, wildlife, plant species, and natural communities for their ecological value and their benefits to people. CDFW oversees the management of marine species through several programs, some in coordination with the National Marine Fisheries Services (NMFS) and other agencies.

The California Eelgrass Mitigation Policy is administered by NMFS and CDFW. The effects of the Project on any surrounding eelgrass beds and any compensatory mitigation would be addressed under that policy.

Porter-Cologne Water Quality Control Act

The *Porter-Cologne Water Quality Control Act* (Porter-Cologne Act) is the California equivalent of the federal CWA. It provides for statewide coordination of water quality regulations through the establishment of the State Water Resources Control Board and nine separate RWQCBs that oversee water quality on a day-to-day basis at the regional/local level. The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. Waters of the State (WoS) are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050 (e)).

The RWQCB also regulates WoS under Section 401 of the CWA. A Water Quality Certification or a waiver must be obtained from the RWQCB if an action would potentially result in any impacts on jurisdictional WoS.

3.3.1.3 Local

County of Los Angeles Significant Ecological Areas

Significant Ecological Areas (SEAs) are officially designated areas within Los Angeles County with irreplaceable biological resources. The SEA Program objective is to conserve genetic and physical diversity within Los Angeles County by designating biological resource areas that are capable of sustaining themselves into the future.

The Hillside Management and Significant Ecological Areas Ordinance was adopted in 1982 and is regulated through Section 22.56.215 (as of February 28, 2019, Chapter 22.104 and Chapter 22.102, respectively) of Title 22, the Los Angeles County Zoning code. The General Plan goals and policies are intended to ensure that privately held lands within the SEAs retain the right of reasonable use, while avoiding activities and developments that are incompatible with the ability of SEAs to thrive in the long term. The SEA ordinance establishes the permitting, design standards, and review process for development within SEAs, balancing preservation of the County’s natural biodiversity with private property rights.

City of Los Angeles General Plan

The City of Los Angeles (City) General Plan, approved by the City Planning Commission and the Mayor and adopted by the City Council, is a comprehensive, long-range declaration of purposes, policies, and programs for the development of the City.

The Conservation Element of the City General Plan was designed to address the need to conserve and protect natural resources and open space in regard to the City General Plan. The document outlines an alphabetical organization of conservation elements that pertain to the General Plan. Primary elements that pertain to biological resources include, but are not limited to conservation, endangered species, fisheries, and habitats.

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' 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.

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.[1]

Board of Public Works Street Tree Removal Permit and Tree Replacement Condition Policies

Los Angles Municipal Code Section 62.161-62.176 authorizes the Board of Public Works and its officers and employees to control the planting, maintenance and care of trees, plants and shrubs in all public rights-of-way in the City. The Board adopted the Street Tree Removal Permit and Tree Replacement Condition Policies (Street Tree Policies) on June 17, 2015. These policies formalize existing City practice and (1) designate the Bureau of Street Services, Chief Forester, as the authorized officer and employee to issue street tree removal permits; (2) require public notification of the proposed removal of three or more street trees; (3) require a Board of Public Works public hearing for consideration of removal of three or more street trees at a specific address; and (4) require as a condition of a street tree removal permit that replacement street trees be provided on a 2:1 basis with 24-inch box size tree stock and be watered for a minimum 3-year period. The Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, if adopted, would replace these policies with respect to projects pursuant to the Sidewalk Repair Program.

[1] City of Los Angeles, Department of City Planning, 2002.

Preservation of Protected Trees Ordinance

The City's ordinance for the Preservation of Protected Trees (Ordinance No. 177,404), LAMC 46.00 et seq., all which became law on April 23, 2006, protects the following tree species:

- Oak tree including Valley oak (*Quercus lobata*) and California Live Oak (*Quercus agrifolia*), or any other tree of the oak genus indigenous to California but excluding the Scrub Oak (*Quercus dumosa*).
- Western Sycamore (*Platanus racemosa*)
- California Bay (*Umbellularia californica*)
- Southern California Black Walnut (*Juglans californica var. californica*)

The protected tree ordinance applies only to non-planted trees, and therefore it is typically not applicable to street trees, which are generally planted.

3.3.2 Environmental Setting

The City supports a wide variety ecosystems, habitats, and native wildlife (i.e., native animal and plant species). Wildlife may vary in their tolerance for humans and human developments. Some native species are well adapted to developed areas (i.e., urban-adapted species) and may utilize both urban and undeveloped natural areas (open space). Common urban adapted species include hummingbirds, swallows, sparrows, owls, hawks, lizards, skunks, raccoons, opossums, bats, coyotes, and monarch butterflies. Other species are more sensitive to developed areas or have specific habitat requirements. These species are more likely to utilize more insular, intact, or discrete ecosystem types. Such species include California coastal gnatcatcher, least Bell's vireo, cactus wren, Swainson's thrush, bobcat, El Segundo blue butterfly, and various freshwater fish species such as the southern steelhead trout. Additionally, a diverse assemblage of marine species are found in the estuaries, intertidal zones, and pelagic zones along the coast.

Sensitive Biological Resource Evaluation

Data obtained from plant and wildlife inventory databases were reviewed to identify sensitive biological resources with potential to occur in the Project area. As defined in Chapter 2, *Project Description,* the Project area is the entire City, and Project site and/or construction site is where sidewalk and curb ramp repair or street tree removal and replacement activities occur.

Such resources include protected, sensitive, special-status, and locally important species and habitats. Queries were conducted in CDFW's California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California, the USFWS Information for Planning and Consulting (IPAC) System, and the NMFS California Species List Tool (Google Earth KMZ tool) (National Oceanic and Atmospheric Administration) on February 16, 2018. The CNDDB, CNPS, and NMFS California Species List Tool queries were conducted using the following U.S. Geological Survey 7.5- minute map quadrangles, which overlap with the study area: Condor Peak, Sunland, San Fernando, Oat Mountain, Simi Valley East (Santa Susana), Pasadena, Burbank, Van Nuys, Canoga Park, Calabasas, Los Angeles, Hollywood, Beverly Hills, Topanga, South Gate, Inglewood, Venice, Long Beach, Torrance, and San Pedro. The Project area was defined in the USFWS IPAC System using a polygon encompassing the entire Project area.

In addition to database queries, other resources were reviewed to identify existing biological resources and conditions including the County of Los Angeles General Plan 2035 (Los Angeles County General Plan 2015), County of Los Angeles SEA Program (Los Angeles County SEA Ordinance 1982, Los Angeles County SEA Program Update 2019), County of Los Angeles Chief Information Office Los Angeles Region Imagery Acquisition Consortium (LAR-IAC) Program 2006 data and the updated 2011 dataset (Greninger 2011), Selectree: A Tree Selection Guide online database (Urban Forest Ecosystems Institute at Cal Poly State University 2018), Common Trees of Los Angeles (Treepeople.org 2018), 2014 Street Tree Inventory (City of Los Angeles, Urban Forestry Division 2014), City CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) (City of Los Angeles 2006), and consultations with Tim Tyson, Chief Forester of the City Bureau of Street Services Urban Forestry Division. For a detailed list of the plants, wildlife, and street tree species, see Appendix B1–B3.

The terrestrial environs associated with the Project are predominantly urban and developed. The Project study area landscape is primarily comprised of ornamental vegetation, street trees, and paved sidewalk areas, which are all subject to frequent human visitation, air pollution and noise from vehicles and maintenance equipment. The Project areas are existing sidewalks, curbs, and driveways. No new sidewalk is anticipated to be constructed. For ease of reference, the study area is broken down into seven project zones: North Valley, South Valley, Central, East, West, South, and Harbor (Figures 3.3-1a through 3.3-1f).

The Project is expected to result in the continuation of activities resulting in the removal and planting of urban street trees within developed areas of the City. The urban setting and frequent disturbances of the City provide low-quality wildlife habitat. Mature street trees that occur in all of the project zones may provide suitable nesting habitat for a number of common predatory and migratory bird species, including, but not limited to, red-tailed hawk (*Buteo jamaicensis*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), house sparrow (*Passer domesticus),* American crow (*Corvus brachyrhynchos*), and Anna's hummingbird (*Calypte anna).* The barn owl (*Tyto alba*) and the great horned owl (*Bubo virginianus*) are two relatively urban-adapted owl species that utilize street trees for roosting and nesting. Barn owls are commonly observed nesting in a variety of palm tree species throughout the City. The great horned owl does not build its own nest but typically takes over old nests of other large birds. Mature street trees adjacent to open water in coastal areas in the West Los Angeles and Harbor project zones have potential to provide nesting habitat for piscivorous species like the osprey (*Pandion haliaetus*), black-crowned night heron (*Nycticorax nycticorax*), snowy egret (*Egretta thula*), and great blue heron (*Ardea herodias*).

Mammals that typically utilize street trees include the western gray squirrel (*Sciurus griseus*) and the more common but introduced eastern fox squirrel (*Sciurus niger*). These species feed upon seeds and nuts produced by trees and shrubs and will build nests in street trees. Raccoons (*Procyon lotor*) and opossum (*Didelphis virginiana*) may use street trees for shelter. Most southern California bat species prefer native trees such as cottonwoods, sycamores, oaks, willows, native palms, and conifers. These trees species are not typically planted within the urban landscape; however, bats may occur in adjacent native tree habitat. Bat species such as the red bat (*Lasiurus blossevillii*) may roost in large sycamores adjacent to riparian habitat, but in general most urban-adapted southern California bat species roost in human-made structures. Typically, trees would need to have loose fitting bark or hollowed out cavities to provide roosting habitat for bat species.

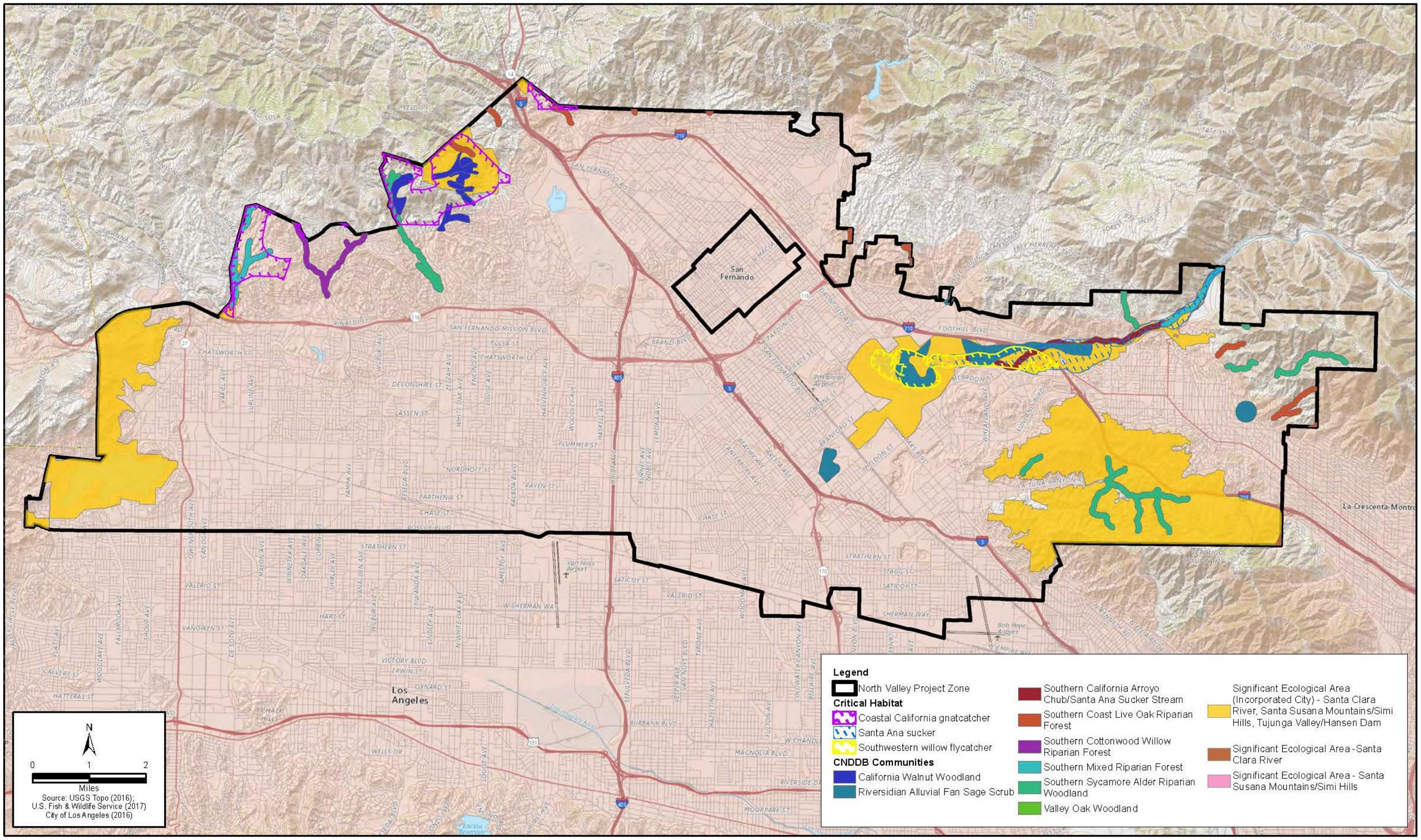


Figure 3.3-1a. Biological Sensitivity of the North Valley Project Zone

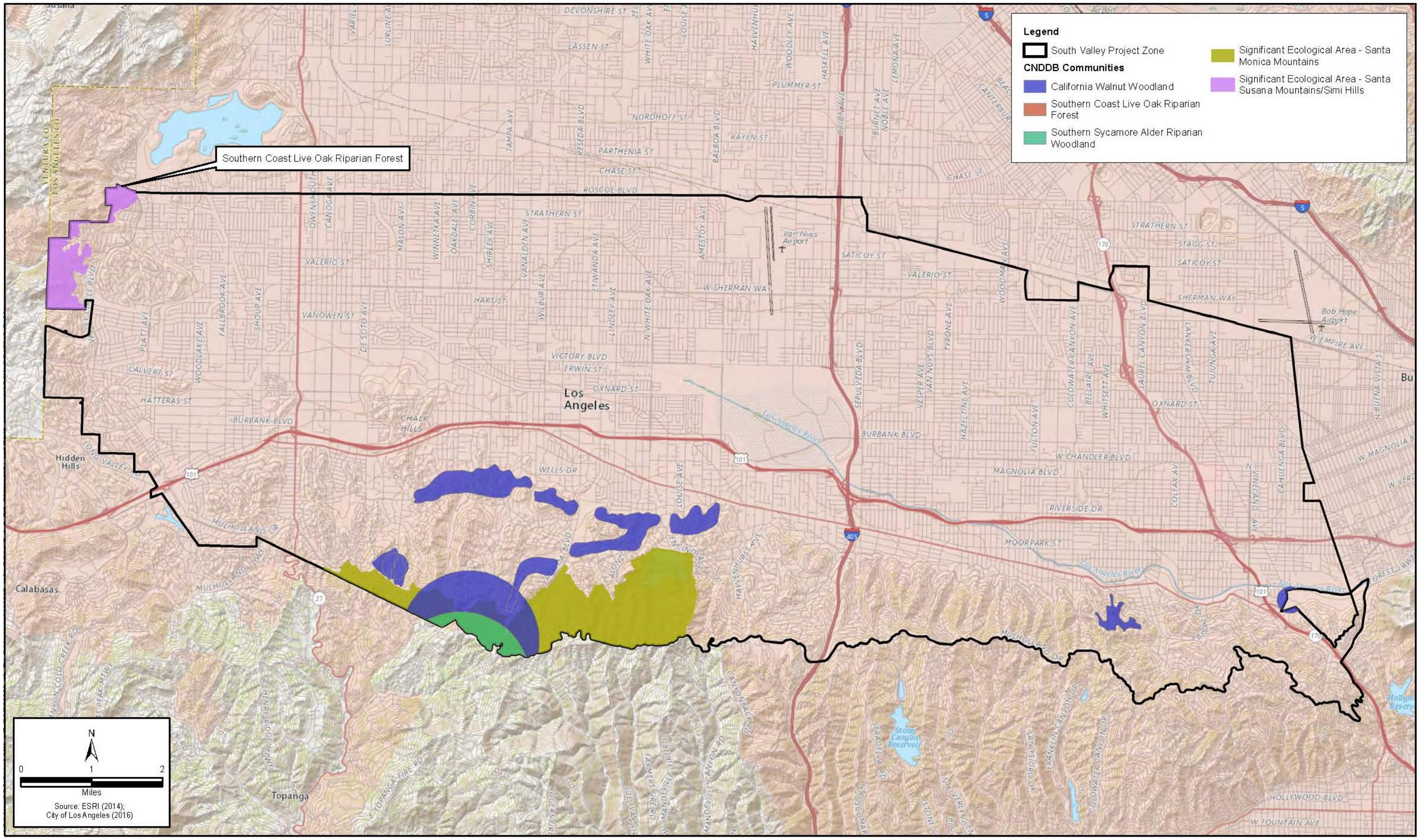


Figure 3.3-1b. Biological Sensitivity of the South Valley Project Zone

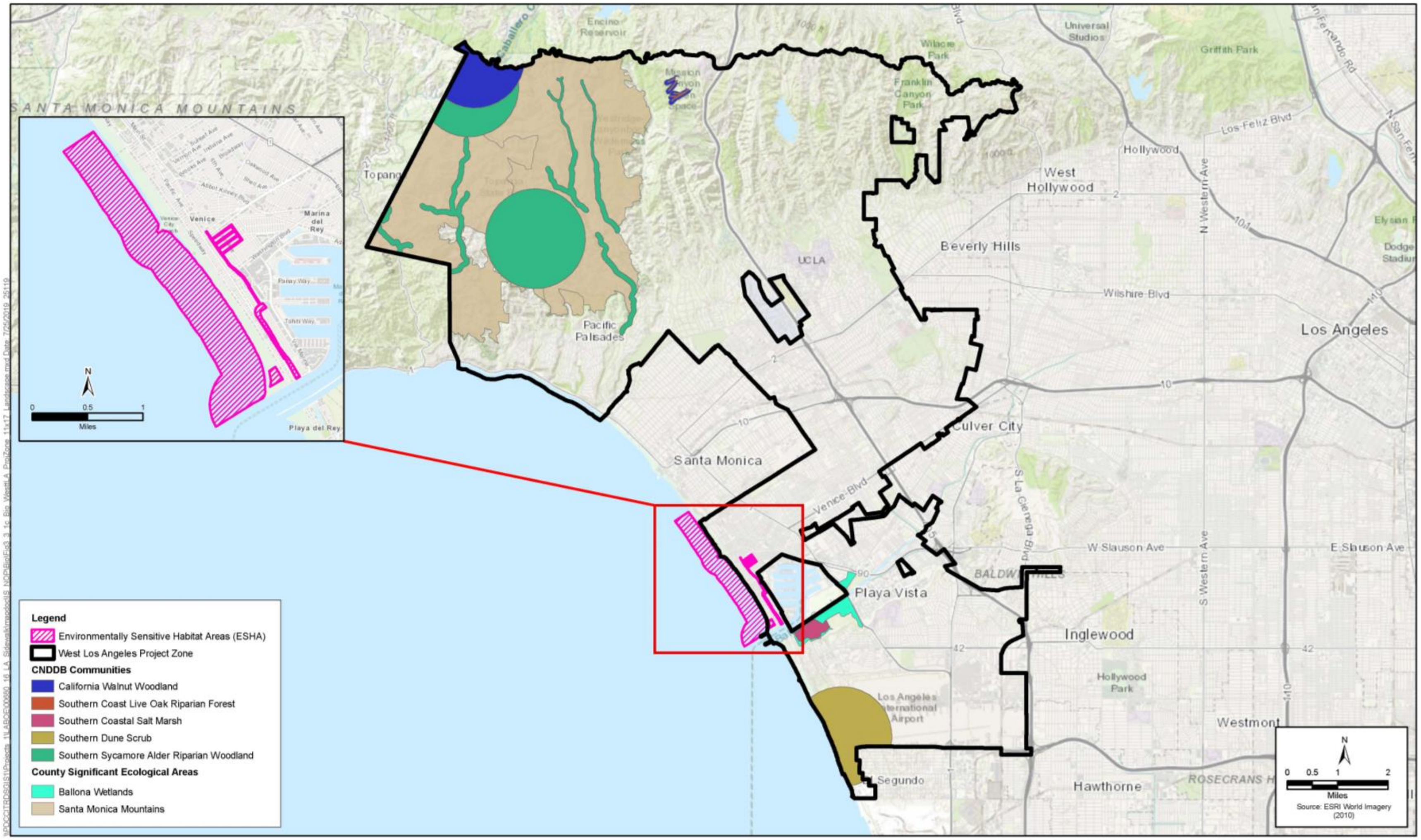


Figure 3.3-1c. Biological Sensitivity of the West Los Angeles Project Zone

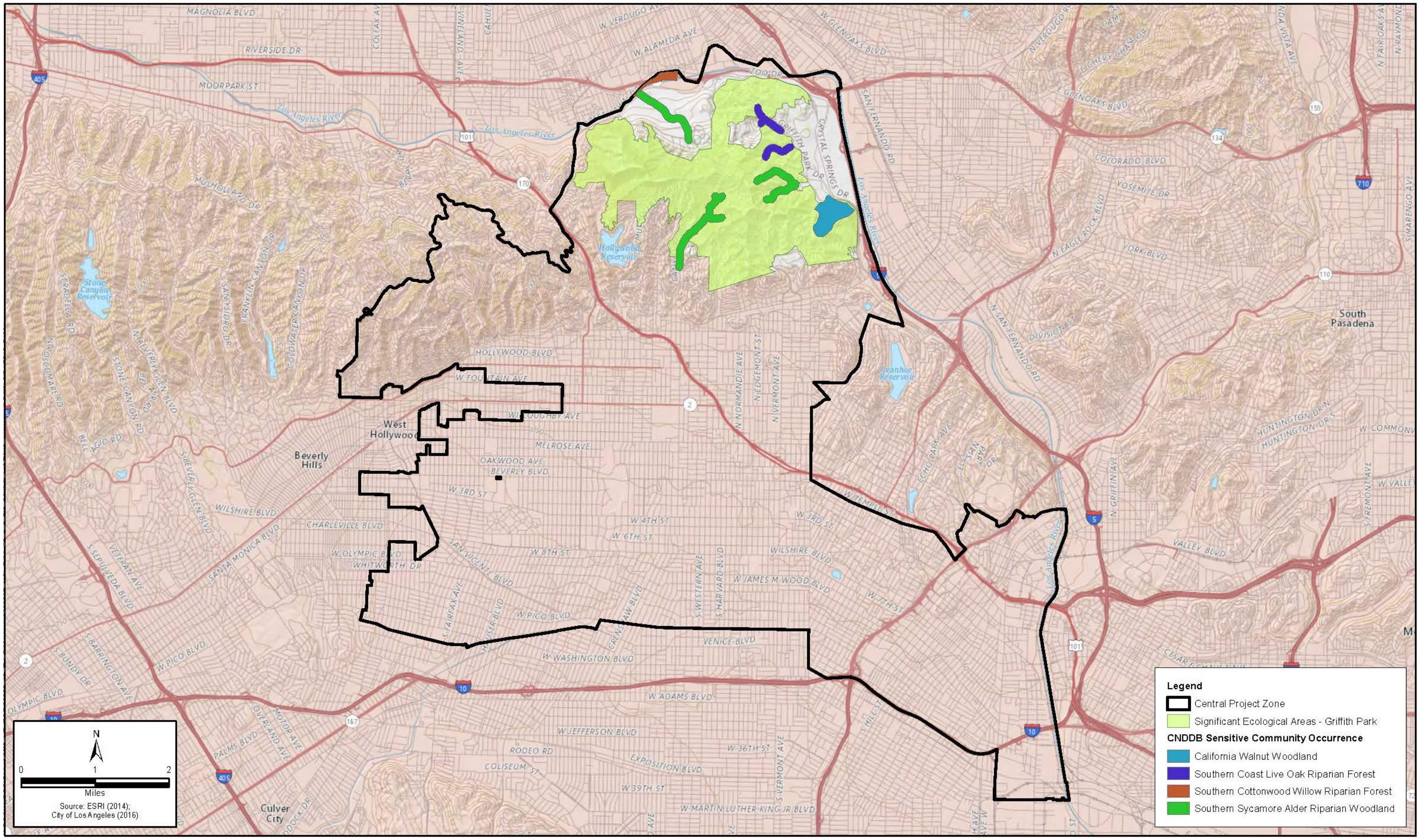


Figure 3.3-1d. Biological Sensitivity of the Central Project Zone

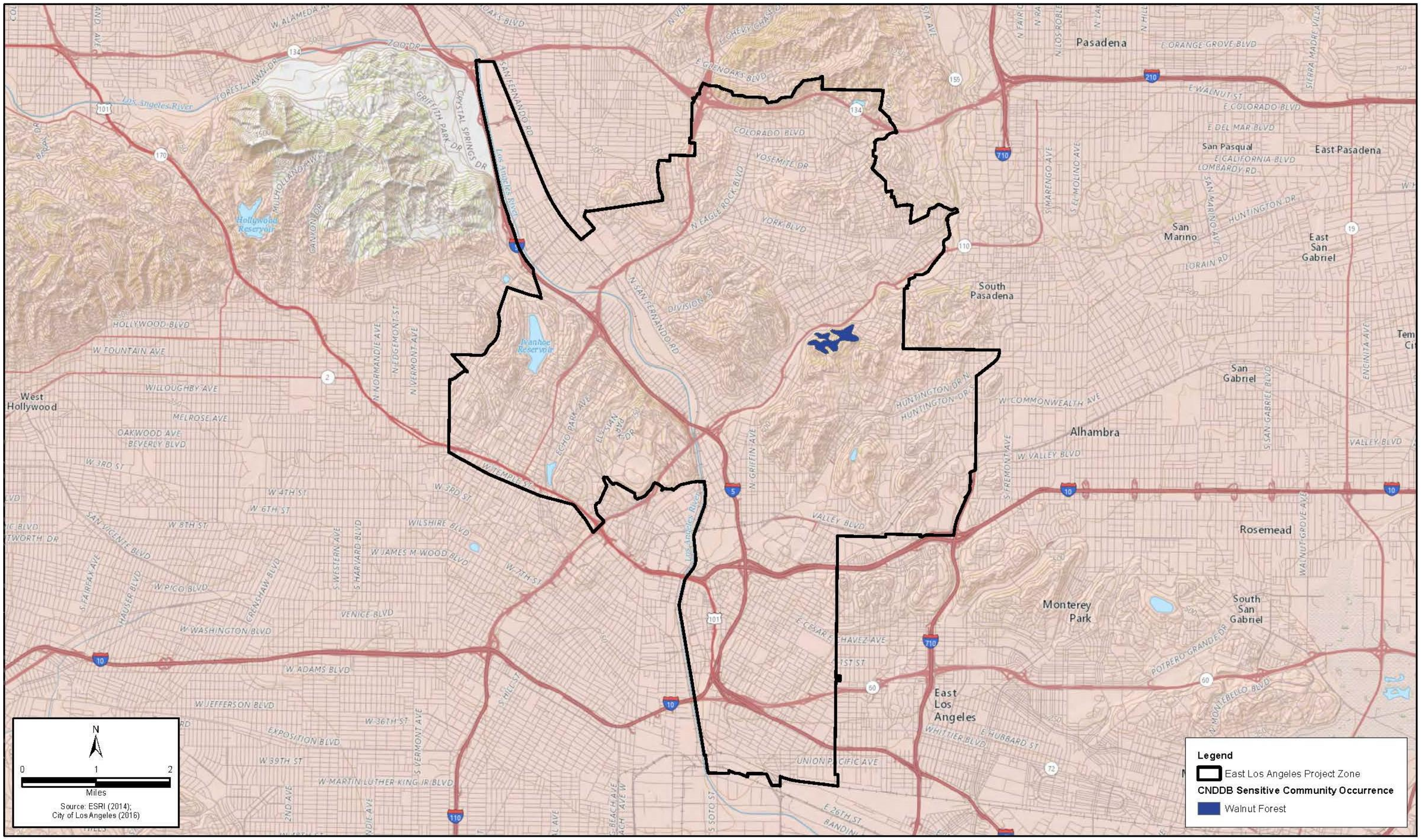


Figure 3.3-1e. Biological Sensitivity of the East Los Angeles Project Zone

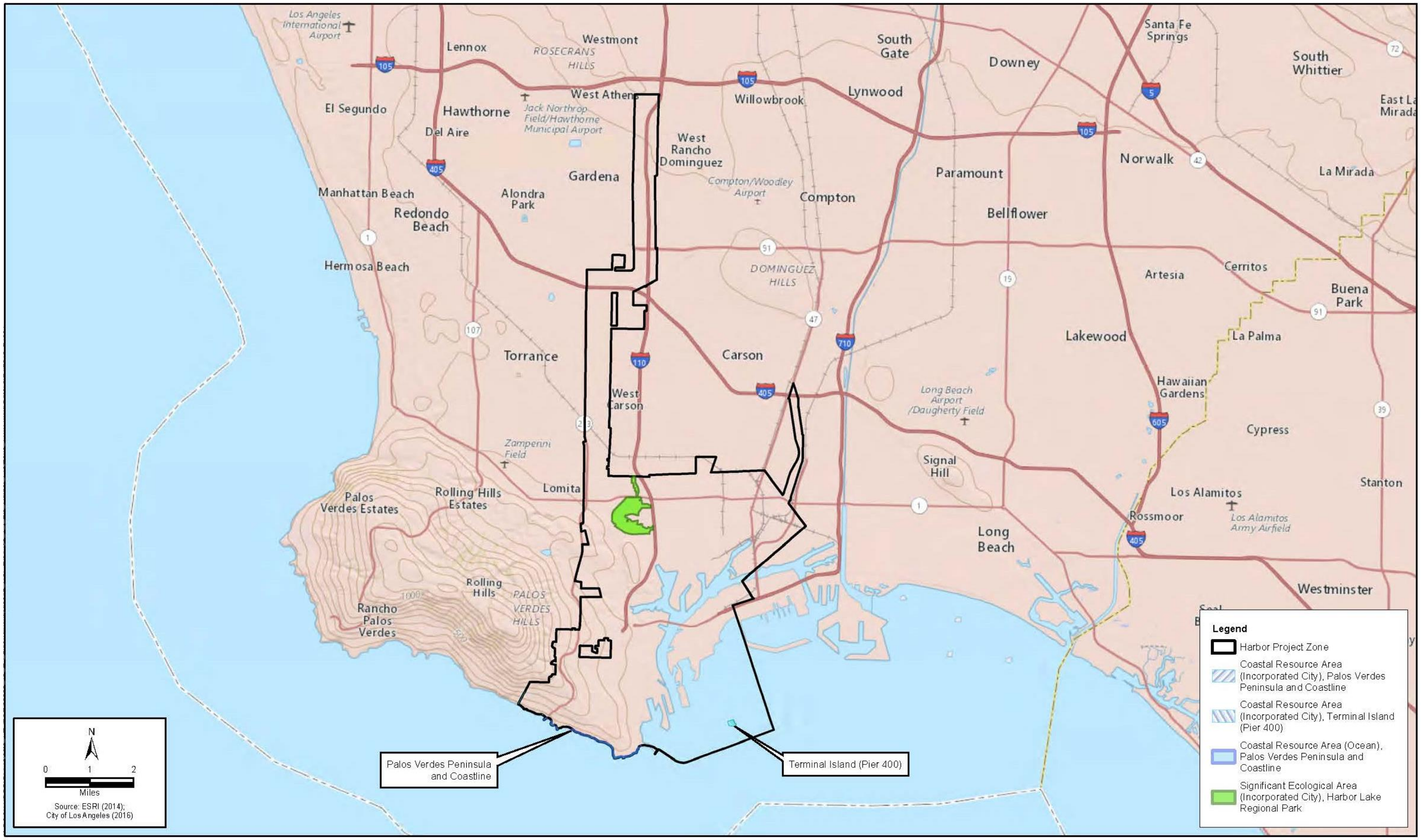


Figure 3.3-1f. Biological Sensitivity of the Harbor Project Zone

3.3.2.1 Candidate, Sensitive, and Special-Status Species

Special-status species are those plants or animals that have been officially listed, proposed for listing, or are candidates for listing as threatened or endangered under provisions of the ESA and CESA, as well as any animal species listed as a species of special concern or fully protected by the state, and plants listed on the California Native Plant Society's (CNPS) Rare Plant Ranking System. Sensitive species also include species listed by local or regional jurisdictions.

3.3.2.2 Plant Species

A search of CDFW's California Natural Diversity Database (CNDDB), the CNPS database, and USFWS' Information for Planning and Consulting (IPAC) web-based planning tool was conducted on February 16, 2018, to determine the potential for sensitive plant species to occur within the study area. The CNDDB search was conducted based on the following U.S. Geological Survey 7.5 minute quadrangle maps: Condor Peak, Sunland, San Fernando, Oat Mountain, Simi Valley East, Pasadena, Burbank, Van Nuys, Canoga Park, Calabasas, Los Angeles, Hollywood, Beverly Hills, Topanga, South Gate, Inglewood, Venice, Long Beach, Torrance, and San Pedro. The CNPS search was limited to Los Angeles County, and the USFWS search for sensitive species was conducted by creating a polygon using the IPAC program that encompassed the entire City. A full description of these species and their potential to occur within the City is presented in Appendix B1. The construction sites arising under the Project include existing sidewalks, curb ramps, and tree wells, etc.—all of which are previously disturbed and/or concrete areas. Therefore, the likelihood of any of these plants species occurring in these areas is low. A full description of these species and their potential to occur within the City is presented in Appendix B1.

3.3.2.3 Wildlife Species

A search of CDFW's CNDDB and the USFWS IPAC web-based planning tool was conducted on February 16, 2018, to determine the potential for sensitive wildlife species to occur within the study area. The CNDDB search was conducted based on the same U.S. Geological Survey 7.5 minute quadrangle maps used for plant species. The USFWS search for sensitive species was conducted by creating a polygon using the IPAC program and encompassed the entire City. A full description of these species and their potential to occur within the City is presented in Appendix B2.

Based on desktop review and the primarily urban setting, the City contains suitable foraging habitat for American peregrine falcon (*Falco peregrines anatum*), and the street trees along the sidewalks provide suitable nesting habitat and opportunistic foraging opportunities for both purple martin (*Progne subis*) and yellow warbler (*Coturnicops noveboracensis*) bird species. Peregrine falcon are commonly observed foraging in urban settings where there are tall buildings that provide ambush points for hunting. The purple martin and yellow warbler can both be associated with larger oaks and urban settings. While the street trees may not provide ideal nesting habitat, both species are periodically linked with nesting in urban settings and may find street trees suitable for nesting. The street trees may also provide potential suitable roosting habitat for pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*) in some of the larger street trees that may contain cavities. Due to the heavily disturbed urban setting within the City, all other wildlife species are unlikely to occur besides periodic transient occurrences; the Project site is not suitable for permanent habitation.

3.3.2.4 Sensitive Communities

A search of CDFW's CNDDB was conducted on February 16, 2018, to determine the potential for sensitive terrestrial and aquatic communities present within the City. Search criteria for sensitive communities was based on the same criteria used for sensitive species. The CNDDB desktop review identified 25 sensitive communities. Table 3.3-1 lists each sensitive community that occurs within the City by project zone.

Table 3.3-1. CDFW CNDDB Sensitive Communities that Occur within the City

Sensitive Community	Project Zone
California Walnut Woodland	South Valley
Riversidian Alluvial Fan Sage Scrub	North Valley
Southern California Arroyo Chub/Santa Ana Sucker Stream	North Valley
Southern Coast Live Oak Riparian Forest	North Valley, West Los Angeles, Central
Southern Coastal Bluff Scrub	Harbor
Southern Coastal Salt Marsh	West Los Angeles
Southern Cottonwood Willow Riparian Forest	North Valley, Central
Southern Dune Scrub	West Los Angeles
Southern Mixed Riparian Forest	North Valley
Southern Sycamore Alder Riparian Woodland	Central, Northern, West
Valley Oak Woodland	North Valley
Walnut Forest	East Los Angeles

The Project would occur within completely urban settings, with work solely associated with sidewalks, street trees, curbs, signs, and lights. Although the resources identified in Table 3.3-1 occur within the City, these resources would not overlap areas that would be subject to construction or operation of the continuing activities from the Project (work would be confined to paved surfaces); however, there is potential for construction to occur adjacent to these resources.

3.3.2.5 Los Angeles County Significant Ecological Areas

The County of Los Angeles has established, through its General Plan, conservation of SEAs. SEAs are locations that contain irreplaceable biological resources and important regional habitat linkages where development is limited (Los Angeles County General Plan 2015). Twenty-eight SEAs occur within Los Angeles County, 11 of which are located within the City and are depicted on Figures 3.3-1a through 3.3-1f. A detailed description of SEAs is provided in the Los Angeles County General Plan 2035 (Los Angeles County General Plan 2015). SEAs occurring within the study area are listed and described below.

Ballona Wetlands SEA

The Ballona Wetlands SEA is located just north of the El Segundo Dunes in the Coastal Zone and Adjacent Uplands Zone. Vegetation communities present include tidally influenced coastal saltmarsh, freshwater marsh, coastal dunes, and coastal scrub. Ballona Creek is one of two remnant saltmarshes in Los Angeles County and supports breeding habitat for special-status species such as Belding's savanna sparrow (*Passerculus sandwichensis beldingi*), California least tern (*Sterna antillarum browni*), wandering skipper (*Panoquina errans*), Orcutt's pincushion (*Chaenactis glabriuscula orcutiana*), and Southern California saltmarsh shrew (*Sorex ornatus salicornicus*).

El Segundo Dunes SEA

The El Segundo Dunes SEA is located in the Coastal Zone and Adjacent Uplands Zone just west of the Los Angeles International Airport runways. The El Segundo dunes are the last remnant of a larger coastal dune system that once stretched several miles in each direction. Southern coastal prairie and dune scrub make up the majority of vegetation and occur nowhere else in the county; the dunes host the entire world population of the El Segundo Blue butterfly (*Euphilotes battoides allyni*), a federally listed, endangered species.

Griffith Park SEA

Griffith Park lies at the easternmost end of the Santa Monica Mountains and is within Santa Monica Mountains – Eagle Rock Zone. Griffith Park supports native vegetation communities such as coastal sage scrub, chaparral, riparian, and oak and walnut woodlands and is surrounded by several major freeways (U.S. Route 101 and U.S. Route 5), and extensive urbanization. The park supports a diverse assemblage of native plant and animal species and also provides important stop-over habitat for migratory birds. Griffith Park lies within the Rim of the Valley Corridor and is home to "P-22," the mountain lion who resides in the park.

Harbor Lake Regional Park SEA

The Harbor Lake Regional Park is north of San Pedro, within the Coastal Zone and Adjacent Uplands Zone. This SEA supports one of two remaining wetlands that once covered the South Bay area and Lake Machado. Natural communities include willow forest, freshwater marsh, and Lake Machado, which support a diversity of wildlife species including migratory birds, such as waterfowl, shorebirds, and marsh birds.

Palos Verdes Peninsula and Coastline SEA

The Palos Verdes Peninsula and Coastline SEA consists of a 10-mile stretch of coastline along the Palos Verdes Peninsula encompassing coastal bluffs and cliffs, headlands, coastal strand, coastal scrub, rocky intertidal, and kelp beds. The coastal cliffs and offshore rocks support shorebirds, gulls, and other seabirds. The American peregrine falcon (*Falco peregrinus anatum*) and prairie falcon (*Falco mexicanus*) historically winter along bluff tops in this area. This SEA also includes Fort MacArthur Military Reservation within its buffer.

Santa Clara River SEA

The Santa Clara River SEA is composed of a large, mostly intact riparian corridor that serves as the primary east-west linkage between the California coast, coastal and interior mountain ranges, as well as the high desert, and is essential for wildlife and ecosystem connectivity in the region. Only a very small fragment of this SEA occurs within the study area in the northernmost portion of the North Rim/Foothill Corridor Zone.

Santa Monica Mountains SEA

The Santa Monica Mountains SEA is composed of coastal mountainous regions of the Santa Monica Mountains along the westernmost portion of the Santa Monica Mountains – Eagle Rock Zone. Vegetation communities in this SEA include chaparral, coastal sage scrub, oak and riparian woodlands, grassland situated in coastal mountains and foothills that support a rich diversity of native plant and animal species. The Santa Monica Mountains provide large areas of open space and important connectivity to the Simi Hills, Santa Susana Mountains, and remainder of the transverse ranges.

Santa Susana Mountains/Simi Hills SEA

The Simi Hills and Santa Susana Mountains SEA is located along the northwestern boundary of the North Rim/Foothill Corridor Zone supporting grassland, chaparral, oak woodland and savanna, riparian woodland, and bigcone Douglas-fir forest. The Santa Susana Mountains/Simi Hills SEA includes several important linkages for wildlife movement between the Santa Monica Mountains to the south, San Gabriel Mountains to the east, and mountains of the Los Padres National Forest to the north.

Terminal Island (Pier 400) SEA

The Terminal Island Pier 400 SEA is protected from development and was specifically designed for the California least tern (*Sterna albifrons browni*). It is buffered from the surrounding urban development; close to least tern foraging areas; and, maintained as a nesting ground. The site is flat, sandy, and is sparsely vegetated.

Tujunga Valley/Hansen Dam SEA

This SEA is located in the eastern portion of the North Rim/Foothill Corridor Zone and is composed of the Tujunga Valley, which occupies the Big Tujunga Canyon floodplain, and Hansen Dam, which is a flood control basin receiving stream discharge from Lopez, Kagel, Little Tujunga, and Big Tujunga Canyon watersheds. The area supports open coastal sage scrub, chaparral, riversidean alluvial scrub, riparian willow woodland, and small pockets of freshwater marsh. The area and surrounding hillsides are dry and support federally listed endangered species such as Nevin's barberry (*Berberis nevinii*) and slender-horned spineflower (*Dodecahema leptoceras*), which have been found in the wash. The vegetation in the Tujunga Valley runs nearly uninterrupted from the foot of the Verdugo Mountains well up into the San Gabriel Mountain foothills, providing valuable wildlife connectivity and habitat for riparian bird species such as southwestern willow flycatcher. The region historically supports populations of arroyo chub (*Gila orcutti*) and Santa Ana sucker (*Catostomus santaanae*) and, as of 1993, chub was reported as common in Big Tujunga, although Santa Ana speckled dace (*Rhinichthys osculus*) and Santa Ana sucker have become rare or extirpated (Swift et al., 1993).

Verdugo Mountains SEA

The Verdugo Mountains SEA includes the northwestern portion of the Verdugo Mountains in the easternmost portion of the North Rim/Foothill Corridor Zone. This region is an important linkage between the San Gabriel and the Santa Monica Mountains and lies within the Rim of the Valley Corridor. The range has a diverse topography and water resources that support coastal sage scrub, chaparral, mature oak woodlands, along with many species of wildlife.

3.3.2.6 City of Los Angeles Environmentally Sensitive Areas

In addition to the sensitive community review through CDFW, the County of Los Angeles SEA Program designates areas within Los Angeles County that have irreplaceable biological resources; these are identified on Figures 3.3-1a through 3.3-1f. As discussed in Section 3.3.1, *Regulatory Setting*, the City has identified ESHAs within the coastal zone. ESHAs as defined by the City are areas where plant, wildlife, and their corresponding habitats are rare, or valuable, and have a significant potential to be disturbed by future development and human activity. This designation differs from the County of Los Angeles SEA Program, because the SEA Program identifies specific areas as significant, whereas the City General Plan identifies habitat types that are significant. The City ESHAs include oak woodlands, coastal wetlands, and rocky nearshore resources. The County SEA Program overlaps with the ESHAs, as many of the County SEAs contain what the City considers environmentally sensitive habitat areas.

The Los Angeles Municipal Code (Section 64.70.01) defines Environmentally Sensitive Areas (ESAs) as: "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments. ESAs include, but are not limited to, areas designated as Significant Ecological Areas by the County of Los Angeles (Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976) and amendments), areas designated as Significant Natural Areas by the California Department of Fish and Game's Significant Natural Areas Program and field verified by the Department of Fish and Game, and areas listed in the Basin Plan as supporting the 'Rare, Threatened, or Endangered Species (RARE)' beneficial use."

Exhibits C-2 through C-8 of the City's 2006 *L.A. CEQA Thresholds Guide* reference sensitive biological resources including sensitive species and habitats with potential to occur in the City and define a sensitive biological resource as:

- A plant or animal that is currently listed by a state or federal agency(ies) as endangered, threatened, rare, protected, sensitive, or a Species of Special Concern or federally listed critical habitat;
- A plant or animal that is currently listed by a state or federal agency(ies) as a candidate species or proposed for state or federal listing;
- A locally designated or recognized species; or
- A locally designated or recognized habitat (e.g., Environmentally Sensitive Area).

Sensitive biological resources may be specific species or a habitat area. Sensitive plant and animal species may be referred to as special-status species and sensitive habitat areas are referred to as Environmentally Sensitive Areas. ESAs include those vegetation communities, habitats, and open space resources listed in Exhibits C-6 and C-7 of the *L.A. CEQA Thresholds Guide*, or other habitats supporting one or more special-status species such as locally designated habitat areas, critical habitat, habitat and wildlife connectivity areas, natural vegetation communities, wetlands and waters, areas of scientific (biological or conservation) interest, and important game and fisheries resources.

City Environmental Significant Areas include the ESHAs in the Venice Coastal Zone include Ballona Lagoon and Grand Canal south of Washington Boulevard, and the Venice Canals north of Washington Boulevard, in addition to habitat buffer areas on the east and west banks of Ballona Lagoon, and the

California least tern nesting areas on Venice Beach and within the Port of Los Angeles. The El Segundo sand dunes, west of Los Angeles International Airport, are also a designated ESHAs and include the (roughly 200-acre) El Segundo Blue Butterfly Habitat Restoration Area. City Environmentally Sensitive Areas for each of the seven planning zones are show in Figures 3.3-1a through 3.3-1f, above.

3.3.2.7 City of Los Angeles Sensitive Biological Resources

Exhibit C-1 of the *L.A. CEQA Thresholds Guide* (City of Los Angeles 2006) divides the City into five geographic zones called Habitat-Oriented Biological Assessment Planning Zones (hereafter biological planning zones) used to identify the City's distinct geographic regions and potential locations of sensitive biological resources. These biological planning zones are used throughout this section, in both discussion and figures, to provide general location, context, and points of reference.

The five biological planning zones are listed below and depicted in Figures 3.3-1a through 3.3-1f:

- Zone 1 - North Rim/Foothill Corridor Zone
- Zone 2 - San Fernando Valley/West Hills Corridor Zone
- Zone 3 - Santa Monica Mountains – Eagle Rock Zone
- Zone 4 - Coastal Zone and Adjacent Uplands Zone
- Zone 5 - Central/South Los Angeles Zone

Exhibits C-2 through C-8 of the *L.A. CEQA Thresholds Guide* reference sensitive biological resources including sensitive species and habitats with potential to occur in the City and define a **sensitive biological resource** as:

- A plant or animal that is currently listed by a state or federal agency(ies) as endangered, threatened, rare, protected, sensitive, or a Species of Special Concern or federally listed critical habitat;
- A plant or animal that is currently listed by a state or federal agency(ies) as a candidate species or proposed for state or federal listing;
- A locally designated or recognized species; or
- A locally designated or recognized habitat (e.g., Environmentally Sensitive Area).

In addition, the City's Municipal Code (Section 64.70.01), for purposes of the Stormwater and Urban Runoff Pollution Control Ordinance, defines Environmentally Sensitive Areas (ESAs) as:

> "…any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments. ESAs include, but are not limited to, areas designated as Significant Ecological Areas by the County of Los Angeles (Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976) and amendments), areas designated as Significant Natural Areas by the California Department of Fish and Game's Significant Natural Areas Program and field verified by the Department of Fish and Game, and areas listed in the Basin Plan as supporting the 'Rare, Threatened, or Endangered Species (RARE)' beneficial use."

For the purposes of this EIR, sensitive biological resources include the following:

- Species and resources listed in Exhibits C-6 and C-7 of the *2006 L.A. CEQA Thresholds Guide*
- Species and resources identified in CNDDB query
- Species and resources identified in the CNPS inventory query
- Species and resources identified with the NMFS Species List Tool
- Listed species and critical habitat identified in the USFWS IPAC System
- Species known to be locally important

Sensitive biological resources may be specific species or a habitat area. In this EIR, sensitive plant and animal species are referred to as **special-status species** and sensitive habitat areas are referred to as **ESAs**. Furthermore, the City defines ESAs to include those vegetation communities, habitats, and open space resources listed in Exhibits C-6 and C-7 of the *L.A. CEQA Thresholds Guide*, or other habitats supporting one or more special-status species such as locally designated habitat areas, critical habitat, habitat and wildlife connectivity areas, natural vegetation communities, wetlands and waters, areas of scientific (biological or conservation) interest, and important game and fisheries resources.

3.3.2.8 Ecological Connectivity Areas

Connectivity, in the context of ecology, generally refers to the ability of plant and animal species to move between different habitat areas. Terms such as corridor and linkage are often used to describe landscape features that facilitate the movement of plants and animals between two or more habitat areas or regions (Soule and Gilpin 1991; Beier and Loe 1992; City of Los Angeles 2001). Connectivity facilitates important ecological processes such as species movement, species dispersal, seasonal migration, and gene flow and interchange. Connectivity also facilitates species access to food, shelter, mates, and other life-sustaining resources and the ability of species to move and recolonize in response to environmental perturbations and disturbance such as fire, habitat loss, and climate change (Beier and Loe 1992; Noss 2001; Seavy et al. 2009). Connectivity is an essential component of ecosystem function and is necessary for the continued existence of both plant and animal species (Fischer and Lindenmayer 2007). When habitats and landscapes are fragmented by roads and highways, human developments, and habitat loss, connectivity may be constrained or obstructed.

Important connectivity areas within and adjacent to the study area include areas referred to as linkages, corridors, and connectivity areas. These resources are discussed below and are generally referred to as connectivity areas, although specific terminology is used by resource when appropriate. In addition to the recognized or designated connectivity areas listed below, other features within the study area provide connectivity or stop-over opportunities for both resident and migratory species. These features include open waters, rivers, streams, and associated vegetation; open space; remnant habitat patches; and man-made elements such as parks, trees, as well as crevices and bays within culverts and bridges.

Recognized connectivity areas in the study area and vicinity are primarily located along the Santa Monica Mountains, Santa Susana Mountains, San Gabriel Mountains, and Verdugo Mountains and their associated foothill regions, as well as within the Arroyo Seco and Los Angeles River Watersheds, along with adjacent open space and park lands such as Griffith Park, Elysian Park, and Ernest E. Debs Regional Park. Each of the recognized connectivity areas that overlap with the study area are discussed in detail below.

California Essential Habitat Connectivity Project

The *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al. 2010) was designed to support land use planning and transportation. The report was produced by a multidisciplinary team of representatives from 62 agencies, a smaller Technical Advisory Team, and a Steering Committee. The report includes a statewide Essential Habitat Connectivity Map that depicts large blocks of habitat called Natural Landscape Blocks and areas deemed essential for ecological connectivity for a broad range of species called Essential Connectivity Areas that can be used to help prioritize conservation, mitigation, and other land-based decisions

Essential Connectivity Areas:

- Castro Peak/Santa Monica Mountains - Pine Mountain/Sespe Condor
- Contract Point / Santa Susana Mountains
- Los Angeles River (Riparian Connection)

Natural Landscape Blocks:

- Las Flores/Santa Monica Mountains
- Mount Hollywood
- Calabasas Peak/Santa Monica Mountains
- Topanga Canyon/Santa Monica Mountains
- Las Virgenes Creek/Santa Monica Mountains
- Verdugo Mountains
- Big Tujunga Canyon
- Simi Hills
- Contract Point
- San Gabriel Mountains West
- Santa Susana Mountains

Missing Linkages

The South Coast Missing Linkages (Penrod et al. 2006) and Missing Linkages in California's Landscape (Penrod et al. 2000) include a collection of wildlife linkages identified in the south coast California ecoregion, which were assembled during a series of dedicated statewide connectivity conferences and workshops. Linkages identified as having high value and being vulnerable to degradation were identified by a collection of experts including resource agency staff, land managers, land and transportation planners, conservation biologists, university scientists, and other experts.

Linkages within or overlapping with study area:

- Santa Susana Pass Linkage
- Angeles - Verdugo Mountains Linkage
- Griffith Park - Verdugo Hills Linkage
- Santa Monica- Sierra Madre Linkage

Linkages immediately adjacent to study area boundaries:

- Highway 5 – Newhall Pass Linkage

Los Angeles County Regional Habitat Linkages and Wildlife Corridors

Regional Habitat Linkages and Wildlife Corridors identified in the 2015 County General Plan (Los Angeles County 2015) and are recognized as important for ensuring greater regional biodiversity, species and habitat connectivity, and connectivity of biological resource areas in Los Angeles County with resource areas in adjacent local jurisdictions. These linkages are based on National Forest boundaries, the County SEAs, and a series of missing linkage design studies conducted by the South Coast Wildlands Project. For a detailed description of these linkages, please refer to Appendix E of the Los Angeles County General Plan (Los Angeles County 2015). Los Angeles County Regional Habitat Linkages and Wildlife Corridors in the study area vicinity are listed below and depicted on Figure 4.2-10.

- Two Los Angeles County Regional Habitat Linkages and Wildlife Corridors exist to the northwest and north of Biological Planning Zone 1 and connect the Santa Monica Mountains, Santa Susana Mountains, Simi Hills, and Santa Clara River.

City of Los Angeles Wildlife Corridors

General Plan Corridors

The City General Plan (2001) identifies several important local wildlife corridors including the Rim of the Valley Trail Corridor, which was adopted into state law in 1990 (Public Resources Code Section 33204.3). This law authorizes the Santa Monica Mountains Conservancy, a state agency, to work with counties and cities within the greater Los Angeles region to develop a plan to acquire lands linking the mountain ranges surrounding the San Fernando and La Crescenta Valleys. One of the primary features of the plan is creation of permanent habitat corridors to protect endangered and threatened native plant and animal species. Other important corridors identified in the City's General Plan include corridors between the Santa Susana Mountains and the Simi Hills and between the Simi Hills and the Santa Monica Mountains, and connections between the Santa Monica Mountains and the Verdugo Mountains and San Gabriel Mountains.

Regional Connectivity

Pacific Flyway

The study area is situated within the Pacific Flyway, which encompasses the entire City. The Pacific Flyway is an important north-south migration corridor for more than 350 migratory bird species totaling at least 1 billion birds that inhabit the area during the spring or fall migration periods (City of Los Angeles 2018c; Pacific Flyway Center 2018). Because the City is situated along the Pacific Flyway, the more than 400 resident bird species share the City with migratory species such as Costa's hummingbirds, cliff swallows, Swainson's thrush, yellow-rumped warblers, and Canada geese that have traveled great distances to inhabit the region during their breeding season or to stop over and pass through on their spring and fall migrations (City of Los Angeles 2018c). Migratory bird species may use portions of the study area as winter range, summer range, or breeding habitat, or may stop over to rest and gather resources necessary to continue their migrations.

3.3.2.9 City of Los Angeles Biodiversity Motion

The Los Angeles City Biodiversity Motion was adopted on May 10, 2017, and is designed to guard and improve the City's biodiversity. The motion is composed of three main goals: (1) form an index system to assess overall biodiversity, (2) create policies and programs to enrich biodiversity, and (3) provide ways to engage and inform the public on biodiversity protection and enhancement. The first step of developing an index score has started in the form of the Singapore Index for the City. Eventually, findings from this study will assist the development of a biodiversity management strategy as required by the motion (City of Los Angeles 2018).

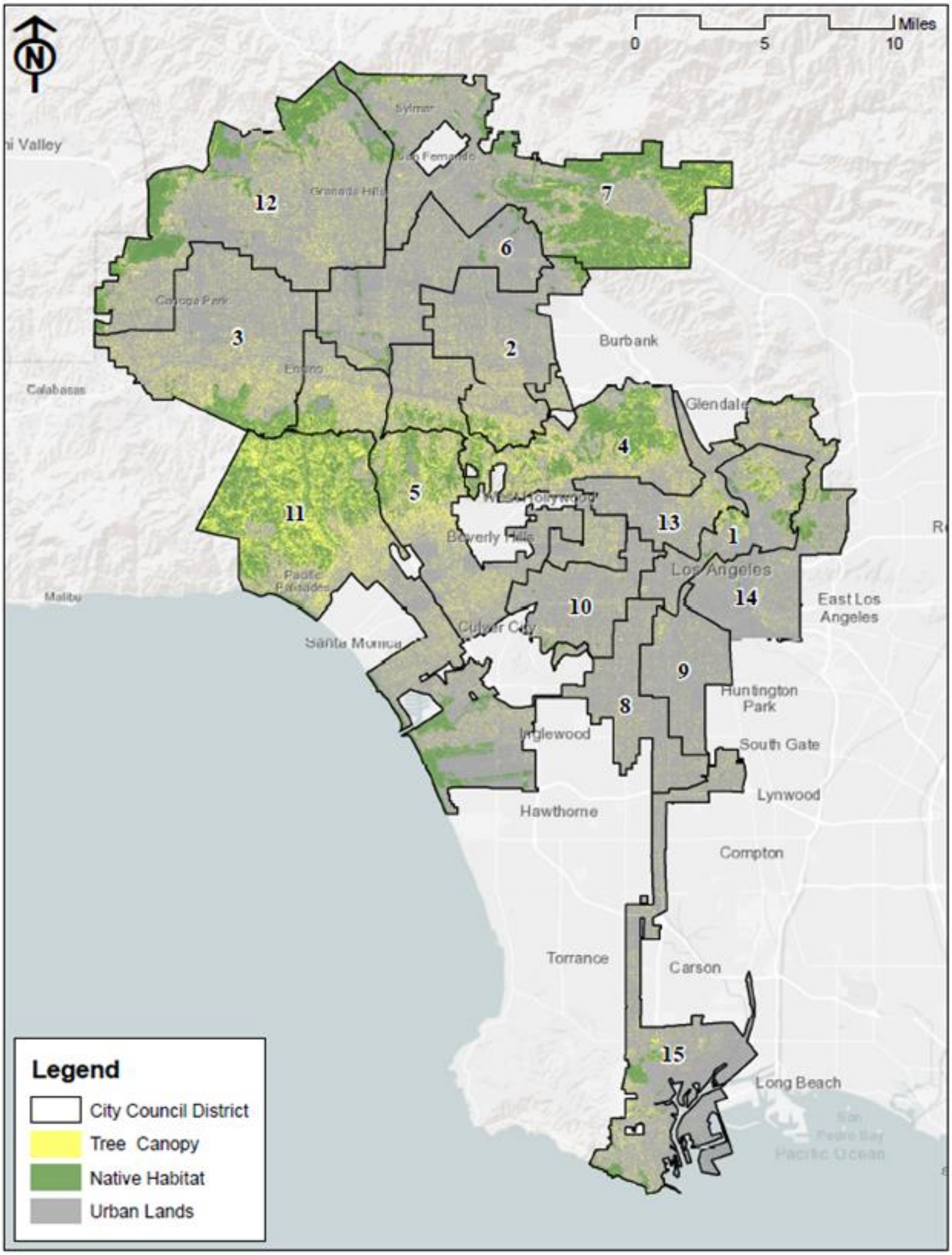
3.3.2.10 Baseline Tree Canopy Cover

Citywide trees are comprised of trees on private, and in public areas. Baseline tree canopy cover is made up of citywide trees (public and private properties) and street trees (Los Angeles City public right-of-way trees).

Citywide Tree Canopy

Estimates of tree canopy within the City vary, and defining the true extent of tree canopy is difficult for an area the size of Los Angeles. Citywide Tree Canopy includes street trees, residential trees, and commercial landscaping. In 2008, the tree canopy for the City was estimated to total 52,493 acres (McPherson et al 2008). In an eloquent geospatial analysis methodology, a separate estimate of the Los Angeles tree canopy area was completed by analyzing 2006 data collected by the Los Angeles Region Imagery Acquisition Consortium (LAR-IAC) Program. This countywide analysis was conducted by the County of Los Angeles Chief Information Office using Digital Elevation Model (DEM), Digital Surface Model (DSM), and Color Infrared (CIR) imagery (Greninger 2011). The estimate of the existing Citywide tree canopy (includes street trees, residential trees, and commercial landscaping) used in this EIR was completed by analyzing the 2011 GIS analysis which further refined the 2006 countywide data collected by the Los Angeles Region Imagery Acquisition Consortium (LAR-IAC) Program. From the County tree canopy dataset, the tree canopy cover within the City was extracted and estimated to be 45,061 acres.

The results of the Greninger 2011 mapping have been used in the present assessment as they are both most refined and most conservative. However, the relatively high variance between canopy area estimates from the reasonably synoptic data used in the U.S. Department of Agriculture (2002–2005 Quick-Bird satellite imagery) and Greninger (2006 LAR-IAC) studies should be considered when evaluating the degree of uncertainty in canopy. The tree canopy within the City has been plotted over a map of the City in order to identify the distribution of tree canopy by region, council district, and urban and native lands (Figure 3.3-2). The distribution of tree canopy within the City is clustered and variable with the majority of the tree canopy being distributed through the foothills of the Santa Monica Mountains concentrated in Council Districts 4, 5, and 11 (Table 3.3-2). Sparser tree canopy is more typical of the heavily urbanized portions of the City on the floor of the San Fernando Valley and in the City's central portions and harbor regions.



Source: Merkel, 2018

Figure 3.3-2. Citywide Tree Canopy Distribution within Native Habitats and Urban Lands

Table 3.3-2. Citywide Tree Canopy Area by Council District

Council District	Total Land Area (acres)	Tree Canopy (acres)	Approximate Percent Canopy Cover
District 1	10,115	1,304	13%
District 2	16,013	2,326	15%
District 3	23,453	3,856	16%
District 4	26,255	5,821	222%
District 5	24,025	5,739	24%
District 6	17,400	1,319	8%
District 7	34,640	3,998	12%
District 8	10,265	813	8%
District 9	8,341	563	7%
District 10	9,266	801	9%
District 11	40,840	9,693	24%
District 12	37,593	4,669	12%
District 13	8,713	1,010	12%
District 14	15,472	1,585	10%
District 15	20,539	1,564	8%
Total	**302,928**	**45,061**	**15%-18%**

More recently, data from LAR-IAC consisting of 1-foot pixel resolution (2000) and 4-inch (2008) pixel resolution were used in a study conducted to assess how urban greenery has changed within lots where additional development was and was not recorded between the two imaged years (Lee et al. 2017). This work included evaluation of changes within the City's 15 council districts. For this analysis, a comprehensive approach to quantifying tree cover was not undertaken due to available imagery consisting of only three color bands (red/green/blue) and lacking a near-infrared band that would have allowed for spectral classification analyses. Instead, land cover, including tree cover, was manually digitized across a subsampling of residential lots using the 2000 and 2008 imagery to provide two different time frames. From these data, changes in land cover relative to changes in building footprints were statistically analyzed. The analysis specifically focused on single-family residential lands and did not include streets. The analysis demonstrates a statistically robust decline in tree canopy over time that was correlated to an increase in hardscape land cover on private residential lots (Lee et al. 2017). The authors of this study argue that, notwithstanding municipally supported tree planting programs underway in the City on private lands, tree losses are outpacing any gains recognized due to land cover conversion transitioning to hardscape. While the study provides some important insights into how Citywide tree canopy cover may be changing, it does not provide a better baseline than the most recent analysis completed in 2011 (Greninger 2011).

Existing Street Tree Canopy

A street tree inventory was conducted in 2014 by the City. This inventory identified 711,248 individual street trees comprising 585 species (including a few synonymous taxa). Of these 711,248 street trees, 80% are of the same 56 species. The other 20% of the street trees are a mix of remaining 529 species. Thus, the frequency of street tree species within the City is not evenly distributed and there are limited number of species making up the majority of street trees. To estimate the street tree canopy cover as well the composition of street trees by life history type, the most abundant 56 species, comprising 80% of all street trees, were characterized by average mature canopy diameter and whether the street tree species were conifer, broadleaf evergreen, or deciduous. Mature canopy diameter was determined by species using data from Urban Forest Ecosystems Institute Selectree database maintained at Cal Poly (https://selectree.calpoly.edu/) and Common Trees of Los Angeles (https://www.treepeople.org/sites/default/files/pdf/). Where only the minimum and maximum canopy at maturity was reported, the average of these values was used to determine the mature canopy diameter. To find the average size of the street tree that are routinely removed and that are to be removed as part of the continuing activities from this Project, the average canopy diameter of the 56 species, or 80% of the street trees, was calculated and used for modeling purposes.

The average canopy diameter and distribution of life history type for the 80% of the street trees evaluated by species are reflective of the average characteristics of the street trees across the total list of 585 species. The make-up of the City street tree canopy was calculated using the top 80% of all street trees as a representative sample of the whole street tree population within the City (Table 3.3-3).

Table 3.3-3. City of Los Angeles Street Tree Canopy Area and Composition

Estimated Street Tree Metrics	Deciduous	Broadleaf Evergreen	Conifer	Total
Total Street Tree Canopy Cover (acres)	5,884	10,891	896	17,670
Total Street Tree Count	262,375	387,842	61,031	711,248
Percent of Street Trees by Count	37%	55%	9%	100%
Percent of Street Tree Canopy Area	33%	62%	5%	100%
Total Species Count	209	313	63	585
Average Street Tree Canopy Diameter (feet)	35.2	39.4	28.5	37.1

The street tree analysis suggests that the largest and most abundant street trees are broadleaf evergreen trees, with slightly smaller deciduous street trees making up one-third of the street tree canopy area. The smallest and least abundant street trees are conifers. Street trees are believed to comprise approximately 39.2% of the tree canopy within the City.

The data used to estimate street tree removal and replacement under the continuing activities from the Project is based on routine maintenance activities from July 1, 2016 to June 30, 2017 for sidewalk and curb ramp repairs. Pursuant to section 15125 of CEQA, baseline data describes the physical environmental conditions as they exist at the time the notice of preparation is published. The data collected on the species of removed trees and the number of replanted during fiscal year 2016-2017, as part of the routine sidewalk repair activities, was used to determine the street tree canopy cover, as discussed below in Approach.

3.3.3 Environmental Impact Analysis

3.3.3.1 Approach

A search of CDFW's CNDDB, the CNPS Database, and USFWS' IPAC web-based planning tool was conducted on February 16, 2018, to determine the potential for sensitive plant and wildlife species to occur within the study area. Due to the large geographic range in which the study area occurs, search criteria for sensitive plants and wildlife covered all of Los Angeles County using the CNPS database, a polygon covering the entire City using the USFWS IPAC web tool, and quadrangle occurrence searches through CNDDB, centered on the U.S. Geological Survey 7.5 minute quadrangle maps covering the City and adjacent land.

The Project is the continuation of sidewalk repair activity, which is anticipated to remove and replace, as discussed below, approximately 12,860 total street trees in conjunction with conducting an estimated 42,719,225 square feet (where an average sidewalk length is 600 linear feet and the width per applicable accessibility requirements is 5 feet) of sidewalk repair, over the 30-year period of the Project. Concurrent with the sidewalk repair and associated street tree removals anticipated to occur, the Project involves a programmatic street tree replacement at a ratio of 2:1 (replacement street trees to removed street trees) for years 1 through 10; 3:1 for years 11 through 21; and 2:1 for years 22 to 30. In association with the street tree removals and replacements, there would be a change of tree canopy cover that can be characterized as both a change in the overall Citywide tree canopy cover and a change in the canopy cover of street trees. Understanding how the continuing activities under the Project would affect the overall Citywide tree canopy cover is important in evaluating the influence of the continuing activities from the Project on multiple aspects of the environment, while understanding the extent of street tree canopy cover change is more relevant to the built environment, community character, and heat island considerations.

The continuation of activities from the Project will remove a total of 12,860 street trees, but each sidewalk repair project will only remove one or a few trees per sidewalk repair. This estimate is based on the street trees removed for every sidewalk and curb ramp repair work in the baseline year of FY2016 to FY2017.

To address the anticipated effect of the continuation of sidewalk repair activities from the Project on the street tree canopy, an annual time stepped assessment model was developed that would allow for examination of the effects of the proposed removal of 12,860 street trees, approximately 1.8% of the 711,248 total street tree count in the City, and the subsequent replacement of those trees, at varying ratios during the life of the Project. For the model, Project parameters including street tree size (average diameter and canopy cover), maturation rate, mortality rate were determined based on data from street tree removals tracked by the City during fiscal year 2016-2017, consultations with Tim Tyson (Chief Forester, Urban Forestry Division), and applicable databases (see References section for more information). Discussion below under "Proposed Street Tree Removal Calculations," explains how calculations of the proposed ratios of street tree replacements for the life of the Project were derived.

Street Tree Size

The average removal street tree canopy cover and canopy diameter was determined by species using data from Urban Forest Ecosystems Institute Selectree database maintained at CalPoly and Common Trees of Los Angeles (see Section 3.3.3 *Environmental Setting* for more information on these databases). This database determines tree size based on the average of minimum and maximum canopy at maturity of the tree species. Using the tree species type and average canopy diameter data, the overall average canopy diameter and canopy cover was determined for the typical removal street tree. The average removal street tree under the continuing activities from the Project is estimated to have a canopy diameter of 38.5 feet and a canopy cover of 1,166 square feet (0.027 acre).

The canopy cover of the replacement street trees was determined using the street tree species and number replanted data from the City Sidewalk Repair Program Tree Report database. Using the same method to find average diameter and canopy cover for removal street trees, it was possible to determine the average mature canopy diameter of a replacement tree. The mean mature canopy diameter was calculated to be 30.5 feet and the average canopy cover is 730 square feet (0.017 acre). Thus, the mean mature canopy cover of replacement tree is 62.6 percent of the cover of removal trees.

The street tree species were ranked by canopy diameter, resulting in five groups of street trees. Group 1 having the smallest average canopy diameter by species and Group 5 having the largest average canopy diameter by species. For simplicity in running various canopy loss and replacement scenarios (see scenario discussion below), trees were grouped by canopy diameter. The scenarios explored the effects of altering parameters such as varying the size of the replacement street trees to about the same size as the removed street tree or with much smaller street trees (see Appendix B).

Maturation Rate

The maturation rate of replacement trees is difficult to determine because there are only a few well document studies on tree maturation rates due to the number of uncontrolled variables that may influence tree growth. Slow growing trees may take 20-30 year to mature, while fast growing tree may take 10 to 15 years. An intermediate maturation period between 10-20 years has been used in selection for landscape trees. A average maturation rate of 15 years has been selected to model tree canopy replacement and checked for reasonableness by conferring with field staff and Tim Tyson from the City's Urban Forestry Division and other arborist with the International Society of Arborists (ISA). From the time the replacement street tree is planted until it reaches maturity, street tree canopy expansion rates are not constant. The rate at which the canopy expands is based on a number of intrinsic physiological and extrinsic environmental factors. Generally, tree maturation under benign environmental conditions follows a sigmoidal growth curve with an early exponential element followed by a linear phase and an ultimate transition to an asymptotic curvature with slowed growth as the tree reaches maturity. Variability in the shape of the growth curve results from differences between tree species and environmental conditions and have the greatest influence on the shallowest slopes in the curve (the exponential and asymptotic ends). As a result, the more variability within intrinsic and extrinsic controls on growth, while retaining a determinant point of maturity, the more linear the average growth becomes. This model assumes equal expansion in canopy cover for each year during tree maturation and no expansion after 15 years. For this reason, a simple linear growth model was applied in the analysis.

Mortality Rate

Under the current Street Tree Policies, UFD requires that the replacement tree is watered and monitored during its establishment period of 3 years to achieve self-sufficient establishment. Under this Project, BOE, in partnership with UFD, would maintain and monitor growth and ensure survival of newly planted street trees for no less than 3 years from the time of planting as discussed in the *Project Description* and in the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program. The mortality rate is measured during these first 3 years of the street tree. Common mortality events include inadequate water, root binding, disease, vandalism, fire, or traffic accident, however causation behind mortality is not considered relevant to the analysis. Under this Project, street trees that die before three years, would be replaced. The mortality rate range of 2% to 8% accounts for the different mortality of various species within the first three year of planting. Low estimates of mortality are derived from the rate of mortality on trees nearing the end of establishment or those that have just been planted. High levels of mortality are derived from the rate of mortality of sweeping regional losses from disease. However, it is difficult to select the rate of mortality to assume. Lower rates do not adequately address temporal influence of random events and can underestimate the mortality, while higher rates reflect known disease effects that are now avoided in replacement tree planting by species selection and inoculation to minimize disease loss. So, the mortality rate applied is more conservative than needed to account for street tree mortality related to the Project. For the modeling, the mortality rate applied is considered to be on the higher end of expected losses due to the fact that early mortality is omitted, as street trees that die within 3 years of planting would be replaced. Street trees that achieve full maturity are considered to become part of the baseline tree canopy in the City, and not considered to be uniquely vulnerable to mortality, and are not considered within the environmental effects of the Program.

Proposed Street Tree Removal Calculations

The quantity of street trees to be removed is derived from data on tree removal rates tracked by the City during fiscal year 2016-2017. The NOP was released in July 2017 and therefore July 1, 2016 to June 30, 2017 was used as a representative year for annual sidewalk repaired and as the baseline environmental conditions for the Project. Other than the data from these fiscal years, the consultation with Tim Tyson (Chief Forester, Urban Forestry Division) provided much of the values for the variables used in modeling and applicable databases, which can be found in the References chapter.

Each street tree removed has an estimated canopy cover, which is the layers of tree leaves, branches, and stems that provide tree coverage of the ground when viewed from above.[2]

The street trees canopy cover was tabulated by accessing Sidewalk Repair Program Tree Report database for the exact number, size, and species of street trees removed for sidewalk repair during fiscal year 2016-2017. The canopy cover of street trees was summed across the 352 trees removed during the fiscal year 2016-2017 and the total canopy cover was then divided by the number of trees removed. Thus, a canopy cover for the average street tree proposed to be removal in the Project was determined.

Canopy Cover

The model analyzes the 30-year Project period of proposed operation of the Program plus a period beyond the Program years during which the maturation of the planted street trees would continue. The model is based on inputs derived from the LABOE provided data, consultation with Tim Tyson (Chief Forester, of Urban Forestry Division) who provided much of the values for the variables used in modeling, and applicable databases. The time stepped assessment of street tree canopy cover gains and losses can be tracked through time by examining the individual components of gains, losses or the sums of gains and losses. The resulting losses and gains in street tree counts are depicted graphically in Appendix B2.

[2] https://www.nrs.fs.fed.us/urban/utc/.

Street Tree Retention, Removal and Replacement Analysis

The street trees would be replaced within one year of removal, as discussed in the Project Description, the extent of replanting and subsequent maturation expansion over time dictates the expansion of canopy from replacement street trees. Due to the varying canopy size of street trees, which is dependent on species, climate, geography, etc., a 15 year street tree maturation rate is used with a 2%-8% mortality rate, as mortality of trees is unpredictable, for purposes of this biological modeling.

To model the tree canopy changes through time, a baseline total street tree canopy cover was calculated from the *City of Los Angeles 2014 Street Tree Inventory* counts and average single tree canopy area to be 17,670 acres of street tree canopy cover. Street tree canopy cover reduction was determined as a stepwise reduction in street tree canopy cover based on accumulating losses of cover as a result of street trees removed each year times the mean single tree canopy cover (0.027 acres). If there were no offsetting street tree replanting activities, the losses of street tree canopy cover under the continuing activities from the Project would be expected to result in an accelerating rate of canopy loss in five year steps as the program activities increase to year 30.

The potential to significantly impact the street tree canopy led to the need to evaluate the conflicts between the Project and the existing local street tree policies or ordinances. Thus, the following objectives were developed as criteria to modeling:

- Ensure the Project meets or exceeds existing policy requires a 2:1 replacement to removal ratio and replacements would occur within one year of street tree removal.
- Ensure that the Project does not result in a net mature street tree canopy cover reduction by disproportional replacement of larger street trees with smaller street trees that have less than half of the total canopy cover at maturity.
- Ensure that the square of the mean mature canopy radius of replacement street trees is greater than half of the square of the removed street tree mature canopy cover radius as determined by species mean canopy diameter
- Replace street trees with a mix of species such that the long term average H’ diversity (constant) of species removals is equal to or less than the long-term average H’ diversity of replacement street trees
- Ensure survival of street trees through maturity by adoption of a dead tree replacement policy for all replanted street trees under the program. Replacement does not need to be in the same location or the same species.

Scenarios in Appendix B show results models meeting most of the above criteria. The model was run for 26 total scenarios of tree replanting as scaled against tree removals. The scenarios explored the effects of altering parameters such as the average replacement tree size, tree replacement ratios, front end loading of tree replacement sensitivity testing of changing mortality rates, and application of variable replacement ratios.

For example, varying the size of the replacement trees to about the same size as the removed tree or with much smaller street trees were modeled. Although such practice is likely to cause damage to the sidewalks in the future because large street trees are the cause of sidewalk damage, it was modeled to reduce potential significant impacts from following the existing ratio and existing smaller street tree replacement size. The results of these scenarios are in Scenarios 2 through 6 and in Scenario 10, 12, 14 and 21 in Appendix B.

Varying new street tree removal and replacement ratios were also modeled to evaluate means of reducing the potential for a significant impact from the existing policy. Scenarios 8, 14, 19, 22, 24 show the results of this modeling.

As discussed in Section 3.3.3.1 *Approach*, the current mortality is an average that fluctuates within the street tree species (among other variables), so as a conservative approach a higher mortality or a shorter life expectancy of replaced street trees within the first 3 years of planting was modeled. These results are in shown in Scenarios 14, 19, 21, and 22.

Scenario 14, for example, shows results of various permutations of a new ratio, different size of street trees, front loading, (early planting), and a higher mortality rate.

Scenario 19 depicts the results of keeping the street tree canopy cover consistent with the existing policy but planting more street trees before removal (front loading) followed by a reduction of the tree replacement to removal ratio in the last 10 years of the Project.

3.3.3.2 Project Design Features

The following project design features (PDF) related to biological resources are proposed for implementation at Construction Scenario 1 and Construction Scenario 2 sites for the Project**.**

PDF-BIO-1: In compliance with the MBTA and California Fish and Game Code Sections 3503 and 3503.5, street tree removal activities would take place outside of the nesting bird season (February 1 to September 1) to the extent feasible. In accordance with these regulatory requirements, efforts would be made to schedule removal of mature street trees between September 2 and January 31 to avoid the nesting bird season.

PDF-BIO-2: The program will have a 2:1 street tree replacement ratio for years 1–10, 3:1 for years 11–21, and 2:1 for the remaining years of the program. All replacement street trees will be planted within 1 year of removal. See Chapter 2, *Project Description.*

PDF-BIO-3: Prior to being removed, all street trees would be thoroughly surveyed for the presence of nesting birds/bats/raptors by a qualified biologist (or qualified arborist) within 3 days prior to any street tree removal. If any active nests are detected, the area will be flagged, and a minimum 250-foot (500-foot for raptors) non-disturbance buffer would be established (a modification to this buffer would be determined by the monitoring biologist and in consultation with USFWS and CDFW), and would be avoided until the nesting cycle has been completed or the monitoring biologist determines that the nest has failed. If nesting birds are found, an avoidance area will be established in consultation with the resource agencies, as appropriate, around the nest until a qualified avian biologist has determined that young have fledged or nesting activities have ceased. The project site will be re-surveyed if there is a lapse in construction activities for more than 7 days during the bird breeding season. A preconstruction nesting bird survey would be submitted at the conclusion of the site survey.

PDF-BIO-4: All street tree removal work would be performed under the management of a Tree Risk Assessment Qualification (TRAC) Certified Urban Forestry Division (UFD) Tree Supervisor, including any pre- and post-pruning street tree inspection. It should be noted that a root-pruning permit would not be necessary for the street tree pruning and root-pruning work under the Project. See Chapter 2, *Project Description.*

PDF-BIO-5: Replacement street trees will be monitored and those which do not survive in the first 3 years would be replaced at a 1:1 ratio. See Chapter 2, *Project Description.*

PDF-BIO-6: Construction activities in or near an ESHA would be pursuant to PRC Sections 30251, 30240, 30230 and 30231 as compliance with the California Coastal Commission. A 50-foot buffer strip for all activities in or near an ESHA (measured from the outer limit of riparian vegetation or, if the waters are estuarian, a minimum of 100 feet from the outer limit of estuarian vegetation) shall be required in new development to protect the habitat value of riparian areas where the opportunity exists.

Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines and City specific guidelines and provide the basis for determining significance of impacts associated with biological resources resulting from the implementation of the Project. The determination of whether a biological resource 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 Merkel & Associates, Inc. and relies on the substantial evidence in the administrative record.

Impacts are considered significant if the Project would result in any of the following:

BIO-1: Would the proposed Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat? *L.A. CEQA Thresholds Guide.*

BIO-2: Would the proposed Project result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community? *L.A. CEQA Thresholds Guide.*

BIO-3: Would the proposed Project result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species? *L.A. CEQA Thresholds Guide.*

BIO-4: Would the proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? *L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

BIO-5: Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? *L.A. CEQA Thresholds Guide.*

BIO-6: Would the proposed Project conflict with the provisions of an adopted local street tree preservation policy or ordinance? *Project Specific Threshold derived from Appendix G, as that was the initial screening criteria. This threshold was developed to evaluate any conflicts between the proposed Project and existing applicable regulations.*

BIO-7: Would the proposed Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan? *Appendix G of the CEQA Guidelines.*

3.3.3.3 Construction Impacts

Construction activities associated with the Project would occur in all areas of the City in various places and various times over the life of the program. These activities would include street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repaving, street tree well enlarging, relocation of street signs and street lights, and placing utility covers.

BIO-1. Would the proposed Project result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?

This impact would be less than significant during construction.

Three special-status avian species—American peregrine falcon, purple martin, and yellow warbler—have the potential to occur within the City. These species are adapted to living in a heavily developed and disturbed urban setting.

Although the City does not contain any suitable nesting habitat for the American peregrine falcon, there is potential for American peregrine falcon to utilize individual project sites as foraging habitat in the event that prey species are present. Construction impacts on American peregrine falcon would be temporary and less than significant because construction and noise disturbances are very common in urban settings and are unlikely to deter prey species from periodically using the project site. As mentioned, these species are adapted to living in a heavily developed and disturbed urban setting.

Purple martin and yellow warbler, California species of special concern, may utilize street trees for nesting habitat. In addition to the sensitive avian species, a number of more common avian species that are adapted to urban environments, such as barn owl, red tailed hawk, American crow, and a host of passerine species, have the potential to nest in street trees within the City. Many avian species that do not have any state of federal special status are still protected under the MBTA and the California Fish and Game Code. Proposed street tree removal could result in direct impacts on active nests or indirect impacts through construction noise or dust, or nighttime lighting. The MBTA regulates the destruction of an occupied nest, and any destruction of active nests occupied by migratory avian species covered under the MBTA. Potential impacts to occupied nests may be considered a significant impact and a violation of the MBTA and Sections 1600–1616 of the California Fish and Game Code; however, pursuant to PDF-BIO-1 and PDF-BIO-3, continuing construction activities under the Project would comply with the MBTA, the California Fish and Game Code, and other applicable requirements. Street tree removal activities would take place outside of nesting bird season to the extent feasible, and nesting bird surveys and avoidance if necessary would be required prior to trees being removed. These PDFs would reduce the potential impacts to occupied nests to less than significant.

In addition to providing habitat to sensitive avian species, the street trees within the City also have potential to provide suitable roosting habitat for two sensitive bat species: the pallid bat and western red bat. Most southern California bat species prefer native trees such as cottonwoods, sycamores, oaks, willows, native palms, and conifers. Although these trees are not typically planted within the urban landscape, they may occur in adjacent native habitats, and some street trees may provide enough cover to provide adequate roosting habitat. The habitat for sensitive avian species from the current street tree population would be very limited.

Notwithstanding, the Project does not reduce, but increases habitat for the species mentioned above. With the implementation of 2:1 and 3:1 street tree ratios, there would be an increase in nesting habitat by ensuring that removed street trees are replaced within a year. The replacement ratio will result in a net gain of 17,544 street trees and 469.3 additional acres of street tree canopy which would provide additional nesting habitat for the protected species under the MBTA.

Critical habitat for coastal California gnatcatcher, southwestern willow flycatcher, and Santa Ana sucker exists within pockets of undeveloped canyon lands and slopes adjacent to urban development in the San Fernando Valley, and not on paved sidewalks or within existing street tree wells. No impacts to these bird species' critical habitat would occur because all sidewalk and curb ramp repair work would be confined to paved surfaces. Furthermore, these species typically do not use street trees their habitat.

Although construction would be in isolated upland areas outside of Santa Ana sucker critical habitat, stormwater runoff from active construction sites would have the potential to discharge contaminants, sediment, and trash into aquatic critical habitat. As discussed in Section 3.8.3.4, in Chapter 3.8, *Hydrology and Water Quality*, the Project would be required to follow the Municipal Separate Storm Sewer System (MS4) and Construction General Permit Requirements to prevent violations to water quality standards, which include discharge to downstream receiving waters. Implementation of stormwater pollution management practices and application appropriate Best Management Practices (BMPs), both of which are part of the Construction General Permit, would prevent impacts on aquatic critical habitat from construction.

Furthermore, the 2:1 and 3:1 street tree removal and replacement ratios would ensure that nesting and/or roosting species' habitat is not reduced. Therefore, biological impacts from the continuing activities under the Project are less than significant, and no mitigation is required.

Mitigation Measures

No mitigation measures are required.

BIO-2. Would the proposed Project result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community?

This impact would be less than significant during construction.

While street tree removal and replacement is planned within urban developed settings, 12 sensitive communities as defined by CDFW and 10 SEAs as defined by County of Los Angeles should be considered locally designated habitats. Additionally, there are three ESHAs present within the City's Coastal Zone. All existing laws and regulations would be implemented during construction adjacent to ESHAs as mentioned in PDF-BIO-6. However, all work and staging would be confined to paved surfaces, and no reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community would occur.

Locally designated species' habitat does not include existing sidewalks and curb ramps. As discussed in *Environmental Setting* Section 3.3.2, the locally designated species, species' habitat, natural habitat, and plant community are available in Appendix B. There may be construction activities near or adjacent to a locally designated species or a reduction in a locally designated natural habitat or plant community, which would cause temporary and minor (if any) impacts under Scenario 1, where construction would last up to approximately 10 days, and under Scenario 2, where construction would last approximately 30 days. As discussed in BIO-1, the street tree removals would have a less-than-significant impact on bird and/or bat species habitat because of the implementation of PDFs PDF-BIO-1 through PDF-BIO-5, the MBTA, and the requirement that a greater number of street trees be planted than removed. Such project design features would typically prevent a nesting habitat from being destroyed and ultimately increase street tree count and canopy cover to provide more habitat within the City. The proposed 12,860 street trees to be removed under the continuing activities from the Project represent a 1.8 % reduction of the total street trees in the City. The proposed planting of 30,404 new street trees is 4.3% increase of the total street trees in the City. The net increase of 17,544 in the street trees in the City is an increase of 2.5% more street trees more than the baseline street trees. This is also a net increase of 298.3 acres of canopy cover of street trees, which represents an increase of 0.72% from the baseline. Based on the Project being confined to paved and previously disturbed surfaces, the unlikelihood of any street tree being a protected tree under City policies, protections built into the Project, and the ultimate improvements to the Citywide tree canopy from increased planting of street trees from the Project, the impacts of the Project would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-3. Would the proposed Project result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species?

This impact would be less than significant during construction.

The project study area is completely urban and developed, with little to no suitable habitat for any wildlife species besides the canopy associated with street trees. Five sensitive wildlife species (American peregrine falcon, yellow warbler, purple martin, pallid bat, and western mastiff bat), as well as a number of common wildlife species described in Section 3.3.2, have potential to occur within the City. Construction impacts such as increased noise and light may have a significant impact on sensitive and resident wildlife species that occur within the project study area; however, implementation of identified project design features (PDF-BIO-1 through PDF-BIO-6) would ensure that any impact associated with interference with habitat remains less than significant by providing detailed guidance on how to comply with the MBTA, replacing removed street trees promptly, and avoiding destruction of active nests, and would ensure that impacts from construction activities on species' normal behavior and chances for long-term survival would remain less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-4. Would the proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

This impact would be less than significant during construction.

Construction associated with the Project would be limited to sidewalks and upland areas outside waters regulated under state or federally protected wetlands. It is not anticipated that the continuation of activities under the Project would require a CWA Section 404 permit. Construction could be in isolated upland areas outside of Section 404 regulated water bodies, stormwater runoff from active construction sites would have the potential to discharge contaminants, sediment, and trash into downstream wetlands and surface waters.

As discussed in Section 3.8.3.4, in Chapter 3.8, *Hydrology and Water Quality,* the continuation of sidewalk repair activities under the Project would follow the MS4 and Construction General Permit Requirements to prevent violations to water quality standards, which include discharge to downstream receiving waters. Implementation of stormwater pollution management practices and application appropriate BMPs, both of which are part of the Construction General Permit, would prevent impacts on wetlands from construction; therefore, there are no significant impacts, and no mitigation is required.

Mitigation Measures

No mitigation measures are required.

BIO-5. Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

This impact would be less than significant during construction.

Due to the urban, developed nature of the City, wildlife habitat associated with the Project is limited to the street trees along the existing sidewalks and curb ramps in which resident or migratory bird and bat species may use. No resident or migratory fish species will be affected as there will be no construction in water. It is not expected that the continuing activities from the Project would interfere with the movement of any native or resident migratory fish, or wildlife species, or with any established native resident or migratory wildlife corridors because replacement of existing sidewalks will just repair the existing conditions that will continue to exist, any street trees that have to be removed will be done pursuant to PDF-BIO-1, and any removed street trees would be replaced pursuant to PDF-BIO-2 and PDF-BIO-6.

As stated in Section 3.3.2.8 *Ecological Connectivity Areas*, the City includes and/or is part of multiple migratory corridors, linkages, and connectivity areas. A feature of these corridors include the existing street trees which may act as potential rest sites or provide resources for the resident or migratory birds and roosting bats. The continuing construction activities from the Project include the removal and replacement of street trees. During construction, the potential loss of street trees that are available as rest and resource sites would not substantially interfere with migratory corridors because the City would continue to have plenty of street trees as well as other trees available as a resource.

There may be a temporary, localized impact at a specific construction site due to the street tree removal and replacement activities. The effect of removing a street tree at any one 600 linear foot site will not substantially interfere with the movement of native resident or migratory bird species, as the construction will be temporary at each site. Each street tree removed would be replaced by 2 or 3 new street trees which would add to the available resource of trees over time. There are approximately 45,061 acres of trees in the City including the approximately 17,760 acres of street trees available as a resource for resident or migratory wildlife species. Therefore, for a 30-year citywide project with approximately 45,061 acres of trees across the City, the loss of some street trees (approximately 0.027 acres per tree removed) for a short duration will not substantially interfere with the movement of resident and migratory wildlife species or established wildlife corridors

By the 30th year of the Project, there would be no gain or loss of street tree canopy as result of the street tree replacement ratios over 30 years. However, after 30 years, the City would benefit substantially from the growth of the street trees planted as part of the Project. The canopy cover of the street trees would grow to be greater than that of the canopy cover of the street trees at the start of the Project and may add additional habitat to migratory corridors and regional linkages.

The existing street trees provide potential nursery sites for bird species and provide potential roosting habitat for bats. The potential loss or alteration of the street trees that are acting as nesting or roosting sites would be considered a significant impact on native wildlife nursery sites; however, implementation of identified project design features would ensure that potential impacts on wildlife nursery sites would be less than significant by ensuring replacement of removed street trees within one year, by achieving a net gain in canopy coverage by year 30 of the Project, and by avoiding disturbance to nursery sites in adjacent sensitive habitat. By the 30th year of the Project, there would be no gain or loss of street tree canopy as result of the street tree replacement ratios over 30 years. However, after 30 years the City would benefit substantially from the growth of the planted street trees. The canopy cover of the street trees would be continually be larger than the canopy cover of the street trees at the start of the Project.

Therefore, because of the urbanized nature of the already-disturbed construction areas, as well as the street tree replacement and monitoring and avoidance PDFs, there are no significant impacts, and no mitigation is required.

Mitigation Measures

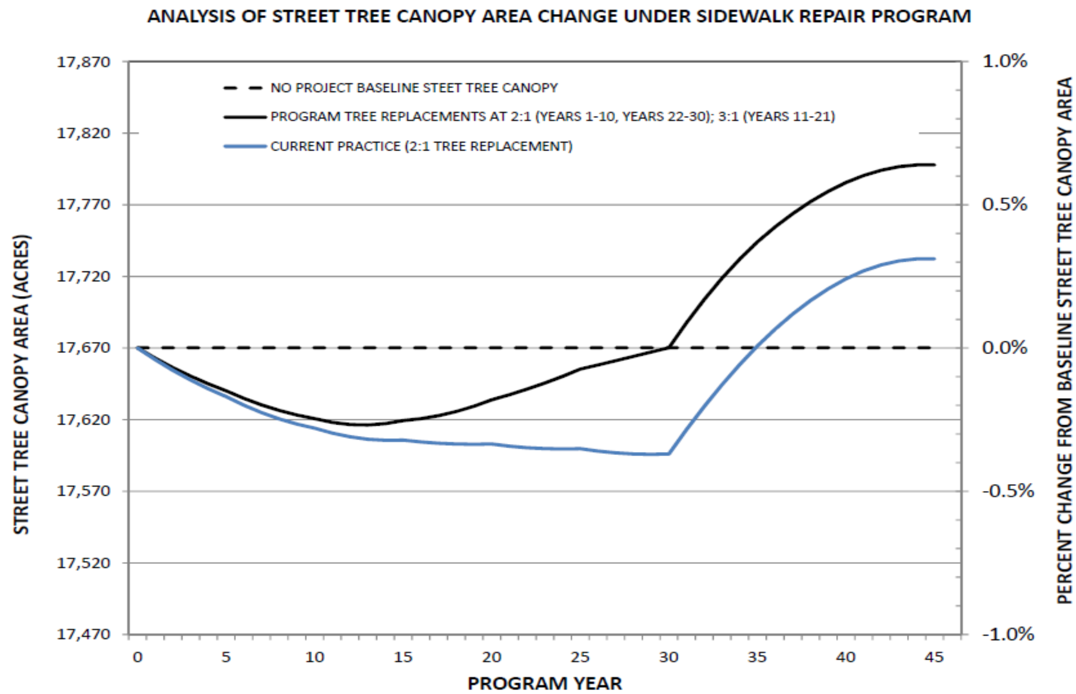
No mitigation measures are required.

BIO-6. Would the proposed Project conflict with the provisions of an adopted local street tree preservation policy or ordinance?

This impact would be less than significant during construction.

Existing Policy

The existing policy, the Board of Public Works Street Tree Removal Permit and Tree Replacement Condition Policy (see Section 3.3.1.3 *Local)*, mandates the process and procedures for a 2:1 street tree replacement to removal ratio. With replacement of removed street trees at a 2:1 ratio under current practices, the street tree canopy area would ultimately grow to 17,725 acres (Blue line, Figure 3.3-3), by Year 46. The baseline street tree canopy area would be fully reestablished in Project year 36 (6 years after Project completion) and at replacement tree maturity there would be an estimated minor increase in tree canopy from the baseline canopy cover of 0.31% by Project year 46 (16 years after the end of the Project).



Source: Merkel 2019

Figure 3.3-3. Analysis Street Tree Canopy Area Change Under the Sidewalk Repair Program

Proposed Street Tree Retention, Removal and Replacement Policy

The criteria for the development of the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program is discussed in Section 3.3.3.1 *Approach.*

The Project involves street tree replacement at a ratio of 2:1 (replacement street trees to removed street trees) for years 1 through 10; 3:1 for years 11 through 21; and 2:1 for years 22 to 30. Implementing these ratios for replacement complies with the City's currently existing policy, discussed above, of replacing trees with at least a 2:1 replacement tree ratio.

In order to illustrate the differences in the current practices of street tree removal and replacement under the existing policy and the Project's plan for street tree removal and replacement under the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, the changes in canopy cover over the life of the Project and beyond are depicted in Figure 3.3-3. With the Project's replacement to removal ratios of 2:1 for Project years 1-10 and 22-30, and a 3:1 ratio for years 11-21, the street tree canopy area would increase to 17,798 acres (Black line, Figure 3.3-3), which is 0.72% beyond the baseline street tree canopy cover. The baseline street tree canopy area would be fully reestablished in Project year 30 (at Project completion) and at replacement street tree maturity there would be an estimated increase in tree canopy from the baseline canopy cover of 0.72% by year 46 (16 years after the end of the Project).

When evaluating the changes to street tree canopy cover and the effects on the overall Citywide tree canopy, the maximum percentage reduction in street tree canopy cover is 0.3% (in year 13), which would be equal to a 0.1% reduction in the Citywide tree canopy cover. The 0.3% decline in street tree canopy cover would not be a significant impact to the street tree canopy as it is minimal when compared to the baseline street tree canopy cover. Furthermore, the 0.3% decline would be a minuscule change in the citywide canopy cover (approximately 0.1% of the citywide tree canopy cover), because street trees are 39.2% of the 45,061 acres of the citywide tree canopy cover. The loss of street trees over the Project period and the dip in overall Citywide canopy cover is insignificant when considered in light of the fact that (1) street trees account for a small fraction of the City's overall trees, (2) work would affect a small fraction of the street trees, and (3) street trees are generally not primary wildlife use features for special-status species groups and communities. Furthermore, after year 13, the street tree canopy cover grows towards the baseline, because for every tree removed there are three new trees planted. The canopy cover reaches the baseline by year 30 and increases even more after the Project's street tree removal and replacement is completed. The replacement street tree canopy would continue to expand for 15 years after the last street trees are planted such that the Project would result in a slight overall gain in total street tree canopy cover (0.72%) above the baseline after the termination of the Project work. Because the street tree replacements are proposed to be implemented in conjunction with the sidewalk repair work rather than being postponed to the end of the overall Project, replacement canopy cover offsets losses.

Based on the modeling, the baseline street tree canopy cover of 17,670 acres would be reestablished at the end of the Project life (Year 30) and the proposed street tree replacements are projected to result in a street tree canopy cover gain due to the maturation of street trees after the Project life (Year 46).

When evaluating the street tree canopy area impacts against the overall tree canopy within the City, the maximum percentage reduction in street tree canopy cover is in year 13 and is 0.1% of the Citywide tree canopy cover. As noted above, this is not significant. The proposed removal of 12,860 street trees is approximately 1.8% of the 711,248 overall street tree count. Canopy cover is reestablished through planting of 30,404 street tree by year 30. This includes the additional 17,544 street trees which would be planted as part of the Project. Over the life of the Project, there would be a net gain of approximately 17,544 more street trees than the baseline number of 711,248 street trees and there would be an approximately 2.5% increase in the number of street trees or 298.3 acres net increase of street tree canopy cover in the City. Additionally implementation of the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program would increase the street trees by canopy cover by 0.72% from the baseline, after the life of the Project. There would not a be a significant impact since the Project is not in conflict with the City's adopted street tree preservation policies and ordinances.

With each consecutive Project year, the canopy cover expands as additional replacement street trees are added (within 1 year of being removed) and from the growth of the already planted street trees. As replacement street trees are planted, they would provide canopy cover through the 30 years, with each street tree reaching its mature canopy size 15 years after planting. There would be localized impact as a result of loss of street tree canopy cover until replacement street trees reach maturity at a specific tree well for a 650 linear feet of sidewalk repair in the 30 year Project (see *Project Description*). Furthermore, approximately 17,544 more street trees would be planted than removed.

Based on the above analysis, the Project will not conflict with the provisions of an adopted local street tree preservation policy, particularly since the Project consists of street tree replacement ratios that are greater than the existing 2:1 street tree replacement to removal ratio policy. The Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program would not only comply with the existing street tree policy but also requires the Project implement a higher replacement to removal ratio of 3:1 during years 11-21. Additionally, with each consecutive year of the Project, as street trees are being removed, they are also being replaced. Thus, the canopy cover continues to replenish as additional replacement street trees are added and from the growth of the already planted street trees. Furthermore, trees planted in the last year of the Project would reach maturity 15 years after and add to the gain in the canopy cover after the Project. The Project replacement ratios, 2:1 for years 1 through 10; 3:1 for years 11 through 21; and 2:1 for years 22 to 30, and the estimated maturation rates of the street trees, ensure that 1) the canopy impacts would be negligible during the Project period, 2) no impact would occur to the overall canopy by Project completion, and 3) there would be an overall increase in the canopy after the completion of the Project. This supports that the street tree canopy would be preserved and thus no significant tree canopy impacts will occur as a result of the Project. Therefore, the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

BIO-7. Would the proposed Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The impact would be less than significant during construction.

There are no known habitat conservation plans (HCPs), Natural Community Conservation Plans (NCCPs), or other HCPs in the Project area that would be impacted by the Project. The Initial Study identified in error that the Rancho Palos Verdes NCCP may be located within the Project area and impacts may be potentially significant. However, the Rancho Palos Verdes NCCP in fact is not located within the Project area, and, as explained in the Initial Study, due to the relatively noninvasive nature of the Project activities, and particularly with regard to impacts outside the Project area, the Project would not conflict with the Rancho Palos Verdes NCCP. Furthermore, the Project occurs in previously-disturbed areas for the replacement and repair of existing sidewalks and street trees, and no significant impacts related to habitat conservation plans would occur. Therefore, the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.3.3.4 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.

BIO-1. Would the result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat?

There would be no impact during operation.

The continuation of operational activities arising from the Project would not result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat. The activities of monitoring and watering would ensure the survival of replacement trees and habitat, and prevent the loss of species and existing habitat. There would be a less-than-significant impact.

BIO-2. Would the proposed Project result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community?

There would be no impact during operation.

The continuation of operational activities from the Project would not change the existing land uses or landscape, or result in any new impacts on local, native, or sensitive biological resources, or local plans, policies, or ordinances drafted to protect and conserve biological resources.

BIO-3. Would the proposed Project result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species?

There would be no impact during operation.

The continuation of operational activities from the Project would involve street tree watering and routine inspection activities. Neither of these activities would result in interference with habitat that would disturb normal species behaviors. There would be no impact during operation.

BIO-4. Would the proposed Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

There would be no impact during operation.

The continuation of operational activities from the Project would involve street tree watering and routine inspection activities, which would occur in the public right-of-way and not on or adjacent to wetlands. There would be no impact to wetlands as a result of operation of the Project.

BIO-5. Would the proposed Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

There would be no impact during operation.

The continuation of operational activities from the Project would involve street tree watering and routine inspection activities. Neither of these activities would result in interference with movement of any native resident or migratory fish or wildlife species, corridors, or native wildlife nursery sites. There would be no impact as a result of operation of the Project.

BIO-6. Would the proposed Project conflict with any local policies or ordinances protecting a street tree preservation policy or ordinance?

There would be no impact during operation.

The continuation of operational activities from the Project would involve only routine street tree monitoring and sidewalk inspections, neither of which would conflict with any local policies or ordinances regarding street trees. There would be no impact.

BIO-7. Would the proposed Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

There would be no impact during operation.

There are no known HCP, NCCP, or other HCPs in the Project area that would be impacted by the routine street tree monitoring and sidewalk inspections.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.3.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impact related to biological resources would occur.

3.4 Cultural Resources

This chapter identifies cultural resources present within the area of the proposed Project (Project), evaluates the potential project-related impacts on those resources, and describes the mandatory Project Design Features (PDFs) which will avoid or substantially lessen potential impacts, as applicable.

3.4.1 Regulatory Setting

Cultural resources fall within the jurisdiction of several levels of government. States and local jurisdictions provide the framework for the identification, documentation, and protection of such resources. For purposes of the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21084.1 and CEQA Guidelines Sections 15064.5(a)-(b); PRC Section 5024 related to state-owned historic resources; the City of Los Angeles (City) Cultural Heritage Ordinance (Los Angeles Administrative Code (LAAC) Section 22.171 et seq.); and California Health and Safety Code Section 7050.5/ PRC Section 5097.9 are the primary laws that define, govern, and affect the preservation of cultural resources of national, state, regional, and local significance. Archival and field surveys must be conducted, and identified historical resources must be inventoried and evaluated in prescribed ways.

3.4.1.1 Federal

Secretary of the Interior's Standards for the Treatment of Historic Properties

Pursuant to the authority granted in the National Historic Preservation Act, the Secretary of the Interior (SOI) has established a series of professional standards and guidance for the preservation of the nation's historic properties. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (SOI Standards) address four concepts: preservation, rehabilitation, restoration, and reconstruction of historic properties. The SOI has also prepared advisory guidelines that offer general design and technical recommendations to assist in applying the Standards, including those that would be most relevant to the Project. These include the *Guidelines for the Treatment of Historic Properties* and the *Guidelines for the Treatment of Cultural Landscapes*. Together the SOI's Standards and guidelines provide a framework and guidance for decision-making and work or changes to a historic property. The standards most relevant to the Project are the SOI *Standards of Rehabilitation*, which are codified at Title 36, Part 68 of the Code of Federal Regulations (CFR), as follows:

1. A property will be used, as it was historically, or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archaeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

For the Project, the SOI Standards would be applicable to conditioning the type of work needed to repair and replace those sidewalks or street trees where the individual project would cause a substantial adverse change to the significance of a historic resource, as defined by CEQA.

National Register of Historic Places

The National Register of Historic Places (NRHP) was established by the National Historic Preservation Act of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." (36 C.F.R. Section 60.2.) The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a property must be significant in American history, architecture, archaeology, engineering, or culture under one or more of the following criteria:

- **Criterion A:** It is associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B:** It is associated with the lives of persons who are significant in our past;
- **Criterion C:** It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or
- **Criterion D:** It has yielded, or may be likely to yield, information important in prehistory or history.

Ordinarily, cemeteries, birthplaces, or graves of historic figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; and properties that are primarily commemorative in nature are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting the criteria above, a property must also retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance." (National Park Service 2002.) To assess historic integrity, the National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities:

1. Location – the place where the historic property was constructed or the place where the historic event occurred;
2. Design – the combination of elements that create the form, plan, space, structure, and style of a property;
3. Setting – the physical environment of a historic property;
4. Materials – the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property;
5. Workmanship – the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
6. Feeling – a property's expression of the aesthetic or historic sense of a particular period of time; and
7. Association – the direct link between an important historic event or person and a historic property.

The SOI maintains the NRHP, the nation's inventory of historic places. The SOI established the criteria for evaluation for use in evaluating the eligibility of properties for the NRHP. (36 C.F.R. Part 60.) Properties listed in or formally determined eligible for listing in the NRHP are *automatically* listed in the state's inventory of historical resources and, therefore, subject to compliance under state environmental law. Properties that are part of the NRHP within the City are listed and available at the National Park Service website using the search function with the words "Los Angeles" as the "City" criteria. (https://npgallery.nps.gov/NRHP)

3.4.1.2 State Regulations

California Environmental Quality Act and California Register of Historical Resources

In accordance with CEQA, PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of a historical resources is a project that may have a significant effect on the environment." CEQA therefore requires public agencies to determine first whether a project could impact a resource that falls within the definition of "historical resource" and, second, whether any such impact would cause a "substantial adverse change" in the significance of that resource. (See CEQA Guidelines Section 15064.5 (a), (b).) In making the first determination, CEQA requires lead agencies to consider three distinct categories (mandatory, presumptive and discretionary) when evaluating whether a resource is a "historical resource" for purposes of CEQA. (*Valley Advocates v. City of Fresno* (2008), 160 Cal.App.4th 1039, 1051 (*Valley Advocates*) citing *League for Protection of Oakland's etc. Historic Resources v. City of Oakland* (1997) 52 Cal.App.4th 896, 906–907.)

Section 15064.5 of the CEQA Guidelines defines historical resources as follows:

(a) For purposes of this section, the term "historical resources" shall include the following:

(1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code, Section 5024.1, Title 14 CCR, Section 4850 et seq.).

(2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

(3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, Section 5024.1, Title 14 CCR, Section 4852) including the following:

(A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

(B) Is associated with the lives of persons important in our past;

(C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

(D) Has yielded, or may be likely to yield, information important in prehistory or history.

(4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

Mandatory Historical Resources

The mandatory historical resources category is based on PRC Section 21084.1, which provides: "For purposes of this section, an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources." The CEQA Guidelines further define the scope of the category of mandatory historical resources by adding one limitation: "the term 'historical resources' shall [also] include … [¶] … [a] resource listed in, or determined to be eligible by the State Historical Resources Commission … for listing in[,] the California Register of Historical Resources." (*Valley Advocates*, *supra*, 160 Cal.App.4th at pp. 1051-1052, citing PRC Section 5024.1, Title 14 C.C.R., Section 4850 et seq.)." Thus, if a resource is found in the California Register, or is determined to be eligible for inclusion in the Register, the resource "must in all cases be granted status as [an] historical resource[]" for purposes of section 21084.1. (*League for Protection of Oakland*, *supra*, 52 Cal.App.4th at p. 906.)

Properties listed or determined eligible for listing in the NRHP, such as those identified in the Section 106 process, are automatically listed in the CRHR, pursuant to CCR, Title 14, Section 485 (a)(1). Properties that are part of the CRHR within the City are listed by the City at https://preservation.lacity.org/surveyla-findings-and-reports and mapped in Figure 3.4-1.

Presumptive Historical Resources

There are three types of presumptive historical resources. The first two involve resources included in a "local register of historic resources," defined as a "list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution." (PRC Section 5020.1(k).) The use of the disjunctive "or" has been interpreted to mean that a building is an historic resource if it is either "designated" in a local register or "recognized" as historically significant by local ordinance or resolution. (League for Protection of Oakland, supra, 52 Cal.App.4th at pp. 906–907.)

The first two presumptive historical resources categories are created by the third sentence of section 21084.1, which provides: "Historical resources included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant." The CEQA Guidelines reiterate this definition. (CEQA Guidelines, Section 15064.5, subd. (a)(2).) Thus, although any resource included in, or eligible for inclusion in, the State Register must be treated as an historical resource, a resource included in a local register, but not in the State Register, is only presumed to be an historical resource. That presumption may be rebutted by a "preponderance of the evidence." (See *Citizens for Responsible Development in West Hollywood v. City of West Hollywood* (1995) 39 Cal.App.4th 490, 503–504 (*Citizens for Responsible Development in West Hollywood*).) The third type of presumptive historical resource is a resource identified as significant in certain surveys of historical resources. (PRC Section 5024.1 (g))[1] The historical resource survey must meet all four of the criteria set forth in PRC Section 5024.1(g). As with resources found in a local register, the resources within this third category presumptively qualify as "historical resources" within the meaning of PRC Section 21084.1.

Discretionary Historical Resources

The last sentence of section 21084.1 states: "The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the

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[1] PRC Section 5024.1(g) provides: "A resource identified as significant in an historical resource survey may be listed in the California Register if the survey meets all of the following criteria: [¶] (1) The survey has been or will be included in the State Historic Resources Inventory. [¶] (2) The survey and the survey documentation were prepared in accordance with office procedures and requirements [¶] (3) The resource is evaluated and determined by the office to have a significance rating of Category 1 to 5 on DPR Form 523. [¶] (4) If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources which have become eligible or ineligible due to changed circumstances or further documentation and those which have been demolished or altered in a manner that substantially diminishes the significance of the resource." (*Valley Advocates*, *supra*, 160 Cal.App.4th at p. 1057 fn. 9.)

resource may be an historical resource for purposes of this section." (See also CEQA Guidelines, Section 15064.5(a)(4).) This category of "historical resource" is created by the principle that, even where a resource does not qualify as "historical" under any of the preceding tests, a lead agency may nevertheless exercise its discretion to treat the resource as "historical." (CEQA Guidelines Section 15064.5(a)(4).)

The CEQA Guidelines provide lead agencies with criteria to apply when exercising discretion whether to treat resources as "historical" resources:

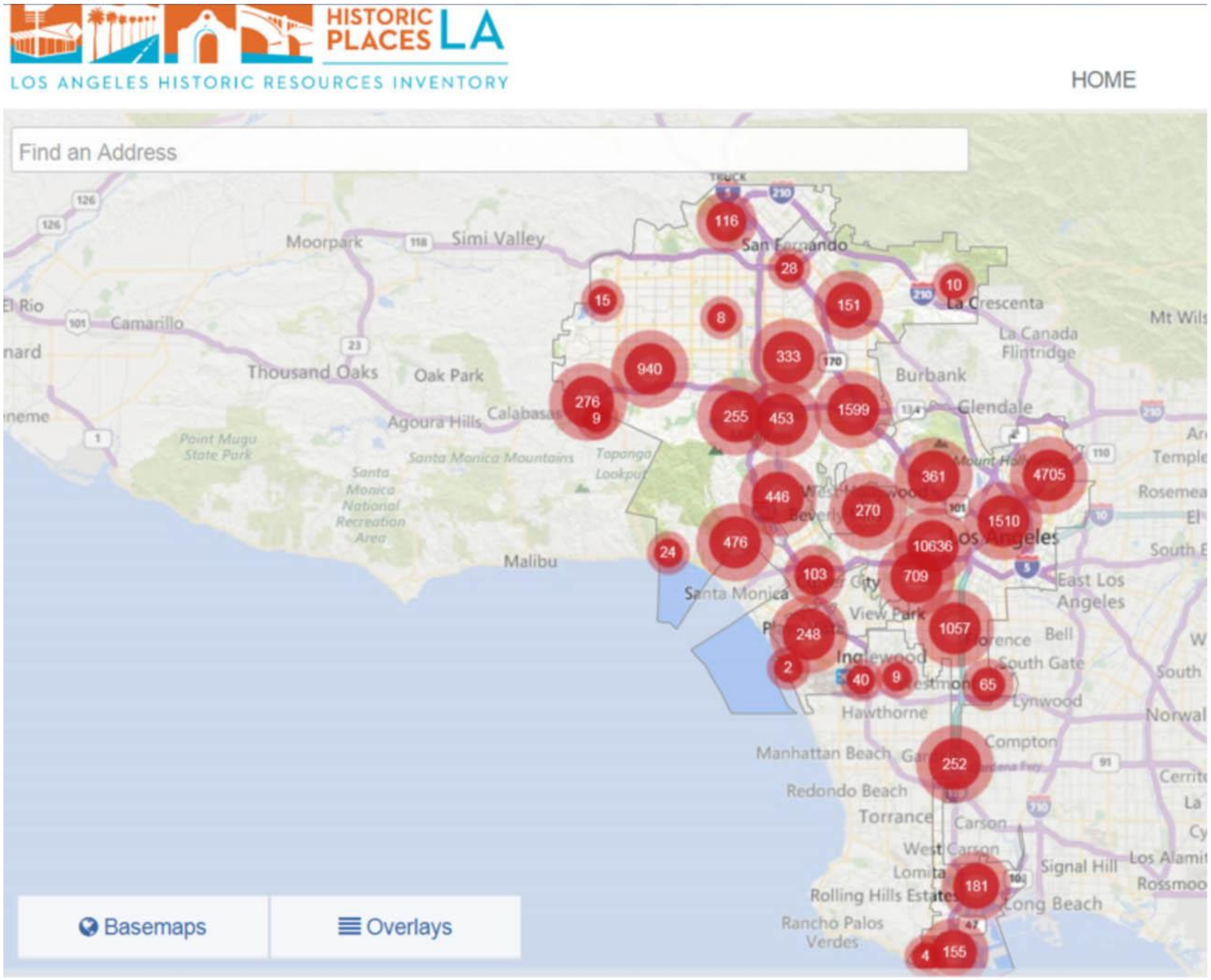
Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

(CEQA Guidelines Section 15064.5(a)(3).) Examples of "historically significant" resources include those: (i) associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; (ii) associated with the lives of persons important in our past; or (iii) has yielded, or may be likely to yield, information important in prehistory or history. (CEQA Guidelines Section 15064.5(a)(3)(A)-(D).)

Generally, the lead agency shall consider a historical resource to be *historically significant* if the resource meets the criteria for listing in the CRHR.

The criteria are summarized as follows:

1. **Criterion 1:** Is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. **Criterion 2:** Is associated with the lives of persons important to local, California, or national history.
3. **Criterion 3:** Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values.
4. **Criterion 4:** Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.



Source: Historic Places LA: http://www.historicplacesla.org/map

Figure 3.4-1. Map of Historical Resources in Los Angeles County

Archaeological Resources

CEQA states that a unique archaeological resource, as defined in PRC Section 21083.2 is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that the resource:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Paleontological Resources

In the State of California, fossil remains are generally considered to be limited, nonrenewable, and sensitive scientific resources. These resources may be afforded protection under CEQA as historical and/or unique archaeological resources, as discussed in PRC 21083.2, CEQA Guidelines Section 15064.5(a) (3), and CEQA Guidelines Appendix G.

State Health and Safety Code, Section 7050.5/California Public Resources Code, Section 5097.9

State Health and Safety Code (HSC) Section 7050.5 and PRC Section 5097.9 contain provisions for the treatment of human remains contained in archaeological sites. Under HSC Section 7050.5, if human remains are discovered during any project activity, the county coroner must be notified immediately. If human remains are exposed, HSC Section 7050.5 states that no further disturbance shall occur until the county coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. Construction must halt in the area of the discovery of human remains, the area of the discovery shall be protected, and consultation and treatment shall occur as prescribed by law. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) within 24 hours. NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased person(s) so they can inspect the burial site and make recommendations for treatment or disposal.

California Health and Safety Code, Section 7051

Under this code, every person who removes any part of any human remains from any place where it has been interred, or from any place where it is deposited while awaiting interment or cremation, with intent to sell it or to dissect it, without authority of law, or written permission of the person or persons having the right to control the remains under Section 7100, or with malice or wantonness, has committed a public offense that is punishable by imprisonment in the state prison.

California Code of Regulations, Title 14, Sections 4307-4308

Under these state regulations, no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

3.4.1.3 Local Regulations

City of Los Angeles Citywide General Plan Framework

The Framework Element of the City General Plan (originally adopted in 1996 and re-adopted in 2001) was designed to provide a comprehensive update to the City's General Plan. The Framework provides a framework for managing Los Angeles' continued growth and provides strategies to promote a more livable and economically strong city. The Framework EIR provides the analysis of environmental issues such as cultural resources, which examine the significant archaeological, paleontological, and historical resources in the City and propose means for avoiding potential impacts to known or potential resources.

City of Los Angeles Conservation Element

The Conservation Element of the City General Plan (adopted September 2001) is designed to enhance, preserve, and protect the City's existing natural resources and other resources. The Conservation Element specifically addresses archaeological and paleontological resources in Section 3 of Chapter 2. The Conservation Element's paleontological objective is to "protect the city's archaeological and paleontological resources for historical, cultural, research and/or educational purposes." Moreover, its policy is to "continue to identify and protect significant archaeological and paleontological sites and/or resources known to exist or that are identified during land development, demolition or property modification activities." The identification and protection of significant archaeological and paleontological sites and/or resources known to exist or identified during land development, demolition, or property modification activities is to be achieved through the establishment of permit processing, monitoring, enforcement, and periodic revision of regulations

City of Los Angeles Cultural Heritage Ordinance

The City maintains a list of all sites, buildings, and structures that have been designated Historic-Cultural Monuments (HCMs) under the Cultural Heritage Ordinance, LAAC Section 22.171 *et seq*. This Ordinance also mandates the formation of the Cultural Heritage Commission, which consists of five members who are qualified electors and are appointed by the Mayor. HCMs are included in a local register of historical resources and therefore are considered to be historical resources for the purposes of CEQA.

Historic-Cultural Monument

The Cultural Heritage Ordinance states that an HCM is any site (including street trees), building, or structure of particular historic of cultural significance to the City. The City Council may apply the designation upon recommendation from the Cultural Heritage Commission.

Any person may apply for the proposed designation of HCM, and the Cultural Heritage Commission determines whether or not the proposed designation merits consideration. If the Commission recommends approval of the application and the designation is adopted by the City Council to be included in the list of HCMs, under LAAC Section 22.171.14, no permit for the demolition, substantial alteration, or relocation of an HCM may be issued unless:

1. The Superintendent of Building or City Engineer determines that the demolition, relocation, or substantial alteration is necessary in the interest of the public health, safety or general welfare;

2. The substantial alteration complies with the Secretary of the Interior's Standards for Rehabilitation;
3. The substantial alteration protects and preserves the historic and architectural qualities and the physical characteristics that make the site, building, or structure a designated HCM; and
4. The proposed action is in compliance with CEQA (PRC Section 21000 et seq.).

HCMs within the City are listed at: https://preservation.lacity.org/commission/designated-historic-cultural-monuments .

For reference, the following are examples of significant street trees that are HCMs:

- HCM #148—Coral (*Erythrina caffra*) trees on San Vicente Boulevard between Bringham Avenue and 26th Street
- HCM #465—Sycamore (*Platanus racemosa*) trees on Bienvenida Avenue between Sunset Boulevard and the dead end south of Sunset Boulevard
- HCM #93—California pepper (*Schinus molle*) trees on Canoga Avenue between Ventura Boulevard and Saltillo Street
- HCM #49—Olive (*Olea europaea*) trees on Lassen Street between Topanga Canyon Boulevard and Farralone Avenue
- HCM #24—Coast live oak (*Quercus agrifolia*) (deceased) in median island on Louise Avenue 210 feet south of Ventura Boulevard
- HCM #41—Deodar cedar (*Cedrus deodar*) trees on White Oak Avenue between Devonshire Street and Ronald Reagan Freeway (State Route 118)
- HCM #94—Median island Queen Palm (*Syagrus romanzoffianum*) and Mexican Fan Palm (*Washingtonia robusta*) trees on Highland Avenue
- HCM #509—Camphor (*Cinnamomum camphora*) trees in the 1200 block of Lakme Avenue
- HCM #67—Deodar cedar (*Cedrus deodar*) trees on Los Feliz Boulevard between Riverside Drive and Western Avenue

Historic Preservation Overlay Zone

Section 12.20.3 of the City Municipal Code defines the HPOZ. It declares, "as a matter of public policy that the recognition, preservation, enhancement, and use of buildings, structures, Landscaping, Natural Features, and areas within the City having Historic, architectural, cultural or aesthetic significance are required in the interest of the health, economic prosperity, cultural enrichment and general welfare of the people." As of August 2019, there are 35 designated HPOZs within the City. Resources that contribute to an HPOZ's integrity and importance are identified as significant in a historical resource survey and therefore are considered historical resources for the purposes of CEQA.

3.4.2 Environmental Setting

For cultural resources potentially affected by the Project, the environmental setting is provided below. The geological setting is related to paleontological resources; prehistoric background is related to prehistoric archaeological resources; ethnographic background is related to tribal resources; and historic background is related to historic archaeological resources and historical resources.

3.4.2.1 Geological Setting

The City is situated in two geomorphic provinces, the Peninsular Ranges Geomorphic Province which includes the Central, East, West, South, and Harbor portions of the City, and the Transverse Ranges Geomorphic Province which encompasses the North Valley and South Valley portions of the City. Geologic structures in this region reflect the resolution of tectonic forces as the northwest-trending structures of the northern Peninsular Range Province, exemplified by the Whittier-Elsinore fault, meeting the Santa Monica-Hollywood-Raymond fault of the Transverse Range Province.

The Peninsular Ranges Geomorphic Province, extends from just south of the San Gabriel and Santa Monica Mountains and south into Mexico, where it forms the Baja California peninsula (Jenkins 1938; CGS 2002). The Peninsular Ranges Province consists of Mesozoic to Paleozoic age plutonic and metamorphic rocks overlain by younger sedimentary geologic units (Bean 1955; Hadley and Combs 1974). The province is characterized by a series of northwest-trending mountain ranges and associated valleys which is the result of continuing movement along a series of generally northwest-trending faults paralleling the San Andreas Fault Zone.

Level areas of the City in this province are part of the Los Angeles Basin, a broad, level expanse of land comprising more than 800 square miles that extends from the Hollywood Hills and Santa Monica Mountains on the north, to the Pacific coast on the southwest, to Topanga Canyon on the west, and to the vicinity of Aliso Creek in Orange County on the southeast.

The Transverse Ranges Geomorphic Province consists of mostly east-west trending mountain ranges and sediment-filled valleys due to movement along the San Andreas Fault. The active San Andreas Fault Zone is located to the northeast of the province and forms the tectonic boundary between the North American and Pacific tectonic plates (Wagner 2002). The San Fernando Valley encompasses about 225 square miles, bounded on the north and east by the San Gabriel Mountains, on the north and west by the Santa Susana Mountains, with the Santa Monica Mountains forming the southern boundary.

The Los Angeles Basin and San Fernando Valley are several of the basins making up the Neogene (23 million years ago [Ma] to 2.6 Ma) continental borderland of Southern California (Yerkes et al. 1965). Both are structural depressions that were subject to discontinuous marine deposition during the Late Cretaceous (99.6 Ma to 65.5 Ma). Tectonic movements in the middle Miocene (18 Ma to 12 Ma) resulted in crustal extension and continuous subsidence of the Los Angeles Basin and primarily marine deposition during the middle Miocene (16 Ma to 11.6 Ma). As a result of this motion along the western margin of North America, the Los Angeles Basin and San Fernando Valley and other sedimentary basins filled with thick sedimentary accumulations during the Miocene (23 Ma to 5.3 Ma) and Pliocene (5.3 Ma to 2.6 Ma) (Ingersoll and Rumelhart 1999). This deposition continued until the end of the Pliocene. At that time the Palos Verdes Hills were an island, and large parts of the Santa Monica Mountains, the Puente Hills, the Santa Ana Mountains, and much of the southwestern portions of the basin were exposed. In the early Pleistocene, the Palos Verdes Hills and southwestern areas again subsided and marine deposition resumed (Yerkes et al. 1965).

The Los Angeles Basin and the San Fernando Valley began to fill with alluvium about 5 Ma; eventually these surfaces were exposed above sea level and terrestrial deposition began. This has resulted in the landscape seen today—the level alluvial plains of the Los Angeles and San Fernando valleys, and the steep sided mountains and hills that rise above the valleys.

Paleontological Sensitivity

The current approach to analyzing impacts on paleontological resources—reflected in the Society for Vertebrate Paleontology guiding documents (SVP 1995, 1996, 2010)—is essentially a risk analysis. The goal is to identify the likelihood of impacts and provide flexible strategies to support appropriate management in response to project parameters.

This strategy reflects the well-substantiated working assumption that a geologic unit that has produced fossil finds in the past is likely to do so again, and in other locations. A geologic unit with a track record of producing important fossils is thus considered to have high paleontological potential or sensitivity. Moreover, the same paleontological potential is considered to apply throughout the three-dimensional extent of the unit, everywhere that unit occurs, regardless of whether fossils have actually been found in a given location or not.

By the same token, geologic units that have not produced past fossil finds are generally considered less sensitive throughout their regional extent. Consequently, the evaluation of paleontological potential—and by extension, of the potential for effects on fossil resources—depends not on fossil finds within a certain distance of the project footprint but, rather, on fossil finds in the geologic units affected by the project, wherever those units occur.

Appendix F includes Paleo Figures A through I, which depict the generalized surface geology of each of the project zones. These figures depict the various types and age of geologic units exposed at the ground surface throughout the City. More detailed geologic mapping along with extensive fossil data can be done for specific sites for rock units within the City, especially in the hills and mountain areas, where many different formations are exposed. More geological information and extensive fossil data is also available, but a detailed technical analysis of this information is beyond the scope of this document.

Table 3.4-1, below, depicts the rock and sediment units mapped in each of the seven project zones. The geological time period in which these units were formed is also provided, and each unit is evaluated as having high, low or no sensitivity for encompassing fossil resources. This evaluation is based on the results of numerous previous paleontological projects and fossil locality discoveries throughout the City; these results range from casual discoveries in the early twentieth century into the current era of paleontological monitoring and recovery associated with major construction, such as the Los Angeles subways and deep building foundation excavations.

Table 3.4-1. Sedimentary Units and Rock Units in the Seven Project Zones

Unit Symbol:	Age:	Description:	North Valley	South Valley	Central	East	West	South	Harbor
ALLUVIUM:									
Low Sensitivity at Ground Surface:									
Q	Holocene	Younger Alluvium	x	x	x	x	x	x	x
High Sensitivity at Ground Surface and at Depth:									
Qoa	Pleistocene	Older Alluvium	x	--	x	x	x	x	x
QPc	Plio-Pleistocene and Pliocene	Alluvial deposits	x	--	--	--	--	--	--
BEDROCK:									
High Sensitivity at Ground Surface and at Depth:									
P	Pliocene	Marine sedimentary	x	--	x	x	--	x	--
M	Miocene	Marine sedimentary	x	x	x	x	x	--	x
Oc	Oligocene	Non-marine sedimentary	--	--	--	--	x	--	--
Ep	Eocene	Marine sedimentary	--	--	--	--	x	--	--
Ku	Upper Cretaceous	Marine sedimentary	x	x	x	--	x	--	--
J	Jurassic	Marine sedimentary	--	--	--	--	x	--	--
No Potential:									
Tv	Tertiary	Volcanic	x	x	x	--			
Ti	Tertiary	Igneous	--	--	--	--	x	--	--
Gr/grMz/grM	Undated/Mesozoic/ Pre-Cenozoic	Granitic	x	x	x	x	x	--	--
pC	Pre-Cambrian	Igneous and Metamorphic	x	--	--	--		--	--

Essentially, two types of geologic environment exist in the City. The first is the level, or gently sloping areas of the Los Angeles Basin and the San Fernando Valley underlain by Quaternary Alluvium (units Q, Ooa, QPc on the maps). The second is the more complex folded and faulted geology of the hills and mountains in the City, such as the Santa Monica Mountains, the Hollywood Hills, the San Gabriel and Santa Susana Mountains, the Palos Verde Hills, and the various small hilly areas in neighborhoods such as Silver Lake and El Sereno. These upland areas, indicated as Quaternary Alluvium consists of silt, sand, and gravel deposited in the valley areas of the City during the Pleistocene and the Holocene. Sedimentary deposits younger than 10,000 years ago are unlikely to contain fossilized resources. But older alluvium, whether exposed at the ground surface or at depth below the younger alluvium, does encompass fossil resources. These resources are rare, however. Appendix F, Paleo Figure A, depicts a generalized map of alluvial deposits in the City.

As can be seen on Table 3.4-1, younger alluvium of Holocene age is not sensitive for fossil resources at the ground surface. But older Pleistocene Alluvium and early Pleistocene-late Pliocene sediments are sensitive for fossil resources at the ground surface, as well as at depth. However, it should be noted that excavations that extend below five feet in depth in areas of Younger Alluvium have the potential to encounter significant fossil resources, as the deeper sediments are older and can be old enough to encompass fossil resources.

The complex geology of the mountains and hills consist primarily of marine deposits, a small amount of non-marine sediments, and igneous, granitic, volcanic, and metamorphic rocks. All of these rock units are older than 10,000 years ago. However, the igneous, granitic, metamorphic, and volcanic rocks have no potential to contain paleontological resources.

Marine and non-marine sediments are depicted in Paleo Figures C through I (see Appendix F) by age, including the Pliocene, Miocene, Oligocene and Eocene Epochs of the Tertiary Period, and the older Cretaceous Period (145-66 Ma) and Jurassic (201.3 to 145 Ma) Period. These temporal divisions incorporate several well know rock formations in the region. For example, the Miocene area in East LA includes the Topanga Formation, in Central LA Miocene encompasses the Topanga and the Modelo Formation, while in the Harbor area, the Miocene includes the Monterey Shale. Similarly, Pliocene mapped areas encompass fossil bearing units such as the Fernando Formation and the Repetto Formation.

Marine deposited bedrock units encompass fossils more commonly than do the Quaternary Alluvial sediments. For example, excavation in downtown Los Angeles of an entire city block for subterranean parking, which was monitored full time by paleontologists, encountered Fernando Formation bedrock at depths of 20 to 35 feet below the ground surface. Paleontological monitors at this construction site recovered more than 4,025 fossil specimens from 65 numbered and mapped fossil localities during the course of monitoring of construction excavations.

Invertebrate paleontological resources in the City are represented in Figure 3.4-2, and Figure 3.4-3 represents vertebrate palynological resources in the City. These maps are provided from the General Plan Framework EIR Cultural Resources section. Figure 3.4-2 depict three types of sediment associated with differing paleontological sensitivity. Bedrock shown on Figure 3.4-2 to be fossil-bearing are sedimentary rock associations (e.g. sandstone, limestone, or shale) or sedimentary rock associations with chunks of metamorphic rock embedded in them. Fossils are found in the sedimentary portion of the rock. The sedimentary rock was formed from an ancient ocean floor when the Los Angeles area was largely an underwater continental shelf of the ocean. Fossil found here tend to be prehistoric marine plants and animals. Older sediment shown on Figure 3.4-2 are alluvial sand, gravel, and clay which have been eroded from fossil bearing bedrock. Fossils in the bedrock were transported by erosion. Fossil found here tend to be prehistoric marine plants and animals. Surface sediments show on Figure 3.4-2 are alluvial deposits from a more recent erosion. Fossil found here are a combination of prehistoric marine plants and animals and more recent species of extinct land mammals (e.g. Pleistocene Epoch mammals). The paleontological sensitive areas shown on this map are based on types of rocks or alluvial sediments know to the Los Angeles County Museum of Natural History (NHMLA) to be the source of fossil discoveries in the past. Igneous rocks, metamorphic rocks, areas of artificial land fill, stream beds, and beach sand do not contain fossils.

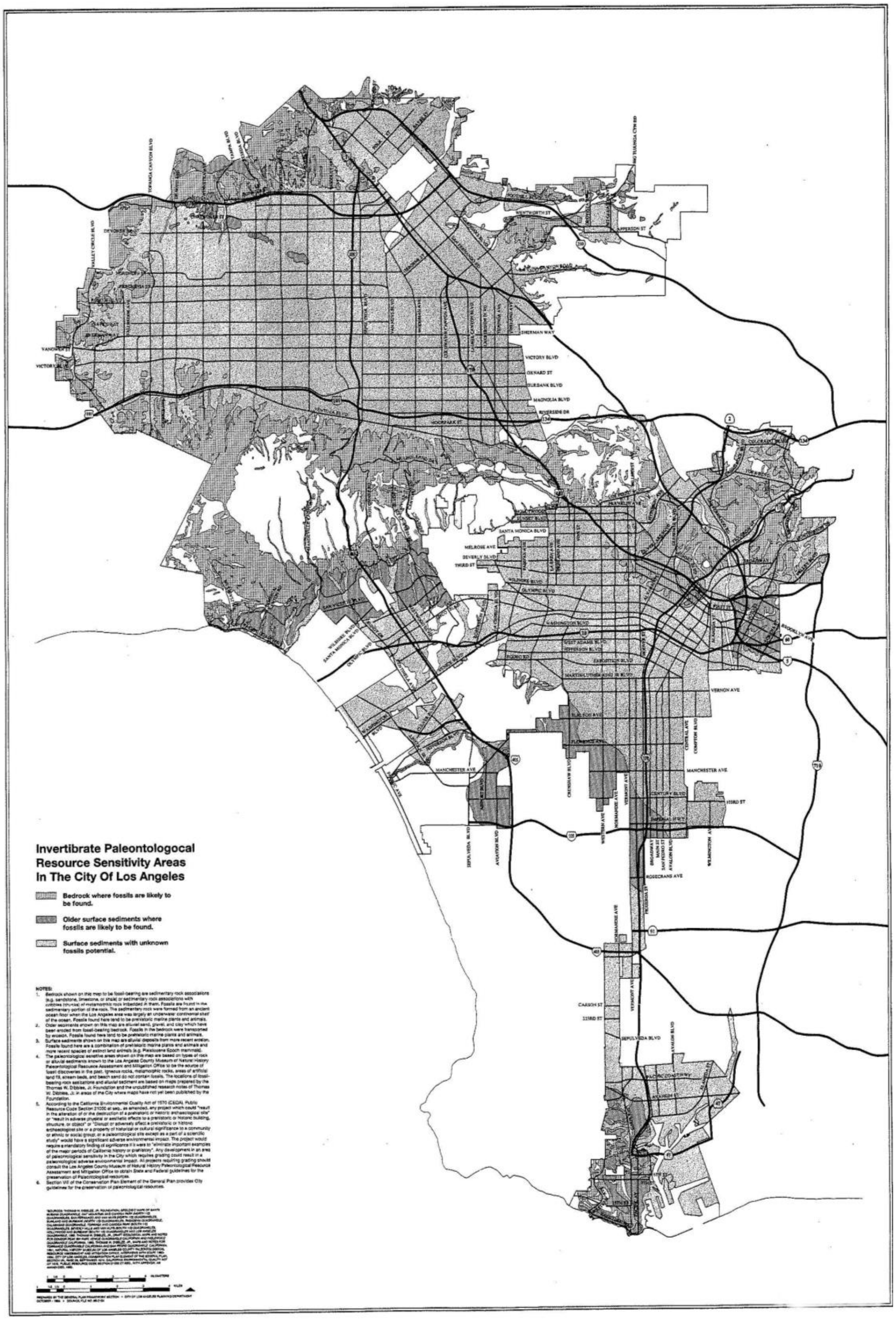


Figure 3.4-2. Invertebrate Paleontological Resources in the City

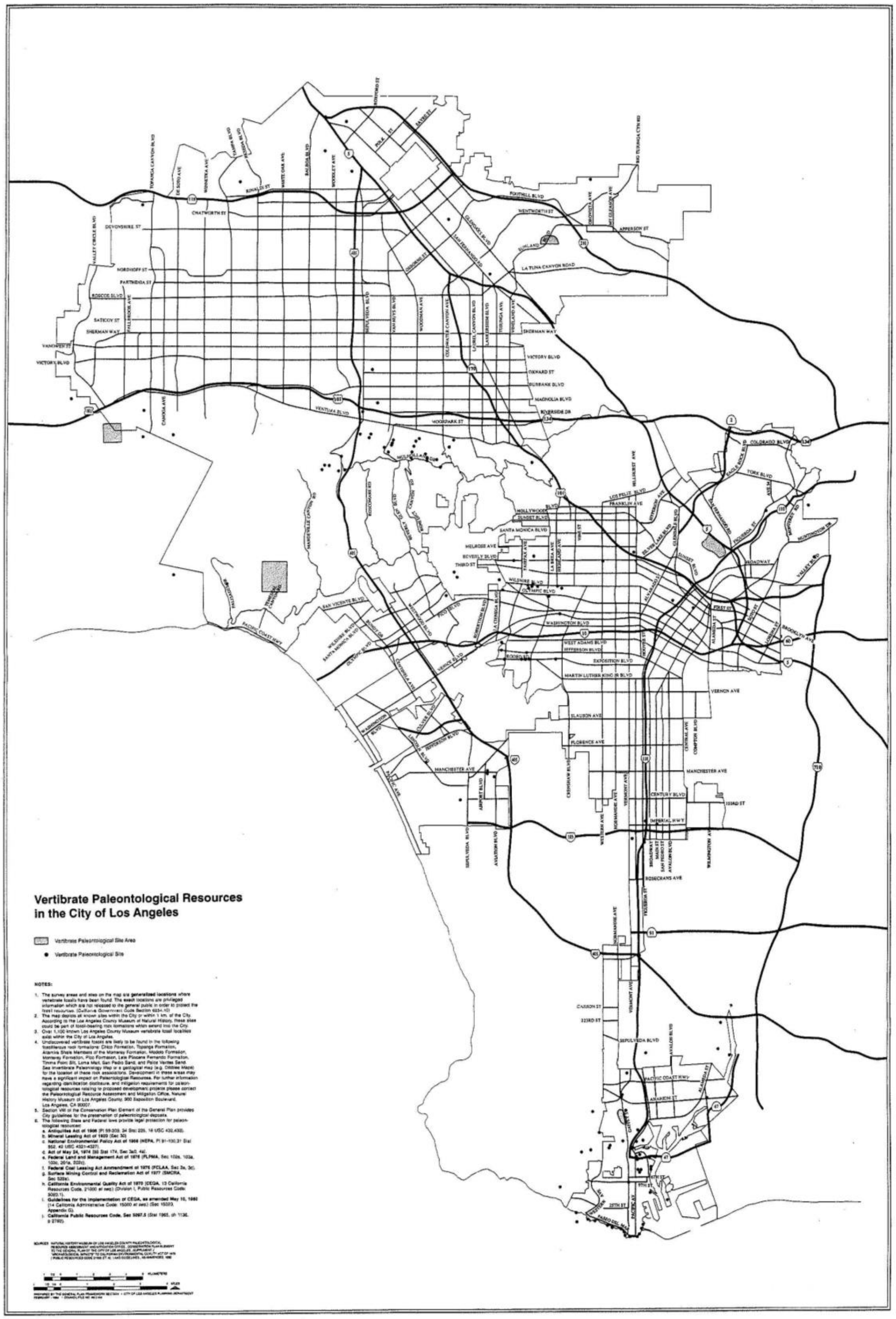


Figure 3.4-3. Vertebrate Palynological Resources in the City

The locations of fossil-bearing rock associations and alluvial sedimentary based on maps prepared by the Thomas W. Dibblee Jr. Foundation and the unpublished research notes of Thomas E. Dibblee Jr. in areas of the City where maps have not been published by the Foundation. The survey areas and sites on Figure 3.4-3 are generalized locations where vertebrate fossils have been found. The exact locations are privileged information where are not released to the public to protect the fossil resource per California Government Code 6254.10. Figure 3.4-3 depicts all known sites with the City. According to NHMLA, these sites could be part of fossil-bearing rock formations which extend into the City.

3.4.2.2 Prehistoric Background

The prehistoric occupation of Southern California is divided chronologically into four temporal phases, or horizons (Moratto 1984). Horizon I, or the Early Man Horizon, began at the first appearance of people in the region (approximately 12,000 years ago) and continued until about 5000 B.C. Although little is known about these people, it is assumed that they were semi-nomadic and subsisted primarily on game.

Horizon II, also known as the Millingstone Horizon or Encinitas Tradition, began around 5000 B.C. and continued until about 1500 B.C. The Millingstone Horizon is characterized by widespread use of milling stones (manos and metates), core tools, and few projectile points or bone and shell artifacts. This horizon appears to represent a diversification of subsistence activities and a more sedentary settlement pattern. Archaeological evidence suggests that hunting became less important and that reliance on collecting shellfish and vegetal resources increased (Moratto 1984).

Horizon III, the Intermediate Horizon or Campbell Tradition, began around 1500 B.C. and continued until about A.D. 600–800. Horizon III is defined by a shift from the use of milling stones to increased use of mortar and pestle, possibly indicating a greater reliance on acorns as a food source. Projectile points become more abundant and, together with faunal remains, indicate increased use of both land and sea mammals (Moratto 1984).

Horizon IV, the Late Horizon, which began around A.D. 600–800 and terminated with the arrival of Europeans, is characterized by dense populations; diversified hunting and gathering subsistence strategies, including intensive fishing and sea mammal hunting; extensive trade networks; use of the bow and arrow; and a general cultural elaboration (Moratto 1984).

Figure 3.4-4 depicts the prehistoric and historic archaeological sites and survey areas in the City provided by the Cultural Resources section of the City's General Plan Framework Final EIR. The archeological sites depicted on this map represent generalized locations. Disclosure of this specific site locations is prohibited by law, Section 6254.10 of the Government Code, in order to protect the integrity of the archeological side.

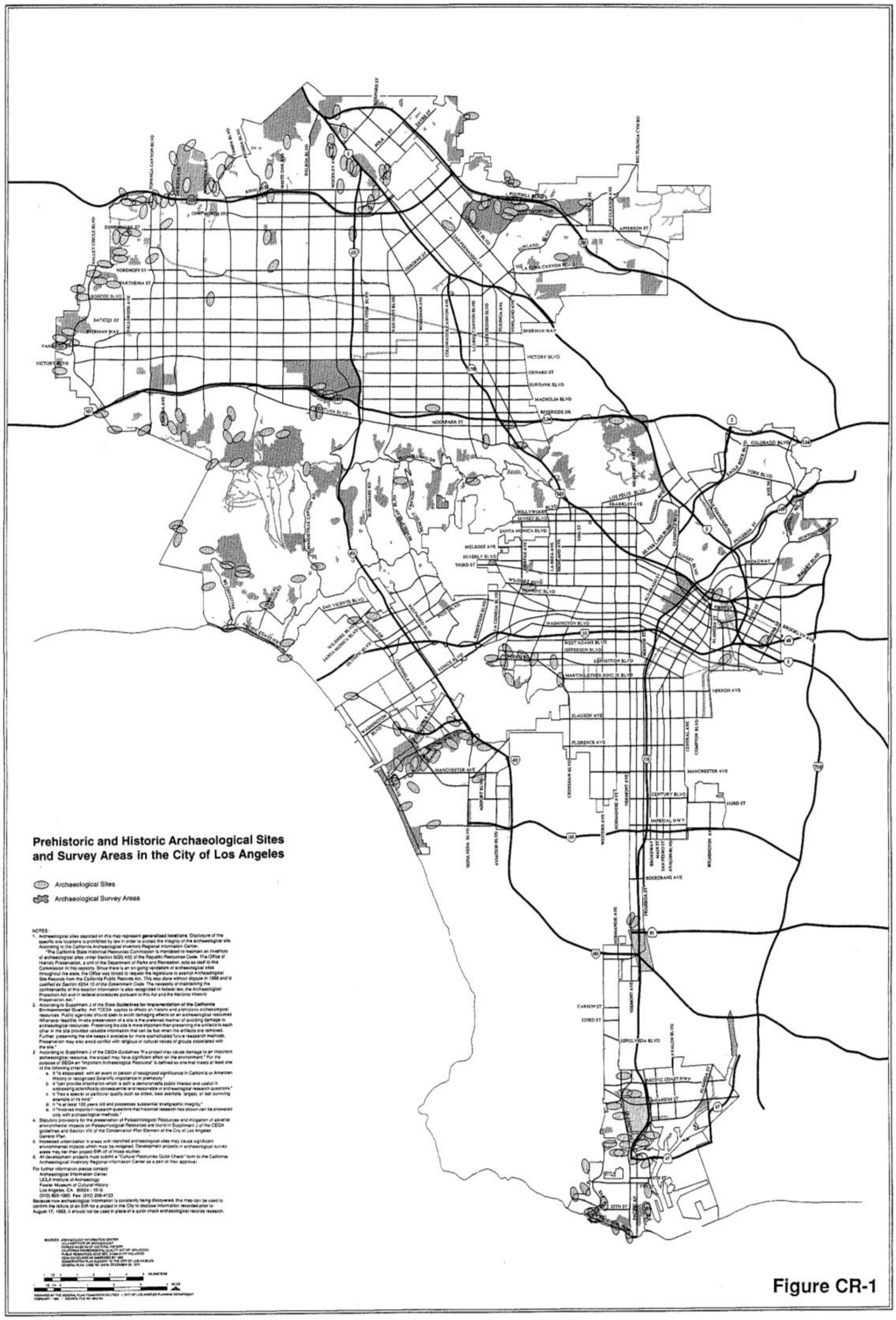


Figure 3.4-4. Prehistoric and Historic Archaeological Sites and Survey Areas in the City

3.4.2.3 Ethnographic Background

The Gabrielino

The project area lies within the territory of the Gabrieleño Native American people, a Uto-Aztecan (or Shoshonean) group that may have entered the Los Angeles Basin as recently as 1500 Before Present (BP). (Bean and Smith 1978). The Gabrieleño are characterized as one of the most complex societies in native Southern California, along with the Chumash, their coastal neighbors to the northwest. This complexity derives from their overall economic, ritual, and social organization (Bean and Smith 1978:538; Kroeber 1925:621).

The Gabrieleño spoke a language that falls within the Cupan group of the Takic subfamily of the Uto-Aztecan language family. This language family is extremely large and includes the Shoshonean groups of the Great Basin. Given the geographic proximity of Gabrieleño/Tongva and Serrano bands living in the area and the linguistic similarities, ethnographers have suggested that they shared the same ethnic origins (Kroeber 1925).

In early protohistoric times, the Gabrieleño occupied a large territory including the entire Los Angeles Basin. This region encompasses the coast from Malibu to Aliso Creek, parts of the Santa Monica Mountains, the San Fernando Valley, the San Gabriel Valley, the San Bernardino Valley, the northern parts of the Santa Ana Mountains, and much of the middle to the lower Santa Ana River. They also occupied the islands of Santa Catalina, San Clemente, and San Nicolas. Within this large territory were more than 50 residential communities with populations ranging from 50 to 150 individuals. The Gabrieleño had access to a broad and diverse resource base. This wealth of resources, coupled with an effective subsistence technology, well-developed trade network, and ritual system, resulted in a society that was among one of the most materially wealthy and culturally sophisticated groups in California (Bean and Smith 1978).

Very little is known about early Gabrieleño social organization because the band was not studied until the 1920s and had already been greatly influenced by missionaries and settlers by that time (Kroeber 1925). Recorded ethnographic and archaeological sites associated with Gabrieleño settlements are few. This is directly attributable to the extensive and prolonged urban development of the City region over the last one and a half centuries (California Department of Parks and Recreation 2005:16). Kroeber's (1925) work indicates that the Gabrieleño were a hierarchically ordered society with a chief who oversaw social and political interactions both within and with other groups. The Gabrieleño had multiple villages ranging from seasonal satellite villages to larger, more permanent settlements. Gabrieleño houses were large, circular, thatched, and domed structures of tule, fern, or carrizo that were large enough to house several families. Smaller structures were also present in the villages and were used in a variety of ways. These structures were earth covered, and different ones were used as sweathouses, meeting places for adult males, ritual huts, and ceremonial enclosures (Heizer 1962:289–293).

Diet included hunting deer, rabbits, birds, and other small game to sea mammals; fishing freshwater fish, saltwater mollusks, and crustaceans; and gathering acorns and various grass seeds. (Bean 1978:538–549). Fishing technology included basket fish traps, nets, bonefish hooks, harpoons, and vegetable poisons, and ocean fishing was conducted from wooden plank canoes lashed and asphalted together.

The Tataviam

The Tataviam belong to the family of Serrano peoples who migrated down into the Antelope, Santa Clarita, and San Fernando Valleys some time before 450 A.D. The Tataviam may be among the larger “Shoshonean” migration into Southern California that occurred 2,000 to 3,000 years ago (Johnson and Earle 1990). The Tataviam people lived primarily on the upper reaches of the Santa Clara River drainage system, east of Piru Creek, but they also marginally inhabited the upper San Fernando Valley, including the present-day City of San Fernando and neighborhood of Sylmar (which they shared with their inland Gabrieleño/Tongva neighbors).

The Tataviam were hunter-gatherers who were organized into a series of clans throughout the region, living in small villages and becoming semi-nomadic when food was scarce. They were hunters and gatherers who prepared their foodstuffs in much the same way as their neighbors. Jimsonweed, native tobacco, and other plants found along the local rivers and streams provided raw materials for baskets, cordage, and netting. Larger game was generally hunted with the bow and arrow, while snares, traps, and pits were used for capturing smaller game. These resources were supplemented with roots, bulbs, shoots, and seeds that, if not available locally, were obtained in trade with other groups. At certain times of the year, communal hunting and gathering expeditions were held. Meat was generally prepared by cooking in earthen ovens, boiling, or sun drying. Cooking and food preparation utensils consisted primarily of lithic (stone) knives and scrapers, mortars and metates, pottery, and bone or horn utensils. Resources available to the desert-dwelling Tataviam included honey mesquite, piñon, yucca, mesquite, and cacti fruits (Solis 2008).

There is little information regarding Tataviam social organization, although information from neighboring groups shows similarities among Tataviam, Chumash, and Gabrieleño ritual practices. At first contact with the Spanish in the late 18th century, the population of this group was estimated at less than 1,000 persons. By 1810 nearly all of the Tataviam population had been baptized at San Fernando Mission (King and Blackburn 1978).

3.4.2.4 Historic Background

History of Paved Sidewalks in the City of Los Angeles

In the early years of Los Angeles settlement, there were no sidewalks of any kind. Wood was scarce, but the earliest sidewalks were boards. When Harris Newmark arrived in Los Angeles in 1853, he observed: “Graded streets and sidewalks were unknown; hence, after heavy winter rains mud was from six inches to two feet deep, while during the summer, dust piled up to about the same extent” (Newmark 1926:34). Some of the earliest commercial buildings in the late 1850s, including the Arcadia Block and the Temple Block, address this problem by elevating the entire building well above street grade, and the entrances were accessed by several steps (Newmark 1926:226, 229). In 1860, John Temple improved the sidewalk outside his block by covering bricks with a thick layer of asphalt from area now known as the La Brea tar pits, then sprinkled with sand (Newmark 1926:287). In 1880, the Temple Block then became the first in Los Angeles to replace wooden sidewalks with cement pavement (Newmark 1926:519). In 2009, Los Angeles had 700,000 street trees along 6,500 miles of road and over 10,400 miles of sidewalk gravel. Annually, the City plants 5,000 new street trees and removes approximately 2,000 (Loukaitou-Sideris and Ehrenfeucht 2009:210; Los Angeles Bureau of Street Services, Urban Forestry Division 2018).

3.4.3 Environmental Impact Analysis

3.4.3.1 Approach

For historical resources, analysis of potential impacts for purposes of this Draft EIR was based on the following sources: the City HCM list; Los Angeles City Community Plans and historic resources surveys such as SurveyLA; and the Secretary of Interior's *Standards for the Treatment of Historic Properties*.

Analysis of potential impacts related to archaeological resources was based on several sources. A limited cultural resources records search was conducted for the Project at the South Central Coastal Information Center, the State of California's regional cultural resources repository, on February 22, 2017. Data reviewed during the records search included the Archaeological Determinations of Eligibility list for Los Angeles and the NRHP and CRHR listings. No NRHP or CRHR listed tribal cultural resources were identified in the City as a result of the records search. A review of the City HCM list identified two prehistoric archaeological sites, a Gabrieleño Indian site in the vicinity of Griffith Park (HCM #112) the Gabrieleño village of Sa'angna near the Ballona wetlands (HCM #490). The HCM list also identified an additional 11 resources that may be sensitive for archaeological deposits. These include four resources associated with the Spanish period (HCM #23, 50, 64, 487); the location of an ancient tree (HCM #24); two cemetery sites (HCM #26, 586); and two 20th century resources (HCM #101, 942). These 11 monuments are listed in Table 3.4-2. All City NRHP, CRHR, and HCMs are depicted in Figure 3.4-1.

Analysis for paleontological resources was based on examination of geological maps of the City, detailed review of the surface geology in each of the project zones, and a review of the known paleontological potential of surface and subsurface units based on previous projects conducted in the City.

Table 3.4-2. Potential Tribal-Associated Los Angeles Historic-Cultural Monuments

HCM Name (#)	Location	Description
San Fernando Mission (#23)	15151 San Fernando Mission Blvd., Mission Hills	The present church is a reconstructed version of the original 1797 mission, which was demolished after the 1971 San Fernando Valley earthquake. The original convent building still remains on the site. It was seventeenth in the chain of missions.
(Site of) Oak Tree (#24)	Louise Avenue, 210 feet south of Ventura Boulevard, Encino	The tree, *Quercus Agrifolia*, was judged to be over 1,000 years old. It was destroyed by storms in January 1997.
(Site of) The First Cemetery in the City of Los Angeles (#26)	521 N. Main St.	Built 1823–1844, it was the first graveyard adjacent to the Plaza Church. It is believed to contain buried remains of the Christian indigenous inhabitants of Yang-Na, a Gabrieleño village, and the early Spanish and Mexican settlers.
Mission Wells and the Settling Basin (#50)	Havana and Bleeker Streets, Sylmar	The presence of cienegas or swamp lands was one of the vital factors in the decision of the Franciscan Padres to erect the Mission San Fernando *Rey de España* in 1797 at a site 2 to 3 miles west of these cienegas.

HCM Name (#)	Location	Description
Plaza Park (#64)	Area approx. bounded by Cesar E. Chavez Ave, Alameda, Los Angeles, Arcadia, New High, and Main Streets	Part of the original land grant, it was on the plaza that Governor Felipe de Neve conducted formal ceremonies on September 4, 1781 establishing *El Pueblo de Nuestra Señora la Reina de Los Angeles*. The present site of the existing plaza is not precisely its original location. The Zanja Madre runs through the park.
Union Station Terminal and Landscaped Grounds (#101)	800 North Alameda Street	It was designed by architects John and Donald B. Parkinson, with landscape architect Tommy Tomson. Three of the nation's major railroads, the Southern Pacific, Santa Fe and Union Pacific, pooled their resources in 1933 and proceeded with the construction of the station.
Gabrieleño Indian Site (#112)	Griffith Park, Los Feliz	Archaeological surveys discovered sites of villages of the vanished Gabrieleños at the mouth of Fern Dell Canyon, leaving little doubt that fairly large settlements existed in this area and possibly at others that received water from canyons leading from the Hollywood Hills.
Sanchez Ranch (#487)	3725 Don Felipe Drive	Portions of the adobe structures were built in the 1790s as part of the *Rancho La Cienega o Paso de la Tijera*. Archaeological evidence indicates a prehistoric Native American village on this site.
Sa-Angna (#490)	South Lincoln Boulevard	The site was a major village and burial ground circa 1540 of the Gabrieleño Indians and contains remains of tools, jewelry, and weapons.
San Fernando Pioneer Memorial Cemetery (#586)	14400 Foothill Boulevard, Sylmar	A flat, 3.8-acre Sylmar site, where the area is covered with native grasses and includes a walkway and memorial patio. It is the second-oldest cemetery in the San Fernando Valley and holds the remains of early pioneers, Civil War veterans, and Mission Indians.
Griffith Park (#942)	4730 Crystal Springs Dr., 3201/3210/3401 Riverside Dr, 2715 Vermont Ave, 5333 Zoo Drive	Established in 1896, this 4,218-acre City of Los Angeles park is one of the largest interurban parks in the nation. The park is located within the eastern edge of the Santa Monica Mountains, northwest of downtown Los Angeles, and adjacent to a 4.9 mile stretch of the Los Angeles River.

3.4.3.2 Project Design Features

The following project design features related to cultural resources are proposed for implementation at the construction sites for the Project**.**

PDF-CUL-1: Prior to any approval of an individual sidewalk repair under the Project, the construction site shall be assessed to determine whether a substantial adverse change would occur to the significance of a historic, tribal cultural, unique archaeological, and/or unique paleontological resource.

PDF-CUL-2: Where an individual sidewalk repair would cause a substantial adverse change to the significance of a historic resource, the Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, shall be followed.

PDF-CUL-3: Where an individual sidewalk repair would cause a substantial adverse change to the significance of a unique archaeological resource, the City shall prepare an archaeological treatment plan (ATP) that ensures the long-term protection and proper treatment of archaeological resources of significance. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation, California Office of Historic Preservation's (OHP) *Archaeological Resources Management Report,* Recommended Contents and Format (1989), and the *Guidelines for Archaeological Research Design* (1991); and shall also take into account the Advisory Council on Historic Preservation's publication *Treatment of Archaeological Properties: A Handbook.* The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the National Historic Preservation Act. In addition, those steps outlined in Public Resources Code Sections 21083.2(b) and 21083.2(i) and Section 15064.S(f) of the CEQA Guidelines shall be implemented, as necessary.

PDF-CUL-4: Where an individual sidewalk repair would cause a substantial adverse change to the significance of a unique paleontological resource, a qualified paleontologist shall be retained by the City to develop an acceptable monitoring and fossil remains treatment plan (Paleontological Management Treatment Plan - PMTP) for construction-related activities that could disturb potential unique paleontological resources within the project area. The selection of the paleontologist and the development of the PMTP shall be subject to approval by the Vertebrate Paleontology Section of the Natural History Museum of Los Angeles County to comply with paleontological requirements, as appropriate.

PDF-CUL-5: Pursuant to the City Engineer Standard Specifications, Section 6-3.2, (Greenbook, 2012), if, during construction activities, an unexpected discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. PDF-CUL-3 and PDF-CUL-4 would be followed, as appropriate.

3.4.3.3 Thresholds of Significance

The City's 2006 *L.A. CEQA Thresholds Guide* identify significance criteria to be considered for determining whether a project could have significant impacts related to cultural resources. Accordingly, for purposes of the analysis in this Draft EIR, the City has used the *L.A. CEQA Thresholds Guide* and CEQA Guidelines, Appendix G, as guides to evaluate the potential for the Project to cause a significant impact related to cultural resources using the following thresholds:

- **CUL-1:** Would the proposed Project result in the demolition of a significant historical resource as defined in Section 15064.5(a) of the CEQA Guidelines? *L.A. CEQA Thresholds Guide and Appendix G.*
- **CUL-2:** Would the proposed Project result in relocation that does not maintain the integrity and significance of a significant historical resource? *LA CEQA Thresholds Guide.*
- **CUL-3:** Would the proposed Project result in the conversion, rehabilitation, or alteration of a significant historical resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings? *LA CEQA Thresholds Guide.*
- **CUL-4:** Would the proposed Project disturb, damage, or degrade an archaeological resource, or its setting, that is found to be important because it:

- Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;
- Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;
- Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;
- Is at least 100 years old and possesses substantial stratigraphic integrity; or
- Involves important research questions that historical research has shown can be answered only with archaeological methods. *LA CEQA Thresholds Guide.*

- **CUL-5:** Would the proposed Project result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance? *LA CEQA Thresholds Guide.*
- **CUL-6:** Would the proposed Project cause disturbance of human remains, including remains interred outside of formal cemeteries? *Appendix G of the CEQA Guidelines.*

3.4.3.4 Construction Impacts

If an impact on an "historical resource" does not involve a "substantial adverse change" in the significance of the resource, the lead agency need not deem the impact significant. If a lead agency determines that a project will adversely affect a "historical resource," then the agency must evaluate whether that impact will result in a "substantial adverse change in the significance" of that resource. (PRC Section 21084.1; CEQA Guidelines Section 15064.5 (b).) The CEQA Guidelines define a "substantial adverse change in the significance of an historical resource" to mean "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." (CEQA Guidelines Section 15064.5(b)(1).) CEQA Guidelines Section 15064.5(b)(2), defines "materially impaired" as follows:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

After having identified a significant impact, "[a] lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures." (CEQA Guidelines Section 15064.5 (b)(4).) Section 15126.4 provides detailed guidance on the subject of how to mitigate impacts on historical resources, which also sometimes include "archaeological resources" (discussed below):

(1) Where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (1995), Weeks and Grimmer, the project's impact on the historical resource shall generally be considered mitigated below a level of significance and thus is not significant.

(2) In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur.

(3) Public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before constructing any facilities on the site;
4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

(D) Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center.

(CEQA Guidelines Section 15126.4(b); see also CEQA Guidelines Section 15064.5(b)(3) [if a project follows the Secretary of the Interior's standards for historic properties, then the impacts on the historical resource shall be considered mitigated to a level of less than significant].)

Potential impacts from implementation of the ordinance on cultural resources is described below, including potential effects from construction of the sidewalk improvements required to the extent such effects are reasonably foreseeable at this time. In this regard, cultural resource impacts are analyzed by:

- Determining if the proposed activities have the potential to affect a cultural resource,
- Applying the criteria for determining the significance of impacts to archaeological and historical resources set forth in Section 15064.5 of the CEQA Guidelines, and
- Assessing consistency with the relevant plans and policies.

For a description of the activities under each of the two construction scenarios, please see Chapter 3.1, *Introduction*.

CUL-1: Would the proposed Project result in the demolition of a significant historical resource as defined in Section 15064.5(a) of the CEQA Guidelines?

This impact would be potentially significant during construction.

The Project involves the continuation of repair of sidewalks and curb ramps which typically will include removal of existing concrete, street trees, gutters, and traffic signs, and utility infrastructure. Any such element related to a Project site could be demolished and/or otherwise materially altered for sidewalk repairs consistent with the applicable accessibility requirements. Under Scenarios 1 and 2, construction activities under the Project may demolish sidewalks, ramps, curbs, traffic signs, gutter lids, or other similar sidewalk-related features that are of historical significance.

Under PDF-CUL-1, sites will be assessed for historical significance prior to the approval of any individual sidewalk repair. The existing Cultural Heritage Ordinance would still apply to HCM resources under the Project. Where it is determined that an element of a sidewalk repair, including a street tree or other structure, would result in a substantial adverse change to a historic resource, under PDF-CUL-2 repairs and replacements would be implemented in a manner consistent with the SOI Standards, and per Section 15064.5(b)(3) of the CEQA Guidelines. This includes the provisions where rehabilitation is defined as the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values. This scenario has not occurred to date since implementation of sidewalk repairs pursuant to the legal settlement under existing ordinances and policies, as described in Chapter 2, *Project Description*.

Pursuant to CEQA Guidelines Section 15064.5, a project that follows the SOI Standards for an impacted historical resource will generally be considered to result in a less-than-significant impact on that historical resource. In some cases, documentation of a historical resource, by way of historic narrative, photographs, or architectural drawings, as treatment for the effects of demotion of the resource will not reduce the effects to a point where no significant effect on the environment would occur. In most cases the use of drawings, photographs, and/or displays does not reduce the physical impact on the environment caused by demolition or destruction of an historical resource to a less-than-significant level. (CEQA Guidelines Section 15126.4(b)). However, CEQA requires that all feasible measures be undertaken even if it does not result in an impact below a level of significance.

In this context, recordation serves a legitimate archival purpose. The level of documentation required as a measure should be proportionate with the level of significance of the resource.

Where SOI Standards per PDF-CUL-2 cannot be followed or where, even following SOI Standards, a substantial material change to the significance of a historical resource would occur, the Project could result in the demolition of a character defining feature of a historical sidewalk, ramp, curb, gutter, street signs, pavement, utility poles, etc. for any such activity necessary for applicable accessibility requirements. Based on the experience to date of implementing sidewalk repair projects on a case-by-case basis, it is expected that such situations that would still result in a substantial material change to the significance of a historical resource, despite application of the SOI Standards, would be uncommon.

However rare, for any Project site, Project activities which would result in a substantial material change to the significance of a historical resource would be considered a Scenario 3. In such scenarios, it is possible construction activities would have a significant impact on a historical resource. This is because the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance.

Mitigation Measures

For the large majority of the Project in Scenarios 1 and 2, impacts are less than significant, and no mitigation measures are required

Demolition and/material alteration of a significant historical resource in Scenario 3 would be considered significant and unavoidable where implementation of the SOI Standards in PDF-CUL-2 consisting of, as applicable, recordation, demolition monitoring, salvaging, and other measures, may still result in a significant impact to historical resources. No other feasible mitigation measures have been identified at this time.

CUL-2: Would the proposed Project result in relocation that does not maintain the integrity and significance of a significant historical resource?

This impact would be potentially significant during construction.

The Project involves the continuation and repair of sidewalks and curb ramps which typically will include removal of existing concrete, street trees, gutters, and traffic signs, and utility infrastructure. As analyzed above in CUL-1, any such element related to a Project site could be demolished and/or otherwise materially altered for sidewalk repairs consistent with the applicable accessibility requirements under Scenarios 1 and 2. Another, albeit remote possibility is that instead of demolition or materially alteration of a historic resource in the process of sidewalk repairs, the historic resource, such as street trees, gutters, street lights, and utility poles, may be able to be relocated to a different location.

Relocating historical resources is not specifically addressed in the SOI Standards; however, the CRHR has special considerations for “Moved buildings, structures, or objects” at 14 CCR Section 4852(d)(1) as follows: “The [State Historic Resources] Commission encourages the retention of historical resources on site and discourages the non-historic grouping of historic buildings into parks or districts. However, it is recognized that moving an historic building, structure, or object is sometimes necessary to prevent its destruction. Therefore, a moved building, structure, or object that is otherwise eligible may be listed in the California Register if it was moved to prevent its demolition at its former location and if the new location is compatible with the original character and use of the historical resource. An historical resource should retain its historic features and compatibility in orientation, setting, and general environment."

The CRHR's special consideration sets forth conditions under which relocation of a historical resource could be accomplished while still maintaining the integrity and significance of that historical resource; meeting those conditions would not result in an impact under CUL-2. Therefore, the impacts of the Project would be less than significant where relocation is necessary pursuant to the CRHR special considerations and the integrity and significance of the historic resource could be maintained. In general, types of construction activities under Construction Scenario 1 would be fairly minor. In the rare instances where relocation impacts the integrity and significance of a significant historical resource, the Project would have a potentially significant impact. This may occur for any site under construction Scenario 1 or construction Scenario 2 and would thus, be considered Scenario 3. The likelihood of this occurring is minimal, as observed under the existing individual sidewalk repair projects. However rare the occurrence would be, it is still a loss of a significant historical resource under the Project.

Mitigation Measures

For the large majority of the Project in Scenarios 1 and 2, impacts are less than significant, and no mitigation measures are required

Relocation of an historical resource may constitute an adverse impact to the resource. However, in situations where relocation is the only feasible alternative to demolition, relocation may result in impacts below a level of significance provided that the new location is compatible with the original character and use of the historical resource and the resource retains its eligibility for listing on the California Register (14 CCR Section 4852(d)(1)). This scenario has not occurred to date since implementation of sidewalk repairs pursuant to the legal settlement under existing ordinances and policies, as described in Chapter 2, *Project Description*. In the Scenario 3 situations where, despite adherence to the conditions of the CRHR's special considerations, the relocation of the historical resource cannot maintain the integrity and significance, the impacts would be significant. No other feasible mitigation measures have been identified at this time. Therefore, impacts to significant historical resources for projects under Scenario 3 would remain significant and unavoidable,

CUL-3: Would the proposed Project result in the conversion, rehabilitation, or alteration of a significant historical resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings?

This impact would be potentially significant during construction.

See discussion in CUL- 1 and CUL-2.

Mitigation Measures

See discussion in CUL-1 and CUL-2.

CUL-4: Would the proposed Project disturb, damage, or degrade an archaeological resource, or its setting, that is found to be important because it:

- **Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;**
- **Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;**
- **Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;**
- **Is at least 100 years old and possesses substantial stratigraphic integrity; or**
- **Involves important research questions that historical research has shown can be answered only with archaeological methods?**

The impact would be potentially significant during construction.

During construction activities to be continued under the Project, it is possible archeological resources could be uncovered, such as buried artifacts or features, including but not limited to: prehistoric stone tools, hearths, and midden soils; historic period refuse deposits, privies, building foundations, basements, and structural materials; and historic period infrastructure such as water and electrical conveyances, and utility vaults.

Construction Scenarios would include the following ground-disturbing activities: repair and installation of curb ramps, sidewalk repairs, street tree removal and planting, minor utility work, and street sign relocation. The depth of excavation for sidewalk repairs typically would not be greater than 8 inches which includes 3 to 4 inches for concrete removal and 4 inches for untreated base material, while depth of excavation at driveways would typically be 12 inches, which includes 6 inches for concrete removal and 6 inches for untreated base material. However, excavations for street tree replacement and minor utility relocation could involve excavation extending to depths of 36 inches (3 feet). Catch basin and storm drain construction would require excavation and trenching to a minimum depth of 4 to 15 feet. Below-ground utility relocation could require 36- to 76-inch-deep trenching.

Given the results of the construction that has occurred to date in the City and the high level of disturbances that have occurred within the City, it is unlikely that intact subsurface deposits exist within the project area. However, the likelihood of encountering cultural resources like archaeological artifacts is high in areas where there is a high sensitivity for such finds, as shown in the General Plan Framework Figures CR-1, CR-2, and CR-3 (City of Los Angeles 1995). Improvement locations are unknown at this time and can occur anywhere in the City; thus, the possibility exists, however rare, that sidewalk improvements could occur in or near areas that are sensitive for archaeological resources. The disturbance or destruction of potentially significant archaeological/cultural resources by these activities would be considered a significant impact.

Imposition of PDF-CUL-1 and PDF-CUL-3 would identify and reduce, but not eliminate in all cases, potentially significant impacts to archaeological resources. Pursuant to PRC Section 21083, 2 preservation in place is preferred manner of mitigating impacts to archeological sites, because it maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values off groups associated with the site. Accordingly, the approved Archeological Treatment Plan (ATP) pursuant to PDF-CUL-3, which would be prepared on any individual site for where unique archaeological resources are identified and will be impacted by construction activities, would implement preservation in place where appropriate. Preservation may take place by covering the archaeological sites with a layer of chemically stable soil before building sidewalk on the site. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the resource, shall be prepared and adopted prior to any excavation being undertaken.

Furthermore, in the unlikely event that cultural deposits are encountered during any ground-disturbing activities where they were not previously anticipated, all work in the vicinity of the find will stop until the resource can be documented and evaluated by a qualified archaeologist. PDF-CUL-5, which incorporates City Engineer Standard Specifications, Section 6-3.2, (Greenbook 2012) will be required for all sidewalk repairs undertaken as part of this Project. PDF CUL-5 states: “If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer.” Therefore, during activities in which there will be ground disturbances (i.e., digging, drilling, etc.), if any evidence of archaeological resources is found, all work within the vicinity of the find shall stop until a qualified archaeologist can assess the finds and make recommendations. A qualified archaeologist, meeting the SOI’s Professional Qualification Standards, can assess the significance of the find and determine if additional study or actions are warranted.

In instances where the Project impacts the integrity and significance of a unique archaeological resource despite use of the ATP, the Project would have a potentially significant impact. This may occur for any site under construction Scenario 1 or construction Scenario 2 and would thus, be considered Scenario 3. The likelihood of this occurring is minimal, as observed under prior sidewalk repair activities. However rare the occurrence would be, it is still a loss of a significant archaeological resource and therefore, is considered a significant impact of the Project.

Mitigation Measures

For the large majority of the Project in Scenarios 1 and 2, impacts are less than significant, and no mitigation measures are required

Demolition and/material alteration of a significant archaeological resource in Scenario 3 would be considered significant and unavoidable despite implementation of PDF-CUL-3. In the Scenario 3 situations where, despite adherence to the conditions of PDF-CUL-3 which may include preservation in place by avoidance and capping, excavation, and other measures as appropriate, the measures cannot maintain the integrity and significance of the unique archaeological resource, the impacts would be significant. No other feasible mitigation measures have been identified at this time. Therefore, impacts to significant archaeological resources for projects under Scenario 3 would remain significant and unavoidable,

CUL-5: Would the proposed Project result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance?

This impact would be potentially significant during construction.

In Construction Scenario 1, excavation in areas underlain by Younger Alluvium would have a very low potential to affect fossil resources. Areas of Holocene Alluvium overlying Quaternary Alluvium become older and more sensitive for fossil resources at depth; however, generally at least the upper

5 feet of Holocene alluvial sediments is too young to contain fossil resources. The depth of excavation for sidewalks would typically be approximately 8 inches (i.e., 3 to 4 inches for concrete removal and 4 inches for untreated base material). Excavation at driveways would be up to approximately 1 foot deep (i.e., 6 inches for concrete removal and 6 inches for untreated base material). Excavations for street tree replacement and minor utility relocation could involve excavation extending to depths of 36 inches (3 feet). Therefore, in light of the relatively shallow depth of Scenario 1 construction activities, carrying out construction activities in areas underlain by Younger Alluvium would not affect significant paleontological resources.

Under Construction Scenario 1, areas with Older Alluvium or paleontologically sensitive surface bedrock units would have a high potential for impacts on paleontological resources, since even shallow excavation could uncover fossils, if excavation takes place in undisturbed sediments. Older Quaternary alluvium exposed in areas of the City as Pleistocene terraces could have fossils present at the ground surface. The presence of fossil material in this older Quaternary Alluvium is extremely rare, which is why these resources are of greater value. Therefore, carrying out construction activities in areas underlain by Older Alluvium or paleontologically sensitive surface bedrock could have a potentially significant impact on paleontological resources.

Because the Project covers the entire City, it is possible that activities associated with Construction Scenario 1 may uncover as-yet unknown paleontological resources. Because repair locations are unknown at this time and can occur anywhere in the City, the possibility exists that sidewalk improvements can occur in or near these undiscovered fossil resources.

However, as explained above, construction activities associated with sidewalk improvements under Scenario 1 would mainly occur in previously disturbed locations up to a maximum depth of 18 inches, and in limited areas to depths of 36 inches. Impacts are less likely within the Quaternary Alluvium deposits in the City, while bedrock exposures could be more easily affected by shallow excavation, grading, or cutting at or near the present surface. Therefore, construction activities under Construction Scenario 1 could, in rare instances, cause impacts on undisturbed paleontological resources that would meet the eligibility requirements of CUL-5, loss or damage of significant paleontological resources.

To ensure that impacts remain less than significant with regard to unexpected but potentially significant paleontological resources under Construction Scenario 1, PDF-CUL-4 would address potentially sensitive bedrock exposures and stop work if potentially significant paleontological materials are encountered.

Similar to Construction Scenario 1, construction activities under Construction Scenario 2 associated with sidewalk improvements would occur at shallow depths; however, some improvements would require excavations to a maximum depth of 30 feet.

In Construction Scenario 2, areas encompassed by Younger Alluvium could yield fossils resources a depths greater than 5 feet below the modern ground surface. These alluvial sediments grade at depth to an increasing age, and below 5 feet depth can possibly date to the latest Pleistocene. Excavations under Scenario 2 that extend below 5 feet in depth in areas designated Younger Alluvium at the ground surface have the potential to uncover significant fossil resources. Therefore, Scenario 2 activities in areas underlain by Younger Alluvium could cause impacts on undisturbed paleontological resources that would meet the eligibility requirements of CUL-5, loss or damage of significant paleontological resources.

Areas of Older Alluvium or paleontologically sensitive surface bedrock could encompass fossils at shallow depths or at the maximum depths specified under Scenario 2. Therefore, implementing Scenario 2 activities in areas underlain by these sediments could cause impacts on undisturbed paleontological resources that would meet the eligibility requirements of CUL-5, loss or damage of significant paleontological resources.

Imposition of PDF-CUL-1 and PDF-CUL-4 would identify and reduce but not eliminate, in all cases, potentially significant impacts to paleontological resources. Pursuant to PRC Section 21083.2 preservation in place is preferred manner of mitigating impacts to archeological (and paleontological) sites, because it maintains the relationship between artifacts and the paleontological/archaeological context. Preservation may also avoid conflict with religious or cultural values off groups associated with the site. The approved Paleontological Management Treatment Plan for those resources pursuant to PDF-CUL-4, would implement preservation in place where appropriate. Preservation may take place by covering the archaeological sites with a layer of chemically stable soil before building (sidewalk) on the site. When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.

In the event that unanticipated historical artifacts were encountered, PDF-CUL-5 City Engineer Standard Specifications, Section 6-3.2, (Greenbook 2012) which will be required as part of this project, states: “If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer.” Therefore, during activities in which there will be ground disturbances (i.e., digging, drilling, etc.) if any evidence of paleontological resources are found, all work within the vicinity of the find shall stop until a qualified paleontologist can assess the finds and make recommendations.

In instances where the paleontological resources have been damaged, destroyed or demolished, or were the integrity of a character defining feature and significance of a known paleontological resource, the Project would significantly impact cultural resources under CEQA. This may occur for any site under Scenario 1 or Scenario 2 and would be considered Scenario 3. Though the likelihood of this occurring is minimal, as observed under prior sidewalk repairs. However rare occurrence of loss of a paleontological resource is considered a potentially significant impact of the Project.

Mitigation Measures

For the large majority of the Project in Scenarios 1 and 2, impacts are less than significant, and no mitigation measures are required

Demolition and/material alteration of a significant paleontological resource in Scenario 3 would be considered significant and unavoidable despite implementation of PDF-CUL-4. In the Scenario 3 situations where, despite adherence to the conditions of PDF-CUL-4 which may include preservation in place by avoidance and capping, excavation, and other measures as appropriate, the measures cannot maintain the integrity and significance of the unique paleontological resource, the impacts would be significant. No other feasible mitigation measures have been identified at this time. Therefore, impacts to significant paleontological resources for projects under Scenario 3 would remain significant and unavoidable,

CUL-6: Would the proposed Project cause disturbance of human remains, including remains interred outside of formal cemeteries?

This impact would be less than significant during construction.

Implementation of the Project would be limited to areas with existing sidewalks and curb ramps. Construction activities include repair and reconstruction of existing sidewalks and curb ramps as well as excavation for substantial utility relocations. The depth of demolition and excavation is not anticipated to exceed the depth of previously disturbed soil, even during utility relocations. However, construction of the Project has the potential to uncover buried human remains through ground-disturbing activities, especially under Scenario 2, where excavation may be greater than 5 feet in depth and up to 30 feet.

California Health and Safety Code Section 7050.5 states that in the event of discovery of human remains during ground disturbances, no further disturbance of the site or nearby area shall occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The county coroner must be notified of the find immediately. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the Native American Heritage Commission (NAHC) within 24 hours. NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be the Most Likely Descendent (MLD) from the deceased person so they can inspect the burial site and make recommendations for treatment or disposal.). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials as provided by existing law.

Impacts associated with the disturbance of human remains would be less than significant because compliance with the existing laws and regulations for appropriate handling of any human remains that are encountered would occur.

Mitigation Measures

No mitigation is required.

3.4.3.5 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.

CUL-1: Would the proposed Project result in the demolition of a significant historical resource as defined in Section 15064.5(A) of the CEQA Guidelines?

There would be no impact during operation.

Operation of the Project would involve only continuation of routine street tree watering and sidewalk inspections. These activities would not result in the demolition of a significant historical resource and there would be no impact during operation.

CUL-2: Would the proposed Project result in relocation that does not maintain the integrity and significance of a significant historical resource?

There would be no impact during operation.

Operation of the Project would involve only continuation of routine street tree watering and sidewalk inspections. These activities would not result in relocation of a significant historical resource that would not maintain its integrity. There would be no impact during operation.

CUL-3: Would the proposed Project result in the conversion, rehabilitation, or alteration of a significant historical resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings?

There would be no impact during operation.

Operation of the Project would involve only continuation of routine street tree watering and sidewalk inspections. These activities would not result in the conversion, rehabilitation, or alteration of a significant historical resource. There would be no impact during operation.

CUL-4: Would the proposed Project disturb, damage, or degrade an archaeological resource, or its setting, that is found to be important because it:

- **Is associated with an event or person of recognized importance in California or American prehistory or of recognized scientific importance in prehistory;**
- **Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;**
- **Has a special or particular quality, such as the oldest, best, largest, or last surviving example of its kind;**
- **Is at least 100 years old and possesses substantial stratigraphic integrity; or**
- **Involves important research questions that historical research has shown can be answered only with archaeological methods?**

There would be no impact during operation.

Operation of the Project would involve only continuation of routine street tree watering and sidewalk inspections. These activities would not disturb, damage, or degrade an archaeological resource or its setting. There would be no impact during operation.

CUL-5: Would the proposed Project result in the permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance?

There would be no impact during operation.

Operation of the Project would involve continuation of only routine street tree watering and sidewalk inspections. These activities would not result in the permanent loss of a paleontological resource of regional or statewide significant. There would be no impact during operation.

CUL-6: Would the proposed Project cause disturbance of human remains, including remains interred outside of formal cemeteries?

There would be no impact during operation.

Operation of the Project would involve continuation of only routine street tree watering and sidewalk inspections. These activities would not result in disturbance of human remains. There would be no impact during operation.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.4.4 Significant Unavoidable Adverse Impacts

There are significant and unavoidable adverse impacts to significant historical resources, archeological, and paleontological resources in the limited instances in Scenario 3 projects where implementation of PDF-CUL-1 through PDF-CUL-5 related to assessment, SOI Standards, ATPs, and PMTPs would not maintain the significance of the historical, archaeological, and/or paleontological resources.

3.5 Geology and Soils

This chapter evaluates potential geologic, seismic, and soils impacts associated with the continuation of construction and operation of sidewalk repairs under the proposed Project (Project). Specifically, the geological regulatory framework in California, region, and the City of Los Angeles (City) is examined in relation to the Project and compared to existing geologic features and resources in the Project area. Regulatory requirements to reduce impacts are identified where applicable.

The section below is based in part on the *Preliminary Geologic Hazards Evaluation City of Los Angeles Sidewalk Improvement Project Los Angeles, California* prepared by Ninyo & Moore for the Project in February of 2018. The report is included in Appendix G.

3.5.1 Regulatory Setting

This section describes existing regulations related to geology and soils that are applicable to the Project and discusses those can be used to determine impacts and consistency with applicable requirements.

3.5.1.1 Federal

No regulations would be applicable.

3.5.1.2 State

Seismic Hazards Mapping Act

The *Seismic Hazards Mapping Act*, passed in 1990, addresses earthquake hazards from non-surface fault rupture, including hazards related to liquefaction and seismically induced landslides. The purpose of the *Seismic Hazards Mapping Act* is to identify and map seismic hazard zones. Such mapping helps cities and counties when preparing the safety elements of their general plans and encourages land use management policies and regulations that reduce seismic hazards. The *Seismic Hazards Mapping Act* has resulted in the publication of maps that delineate Liquefaction Zones and Earthquake-Induced Landslide Zones of Required Investigation.

Alquist-Priolo Earthquake Fault Zoning Act

The *Alquist-Priolo Earthquake Fault Zoning Act* was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to prepare maps of these zones. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies must regulate most development projects within the zones. The primary purpose of the *Alquist-Priolo Act* is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. Unlike damage from ground shaking, which can occur at great distances from the fault, impacts from fault rupture are limited to the immediate area of the fault zone where the fault breaks along the surface, generally within 50 feet. Accordingly, if an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet).

California Building Code

The California Building Code (CBC) consists of eleven parts that contain administrative regulations of the California Building Standards Commission and regulations of all State agencies that implement or enforce building standards. Local agencies must ensure that development in their jurisdictions comply with guidelines contained in the CBC. Cities and counties can, however, adopt building standards beyond those provided in the CBC.

Geologic resources and geotechnical hazards are governed primarily by local jurisdictions. Most local jurisdictions rely on the CBC for a basis of seismic design. All local jurisdictions must comply with regulations of the *Alquist-Priolo Act* and Earthquake Fault Zone requirements of the State of California Department of Conservation.

3.5.1.3 Local

City of Los Angeles General Plan Safety Element

Hazard Mitigation

Goal 1

A city where potential injury, loss of life, property damage and disruption of the social and economic life of the city due to fire, water related hazard, seismic event, geologic conditions or release of hazardous materials disasters is minimized.

> Policy 1.1.6
>
> State and federal regulations. Assure compliance with applicable state and federal planning and development regulations (e.g., *Alquist-Priolo Earthquake Fault Zoning Act*, *State Mapping Act*, and *Cobey-Alquist Flood Plain Management Act*).

3.5.2 Environmental Setting

This section describes the environmental setting or conditions related to geology, soils, and seismicity as well as associated hazards. The information in this section is used in preparing the evaluation and conclusions of the impact analysis as well as determining mitigation measures, if required.

3.5.2.1 Regional Geology

The State of California is divided into geomorphic provinces defined by geographic location, large-scale bedrock types, and tectonic structure. The City is situated at the northwest end of the Peninsular Ranges geomorphic province and also includes a portion of the Transverse Ranges geomorphic province. The Peninsular Ranges geomorphic province encompasses an area that extends approximately 125 miles from the Transverse Ranges province south to the Mexican border, and beyond another approximately 775 miles to the tip of Baja California. The Peninsular Ranges province varies in width from approximately 30 to 100 miles and is characterized by northwest-trending mountain range blocks separated by similarly northwest-trending faults. The Transverse Ranges are a distinctive unit of east- to west-trending faults and mountain ranges with intervening valleys in Santa Barbara, Ventura, Los Angeles, and San Bernardino Counties, rotated into their current configuration due to a left bend in the San Andreas fault. Associated compression of the region has resulted in folding, reverse/thrust faulting, and uplift of the province.

3.5.2.2 Local Geologic Setting

Los Angeles lies on a hilly coastal plain with the Pacific Ocean as its southern and western boundaries. The City stretches north to the foothills of the Santa Monica Mountains and is bounded by the San Gabriel Mountains to the east. Numerous canyons and valleys also characterize the area. Much of the Los Angeles area is composed of low lying areas comprising the Los Angeles Basin and San Fernando Valley.

The present-day Los Angeles Basin is a northwesterly trending, approximately 50 miles long by 20 miles wide alluviated lowland which is bounded on the north by the Santa Monica Mountains and the Elysian, Repetto, and Puente Hills, and on the east and southeast by the Santa Ana Mountains and San Joaquin Hills.

The San Fernando Valley is an elongated valley, roughly 22 miles long in an east/west direction and is approximately 9 miles wide in a north/south direction, although stretching to 12 miles wide at its wide point. Situated within the Transverse Ranges geomorphic province of California, the San Fernando Valley is bounded by the San Gabriel and Santa Susana Mountains to the north, the Santa Monica Mountains to the south, the Verdugo Mountains to the east, and the Simi Hills to the west.

Holocene to Pleistocene alluvial and older elevated alluvial soils comprise the majority of geologic material exposed at the surface of the Los Angeles Basin and San Fernando Valley. Erosion of the surrounding mountains has resulted in deposition of unconsolidated sediments in low-lying areas by rivers such as the Los Angeles River and its major tributaries (Burbank Western Channel, Pacoima Wash, Tujunga Wash, Verdugo Wash, Aliso Creek, and Arroyo Calabasas in the San Fernando Valley; and the Arroyo Seco, Compton Creek, Ballona Creek, and Rio Hondo south of the Glendale Narrows). To the north, northeast, east, and southeast, the basins are bounded by mountains and hills that expose Pre-Cambrian to Mesozoic basement rocks and sedimentary and igneous rocks of Late Cretaceous to late Pleistocene age. The crystalline rocks which form the central core in the mountains are flanked on the north, west, and south by overlying younger Tertiary sedimentary and volcanic rock formations. According to depth-to-water readings recorded on the Los Angeles Regional Water Quality Control Board's Underground Storage Tank – Depth-to-Groundwater Database, the average depth-to-water recorded is 39.3 feet below ground surface (California Environmental Protection Agency 2005). Groundwater depths across the Project area vary from near surface to in excess of 100 feet.

3.5.2.3 Soils

According to the Preliminary Geologic Hazards Evaluation, materials to be exposed at the surface in the Project area could include sands, silty sands, and clayey soils. Soils are important for estimating the potential for erosion and impacts on water quality. Figure 3.5-1 illustrates the various soil types in the City. The following types of soils are located throughout the City:

- **Altamont Series** soils are deep, well-drained soils (National Cooperative Soil Survey n.d. [a]). Because of the high clay content (35% to 60%), this series is susceptible to cracking during dry periods but typically has medium to high runoff during the wet season, with slow permeability.
- **Chino Series** soils form in alluvium and, therefore, are found in basins and floodplains. Runoff is slow to very slow, and very often the soils retain moisture throughout the year (National Cooperative Soil Survey n.d.[b]).

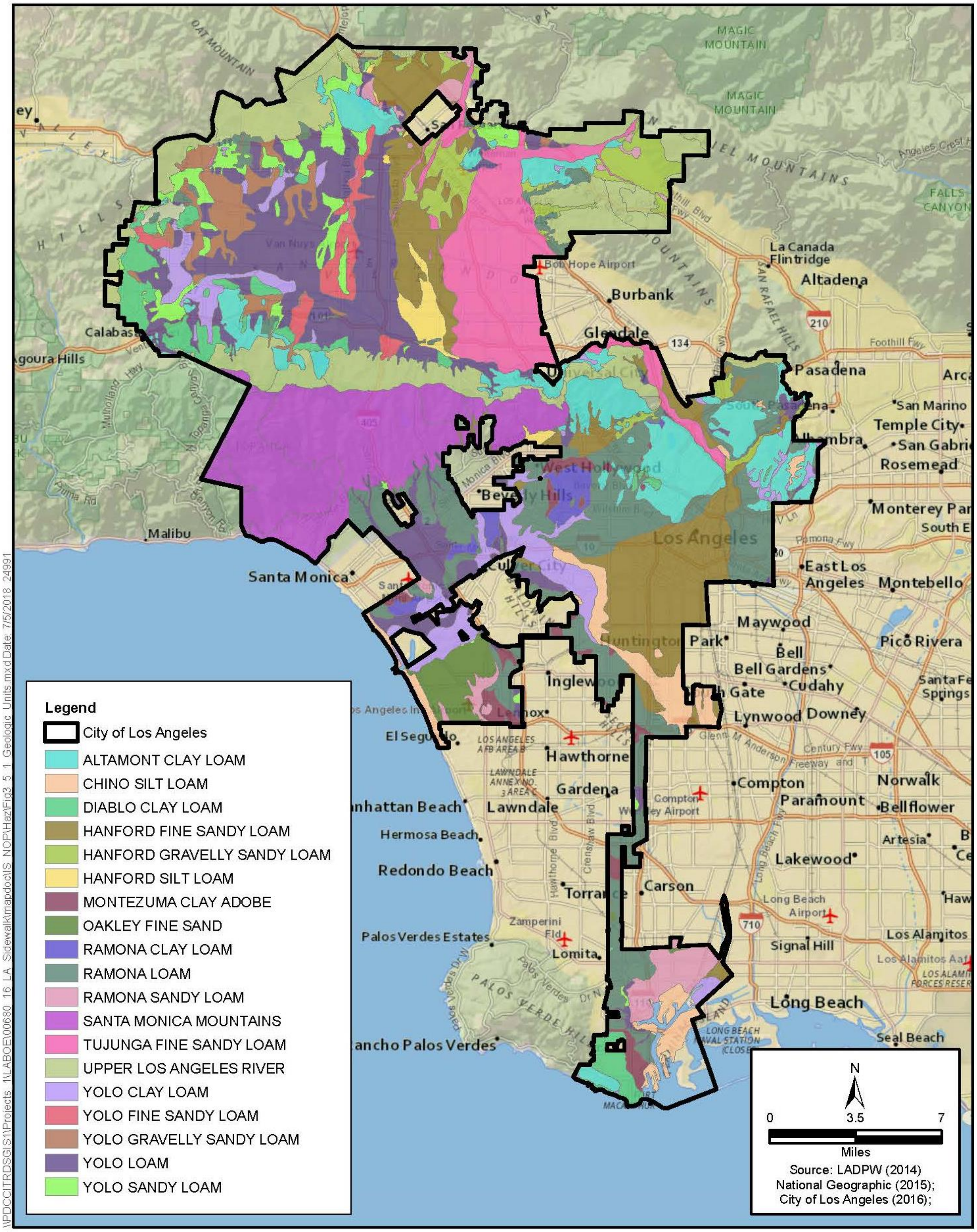


Figure 3.5-1. Geologic Units

- **Diablo Series** soils have high clay content (at least 30% [most are 45% to 60% clay]) and form on moderately steep to steep slopes. Because of the high clay content, runoff is slow when the soil is dry but becomes rapid when the soil is moist; therefore, the soil can be highly erodible in wet winter weather (National Cooperative Soil Survey n.d.[c]).
- **Hanford Series** soils are found in stream bottoms, floodplains, and alluvial fans. This soil type tends to be found in areas with shallow slopes (0% to 15% gradient), with a high percentage of large particles. This results in negligible to low runoff because the soil is well drained (National Cooperative Soil Survey n.d.[d]).
- **Montezuma Series** soils are deep, well-drained soils that are found in the alluvial fan terraces of streams and rivers. Runoff is very slow to slow (National Cooperative Soil Survey n.d.[e]).
- **Oakley Series** soils are associated with alluvium from rivers and streams. They are well drained, but their runoff potential is directly related to the gradient, with low runoff potential on very shallow slopes (0% to 1%) and raising to high runoff potential on higher slopes (5% to 8%) (National Cooperative Soil Survey n.d.[f]).
- **Ramona Series** soils are formed on terraces and alluvial fans, ranging from very shallow to moderately steep. They tend to be well drained, but the runoff potential can vary between slow and rapid, depending on location (National Cooperative Soil Survey. n.d.[g]).
- **Santa Monica Mountains** represent a complex with different soil series. This area tends to have steep slopes and susceptibility to landslides and wildfires (U.S. Department of Agriculture n.d.).
- **Tujunga Series** soils, which are well drained, form in alluvial fans and floodplains. They have a high percentage of sand particles, often greater than 35%. Because of the high sand content, the soils tend to have very low runoff potential (National Cooperative Soil Survey n.d.[h]).
- **Yolo Series** soils have a high silt and clay content; therefore, they tend to stay dry much of the year. The soils are well drained, with slow to medium runoff potential (National Cooperative Soil Survey n.d.[i]).

3.5.2.4 Faulting and Seismicity

The faults in Southern California are classified as active, potentially active, and inactive faults. As defined by the California Geological Survey (CGS), active faults are faults that have ruptured within Holocene time, or within approximately the last 11,000 years. Potentially active faults are those that show evidence of movement during Quaternary time (approximately the last 1.6 million years) but for which evidence of Holocene movement has not been established. Inactive faults have not ruptured in the last approximately 1.6 million years. Principal known active faults (within the Project area) are listed below.

- Anacapa-Dume
- Hollywood
- Newport-Inglewood
- Northridge
- Oak Ridge
- Palos Verdes
- Puente Hills Blind Thrust
- Raymond
- San Andreas
- San Gabriel
- San Joaquin Hills Blind Thrust
- San Jose
- Santa Monica
- Santa Susana
- Sierra Madre
- Simi-Santa Rosa
- Upper Elysian Park Blind Thrust
- Verdugo
- Whittier

Surface Rupture

Surface fault rupture is the offset or rupturing of the ground surface by relative displacement across a fault during an earthquake. Numerous active faults cross the Los Angeles area, and although individual sidewalk projects are not known at this time, it is anticipated that some sites may be located within a State of California Earthquake Fault Zone (formerly known as Alquist-Priolo Fault Zones), which is a regulatory zone around an active fault or faults. Figure 3.5-2 of this document and Figure 4 in the *Preliminary Geologic Hazards Evaluation City of Los Angeles Sidewalk Improvement Project* depict the City relative to the principal faults. Thus, the potential for surface rupture across one or more sidewalk and curb ramp repair sites for the Project is considered moderate.

3.5.2.5 Ground Motion

The Los Angeles area is seismically active, as is the majority of Southern California, and the potential for strong ground motion at the locations for the Project is considered significant during the design life of proposed improvements. Table 3.5-1 lists known active faults within the Project area and the maximum moment magnitude (M_{max}), as published by the U.S. Geological Survey, in general accordance with the Uniform California Earthquake Rupture Forecast, version 3. This information is also provided in Table 1 of Appendix G, *Preliminary Geologic Hazards Evaluation, City of Los Angeles Sidewalk Improvement Project.* The magnitude is a number that characterizes the relative size of an earthquake. Magnitude is based on measurement of the maximum motion recorded by a seismograph.

Earthquake events from one of the regional active or potentially active faults in the City could result in strong ground shaking which could affect any site within the Project area. The level of ground shaking at a given location depends on many factors, including the size and type of earthquake, distance from the earthquake, and subsurface geologic conditions. The type of construction also affects how particular structures, physical improvements, and the crew working on the Project perform during ground shaking. Ground shaking in the Project area could affect some of the proposed improvements.

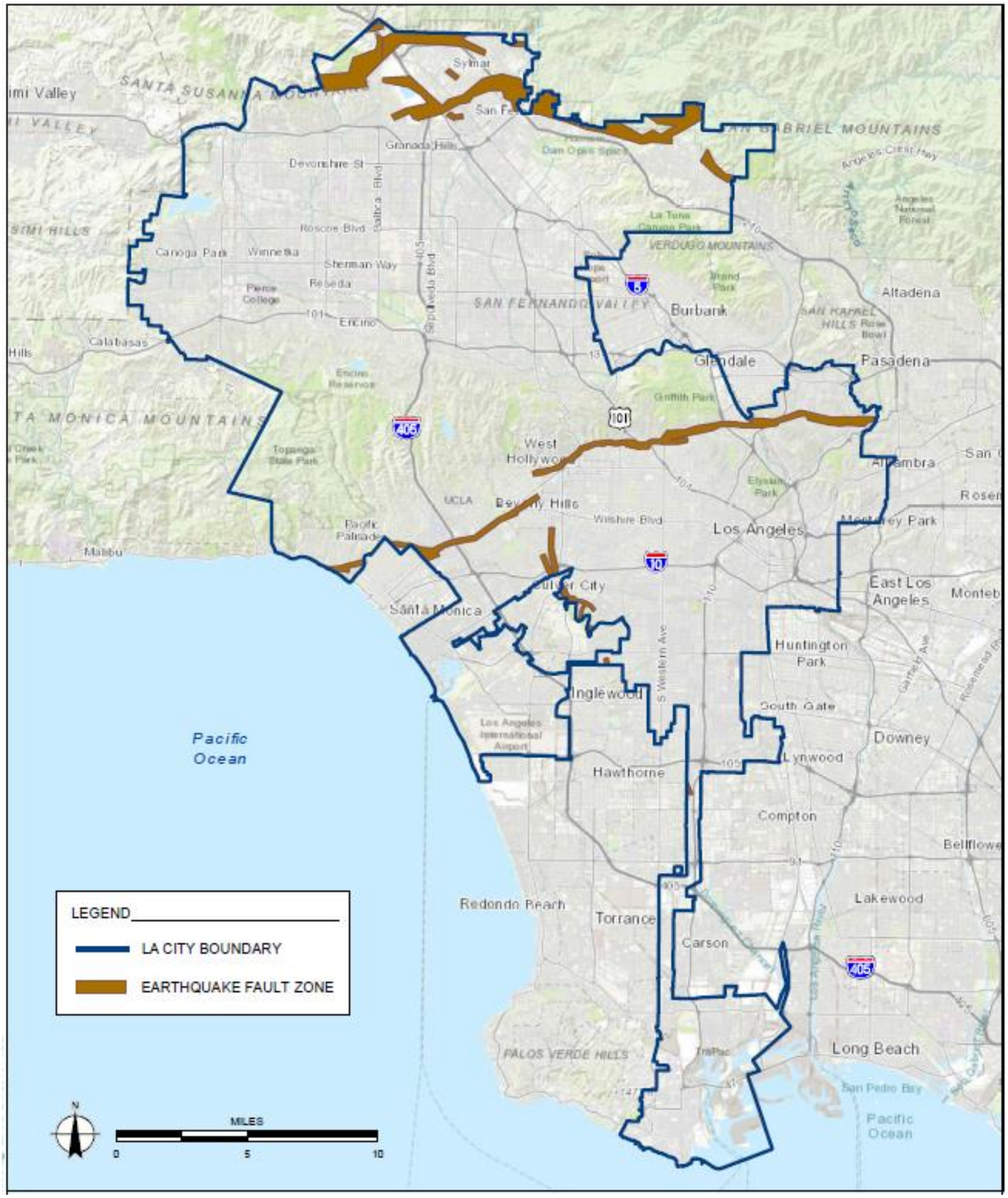


Figure 3.5-2. Earthquake Fault Zones

Table 3.5-1. Major Regional Faults

Fault	Maximum Moment Magnitude (M_{max})
Anacapa-Dume	7.2
Hollywood	6.7
Newport-Inglewood	7.5
Northridge	6.9
Oak Ridge	7.2
Palos Verdes	7.7
Puente Hills Blind Thrust	7.0
Raymond	6.8
San Andreas	8.2
San Gabriel	7.4
San Joaquin Hills Blind Thrust	7.1
San Jose	6.7
Santa Monica	7.4
Santa Susana	6.9
Sierra Madre	7.3
Simi-Santa Rosa	6.9
Upper Elysian Park Blind Thrust	6.7
Verdugo	6.9
Whittier	7.9

3.5.2.6 Other Seismic Hazards

Liquefaction

Liquefaction occurs when saturated, low-density, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where shallow groundwater exists. Factors known to influence liquefaction potential include composition and thickness of soil layers, grain size, relative density, groundwater level, degree of saturation, and both intensity and duration of ground shaking. The potential damaging effects of liquefaction include differential settlement, loss of ground support, ground cracking, and heaving and cracking of slabs due to sand boiling or settlement. According to the geologic hazards evaluation, portions of the Los Angeles Basin, San Fernando Valley, San Pedro area, and other low-lying areas with shallow groundwater are considered susceptible to liquefaction. See Figure 3.5-3 for liquefaction zones within the City.

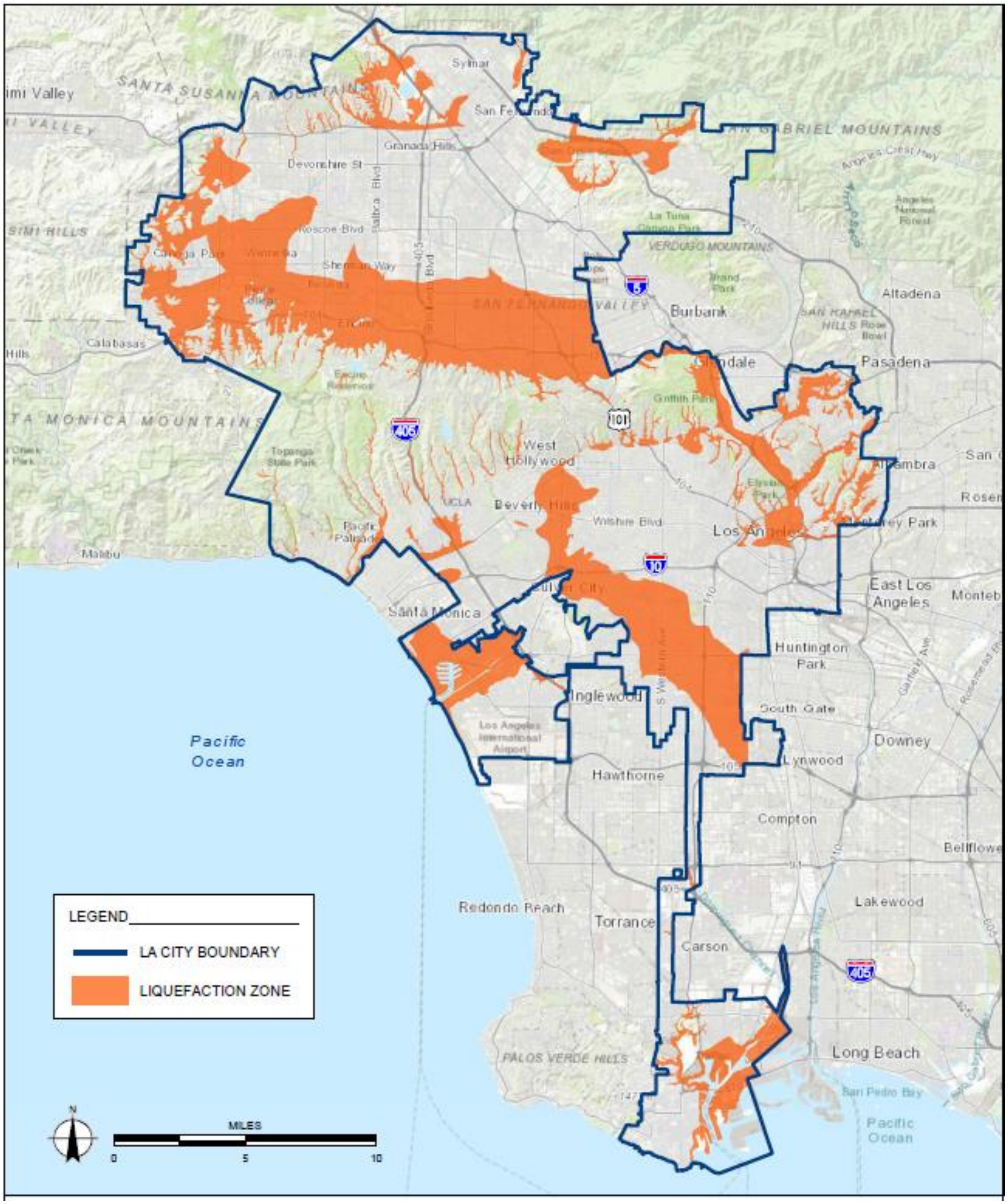


Figure 3.5-3. Liquefaction Zones

Landslides

Landslides, slope failures, and mudflows of earth materials generally occur where slopes are steep and/or the earth materials are too weak to support themselves. Earthquake-induced landslides may also occur due to seismic ground shaking. According to the seismic evaluation, many of the hillside and mountainous areas of the City are mapped as being generally susceptible to landslides. See Figure 3.5-4 for designated landslide zones in the City.

Subsidence

Subsidence is characterized as a sinking of the ground surface relative to surrounding areas, and can generally occur where deep soil deposits are present. Subsidence in areas of deep soil deposits is typically associated with regional groundwater withdrawal or other fluid withdrawal from the ground such as oil and natural gas. Subsidence can result in the development of ground cracks and damage to sidewalks, pipelines and other improvements. Several areas of the City have experienced subsidence due to withdrawal of groundwater or oil in the past.

Compressible/Collapsible Soils

Compressible soils are generally comprised of soils that undergo consolidation when exposed to new loading, such as fill or foundation loads. Soil collapse is a phenomenon where the soils undergo a significant decrease in volume upon increase in moisture content, with or without an increase in external loads. Buildings, structures and other improvements may be subject to excessive settlement-related distress when compressible soils or collapsible soils are present.

Expansive Soils

Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils.

3.5.3 Environmental Impact Analysis

3.5.3.1 Approach

Analysis of potential impacts related to geology and soils was based on information presented in the following report:

- *Preliminary Geologic Hazards Evaluation, City of Los Angeles Sidewalk Repair Program Los Angeles, California*, Ninyo & Moore, February 2018 (Appendix G).

3.5.3.2 Project Design Features

PDF-GEO-1: A Shoring Plan may be needed where excavation will be greater than 5 feet to accommodate existing underground utilities, per Section 7-10.4.2.2 of the Shoring Plan of the LABOE Standard Specifications for Public Works Construction, or the “Greenbook” (2012). The Shoring Plan must meet the specifications of the most recently adopted Greenbook at the time.

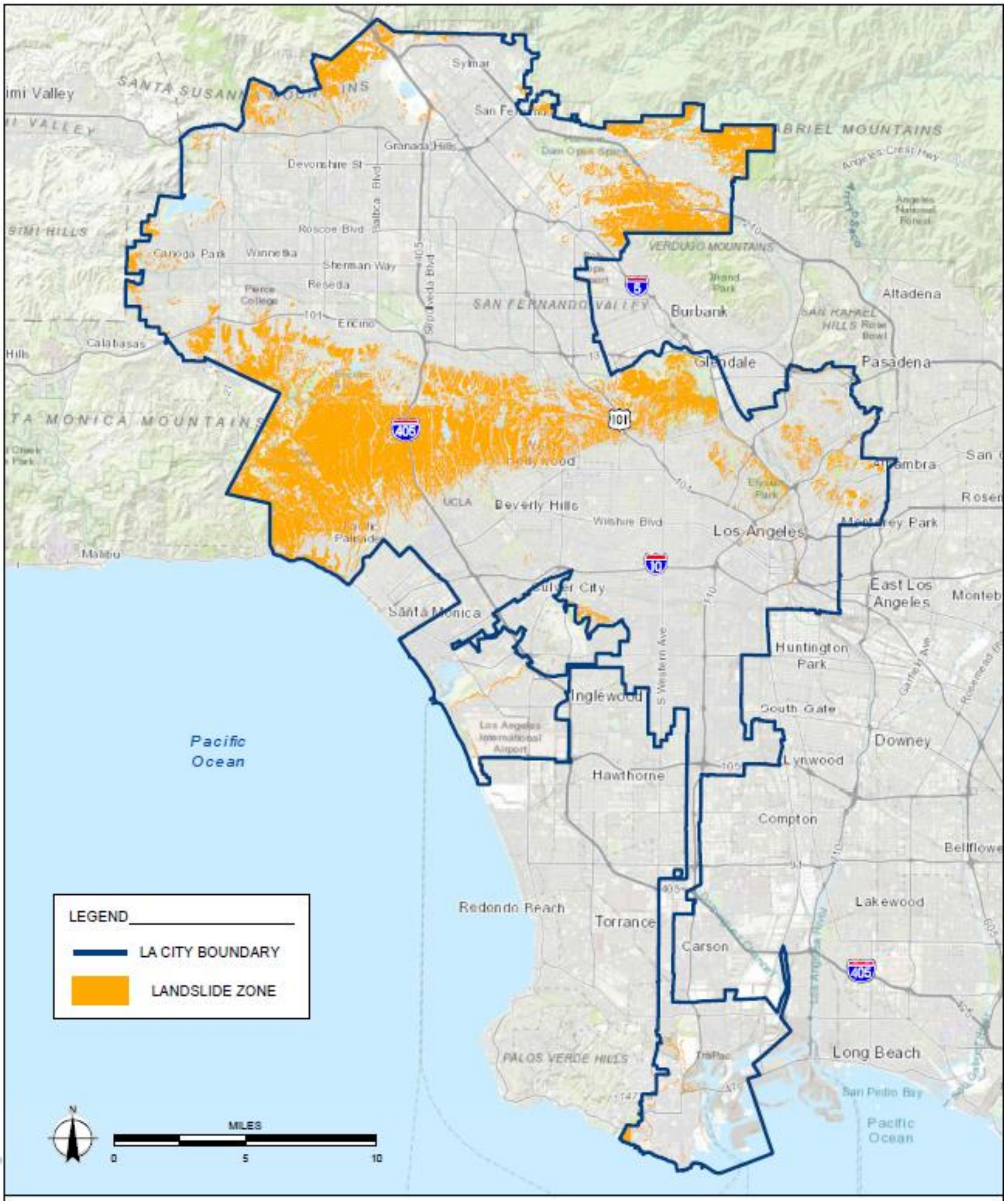


Figure 3.5-4. Landslide Zones

3.5.3.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines and the City's 2006 *L.A. CEQA Thresholds Guide* and provide the basis for determining significance of impacts associated with geology and soils impacts resulting from the implementation of the Project. The determination of whether a geology and soils 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 Ninyo & Moore and relies on the substantial evidence in the administrative record.

A Project impact would be considered significant if construction or operation of the Project would:

GEO-1: Would the proposed Project cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or directly or indirectly cause substantial risk of injury resulting from rupture of a known earthquake fault; landslides; and seismic ground shaking or seismic ground shaking or seismic-related ground failure, including liquefaction? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

GEO-2: Would the proposed Project destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

GEO-3: Would the proposed Project constitute a geologic hazard to other properties by causing or accelerating instability from erosion? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

GEO-4: Would the proposed Project accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on-site? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

GEO-5: Would the proposed Project be located on unstable soil or would result in an on-site or off-site landslide, collapse, or lateral spreading? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

3.5.3.4 Construction Impacts

GEO-1. Would the proposed Project cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or directly or indirectly cause substantial risk of injury resulting from rupture of a known earthquake fault; landslides; and seismic ground shaking or seismic ground shaking or seismic-related ground failure, including liquefaction?

This impact would be less than significant during construction.

For Construction Scenario 1, excavation for sidewalk repairs typically would be about 8 inches deep, which includes 3 to 4 inches for concrete removal and 4 inches for untreated base material, where excavation at driveways would typically be approximately 12 inches, which includes 6 inches for concrete removal and 6 inches for untreated base material. Root barrier installation (if implemented) during street tree replacement activities could be an additional 18 inches deep. Sign relocation usually requires excavation of up to approximately 36 inches.

The City is located in a seismically active area. Consequently, it is possible that implementation of the continuing activities under the Project could be affected by strong seismic ground shaking. Furthermore, faults and areas of landslides and liquefaction exist in some areas of the City, as shown in Figure 3.5-3 and Figure 3.5-4 and mentioned in Section 3.5.2, *Environmental Setting*. Because repair locations are unknown at this time and can occur anywhere in the City, the possibility exists that sidewalk improvements can occur in or near these areas. However, construction activities associated with sidewalk improvements under Construction Scenario 1 would only occur on the surface with excavations occurring a maximum of 36 inches deep. Thus, construction activities would be conducted too shallow to cause or exacerbate significant geologic phenomena such as fault rupture, landslides; seismic ground shaking or liquefaction. Furthermore, construction personnel would be spread throughout the City in small numbers on a brief, temporary basis, with typical sidewalk repair (at one location) taking approximately an average of 5 days. Impacts would be less than significant.

As part of Construction Scenario 2, catch basin and storm drain reconstruction may be needed for sidewalk repairs to be in compliance with applicable accessibility requirements. Reconstruction of these structures would require excavation of up to 30 feet. Improvement locations are unknown at this time and can occur anywhere in the City, thus the possibility exists that sidewalk improvements can occur in or near areas prone to geologic hazards (i.e., fault rupture, landslides; seismic ground shaking or liquefaction). Similar to Construction Scenario 1, construction activities associated with sidewalk improvements would occur on the surface, and some improvements could require excavations to a maximum of 30 feet deep. Although excavation depths would be greater as part of Construction Scenario 2, construction activities would continue to be too shallow (and on too small a scale) to cause or accelerate significant geologic phenomena such as a fault rupture, landslides, seismic ground shaking, or liquefaction. Geologic conditions in the area would remain unchanged as a result of the Sidewalk Repair Program. Furthermore, as with Construction Scenario 1, construction personnel would be spread throughout the City in small numbers, with typical repairs taking approximately 5 days, as a minimum average, and substantial utility work taking up to approximately 30 construction days for the most time-intensive activities (removal and replacement of multiple overhead lines). Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

GEO-2. Would the proposed Project destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands?

This impact would be less than significant during construction.

The Project would occur throughout the City; however, improvements would only occur in areas with sidewalks. Thus, prominent, undisturbed geologic or topographic features would not be disturbed as part of implementation of the Project. No impacts would occur.

Substantial utility relocation as part of Construction Scenario 2 can occur when overhead poles are placed on a sidewalk that restricts the path of travel to less than 4 feet in width. However, overhead poles would generally be replaced near the original locations to minimize impacts. Relocation of underground utilities would be relocated nearby which would have the same or similar geologic and topographic features. No impacts would occur.

Mitigation Measures

No mitigation is required.

GEO-3. Would the proposed Project constitute a geologic hazard to other properties by causing or accelerating instability from erosion?

This impact would be less than significant during construction.

Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces. Best management practices (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 substantial soil erosion and sedimentation from exposed soils. Also, construction activities would only occur in areas where sidewalks currently exist and not in areas where erosion could destabilize nearby structures. Thus, construction activities associated with the Project would not create a geologic hazard by causing or accelerating instability from erosion. Impacts would be less than significant.

Applicable BMPs would also be implemented under Construction Scenario 2, thus preventing substantial soil erosion and sedimentation. Also, construction activities would occur within the public right-of-way. Therefore, construction activities would not create a geologic hazard by causing or accelerating instability from erosion. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

GEO-4. Would the proposed Project accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on-site?

This impact would be less than significant during construction.

As discussed in GEO-3 above, BMPs would be implemented to control runoff and erosion during construction activities. Implementation of erosion and sediment control BMPs would prevent substantial soil erosion and sedimentation from exposed soils during construction. Impacts would be less than significant.

Applicable BMPs would also be implemented to prevent substantial soil erosion and sedimentation under Construction Scenario 2, which would not change the natural process of wind and water erosion and sedimentation or result in sediment runoff. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

GEO-5. Would the proposed Project be located on unstable soil or would result in an on-site or off-site landslide, collapse, or lateral spreading?

Implementation of Project Design Feature PDF-GEO-1 would ensure that this impact would remain less than significant.

Landslide- and liquefaction-prone areas exist throughout the City, as shown in Figure 3.5-3 and Figure 3.5-4. Similarly, collapsible soils exist in some portions of the City where there are existing sidewalks, which does not change the environmental conditions or the impact of the repairs on sidewalks already located on or near unstable soils. During construction, Project design features (PDF-GEO-1, Shoring Plan) would be provided for locations where excavation would be greater than 5 feet in depth, as required per the LABOE Standard Specifications for Public Works Construction, or "Greenbook," for trench work. In addition, construction activities associated with sidewalk improvements would occur where there are existing sidewalks. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.5.3.5 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.

GEO-1. Would the proposed Project cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or directly or indirectly cause substantial risk of injury resulting from rupture of a known earthquake fault; landslides; and seismic ground shaking or seismic ground shaking or seismic-related ground failure, including liquefaction?

There would be no impact during operation.

Operation of the continuing activities from the Project would include only street tree watering and inspections, which would not result in geologic hazards. There are no operational Project features that could cause or accelerate significant geologic hazards.

GEO-2. Would the proposed Project destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features. Such features may include, but are not limited to, hilltops, ridges, hill slopes, canyons, ravines, rock outcrops, water bodies, streambeds and wetlands?

There would be no impact during operation.

Because operation of the continuing activities from the Project would only include street tree watering and inspection activities, Project operations would not affect prominent geologic or topographic features. Improvements would only occur in areas with pre-existing sidewalks and not in undisturbed locations that could contain the aforementioned features. No impacts would occur.

GEO-3. Would the proposed Project constitute a geologic hazard to other properties by causing or accelerating instability from erosion?

There would be no impact during operation.

Street tree watering and inspection activities would not cause or accelerate erosion to nearby properties, as improvements would only occur in areas with pre-existing sidewalks. No impacts would occur.

GEO-4. Would the proposed Project accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on-site?

There would be no impact during operation.

Replacement street tree watering and inspections would not accelerate natural processes of wind and water erosion and sedimentation as improvements would only occur in areas with pre-existing sidewalks. No impacts would occur.

GEO-5. Would the proposed Project be located on unstable soil or would result in an on-site or off-site landslide, collapse, or lateral spreading?

There would be no impact during operation.

Landslides and liquefaction-prone areas exist throughout the City. Similarly, collapsible soils can exist in some portions the construction sites within the Project area. Locations for the Project are not known and can occur anywhere throughout the City; thus, the possibility exists that sidewalk improvements can occur in or near areas with unstable soils. However, the Project is not designed for human occupancy on a permanent or semi-permanent basis, pedestrians would use repaired sidewalks only on a temporary basis; therefore, potential risk to users would be limited. Furthermore, continuing operation activities under the Project would result in no change to the existing circumstances as all sidewalk repairs and improvements would occur in areas where sidewalks currently exist. Impacts would be less than significant.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.5.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impact related to geology and soils would occur.

3.6 Greenhouse Gas Emissions

This chapter provides an overview of the regulatory framework applicable to greenhouse gas (GHG) emissions at the statewide, regional, and local scales and evaluates the potential environmental impacts associated with implementation of the proposed Project (Project). GHG emissions refer to airborne pollutants that are generally understood to affect global climate conditions. These gaseous pollutants have the effect of trapping heat in the atmosphere, and consequently altering weather patterns and climactic conditions over long timescales. The GHG emissions impact assessment addresses both construction and operational activities associated with the Project. Supporting data and calculations are included in Appendix H of the Draft EIR.

Table 3.6-1 presents the most common anthropogenic (human-made) GHG compounds as well as their respective atmospheric lifetimes and global warming potential (GWP) values.[1] The six most prevalent GHG compounds associated with anthropogenic sources are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydro-fluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is the most common GHG in the atmosphere, but its emissions are not regulated. CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. The other GHG compounds are less abundant but have higher GWP on a per-molecule basis than CO_2, meaning they are more capable of retaining infrared radiation. To account for the higher GWP, GHG emissions are typically expressed in terms of CO_2 equivalents, denoted as "CO_2e." The CO_2e metric is used as a standardized measurement technique to account for varying GWP; all GHG emissions disclosed in this chapter are expressed in terms of CO_2e.

3.6.1 Regulatory Setting

GHG emissions refer to a group of emissions that are generally believed to affect global climate conditions by trapping heat energy in the atmosphere. Consequently, regulatory efforts have been implemented at the federal, state, regional, and local levels to address the effects of GHG emissions, as discussed below.

3.6.1.1 Federal

The following discussion presents legislation, court rulings, and policies pertaining to GHG emissions.

Energy Independence and Security Act

The *Energy Independence and Security Act of 2007* (Act) includes several key provisions that will increase energy efficiency and the availability of renewable energy, which will reduce GHG emissions as a result. This act requires fuel producers to use at least 36 billion gallons of biofuel by 2022 through a Renewable Fuel Standard.[2] Also, this act increases Corporate Average Fuel Economy

[1] GWPs are one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different GHGs upon the climate system in a relative sense. The GWP values of various GHG emissions have been defined on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of carbon dioxide (CO_2) (CO_2 has a GWP of 1 by definition).

[2] According to the United States Energy Information Administration, 36 billion gallons of fuel represents approximately 26 percent of current gasoline consumption.

Table 3.6-1. Common Greenhouse Gases and Atmospheric Properties

Greenhouse Gas	Atmospheric Lifetime (Years)[a]	Global Warming Potential (20-Year)[b]	Global Warming Potential(100-Year)[b]
Carbon Dioxide (CO_2)	100	1	1
Nitrous Oxide (N_20)	121	264	298
Nitrogen Trifluoride	500	12,800	16,100
Sulfur Hexafluoride (SF_6)	3,200	17,500	23,500
Perfluorocarbons (PFCs)	3,000–50,000	5,000–8,000	7,000–11,000
Black Carbon	days to weeks	270–6,200	100–1,700
Methane (CH_4)	12	84	34
Hydrofluorocarbons (HFCs)	Uncertain	100–11,000	100–12,000

Source: California Air Resources Board, *First Update to the Climate Change Scoping Plan*, May 2014.

[a] Lifetime refers to the approximate amount of time it would take for the anthropogenic increment to an atmospheric pollutant concentration to return to its natural level as a result of either being converted to another chemical compound or being taken out of the atmosphere via a sink.

[b] The United States primarily uses the 100-year GWP as a measure of the relative impact of different GHGs. However, the scientific community has developed a number of other metrics that could be used for comparing one GHG to another. These metrics may differ based on timeframe, the climate endpoint measured, or the method of calculation. For example, the 20-year GWP is sometimes used as an alternative to the 100-year GWP. Just like the 100-year GWP is based on the energy absorbed by a gas over 100 years, the 20-year GWP is based on the energy absorbed over 20 years. This 20-year GWP prioritizes gases with shorter lifetimes, because it does not consider impacts that happen more than 20 years after the emissions occur. Because all GWPs are calculated relative to CO_2, GWPs based on a shorter timeframe would be larger for gases with lifetimes shorter than that of CO_2, and smaller for gases with lifetimes longer than CO_2.

Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Lastly, this act includes a variety of new standards for lighting and for residential and commercial appliance equipment. The equipment includes residential refrigerators, freezers, refrigerator-freezers, metal halide lamps, and commercial walk-in coolers and freezers.

National Fuel Efficiency Policy

On May 19, 2009, President Barack Obama announced a new National Fuel Efficiency Policy (NFEP) aimed at increasing fuel economy and reducing GHG pollution (White House Office of the Press Secretary 2009). The NFEP is expected to increase fuel economy by more than five percent by requiring a fleet-wide average of 35.5 miles per gallon by 2016 starting with model year 2012.

Fuel Economy Standards

On September 15, 2009, the U.S. Environmental Protection Agency (U.S. EPA) and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining emissions standard. Under the program, by 2012 passenger cars and light-duty trucks had to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon. By 2016, the vehicles had to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon (U.S. EPA 2009). The final standards were adopted by U.S. EPA and DOT on April 1, 2010.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the *Clean Air Act* (CAA) (42 United States Code Section 7521):

1. Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) in the atmosphere threaten the public health and welfare of current and future generations.
2. Cause or Contribute Finding: The U.S. EPA Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

While these findings do not impose additional requirements on industry or other entities, this action is a prerequisite to finalizing U.S. EPA's proposed GHG emissions standards for light-duty vehicles, which were jointly proposed by U.S. EPA and NHTSA.

***Massachusetts v. U.S. EPA*.** The U.S. Supreme Court ruled in *Massachusetts v. U.S. EPA*, 127 S. Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the CAA, which the U.S. EPA must regulate if it determines they pose an endangerment to public health or welfare. On December 7, 2009, the U.S. EPA Administrator made two distinct findings: 1) the current and projected concentrations of the six key GHGs in the atmosphere (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) threaten the public health and welfare of current and future generations; and 2) the combined emissions of these GHGs from motor vehicle engines contribute to GHG pollution which threatens public health and welfare.

Heavy-Duty Vehicle Program

The Heavy-Duty Vehicle Program (HD National Program) was adopted on August 9, 2011 to establish the first fuel efficiency requirements for medium- and heavy-duty vehicles beginning with the model year 2014. The HD National Program was developed by the U.S. EPA and the DOT's NHTSA to address the urgent and closely intertwined challenges on dependence on fossil fuel, energy security, and global climate change. The agencies estimated that the combined proposed standards have the potential to reduce GHG emissions by nearly 250 million metric tons and save approximately 500 million barrels of oil over the life of vehicles sold during 2014 to 2018. The HD National Program included CO_2 and fuel consumption standards, as well as standards applicable to N_2O, CH_4, and HFC emissions.

Federal Climate Action Plan

On June 25, 2013, President Barack Obama issued a Climate Action Plan. The three main goals are to cut carbon pollution, prepare the United States for the impacts of climate change, and lead international efforts to combat global climate change and prepare for its impacts. The objective is to cut carbon pollution by directing the U.S. EPA to complete carbon pollution standards in the power sector. This will reduce emissions from power plants and encourage renewable energy development. Other strategies to combat climate change are increasing energy efficiency, stricter vehicle and fuel standards, preserving forests to absorb carbon dioxide, reducing energy waste, combating short-lived climate pollutants, mobilizing climate finance, and leading international negotiations on climate change.

***Utility Air Regulatory Group. v. U.S. EPA*.** On June 23, 2014, the U.S. Supreme Court ruled in *Utility Air Regulatory Group. v. U.S. EPA* that the U.S. EPA exceeded its statutory authority under the *Clean Air Act* when it determined that stationary source emissions of GHGs would trigger permitting obligations under the Prevention of Significant Deterioration (PSD) program and Title V of the CAA. The Court, however, upheld those portions of U.S. EPA's rulemaking that require a source to apply best available control technology (BACT) to GHG emissions where the source would otherwise trigger PSD permitting on account of its emissions of other pollutants. The Supreme Court's decision was limited to U.S. EPA's regulation of GHG emissions under the PSD and Title V provisions of the CAA, and it left unanswered other questions regarding U.S. EPA's permitting and BACT authority under the PSD program, and the U.S. EPA's efforts to regulate GHG emissions from stationary sources.

Executive Order 13693

On June 10, 2015, Executive Order (EO) 13693—Planning for Federal Sustainability in the Next Decade—revokes multiple prior executive orders and memoranda including EO 13514. The goal of EO 13693 is to maintain federal leadership in sustainability and GHG emission reductions. This executive order outlines forward-looking goals for federal agencies in the area of energy, climate change, water use, vehicle fleets, construction, and acquisition. Federal agencies shall, where life-cycle cost-effective, beginning in 2016:

- Reduce agency building energy intensity as measured in British Thermal Units per square foot by 2.5 percent annually through 2025;
- Improve data center energy efficiency at agency buildings;
- Ensure a minimum percentage of total building electric and thermal energy shall be from clean energy sources;
- Improve agency water use efficiency and management (including storm water management); and
- Improve agency fleet and vehicle efficiency and management by achieving minimum percentage GHG emission reductions.

Executive Order 13783

On March 28, 2017, EO 13783—Promoting Energy Independence and Economic Growth—revokes multiple prior executive orders and memoranda, including EO 13653, the Power Sector Carbon Pollution Standards, Presidential Memorandum – Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment, and Presidential Memorandum – Climate Change and National Security, as well as other federal reports and provisions. EO 13783 represents a reversal on federal climate policy relative to the work of previous administrations and its objective is to reduce the regulatory framework applicable to GHG emissions to spur fossil fuel production. The order "established a national policy to promote the clean and safe development of our energy resources while reducing unnecessary regulatory burdens."[3] The order also "directs the U.S. EPA to review existing regulations, orders, guidance documents and policies that potentially burden the development or use of domestically produced energy resources." Future changes to national policy on GHG emissions as a result of EO 13783 cannot be predicted at this time.

[3] Federal Register, *Executive Order 13783 of March 28, 2017: Promoting Energy Independence and Economic Growth*, Vol. 82, No. 61, March 21, 2017.

Executive Order 13795

On April 28, 2017, EO 13795—Implementing an America-First Offshore Energy Strategy—was "to encourage energy exploration and production, including on the Outer Continental Shelf, in order to maintain the nation's (US) position as a global energy leader and foster energy security and resilience for the benefit of the American people, while ensuring that any such activity is safe and environmental responsible."[4] The objective is to expand the opportunity for offshore energy development by removing restrictions on resource exploration and extraction. This prioritizes the development of offshore energy resources over the protection of National Marine Sanctuaries and authorizes the review and potential revision or withdrawal of the Bureau of Ocean Energy Management's Proposed Rule entitled "Air Quality Control, Reporting, and Compliance," 81 Fed. Reg. 19718 and any other related rules and guidance. The implications of implementing EO 13795 with regards to the national GHG emissions inventory cannot be reasonably determined at this time.

3.6.1.2 State

CEQA Guidelines Section 15064.4

Section 15064.4 of the CEQA Guidelines require that, in performing environmental review under CEQA, an agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, and which model or methodology to use, or rely on a qualitative analysis or performance-based standards. The lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Assembly Bill 1493

Assembly Bill (AB) 1493 (referred to as Pavley I), adopted in 2002, required the California Air Resource Board (CARB) to develop and adopt standards for vehicle manufacturers to reduce GHG emissions coming from passenger vehicles and light-duty trucks at a "maximum feasible and cost-effective reduction" by January 1, 2005. Pavley I took effect for model years starting in 2009 and extending to 2016 and the Low Emission Vehicle (LEV) III GHG will cover 2017 to 2025. It is

[4] Federal Register, *Executive Order 13795 of April 28, 2017: Implementing an America-First Offshore Energy Strategy*, Vol. 82, No. 84, May 3, 2017.

estimated that this will reduce climate change emissions from the vehicle fleet by 30 percent in 2016 compared to the emissions in the same year without the standards (CARB 2013).

Executive Order S-3-05

On June 1, 2005, EO S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 calls for the Secretary of California Environmental Protection Agency (CalEPA) to be responsible for coordination of state agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major "decarbonization" of electricity supplies and fuels, and major improvements in energy efficiency (California Energy Commission 2011).

In response to the EO S-3-05, the Secretary of the CalEPA created the Climate Action Team (CAT). California's CAT originated as a coordinating council and included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the CARB, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in California.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in EO S-3-05. The CAT has since expanded and currently has members from 18 state agencies and departments. The CAT also has ten working groups, which coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change;
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change;
- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation;
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols;
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions;
- Oceans and Coastal: Evaluating the effects of sea level rise and changes in coastal storm patterns on human and natural systems in California;
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions;
- Research: Coordinating research concerning impacts of and responses to climate change in California;
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from state government operations; and
- Water: Reducing GHG impacts associated with the state's water systems and exploring strategies to protect water distribution and flood protection infrastructure.

The CAT is responsible for preparing reports that summarize the state's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, state research programs, policy development, and future efforts.

Assembly Bill 32

In September 2006, the *California Global Warming Solutions Act of 2006*, also known as AB 32, was signed into law. AB 32 focuses on reducing GHG emissions in California, and requires CARB to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. CARB initially determined that the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit was 427 million metric tons of CO_2e. The 2020 target reduction was estimated to be 174 million metric tons of CO_2e.

To achieve the goal, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission (CPUC) and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the state.

AB 32 delegates CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills (CARB 2007b). On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs emissions from the semiconductor industry, reducing propellants in consumer products, and promoting proper tire inflation in vehicles.

The CARB AB 32 Scoping Plan (Scoping Plan) contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by CARB with input from CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the state economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing GHG emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable electricity standard of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout the state, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions.

CARB has adopted the First Update to the AB 32 Scoping Plan (CARB 2014). This Update identifies the next steps for California's leadership on climate change. The First Update to the initial AB 32 Scoping Plan describes progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. It also frames activities and issues facing the state as it develops an integrated framework for achieving both air quality and climate goals in California beyond 2020. Specifically, the update covers a range of topics:

- An update of the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants;
- A review of progress-to-date, including an update of Scoping Plan measures and other state, federal, and local efforts to reduce GHG emissions in California;
- Potential technologically feasible and cost-effective actions to further reduce GHG emissions by 2020;
- Recommendations for establishing a mid-term emissions limit that aligns with the state's long-term goal of an emissions limit 80 percent below 1990 levels by 2050; and
- Sector-specific discussions covering issues, technologies, needs, and ongoing state activities to significantly reduce emissions throughout California's economy through 2050.

As discussed above, in December 2007, CARB approved a total statewide GHG 1990 emissions level and 2020 emissions limit of 427 million metric tons of CO_2e. As part of the Update, CARB revised the 2020 statewide limit to 431 million metric tons of CO_2e, an approximately one percent increase from the original estimate. The revised estimate includes incorporation of the Pavley standards in the business-as-usual forecast. The 2020 business-as-usual forecast in the Update is 509 million metric tons of CO_2e. The state would need to reduce those emissions by 15 percent to meet the 431 million metric tons of CO_2e 2020 limit.

Senate Bill 375

SB 375, adopted in September 30, 2008, provides a means for achieving AB 32 goals through the reduction in emissions by cars and light trucks. SB 375 requires Regional Transportation Plans (RTPs) prepared by Metropolitan Planning Organizations (MPOs) to include Sustainable Communities Strategies (SCSs). In adopting SB 375, the Legislature found that improved coordination between land use planning and transportation planning is needed in order to achieve the GHG emissions reduction target of AB 32. Further, the staff analysis for the bill prepared for the Senate Transportation and Housing Committee's August 29, 2008 hearing on SB 375 began with the following statement: "According to the author, this bill will help implement AB 32 by aligning planning for housing, land use, transportation and greenhouse gas emissions for the 17 MPOs in the state." Under the *Sustainable Communities Act*, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. CARB has set the following reduction targets for SCAG: reduce per capita 8 percent of GHG emissions below 2005 levels by 2020 and 13 percent below 2005 levels by 2035.

Executive Order B-30-15

On April 29, 2015, Governor Jerry Brown issued EO B-30-15, stating a new statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. The executive order establishes GHG emissions reduction targets to reduce emissions to 80 percent below 1990 levels by 2050 and sets an interim target of emissions reductions for 2030 as being necessary to guide regulatory policy and investments in California and put California on the most cost-effective path for long-term emissions reductions. The executive order orders “all state agencies with jurisdiction over sources of [GHG] emissions [to]…implement measures, pursuant to statutory authority, to achieve reductions of [GHG] emissions to meet the 2030 and 2050 [GHG] emissions reductions targets.”

EO B-30-15 directs CARB to “update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent” ($MMTCO_2e$). It directs the Natural Resources Agency to update “Safeguarding California,” the state’s climate adaptation strategy, every three years, as specified; directs state agencies to “take climate change into account in their planning and investment decisions and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives;” and orders the state’s “Five-Year Infrastructure Plan [to] take current and future climate change impacts into account in all infrastructure projects.” Among its other directives, the executive order provides that “state agencies’ planning and investment shall be guided by the…principle that priority should be given to actions that both build climate preparedness and reduce GHG emissions.”

Senate Bill 32

On September 8, 2016, California signed into law SB 32, which adds Section 38566 to the Health and Safety Code and requires a commitment to reducing statewide GHG emissions by 2020 to 1990 levels and by 2030 to 40 percent less than 1990 levels. SB 32 was passed with companion legislation AB 197, which provides additional direction for developing the Scoping Plan. Recently, CARB released the 2017 Climate Change Scoping Plan Update (2017 Update), which outlines the proposed framework of action for achieving California’s new SB 32 2030 GHG target: a 40 percent reduction in GHG emissions by 2030 relative to 1990 levels (CARB 2017c). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by EO B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. The Proposed 2017 Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water.

Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 $MMTCO_2e$, and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. Key elements of the Proposed 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by EO B-30-15. The Proposed 2017 Update indicates that stronger SB 375 reduction targets are needed to meet the state’s 2030 and 2050 goals and that, “[m]ore needs to be done to fully exploit synergies with emerging mobility solutions like ridesourcing and more effective infrastructure planning to anticipate and guide the necessary changes in travel behavior, especially among millennials. Stronger SB 375 reduction targets will likely encourage further densification around transit infrastructure.

3.6.1.3 Regional

Southern California Association of Governments (SCAG) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

SCAG is the MPO for the six-county region that includes Los Angeles, Orange, Riverside, Ventura, San Bernardino and Imperial counties. The 2016–2040 RTP/SCS includes commitments to reduce emissions from transportation sources to comply with SB 375. Goals and policies included in the

2016–2040 RTP/SCS to reduce GHG emissions consist of adding density in proximity to transit stations, mixed-use development and encouraging active transportation (i.e., non-motorized transportation such as bicycling). SCAG promotes the following policies and actions related to active transportation to help the region confront congestion and mobility issues and consequently reduce emissions:

- Implement Transportation Demand Management (TDM) strategies including integrating bicycling through folding bikes on buses programs, triple racks on buses, and dedicated racks on light and heavy rail vehicles;
- Encourage and support local jurisdictions to develop "Active Transportation Plans" for their jurisdiction if they do not already have one;
- Expand Compass Blueprint program to support member cities in the development of bicycle plans;
- Expand the Toolbox Tuesday's program to encourage local jurisdictions to direct enforcement agencies to focus on bicycling and walking safety to reduce multimodal conflicts;
- Support local advocacy groups and bicycle-related businesses to provide bicycle-safety curricula to the general public;
- Encourage children, including those with disabilities, to walk and bicycle to school;
- Encourage local jurisdictions to adopt and implement the proposed SCAG Regional Bikeway Network; and
- Support local jurisdictions to connect all of the cities within the SCAG region via bicycle facilities.

SB 375 requires CARB to develop regional CO_2 emission reduction targets, compared to 2005 emissions, for cars and light trucks only for 2020 and 2035 for each MPO. SB 375 also requires that each MPO prepare an SC) as part of the RT) to reduce CO_2 by better aligning transportation, land use, and housing. For SCAG, the targets are to reduce per capita emissions 8 percent below 2005 levels by 2020 and 13 percent below 2005 levels by 2035 (SCAG 2016). The 2016–2040 RTP/SCS states that the region will meet or exceed the SB 375 per capita targets, lowering regional per capita GHG emissions (below 2005 levels) by eight percent by 2020 and 18 percent by 2035. The 2016–2040 RTP/SCS also states that regional 2040 per capita emissions would be reduced by 22 percent, although CARB has not established a 2040 per capita emissions target.

3.6.1.4 Local

GreenLA Action Plan

The City of Los Angeles (City) has issued guidance promoting sustainable development to reduce GHG emissions Citywide in the form of the GreenLA action plan. The objective of GreenLA is to reduce GHG emissions 35 percent below 1990 levels by 2030 (City 2007). GreenLA identifies goals and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations and create a framework to address Citywide GHG emissions. GreenLA lists various focus areas in which to implement GHG reduction strategies. Focus areas include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions. Relevant City goals in each focus area include, but are not limited to, the following:

Energy

- Increase the generation of renewable energy;
- Encourage the use of mass transit;
- Develop sustainable construction guidelines; and
- Increase citywide energy efficiency.

Water

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

Transportation

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

Other Goals

- Create a more livable City through land use regulations; and
- Increase recycling.

In order to provide detailed information on action items discussed in GreenLA, the City published an implementation document titled ClimateLA (City 2008). ClimateLA presents the existing GHG inventory for the City, describes enforceable GHG reduction requirements, provides mechanisms to monitor and evaluate progress, and includes mechanisms that allow the plan to be revised in order to meet targets. By 2030, the plan aims to reduce GHG emissions by 35 percent from 1990 levels, which were estimated to be approximately 54.1 million metric tons. Therefore, the City will need to lower annual GHG emissions to approximately 35.1 million metric tons per 2030.

To achieve these reductions the City has developed strategies that focus on energy, water use, transportation, land use, waste, open space and greening, and economic factors. To reduce emissions from energy usage, ClimateLA proposes the following goals: increase the amount of renewable energy provided by the Los Angeles Department of Water and Power; present a comprehensive set of green building policies to guide and support private sector development; reduce energy consumed by City facilities and utilize solar heating where applicable; and help citizens to use less energy.

With regard to waste, ClimateLA sets the goal of reducing or recycling 70 percent of trash by 2015. With regard to open space and greening, ClimateLA includes the following goals: create 35 new parks; revitalize the Los Angeles River to create open space opportunities; plant 1 million trees throughout the City; identify opportunities to "daylight" streams; identify promising locations for stormwater infiltration to recharge groundwater aquifers; and collaborate with schools to create more parks in neighborhoods.

Sustainable City pLAn

In addition to GreenLA, Mayor Eric Garcetti released the Sustainable City pLAn (pLAn) on April 8, 2015 (City 2015). The pLAn is a roadmap to achieving short-term results and sets a path to strengthen and transform the City in future decades. Recognizing the risks posed by climate change, Mayor Garcetti set time-bound outcomes on climate action, most notably to reduce GHG emissions by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050, all against a 1990 baseline. Through the completion and verification of the GHG inventory update, the City concluded that:

- The City accounted for approximately 36.2 million metric tons of CO_2e in 1990;
- The City's most recent inventory shows that emissions fell to 29 million metric tons of CO2e in 2013; and
- Los Angeles' emissions are 20 percent below the 1990 baseline as of 2013, putting Los Angeles nearly halfway to the 2025 pLAn reduction target of 45 percent.

In addition, the 20 percent reduction exceeds the 15 percent statewide goal listed in the First Update to the AB 32 Scoping Plan.

Mobility Plan 2035

On September 7, 2016, the City Council adopted the Mobility Plan 2035 to provide the policy foundation for achieving a transportation system that balances the needs of all road users. The Mobility Plan 2035 outlines goals and objective targets to help measure the progress of its implementation and success. By placing a Citywide emphasis on safety, access, and health the Mobility Plan 2035 will help to equalize the playing field and first address socioeconomically disadvantaged areas with the highest need to connect people to more prospects of success through mobility. Key policy initiatives of the Mobility Plan 2035 include the following:

- Lay the foundation for a network of complete streets and establish new complete street standards that will provide safe and efficient transportation for pedestrians (especially for vulnerable users such as children, senior, and the disabled), bicyclists, transit riders, and car and truck drivers; and
- Target GHG reductions through a more sustainable transportation system.

2028 Zero-Emissions Roadmap

In 2018, the Los Angeles Cleantech Incubator (LACI) formed the Transportation Electrification Partnership (TEP), with the objective of accelerating transportation electrification in the Greater Los Angeles region and moving toward an additional 25 percent reduction in GHG emissions and air pollution by 2028 (LACI 2018). The TEP comprises members of numerous agencies and municipalities, including, but not limited to, CARB, the City, the County of Los Angeles, the Los Angeles County Metropolitan Transportation Authority (LA Metro), the Los Angeles Department of Water and Power (LADWP), and Southern California Edison (SCE). Together, these groups will coordinate to achieve advancements in reducing GHG emissions and air pollution in the people movement, goods movement, and energy-transportation nexus sectors through the following guiding principles:

- Ensuring equal access to zero-emissions transportation options that are cost competitive, safe, and convenient;
- Ensuring that the autonomous future is electric and does not increase vehicle miles traveled (VMT);
- Ensuring that first- and last-mile electric options complement the region's public transit network;

- Ensuring infrastructure planning and investments support modern zero-emissions freight corridors;
- Improving freight efficiency and transitioning goods movement through zero-emissions technologies;
- Increasing competitiveness and future economic growth within freight sector in the Greater Los Angeles region and across California;
- Expanding grid infrastructure in a way that ensures resilience and promotes electric vehicle (EV) adoption at scale;
- Ensuring that the increased demand from transportation electrification is met through renewable energy; and
- Ensuring a localized power grid that addresses the opportunities and needs for integration of EVs and related technologies.

3.6.2 Environmental Setting

GHG emissions are the result of both natural and human-influenced activities. Volcanic activity, forest fires, decomposition, industrial processes, landfills, consumption of fossil fuels for power generation, transportation, heating, and cooling are the primary sources of GHG emissions. Without human activity, the Earth would maintain an approximate, but varied, balance between the emission of GHGs into the atmosphere and the storage of GHG in oceans and terrestrial ecosystems. Increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.) has contributed to a rapid increase in atmospheric GHG levels over the last 150 years.

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide (including from economically developed and developing countries and deforestation), which would induce further changes in the global climate system during the current century (U.S. EPA 2009c). Significant impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor, due to the atmosphere's ability to hold more water vapor at higher temperatures (U.S. EPA 2009c);
- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets (IPCC 2013);
- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones (IPCC 2013);
- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years (CalEPA 2010);

- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25 percent to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century (CalEPA 2010);
- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level (CalEPA 2010); and
- Exacerbating the severity of drought conditions in California such that durations and intensities are amplified, ultimately increasing the risk of wildfires and consequential damage incurred (California State Senate 2015).

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties; for example, in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, volcanic activity, and changes in oceanic circulation.

Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. Given the scale over which climate change occurs, as well as the uncertainties described above, it is not possible to link specific development projects to future specific climate change impacts; though estimating Project-specific emissions is possible.

3.6.2.1 Statewide Greenhouse Gas Emissions Trends

CARB has prepared a statewide emissions inventory covering 2000 to 2015, which demonstrates that GHG emissions have decreased by 7.9 percent over that period (CARB 2017a). Emissions in 2014 from the transportation sector, which represents California's largest source of GHG emissions and contributed 37 percent of total annual emissions, declined marginally relative to 2011 even while the economy and population continued to grow over that three-year time period (CARB 2017a). The long-term direction of transportation-related GHG emissions is another clear trend, with a 13 percent drop over the past 10 years. Table 3.6-2 shows GHG emissions from 2005 to 2015 in California.

3.6.2.2 Citywide Sustainability Endeavors

One component of the pLAn program is to prepare annual reports documenting progress and achievements in sustainable efforts Citywide. The most recent Second Annual Report 2016–2017 provides an overview of accomplishments by resource area, one of which is Carbon & Climate Leadership. An element of the Carbon and Climate Leadership is the preparation and updating of the City's GHG emissions inventory, which was originally compiled in 2013. As of 2013, the City had reduced its GHG emissions by 20 percent relative to 1990 levels, nearly halfway to the goal of 45 percent below by 2025. The 2013 emissions inventory determined that Citywide annual emissions were approximately 29 $MMtCO_2e$, with approximately 64 percent of emissions attributed to energy use, approximately 34 percent of emissions attributed to transportation, and the remaining 2 percent of emissions being generated by waste (City 2015a).

Table 3.6-2. California Greenhouse Gas Emissions Inventory 2005–2015

Sector	Annual CO_2e Emissions (million metric tons)										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Transportation	184	184	184	173	166	163	160	159	158	160	165
Industrial	95	93	90	90	87	91	91	91	93	94	92
Electric Power	108	105	114	120	101	90	88	95	90	88	84
Commercial/Residential	42	43	43	43	44	45	45	43	43	37	38
Agriculture	34	36	36	36	34	35	35	36	35	36	35
High Global Warming Potential	9	10	11	12	12	14	15	16	17	18	19
Recycling and Waste	8	8	8	8	8	8	8	8	8	9	9
Emissions Total	**482**	**479**	**486**	**483**	**453**	**446**	**442**	**445**	**445**	**442**	**440**

Source: CARB, *California Greenhouse Gas Inventory for 2000-2015 – by Category as Defined in the 2008 Scoping Plan*, June 6, 2017.

As documented in the Second Annual Report of the City pLAn, the LADWP 2015 *Integrated Resource Plan* sets a path toward 55 percent renewable energy by 2030, beating the state mandate. The mayor's office is also developing pathways to meet 80 percent GHG reduction by 2050. Another sustainability goal in the pLAn is to reduce the urban/rural temperature differential by at least 1.7 degrees Fahrenheit (°F) in 2025 and 3.0°F in 2035 (City 2015b). In 2016, the Mayor's Office and Climate Reserve hosted an Urban Heat Island and Extreme Heat Symposium, which identified key strategies including increased street tree canopy and green infrastructure in vulnerable communities, implementing and expanding the cool roof program, ramp-up cool pavement installations, and coordinating public communication efforts. The City is implementing an Alternative Materials pilot program that began in late 2017 to evaluate the effectiveness of cool pavement technologies and inform future decisions related to reducing the urban heat island effect throughout the City (City 2018).

3.6.3 Environmental Impact Analysis

This subsection analyzes the potential for GHG emissions impacts associated with construction and operation of the Project. The analysis is based on parameters for the anticipated construction and operational activities associated with the Project. Information has also been supplemented using appropriate methodologies and assumptions approved by regulatory agencies.

3.6.3.1 Approach

Implementation of the Project would generate GHG emissions as a result of the continuation of construction activities and future operational maintenance activities related to sidewalk repair. The Project would be implemented over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of up to 12,860 street trees, and the planting of about 30,405 new street trees. Replacement street trees would be planted at a 2:1 ratio for the first 10 years of the program, at a 3:1 ratio for years 11 through 21 of the program, and again at a 2:1 ratio for the remaining nine years of the 30-year Project.

For analysis purposes, an average site is assumed to be 650 linear feet long and 5 feet wide for each scenario. This assumption is based on data gathered from past work. As a conservative approach, it is also assumed that each repair site would include a street tree removal when the street tree cannot survive root pruning. Each Construction Scenario 1 repair project is anticipated to take a minimum average of 5 work days to complete, while Construction Scenario 2 is anticipated to take 30 work days to complete. Both Construction Scenario 1 and Construction Scenario 2 may be occurring simultaneously throughout the City at any given time. Of the approximately total 12 crews at peak construction activity at the last 5 years of the Project, it is assumed that up to 11 crews would be working on a Construction Scenario 1 site on a given day. Construction Scenario 2 would be more intensive than Construction Scenario 1 and would include substantial utility repair work as well as crosswalk repaving. Only a single crew is assumed to be conducting repairs for Construction Scenario 2 on any given day, during the last years of the Project because that is when the greatest amount of sidewalk repair sites will be repaired.

With respect to construction activities, the number of worker crews throughout the City at a given time is anticipated to increase every five years of the Project because of the increase in sidewalk repair (i.e., 298 repair sites annually in years 1–5, 344 annually in years six through 10, 396 annually in years 11–15, 457 annually in years 16–20, 527 annually in years 21–25, and 607 annually in years 26–30). Thus, for the purposes of this impacts assessment, the representative maximum annual GHG emissions that would be generated by construction activities during each five-year increment period of the 30-year Project are disclosed. The GHG emissions assessment included all anticipated Construction Scenario 1 and Construction Scenario 2 sites collectively.

The Citywide Construction daily trip generation (including one crew at a Construction Scenario 2 site) would be 758 trips if all total 12 crews in years 26 through 30 were working on the maximum number of phases in a single day (three phases under Construction Scenario 1 and four phases under Construction Scenario 2). Project trip generation would be reduced earlier in Project implementation, assuming there would be fewer construction activities per day, compared to later years of the Project where additional crews would be present. It should be noted that trip generation would be geographically dispersed throughout the City, and effects would not be confined to one area at a time.

Activities associated with Construction Scenarios 1 and 2 would generate GHG emissions from sources including the use of heavy-duty equipment, worker trips, and material delivery and disposal trips. Table 3.6-3 presents an overview of the individual events (phases) of construction activities under each scenario, the duration of each activity, the equipment required to complete the work, and the number of daily workers and total truck round trips anticipated for each event under Construction Scenario 1 and 2. See Table 3.6-3, for summary of activities for each construction scenario.

Estimates of annual GHG emissions that would be released by construction equipment use were quantified using methodologies described in the California Emissions Estimator Model (CalEEMod2016.3.2) *User's Guide Appendix A Calculation Details for CalEEMod* (CAPCOA 2017). The construction equipment emissions calculations relied on emission factors extracted from the CARB OFFROAD2011 model that are contained in the *CalEEMod User's Guide Appendix D Default Data Tables* document (CAPCOA 2017). The emission factors are expressed in terms of grams of pollutant emitted per hour of equipment use (g/hr). Detailed construction equipment emissions calculations can be found in Appendix H.

Table 3.6-3. Summary of Activities for Each Construction Scenario

Scenario/Activity	Duration (days)	Daily Equipment Type (count)	Daily Workers	Truck Trips
Construction Scenario 1				
Mobilization	5	Compressor (1) Small Generator (1)	4	2
Traffic Control/Demolition/Removal	1	Pneumatic Jackhammer (2) Concrete Saw (2) Skid-Steer Loader (1) Tractor (1)	4	2
Grading/Formwork	1	3 Ton Roller (1)	5	2
Concrete Pouring	1	Concrete Mixer (1) Concrete Vibrator (2)	9	2
Utility Adjustment	2	Manhole Cutter (1) Concrete Saw (1) Concrete Mixer (1)	5	2
Street Tree Removal	1	Bucket Truck (1) Chainsaw (1) Wood Chipper (1) Stump Grinder (1) Skid-Steer Loader (1)	5	0
Street Tree Planting	1	Mini Excavator (1)	3	0
Cleanup	1	N/A	3	2
Construction Scenario 2				
Mobilization	5	Same equipment as under Construction Scenario 1	4	2
Traffic Control/Demolition/Removal	1	Same equipment as under Construction Scenario 1	4	2
Grading/Formwork	1	Same equipment as under Construction Scenario 1	5	2
Concrete Pouring	1	Same equipment as under Construction Scenario 1	9	2
Utilities Relocation	20	Concrete/Industrial Saw (1) Excavator (1) Vibratory Plate Compactor (1) Asphalt Paver (1)	5	2
Crosswalk Repaving	5	Concrete/Industrial Saw (1) Skid Steer Loader (1) Asphalt Paver (1) Line Striper (1)	4	1
Street Tree Removal	1	Same equipment as under Construction Scenario 1	5	0
Street Tree Planting	1	Same equipment as under Construction Scenario 1	3	0
Cleanup	1	N/A	4	2

Source: MARRS Services Inc., 2018.

GHG emissions that would be released by vehicle trips (workers and trucks) were estimated using mobile source emission factors obtained from the CARB EMFAC2017 model. The EMFAC2017 model is a tool compiled by the CARB to assist mobile source emissions analysis for various projects throughout the state. The model generates average pollutant emission rates for various types of vehicles based on the regional climate conditions and year of analysis, accounting for mandatory improvements in engine and fuel efficiency required by programs implemented by the CARB into the future. Emission rates are expressed in terms of grams of pollutant emitted per vehicle mile traveled (g/mi) for CO_2 and CH_4. Construction worker trips were assigned a combination of light duty vehicles and construction truck trips were conservatively assumed to be heavy-duty trucks. Vehicle trip emissions calculations can be found in Appendix H.

The continuation of operational activities under the Project would consist of crews watering the street trees for the first three years after planting. The Project proposes to plant a total of 30,405 street trees over 30 years. At repair sites requiring street tree removal and replacement, it is anticipated that newly planted street trees would receive regular watering for the first three years following planting. It is estimated that up to six water trucks would be used daily to make the watering rounds, and each truck would travel up to 70 miles per day. The operational emissions analysis estimated GHG emissions generated by 420 daily water trucks, using emission rates obtained from EMFAC2017; detailed calculations can be found in Appendix H.

Following the construction activities at each site, inspection crews would be required to visit the construction sites to verify compliance with applicable accessibility requirements and compile an inventory of sites repaired for Certificate of Warranty (see Chapter 2, *Project Description*). For analysis purposes and based on ongoing activities, it is assumed that a site inspector could visit four sites per day, totaling approximately 20 miles of travel, and that up to four inspection crew vehicles could be working at a given time. Therefore, operational site inspection activities would generate up to approximately 80 VMT daily. Mobile source GHG emissions associated with inspection activities were estimated using emission rates obtained from the EMFAC2017 model; detailed calculations can be found in the Appendix H.

Carbon sequestration is a term used to describe processes by which CO_2 is removed from the atmosphere for long-term storage. Trees sequester carbon by using photosynthesis to convert CO_2 into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth (CARB 2015). A consequence of removing and replacing street trees is the change in carbon sequestration that occurs from removing a full-grown street tree and replacing it with a sapling. As street trees grow, they are more capable of sequestering CO_2 from the atmosphere, and the annual CO_2 sequestration increases with age. Furthermore, various tree species have different CO_2 sequestration rates. As a response to demand for urban street tree planning projects and the need to characterize their effects on climate change, the United States Forest Service (USFS) in partnership with the California Department of Forestry and Fire Protection (CAL FIRE) developed the CUFR Tree Carbon Calculator (CTCC) tool to quantify estimates of annual carbon sequestration from urban street trees (USDA 2012).

The CTCC tool contains a database that provides estimated annual carbon sequestration based on the climate zone, age, and species of street trees. Under the Project, removed street trees would be replaced at a 2:1 ratio during Years 1 through 10, a 3:1 ratio during years 11 through 21, and a 2:1 ratio for the final nine years of the program. Net annual carbon sequestration estimates associated with street tree removal (loss of carbon sequestration) and new street tree planting and growth (gain in carbon sequestration) were calculated for each year of the Project as a component of the operations analysis. Detailed carbon sequestration calculations are provided in Appendix H.

Given the scientific consensus, acknowledging that the effects of GHG emissions on climate change are cumulative in nature, the GHG emissions impact analyses considered combined GHG emissions from both construction and operational activities associated with the Project. Because the continuation of construction and operation activities resulting from the Project would occur simultaneously and be ongoing over its 30-year lifetime, the Project's potential environmental impacts related to GHG emissions are also assessed by including aggregate estimates of annual GHG emissions generated by construction activities, operational maintenance activities, and changes in carbon sequestration resulting from street tree removal and planting. Ultimately, the continuation of construction and operation activities from the Project are considered cumulatively and simultaneously.

3.6.3.2 Project Design Features

No project design features are anticipated.

3.6.3.3 Thresholds of Significance

As the 2006 *L.A. CEQA Thresholds Guide* was adopted prior to the requirement for GHG emissions to be addressed as part of CEQA, there are no local thresholds of significance related to GHG emissions that are identified in the guide. As such, the significance thresholds related to GHG emissions identified in *Appendix G of the 2019 CEQA Guidelines* are used to analyze potential impacts associated with the Project.

According to the Environmental Checklist in Appendix G of the CEQA Guidelines, a project may have a significant environmental impact related to Greenhouse Gas Emissions if it would:

- **GHG-1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? *Appendix G of the CEQA Guidelines.*
- **GHG-2:** Conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs? *Appendix G of the CEQA Guidelines.*

With respect to GHG emissions, CEQA Guidelines Section 15064.4 provides guidance to lead agencies for determining the significance of impacts from GHG emissions. Section 15064.4(a) provides that a lead agency should make a good-faith effort based, to the extent possible, on scientific and factual data to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Section 15064.4(a) further provides that a lead agency shall have the discretion to determine, in the context of a particular project, whether: (1) to use a model or methodology to quantify GHG emissions resulting from a project and which model methodology to use and/or (2) to rely on qualitative analysis or performance-based standards.

Pursuant to CEQA Guidelines Section 15064.4(a), the analysis presented herein uses a model or methodology to quantify GHG emissions resulting from the Project. The analysis contained herein provides a good-faith effort to describe, calculate, and estimate GHG emissions resulting from the Project and compares those emissions with the chosen threshold level.

CEQA Guidelines Section 15064.4(b) also provides that, when assessing the significance of impacts from GHG emissions, a lead agency should consider (1) the extent to which the project may increase or reduce GHG emissions compared with existing conditions, (2) whether the project's GHG emissions exceed a threshold of significance that the lead agency determines applies to the project, and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The analysis of the potential impacts from the project's GHG emissions follows this approach.

The CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions. Instead, they leave the determination of the significance of GHG emissions up to the lead agency and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

A number of lead agencies within the state and region, including multiple air districts, have drafted, adopted, or recommended threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. However, there are currently no quantitative thresholds that have been adopted by a local agency relevant to the Project. The City has not drafted nor adopted threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. While the City has completed an action plan related to climate change in 2007 (GreenLA), this action plan does not qualify for tiering under CEQA (specifically, CEQA Guidelines Section 15183.5) because the CAP has not undergone CEQA review per the tiering requirements from Section 15183.5. Therefore, the Project-specific analysis herein cannot rely on a qualitative tiering analysis with the City's CAP. Thus, there is no City guidance or threshold applicable to the Project.

Although there is no direct local guidance for the analysis of impacts related to climate change, at the regional scale, the South Coast Air Quality Management District (SCAQMD) considered draft GHG CEQA guidance in 2008 and adopted a staff proposal that has been used by lead agencies to evaluate climate change impacts within the Basin. (SCAMD, 2008.) SCAQMD's draft GHG guidance recommends a tiered approach to analyzing GHG emissions in CEQA documents. This tiered approach allows for flexibility when analyzing GHG emissions based on project size, land use type, or other characteristics. The various tiers include: (1) potential CEQA exemptions for certain projects, (2) compliance with a qualified GHG reduction strategy, (3) comparison with separate screening level thresholds for industrial and commercial/residential projects, (4) consistency with compliance options, including a performance-based reduction analysis (i.e., compare with a Business-As-Usual level), compliance with AB 32, and/or comparison with efficiency-based thresholds (i.e., quantitative thresholds that are based on a per capita efficiency metric), and/or (5) implement offsite mitigation to reduce GHG emission impacts to a less-than-significant level. The draft GHG guidance is included as part of the periodic updates to SCAQMD's *Air Quality Handbook*.

Based on the available threshold concepts recommended by expert agencies, the assessment herein analyzes operational emissions against SCAQMD's draft 3,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) bright-line threshold level. Per SCAQMD, projects below the bright-line significance criteria have a minimal contribution to cumulative global emissions and are considered to have less-than significant impacts.

3.6.3.4 Construction Impacts

GHG-1. Would the proposed Project GHG emissions—either directly or indirectly—that may have a significant impact on the environment?

This impact would be less than significant during construction.

As mentioned above in Section 3.6.3.3, *Thresholds of Significance*, GHG emissions are measured exclusively as cumulative impacts; therefore, the construction emissions listed below are considered part of total GHG emissions for the project lifecycle, which also include GHG emissions during operational maintenance activities and changes in carbon sequestration. The determination of significance is based on aggregate GHG emissions associated with all activities throughout the life of the Project. Based on the methodology discussed above, the impact conclusion is drawn from the assessment of operational emissions, combined with construction emissions and changes in carbon sequestration throughout the 30-year repair program, because construction emissions are typically amortized over a 30-year period, in accordance with SCAQMD guidance.

Annual construction activities would expand every five years under the Project. Table 3.6-4 presents the five-year incremental increases in construction activity anticipated as resources and funding are made available. Under CEQA, GHG emissions are evaluated on an annual basis. The analysis of construction GHG emissions considers all Construction Scenario 1 and Construction Scenario 2 repair sites that would be completed in a given year under the Project. On average, it was assumed that a street tree removal would be required at every sidewalk and curb ramp repair site.

Table 3.6-4. Summary of Project Construction Crew Activities

Years	Annual Sidewalk Repair (square feet)	Annual Number of Construction Scenario 1 Repair Sites	Annual Number of Construction Scenario 2 Repair Sites	Estimated Annual Street Trees Removed/ Replaced (Ratio)
1–5	968,750	284	12	292/583 (2:1)
6–10	1,116,969	332	12	336/672 (2:1)
11–15	1,287,500	384	12	388/1,164 (3:1)
16-20	1,484,375	445	12	447/1,341 (3:1)
21–25	1,712,188	515	12	515/1,133 (2:1)[a]
26–30	1,974,063	595	12	594/1,188 (2:1)

Source: MARRS Services, Inc., 2018.
[a] Street tree replacement ratio in Program Year 21 is 3:1 (2:1 thereafter).

Construction Scenario 1 and Construction Scenario 2

Both Construction Scenario 1 and Construction Scenario 2 would result in GHG emissions from fuel combustion associated with heavy-duty construction equipment, construction worker vehicle trips, material deliveries, and trips by haul, water, and concrete trucks. The activity-specific construction equipment inventories presented in Table 3.6-3 and the vehicle activities described in Section 3.6.3.1 were used to prepare the GHG emissions inventory presented in Table 3.6-5. The results of the construction emissions modeling determined that a maximum annual total of 1,129.3 $MTCO_2e$ of GHG emissions would result from Construction Scenario 1 and Construction Scenario 2 activities. The significance determination is based on aggregate GHG emissions generated by construction activities, operational maintenance activities, and changes in carbon sequestration resulting from street tree removal and replacement throughout the lifetime of the Project. Please refer to the discussion below under Section 3.6.3.5, Operational Impacts, GHG-1. Therefore, the project annual construction-related GHG emissions are below 3,000 $MTCO_2e$, and would be less than significant.

Mitigation Measures

No mitigation measures are required

Table 3.6-5. Project Annual Construction-Related GHG Emissions

Project Period	Total Equipment Emissions ($MTCO_2e$)	Total Vehicle Emissions ($MTCO_2e$)	Total Activity Emissions ($MTCO_2e$)
Years 1–5	205.3	584.1	789.3
Years 6–10	218.0	579.5	797.5
Years 11–15	250.1	633.3	797.5
Years 16–20	302.8	658.8	883.4
Years 21–25	346.5	707.4	1,053.8
Years 26–30	394.2	735.0	1,129.3
Maximum Annual Construction Activity GHG Emissions			**1,129.3**

Source: MARRS Services, 2018; TAHA, 2018.

GHG-2. Would the proposed Project conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing GHG emissions?

This impact would be less than significant.

As discussed above, GHG emissions are measured exclusively as cumulative impacts; therefore, the construction emissions listed above are considered as part of the GHG emissions for the Project lifecycle, including GHG emissions during operation. Based on the SCAQMD guidance and the methodology discussed above, the impact conclusion is drawn from the assessment of operational emissions and not construction emissions. The significance determination is based on aggregate GHG emissions generated by construction activities, operational maintenance activities, and changes in carbon sequestration resulting from street tree removal and planting throughout the lifetime of the Project. Please refer to the discussion below under Section 3.6.3.5, *Operational Impacts, GHG-2*.

Mitigation Measures

No mitigation measures are required. Please refer to the discussion below under Section 3.6.3.5, *Operational Impacts, GHG-2*.

3.6.3.5 Operational Impacts

The continuation of activities under the Project would result in sources of GHG emissions associated with continuing sidewalk repair operations during the ongoing 30-year sidewalk repair program. 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.

As mentioned previously, the primary sources of GHG emissions associated with the continuation of operational activities from the Project include motor vehicle emissions generated by site assessments and inspections and street tree watering activities. Additionally, the analysis considers the net change in annual GHG emissions throughout the City as a result of street tree removal and replacement activities. Implementation of the Project would not introduce a new permanent stationary source of GHG emissions in the City.

Because of the cumulative nature of the effect of GHG emissions on global climate change—as well as the longevity of the continuation of construction activities associated with the Project—the operational impact assessment examines the combined GHG emissions from both construction activities over 30 years as well as operational activities.

GHG-1. Would the proposed Project generate GHG emissions—either directly or indirectly—that may have a significant impact on the environment?

This impact would be less than significant during operation.

Implementation of the continuing activities from the Project would result in operational vehicle trips associated with site assessments, inspections, and street tree watering. Site assessments would involve approximately six crews visiting six sites each per day with a daily trip length of 20 miles, for a total site assessment daily VMT of 120. Site inspections would consist of approximately four crews per day visiting four sites each with a daily trip length of 20 miles, for a total site inspection daily VMT of 80. The LABOE anticipates that street tree watering activities would require up to six crews with a daily trip length of 70 miles, for a total watering daily VMT of 420. Therefore, total operational daily VMT would be approximately 620 miles as a result of implementation of the continuing activities from the Project.

Table 3.6-6 presents the GHG emissions estimated in the operational vehicle trips analysis. The emissions factors extracted from the EMFAC2017 model were for 2018. The annual emissions analysis does not account for improvements in engine and fuel efficiency in subsequent years after initiation of the Project in 2018 that will ultimately reduce GHG emissions per VMT as mandated CARB program requirements are phased in. Annual motor vehicle GHG emissions associated with operation of the Project would be no greater than approximately 65.6 $MTCO_2e$. The GHG emissions resulting from motor vehicle trips would not represent a substantial incremental increase relative to the 9.6 $MMTCO_2e$ annual citywide emissions from on-road motor vehicles inventoried in 2013, constituting less than 0.01 percent of the total. The operational impact related to mobile source GHG emissions would be less than significant.

Table 3.6-6. Annual GHG Emissions – Project's Operational Maintenance Vehicle Trips

Trip Type	Annual VMT	Annual GHG Emissions ($MTCO_2e$)
Site Assessments	30,840	12.7
Site Inspections	20,560	8.5
Site Watering	107,940	44.4
Total Annual Vehicle Trip GHG Emissions		65.6

Source: LABOE, 2018; TAHA, 2018.

In addition to motor vehicle trips, operation of the continuing activities from the Project would have an indirect effect on Citywide GHG emissions through changes in carbon sequestration that occur as a result of removing and replacing street trees. As mentioned previously, young street trees sequester less carbon from the atmosphere on an annual basis than full-grown street trees. To mitigate the effective loss in carbon sequestration from removing existing street trees, the Project would replace removed street trees on a 2:1 basis during years 1–10 and 22–30, and on a 3:1 basis during years 11–21. Table 3.6-7 presents the net annual change in carbon sequestration as a result of removing full-grown street trees and replacing them with saplings at the ratios described above. The numbers displayed reflect the cumulative change in annual GHG emissions resulting from Project implementation. Each year takes into account the removed sequestration of street trees in previous years, as well as growth of newly planted street trees in years following initial planting. The removed street trees would be replaced with 2 or 3 new, healthy trees within one year of removal.

Table 3.6-7. Change in Carbon Sequestration Resulting from Implementation of the Project

Project Year	Cumulative Project Street Trees Removed	Annual Sequestration Lost ($MTCO_2e$)	Cumulative Project Street Trees Planted	Annual Sequestration Added ($MTCO_2e$)	Net Change in Annual Sequestration ($MTCO_2e$)
1	292	19.6	583	1.0	-18.6
2	584	39.3	1,166	2.9	-36.4
3	879	58.9	1,749	5.7	-53.2
4	1,168	78.5	2,332	9.8	-68.8
5	1,460	98.2	2,915	15.0	-83.2
6	1,796	135.6	3,587	21.6	-114.0
7	2,132	158.1	4,259	30.5	-127.7
8	2,468	180.7	4,931	40.9	-139.8
9	2,804	203.3	5,603	52.9	-150.5
10	3,140	225.9	6,275	66.4	-159.5
11	3,528	287.0	7,439	82.3	-204.6
12	3,916	313.1	8,603	111.2	-201.9
13	4,304	339.2	9,767	142.8	-196.3
14	4,692	365.2	10,931	177.2	-188.1
15	5,080	391.3	12,095	214.2	-177.1
16	5,527	480.9	13,436	254.3	-226.6
17	5,974	510.9	14,777	303.3	-207.7
18	6,421	541.0	16,118	355.4	-185.6
19	6,868	571.1	17,459	410.5	-160.6
20	7,315	601.1	18,800	468.6	-132.5
21	7,830	727.2	19,933	529.4	-197.8
22	8,345	761.8	21,066	583.6	-178.2
23	8,860	796.4	22,199	640.2	-156.2
24	9,375	831.1	23,332	699.3	-131.8
25	9,890	865.7	24,465	760.8	-104.9
26	10,484	1,038.4	25,653	824.7	-213.7
27	11,078	1,078.4	26,841	894.0	-184.4

Project Year	Cumulative Project Street Trees Removed	Annual Sequestration Lost ($MTCO_2e$)	Cumulative Project Street Trees Planted	Annual Sequestration Added ($MTCO_2e$)	Net Change in Annual Sequestration ($MTCO_2e$)
28	11,672	1,118.3	28,029	965.7	-152.6
29	12,266	1,158.2	29,217	1,037.5	-120.8
30	12,860	1,198.2	30,405	1,109.2	-89.0

Source: LABOE, 2018; TAHA, 2018.

As shown in Table 3.6-7, reasonably foreseeable street tree removal and replacement activities associated with implementation of the Project would result in a maximum net annual sequestration loss of approximately 226.6 $MTCO_2e$ in Program Year 16. This finding indicates that the annual loss in sequestration due to street tree planting and replacement activities would never exceed 230 $MTCO_2e$. The net change in annual sequestration would gradually increase because of growth in planted street trees and the continuation of the street tree replacement activities, ultimately reducing the annual loss in sequestration. Eventually, implementation of the Project would result in a net positive gain in carbon sequestration in future years beyond the program's horizon.

The graph below presents the trend in annual carbon sequestration changes throughout the lifetime of the Project resulting from street tree removal and planting activities. The graph displays the annual sequestration lost from street tree removals, the annual sequestration gained from new street tree planting and the growth of previously planted trees, and the net change in annual carbon sequestration as a result of the street tree removal and replacement activities presented in Table 3.6-7. Detailed carbon sequestration calculations can be found in Appendix H.

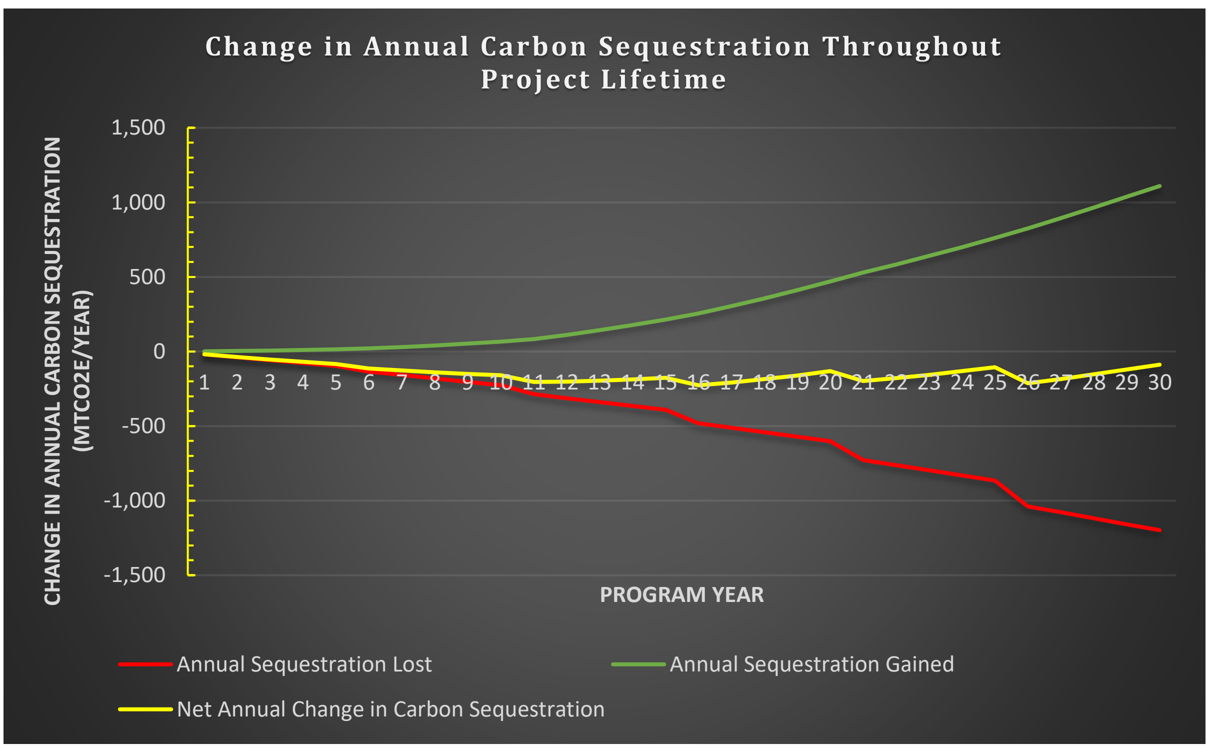


Figure 3.6-1. Annual Carbon Sequestration

Continuation of the operational activities from the Project would result in maximum annual mobile trip emissions of 65.6 $MTCO_2e$ and maximum annual carbon sequestration losses of approximately 226.6 $MTCO_2e$, which suggests that citywide operation of the Project would never exceed approximately 300 $MTCO_2e$ annually. Accounting for ongoing construction activities that would occur every year during operation of the Project, maximum annual GHG emissions associated with construction and operation activities under the Project would occur in year 26 of the program and would be approximately 1,408.6 $MTCO_2e$. Annual GHG emissions (the sum of construction and operational emissions) for the continuation of activities from the Project would never exceed the 1,500 $MTCO_2e$ annually, which is half of the interim 3,000 $MTCO_2e$ bright-line criterion for 90 percent capture of all CEQA projects within SCAQMD jurisdiction. As of 2016, the Citywide GHG emissions inventory accounted for 26.7 million $MTCO_2e$; the continuation of activities from the Project would generate approximately 0.005 percent of the City inventory. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

GHG-2. Would the proposed Project conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing GHG emissions?

The impact would be less than significant during operation.

The regional and local plans and policies most relevant to the Project include the SCAG 2016–2040 RTP/SCS, the GreenLA action plan, the ClimateLA implementation program, the pLAn, and Mobility Plan 2035. SCAG and the City have prepared these documents in response to statewide initiatives to reduce GHG emissions, including EO S-3-05, AB 32, EO B-30-15, and SB 32, which were discussed in Section 3.6.1.2, above. The SCAG and City policies considered the statewide GHG emissions reduction targets in formulating regional and local strategies to reduce GHG emissions. The SCAG RTP/SCS is designed to comply with the CARB AB 32 and SB 375 objectives, and CARB staff members evaluated the adequacy of the SCAG analyses and regional GHG emission reduction efforts. The City prepared GreenLA CAP, pLAn, and Mobility Plan 2035 as a pathway to materializing the desired GHG emissions reductions outlined in the statewide initiatives.

Enhancing infrastructure accessibility and accommodating multi-modal transportation options is a critical component to creating a safer and more sustainable transportation network. Table 3.6-8, below, shows that the Project would not conflict with applicable GHG emissions reductions plans, policies, and regulations because of direct conformance with stated objectives at the regional and local levels derived from large-scale goals. Conforming to regional and local efforts to reduce GHG emissions is representative of consistency with statewide policies and legislation, which outline required reductions into the future.

Table 3.6-8. Project Conformance with GHG Emissions Reduction Framework

Policy/Goal/Objective	Project Conformance
SCAG 2016–2040 RTP/SCS	
Promote walking biking, and other forms of active transportation through improving sidewalk quality, local bike networks, and neighborhood mobility areas.	Implementation of the Project would occur over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of up to 12,860 street trees, and

Policy/Goal/Objective	Project Conformance
	the planting of about 30,405 new street trees. Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Preserve infrastructure to encourage active transportation.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system should be the highest RTP/SCS priorities.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Active transportation improvements: Livable Corridors should include increased investments in Complete Streets to make these corridors and the intersecting arterials safety for biking and walking.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Neighborhood Mobility Areas: Encouraging Active Transportation for Short Trips through the development of Complete Streets strategies such as bike lanes, roundabouts, wider sidewalks and better lighting.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
GreenLA Cap & ClimateLA	
Action LU2: Promote and implement transit-oriented development to create cohesive, vibrant, walkable communities.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Action OS/G3: Plant 1 million trees throughout Los Angeles to provide shade and reduce energy costs, clean the air, absorb greenhouse gases that cause global warming, capture polluted urban runoff, improve water quality, provide homes for wildlife, and add beauty to our neighborhoods.	Implementation of the Project would occur over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of up to 12,860 street trees, and the planting of about 30,405 new street trees.
Action T8: Promote walking and biking to work, within neighborhoods, and to large events and venues.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Expand number of green infrastructure sites and green streets (e.g., bioswales, infiltration cut-outs, permeable pavement, and street trees).	Implementation of the Project would occur over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of up to 12,860 street trees, and the planting of about 30,405 new street trees.
Reduce the impact of LA's urban heat island effect through the addition of street trees and cool roofs.	Implementation of the Project would occur over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of

Policy/Goal/Objective	Project Conformance
	up to 12,860 street trees, and the planting of about 30,405 new street trees.
Sustainable City Plan	
Long-Term Mobility & Transit Outcomes: Increase the percentage of all trips made by walking, biking, or transit to at least 35 percent by 2025 and 50 percent by 2035.	Implementation of the Project would occur over a 30-year period, resulting in approximately 42,719,225 square feet of repaired sidewalks, possible removal of up to 12,860 street trees, and the planting of about 30,405 new street trees. Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Improve pedestrian and bicycle infrastructure and other sustainable transport, emphasizing connections to mass transit.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Strengthen pedestrian and bike safety through the incorporation of safety for pedestrians into all street designs and redesigns.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Implement Vision Zero policy to reduce traffic fatalities and improve pedestrian/bike safety.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Mobility Plan 2035	
Increase pedestrian safety improvements in the design and implementation of complete streets projects within the top 25 percent SB565 disadvantaged communities located in the City.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Enhance roadway safety by maintaining the street, alley, tunnel and bridge system in good to excellent condition.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Recognize walking as a component of every trip and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to preserve a safe and comfortable walking environment.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right of way.	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility requirements, providing improved walkability and safety for all pedestrians.
Promote equitable land use decisions that result in fewer vehicle trips by providing greater	Implementation of the Project would continue the activities to create sidewalks and curb ramps that would meet the applicable accessibility

Policy/Goal/Objective	Project Conformance
proximity and access to jobs, destinations, and other neighborhood services.	requirements, providing improved walkability and safety for all pedestrians.

The development and maintenance of safe and accessible infrastructure is crucial to diverse transportation opportunities throughout the City. Although the Project would continue activities that would generate GHG emissions, its implementation would also enhance accessibility and safety for pedestrians. A consistent theme throughout regional and local plans designed to reduce GHG emissions is encouraging the public to engage in active transportation, including walking and biking. Furthermore, improving sidewalks would be conducive to choosing public transit options. As discussed in Chapter 3.12, *Transportation*, in response to the passage of SB 743 (2013) into law, which directs lead agencies to revise transportation assessment guidelines to include a transportation performance metric that promotes, among other things, the reduction of GHG emissions, the latest (2018) CEQA Guidelines have added Section 15064.3, stating that VMT is the most appropriate measure of transportation impacts. According to the Governor's Office of Planning and Research (OPR) recommendations regarding criteria used to evaluate the significance of a project's VMT, "rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets ([…] pedestrian facilities) and that do not add additional motor vehicle capacity" are deemed to be projects that would most likely not lead to a substantial or measureable increase in vehicle travel and therefore should not require an induced travel analysis. Thus, because the Project would meet this criteria, it would not result in a substantial or measurable increase in vehicle travel that would compromise the state's efforts to reduce GHG emissions. On the contrary, the replacement of removed street trees on a 2:1 basis during years 1–10 and 22–30, and on a 3:1 basis during years 11–21 under the Project would eventually result in a net positive gain in carbon sequestration in future years beyond the program's horizon as the street canopy is increased. The replacement of street trees would also retain the City's beauty and continue to mitigate the urban heat island effect. Implementation of the Project would not conflict with any applicable plan, policy, or regulation aimed at reducing GHG emissions. This impact would be less than significant.

In addition, as discussed in Section 3.6.1.2, EO B-30-15 established a statewide interim GHG emissions reduction target of 40 percent below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050. Achieving these long-term GHG emissions reduction policies will require systemic changes in how energy is produced and used. There are a number of studies that discuss potential mechanisms for limiting statewide GHG emissions to meet the aggressive goals identified by EO B-30-15 and EO S-3-05. For example, CARB and other state agencies commissioned Energy + Environmental Economics in 2015 to develop feasible GHG reduction scenarios for 2030. Other studies include a report by the California Center for Science and Technology, the California Department of Transportation's California Transportation Plan 2040, CARB's First Update to the AB 32 Scoping Plan, and a study published in *Science* that analyzes the changes that would be required to reduce GHG emissions to 80 percent below 1990 levels by 2050. In general, these studies reach similar conclusions—deep reductions in GHG emissions can be achieved only with significant changes in electricity production, transportation fuels, and industrial processes (e.g., decarbonizing electricity production, electrifying transportation, using alternative fuels for aviation).

In evaluating the Project's emissions for consistency with EO S-3-05 and EO B-30-15, it is important to note that many of the broad-scale shifts needed to meet the reduction goals are outside of the control of the City and beyond the scope of the Project. The long-term climate change policy and regulatory changes that would be enacted to meet 2030 and 2050 emissions reduction targets are unknown at this time. As a consequence, the extent to which the Project emissions and resulting impacts would be mitigated through implementation of statewide (and nationwide) changes is not known. However, some of the anticipated statewide actions (e.g., decarbonization, energy efficiency, and alternative transportation) can be facilitated, at least to some extent, through implementation of specific GHG reduction measures in large-scale developments, such as the Project. In addition, implementation of the Project would not conflict with the objectives of the Zero Emissions 2028 Roadmap, which was adopted by the TEP to reduce regional GHG emissions and air pollution through accelerated electrification of the transportation sector. Construction and operation of the continuing activities from the Project would not interfere with planned infrastructure upgrades to the power grid, nor would it introduce new non-EVs to the regional transportation network. Ultimately, implementation of the continuing activities from the Project may enhance accessibility to electrified public transit options and EV charging stations, the number of which would be expanded under the Zero Emissions 2028 Roadmap. The goals of the Zero Emissions 2028 Roadmap will not be compromised by implementing the Project.

The Project includes policies related to planting drought-tolerant species resulting in reduced water consumption. The Project is consistent with anticipated long-term statewide strategies to reduce GHG emissions. Implementation of the Project would result in the planting of 30,405 street trees over 30 years of street tree retention, removal, and replacement. Street tree removal and replacement would follow a 2:1 replacement ratio to maintain street tree canopy and street tree cover. Accordingly, the Project would not conflict with the goals in EO S-3-05 and EO B-30-15. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.6.4 Summary of Combined Construction and Operation Impacts

As discussed previously, the effect of GHG emissions on climate change is cumulative in nature. The GHG analyses presented above account for concurrent construction and operational emissions. Ongoing construction activities, operational maintenance activities, and changes in carbon sequestration will result in a maximum annual net cumulative increase in GHG emissions of 1,408.6 $MTCO_2e$ throughout the Project's lifetime. In the 2017 Climate Change Scoping Plan, CARB acknowledges that a project can generate GHG emissions above net zero without being considered cumulatively considerable (CARB 2017c).

> Achieving net-zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA. Lead agencies have the discretion to develop evidence-based numeric thresholds (mass emissions, per capita, or per service population) consistent with the scoping plan, the state's long-term GHG goals, and climate change science.

The maximum annual increase in GHG emissions resulting from implementation of the Project represents less than half of the interim SCAQMD screening threshold that was determined to capture 90 percent of projects within the agency's jurisdiction.

Although the City has not established a numeric threshold of its own as a lead agency, the Project's conformance with regional and local GHG emission reduction initiatives—as outlined in Table 3.6-8—demonstrates that the Project would be consistent with applicable plans and policies adopted to meet the statewide reduction targets. The CEQA Guidelines advise that, "[p]ursuant to Sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances" (Governor's Office of Planning and Research 2017). The Project's conformance with local plans and policies has been sufficiently demonstrated above. No further analysis is warranted, and the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.6.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impact related to GHG would occur.

3.7 Hazards and Hazardous Materials

This chapter describes the environmental and regulatory setting for hazards and hazardous materials. It also describes impacts on hazards and hazardous materials that would result from implementation of the proposed Project (Project).

A hazardous material is any substance that, because of its quantity, concentration, or physical or chemical properties, may pose a hazard to human health and the environment. Under *California Code of Regulations* (CCR) Title 22, the term "hazardous substance" refers to both hazardous materials and hazardous wastes. Both of these are classified according to four properties: (1) toxicity, (2) ignitability, (3) corrosiveness, and (4) reactivity (CCR Title 22, Chapter 11). A hazardous material is defined in CCR Title 22 as:

> [a] substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (CCR Title 22 Section 66260.10).

Hazardous materials in various forms can cause death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property. Hazards to human health and the environment can occur during production, storage, transportation, use, or disposal of hazardous materials.

Hazardous materials information in this chapter is based in part on the *Preliminary Geologic Hazards Evaluation City of Los Angeles Sidewalk Repair Program Los Angeles, California*, prepared by Ninyo & Moore in February of 2018 (see *Appendix G*).

3.7.1 Regulatory Setting

3.7.1.1 Federal

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The federal *Toxic Substances Control Act* (1976) (TSCA) and the *Resource Conservation and Recovery Act of 1976* (RCRA) established a U.S. Environmental Protection Agency (U.S. EPA)-administered program to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. TSCA authorized the U.S. EPA to secure information on all new and existing chemical substances, as well as to control any of the substances that were determined to cause unreasonable risk to public health or the environment. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act/ Superfund Amendments and Reauthorization Act

The *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), commonly known as "Superfund," was enacted by Congress on December 11, 1980. This law (42 United States Code [USC] 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites, provides for liability of persons responsible for releases of hazardous waste at these sites, and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP (Title 40, Code of Federal Regulations [CFR], Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the *Superfund Amendments and Reauthorization Act* on October 17, 1986.

The Emergency Planning and Community-Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 was created to help communities plan for chemical emergencies and to respond to concerns regarding environmental and safety hazards resulting from the storage and handling of toxic chemicals. EPCRA requires the reporting of storage, use, and releases of hazardous substances to the federal, state, and local governments.

Section 402 of the Clean Water Act: National Pollutant Discharge Elimination System Permits

Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Board (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s). In addition, construction sites on an acre or greater of land are required to obtain an NPDES permit.

U.S. Environmental Protection Agency Human Health Risk Assessment Guidance

The U.S. EPA developed guidance for conducting human health risk assessments, which include the following steps (U.S. EPA, 2016):

- **Planning**: Guidance for identifying at-risk populations, environmental hazards of concern, sources of environmental hazards, pathways of exposure, health effects, and duration of toxic effects.
- **Hazard Identification**: Guidance for determining whether exposure to a stressor can cause an increase in the incidence of specific health effects.
- **Dose-Response**: Guidance for determining the likelihood and severity of adverse health effects in response to the amount and condition of exposure to an agent.
- **Exposure Assessment**: Guidance for measuring or estimating the magnitude, frequency, and duration of human exposure to an agent in the environment or estimating future exposures for an agent that has not yet been released.
- **Risk Characterization**: Guidance for determining the nature and presence or absence of risks, describing how the risk was assessed, and disclosing where uncertainties still exist.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration's (OSHA's) mission is to ensure the safety and health of American workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA establishes and enforces protective standards and reaches out to employers and employees through technical assistance and consultation programs. OSHA standards are listed in 29 CFR 1910.

Department of Transportation Hazardous Materials Regulations (49 CFR 100–185)

U.S. Department of Transportation (DOT) Hazardous Materials regulations cover all aspects of hazardous materials packaging, handling, and transportation. Some of the topics covered include; Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications), and 180 (Packaging Maintenance).

3.7.1.2 State

California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) was created in 1991. It unified California's environmental authority in a single cabinet-level agency and brought the California Air Resources Board, State Water Resources Control Board (SWRCB), RWQCB, CalRecycle, Department of Toxic Substances Control (DTSC), Office of Environmental Health Hazard Assessment, and Department of Pesticide Regulation under one agency. These agencies were placed under the CalEPA "umbrella" for the protection of human health and the environment to ensure the coordinated deployment of state resources. Their mission is to restore, protect, and enhance the environment and ensure public health, environmental quality, and economic vitality.

Department of Toxic Substances Control

DTSC, a department of CalEPA, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and CCR Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Title 22, Article 3 highlights the procedures of identifying hazardous waste into these 4 categories: ignitable, corrosive, reactive, and toxic. Article 5 categorizes hazardous waste into acutely hazardous waste, extremely hazardous waste, non-RCRA hazardous waste, RCRA hazardous waste, special waste, and universal waste. Title 22 of the CCR also underscores the guidelines for managing hazardous waste, which includes storing, housekeeping, record keeping, and inspecting waste (Department of Toxic Substances Control, 2002).

The DTSC Environmental Health Standards for the Management of Hazardous Waste is included in CCR, Title 22, Division 4.5. All hazardous waste generators must comply with the guidelines, which are enforced by DTSC, for identifying, labeling, accumulating, preparing, and preventing outcomes related to hazardous waste.

Cortese List

Government Code 65962.5 requires CalEPA to develop a hazardous waste and substances site list (Cortese List), which includes: hazardous waste sites according to DTSC and the Health and Safety Code; contaminated public drinking water wells sites listed by the State Department of Health Services; Underground Storage Tank (UST) leaks, solid waste facilities, and hazardous waste sites listed by the SWRCB; and other sites as designated by various other state and local governments. Section 6592.5 requires that the Cortese list be at least annually updated. The Cortese List complies with the CEQA requirements in providing information about the location of hazardous materials release sites. Appendix E2 contains the list of Cortese sites in the City of Los Angeles (City) as of June 14, 2019, which serves as a representative list for purposes of this Draft EIR.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act restricts disposal of wastes or any other activity that may degrade waters of the state. The Act requires cleanup of wastes that are below hazardous concentrations but could impact ground and surface water quality (Section 13002). The Act established nine Region and State Water Boards, which are primarily responsible for protecting water quality in California. The Regional Water Boards regulate discharges by issuing permits through NPDES for waste discharge requirements for non-point source discharges. Anyone discharging materials or proposing to discharge materials that could affect water quality must file a report of waste discharge, unless the discharge would be into a community sewer system (SWRCB, 2014).

Hazardous Waste Control Act (Section 25100 et seq.)

DTSC is responsible for enforcing the *Hazardous Waste Control Act* (California Health and Safety Code Section 25100 et seq.), which creates the framework under which hazardous wastes are managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA cradle-to-grave waste management system in California. It also provides for the designation of California-only hazardous waste and development of standards that are equal to or, in some cases, more stringent than federal requirements.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The *Unified Hazardous Waste and Hazardous Materials Management Regulatory Program* (Unified Program) (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9) provides authority to the Certified Unified Program Agency (CUPA). The CUPA for the City is the Los Angeles City Fire Department (City LAFD) Haz Mat Program. Further discussion is provided below in Local Section 3.7.1.3.

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the following hazardous materials programs: Site Mitigation Unit (SMU), Hazardous Materials Business Plan (HMBP) Program, California Accidental Release Prevention (CalARP) Program, UST Program, AST Program, Hazardous Waste Generator Program, and Hazardous Waste Tiered-Permitting Program.

California Code of Regulations, Title 8—Industrial Relations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal OSHA) and the federal OSHA are the agencies responsible for assuring worker safety in the workplace. Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would apply to construction activities.

California Labor Code (Division 5, Parts 1, 6, 7, and 7.5)

The *California Labor Code* is a collection of regulations that include regulation of the workplace to ensure appropriate training on the use and handling of hazardous materials and operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5, ensures that employees who are in charge of handling hazardous materials are appropriately trained and informed with respect to the materials they handle. Division 5, Part 7, ensures that employees who work with volatile flammable liquids are outfitted with appropriate safety gear and clothing.

3.7.1.3 Regional

South Coast Air Quality Management District (SCAQMD) Rule 402-Nuisance

See discussion in Air Quality 3.2.1.3

SCAQMD Rule 403-Fugitive Dust

See discussion in Air Quality 3.2.1.3

SCAQMD Rule 404-Particulate Matter Concentrations (Rule 404)

Rule 404 prohibits discharge into the atmosphere from any source, particulate matter in excess of the concentration at standard conditions. Discharge into the atmosphere from any source, particulate matter (PM) in excess of 450 milligrams per cubic meter (0.196 grain per cubic foot) in discharged gas calculated as dry gas at standard conditions are prohibited.

SCAQMD Rule 1166 – Volatile Organic Compound Emissions from Decontamination of Soil

Rule 1166 was adopted by the SCAQMD on August 5, 1988 and subsequently amended in 1995 and 2001. The rule sets requirements to control the emission of Volatile Organic Compounds (VOC) during the excavating, grading, handling, and/or treating of VOC- contaminated soil. Prior to these activities, an approved mitigation plan must be obtained from SCAQMD.

SCAQMD Rule 1403

The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM), such as underground utility pipes, which may be applicable in some instances on the Project site. The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials (ACWM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings. Applicability of this rule, in whole or in part, is applicable to owners and operators of any demolition or renovation activity, and the associated disturbance of asbestos.

3.7.1.4 Local

City of Los Angeles Fire Department Haz Mat Program

The City LAFD provides emergency response and guidance to hazardous materials incidents within the City. The City LAFD Haz Mat Program utilizes a unified approach with allied agencies (i.e. Los Angeles County Fire Department or County LAFD) and many stakeholders to provide preparedness, prevention, response, mitigation and resiliency to hazardous materials emergencies. The City LAFD is an all-hazards response organization, and the Haz Mat Program is designed to address the natural, technological, or purposeful response challenges, including chemical, biological, radiological, nuclear and explosive (CBRNE) threats to our community and national security.

In compliance with California state guidelines, each governmental agency designated by the State of California as a CUPA is authorized to apply statewide standards to each facility within its jurisdiction that treats hazardous waste on site or generates hazardous waste, USTs, or stores hazardous materials. In May of 2008, DTSC delegated corrective action oversight authority under Chapter 6.5 of Division 20 of California Health and Safety Code to implement corrective action under consent agreement at CUPA facilities within its jurisdiction. CUPA's are mandated by the State to establish a single billing statement process for the collection of the fees and surcharges associated with the practices of each of the regulated businesses. The City LAFD is concerned with public safety and the environment as it relates to the management of hazardous materials and hazardous waste.

City LAFD and the Police Department (LAPD) are first responders if a hazardous-materials or a hazardous-waste release incident is reported via 911. They work with many partnering and supportive agencies. A step by step notification, the *Hazardous Materials Incident Contingency Plan* protocol is published by the California Office of Emergency Services (OES). An OES checklist form is contained in Appendix E1 and is available online at https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/hazmat-publications. The notification process begins with calling 911 whereby City LAFD is notified of all releases and includes other agency notifications, as necessary. Some of the key partnering and supportive agencies are described further below.

City Department of Public Works, Bureau of Sanitation (LASAN), Watershed Protection Division assists the City LAFD in ensuring that the quality of surface water and the watershed are protected during any hazardous materials incidents and response, including chemical and biological releases, such as biological waste from homeless occupancies.

Other partnering support comes from the County LAFD. In 1991, the responsibility for the Los Angeles County Hazardous Materials Control Program was transferred from the LA County Health Department to Deputy Health Officers at the County LAFD.[1] The County LAFD Deputy Health Officers assist the City

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[1] Guidelines of Director of Health Services and Forester and Fire Warden in Performance of Hazardous Materials Control Program Activities, February 17, 1998, as supplied by Deputy Fire Chief Fernando Florez, County LAFD, Health & Hazardous Materials Division, Emergency Operations Unit, July 12, 2019.

LAFD in matters regarding public health and hazardous materials and waste release per a 1997 Memorandum of Understanding (MOU) between the City LAFD and the County LAFD. Various CUPA responsibilities are outlined in this MOU; the County LAFD is identified as a CUPA Partnering Agency, in the areas of site mitigation, criminal investigations, and emergency response.[2] In addition, the LA County Public Health Department continues to provide the City with expertise in other areas of public health such as communicable diseases, pathogens, vector and rodent control, severe biological and toxicological threats (e.g., anthrax, etc.[3]). The LA County Public Health Department has been "Health Officer" for the City since 1964. In addition, the County LAFD, Health and Hazardous Materials Division provides Tier 2 hazardous waste assessment and mitigation services [4]

City of Los Angeles General Plan Safety Element

Hazard Mitigation

Goal 1

A city where potential injury, loss of life, property damage and disruption of the social and economic life of the city due to fire, water related hazard, seismic event, geologic conditions or release of hazardous materials disasters is minimized.

Policy 1.1.4

Health/environmental protection. Protect the public and workers from the release of hazardous materials and protect City water supplies and resources from contamination resulting from accidental release or intrusion resulting from a disaster event, including protection of the environment and public from potential health and safety hazards associated with program implementation.

City of Los Angeles Emergency Operations Organization and Hazard Mitigation Plan

The Department of Emergency Operations Organization (EOO) within the City is responsible for the City's emergency preparations (planning, training and mitigation), response and recovery operations. The EOO is comprised of all agencies of the City's government and centralizes command and information coordination to enable its unified chain-of-command to operate efficiently and effectively in managing the City's resources.

- The 2018 Hazard Mitigation Plan (HMP) is prepared to lessen the vulnerability to disasters and to reduce risks from natural hazards. An HMP serves as a guide for decision makers as they commit City resources to minimize the effects of natural hazards. The HMP integrates with existing planning mechanisms such as building and zoning regulations, long-range planning mechanisms, and environmental planning. The planning process includes conducting a thorough hazard vulnerability analysis, creating community disaster mitigation priorities, and developing subsequent mitigation strategies and projects.

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[2] Memorandum of Understanding, Coordination of Unified Program Agency by the Los Angeles City Fire Department and Los Angeles County Fire Department, as supplied by Assistant Fire Chief Fernando Florez, County LAFD, Health & Hazardous Materials Division, Emergency Operations Unit, July 12, 2019.

[3] Telephone Communication with Assistant Fire Chief Fernando Florez and H. Froelich (LABOE) on July 12, 2019.

[4] *Notice of Approval for Tier 2 Level Implementation and Enforcement of Environmental Assessment and Corrective Action, Los Angeles County Fire Department Certified Unified Program Agency*, Department of Toxic Substances Control, May 9, 2008.

3.7.2 Environmental Setting

The City, located within Los Angeles County, covers 467 square miles, or 302,596 acres. Approximately 76 percent of the City is developed. The City is bordered by the cities of Calabasas, Hidden Hills, and Santa Monica to the west as well as the Pacific Ocean; the cities of Burbank, Glendale, and Pasadena as well as the Angeles National Forest to the north; the Cities of South Pasadena, Alhambra, Commerce, Vernon, and South Gate to the east; and Compton, Carson, Gardena, Inglewood, Culver City, and El Segundo to the south. In addition, West Hollywood, Beverly Hills, and San Fernando are islands within the City. Pockets of unincorporated Los Angeles County lie within and adjacent to the City.

3.7.2.1 Hazardous Materials

Historic Use

The City grew into an industrial center, starting in the late 1800s when several railroads selected it as their western terminus. In 1892, oil was discovered in what is now Downtown Los Angeles, and later in other areas of the City. During World War II, the City was a center for production of aircraft and war supplies. The postwar growth boomed in the City by continuing aircraft-related industries, oil production and refining, attracting automotive assembly plants, furniture production, clothing manufacturing, and many other industries that spread out along major thoroughfares. During this time, industrial growth occurred without regulation; homes and neighborhoods were sited without regard to proximity to industry. Defense industries commonly stored industrial solvents in ponds. Small businesses that utilized hazardous materials, including dry-cleaners, gas stations, automotive repair shops, and manufacturing facilities commonly disposed of petroleum products and other hazardous waste into the ground. Lead paint was used commonly and without regulation until 1978 in residential neighborhoods and public facilities. Sprawling agricultural land that preceded urban development was characterized by the use of organochlorine pesticides (OCPs) until the 1970s and 1980s. In 1976, government regulation addressed the use of polychlorinated biphenyls (PCBs), which are still commonly used in the manufacture and construction of transformers, electrical and hydraulic equipment, and some common household items. During the 1970s, the larger industries gradually left and government introduced regulations regarding disposal of hazardous materials. Through regulation and oversight, portions of the aforementioned contamination have been addressed and remediated, however, impacted sites (from historic and in some cases, more current hazardous materials use) continue to exist throughout the City.

Hazardous Materials and Current Land Use

Land use within the City is primarily residential, constituting 60 percent of all acreage. Public land is the second most common land use, representing 20 percent of acreage, while commercial and industrial land uses each represent 7 percent of acreage. It is anticipated that the Project would be implemented near a variety of land uses. Due to the nature of the land use, residential and public lands typically do not pose significant hazardous material impacts. Hazardous materials are not typically handled in significant amounts and materials used are typical for cleaning, maintenance, etc. and not materials classified as acutely hazardous. Industrial and commercial land use have a higher likelihood of hazardous materials impacts and are discussed in more detail below:

Industrial land use can encompass a wide range of business operations that have the potential to create hazardous materials impacts. Industrial facilities store hazardous materials in USTs and/or above ground storage tanks, and in designated storage locations. Age and improper maintenance of storage tanks have been common causes for soil and groundwater contamination. Improper handling and storage of hazardous material containers can lead to hazardous material incidents.

Commercial locations can include vehicle repair sites, gasoline fueling stations and dry-cleaning facilities. Like industrial facilities, some commercial sites often store hazardous materials in storage tanks and in designated areas within the facility. Hazardous materials spills and leaks in vehicle repair and fueling locations can lead to hydrocarbon impacted soil and groundwater. Improper storage and use of hazardous materials in dry cleaning facilities can lead to contaminated soil and groundwater.

The above land uses are examples of uses that would typically occur adjacent to the construction sites within the Project area.

Schools

The City is primarily served by Los Angeles Unified School District (LAUSD); which is the second largest school district in the country. LAUSD enrolls more than 640,000 students in kindergarten through 12th grade, at over 900 schools, and 187 public charter schools with boundaries that spread over 720 square miles. The City consists of various private schools, daycare centers, after school centers, and other educational centers. Consequently, sidewalk repair could occur near a school or similar functioning use.

Emergency Response Plan

The City LAFD is responsible for emergency medical services and fire protection in Los Angeles. In the event of an emergency, the City LAFD along with other City agencies would implement all appropriate emergency procedures outlined in the Hazard Mitigation Plan (described in more detail in Section 3.7.1, *Regulatory Setting*). The plan was implemented to reduce risks from disasters to the people, property, economy, and environment within the City.

Wildfire Hazards

Wildfire hazards are discussed in Chapter 3.17, *Wildfire Hazards.*

3.7.3 Environmental Impact Analysis

3.7.3.1 Approach

Project Design Features, along with analysis of potential impacts related to hazards and hazardous materials were based in part on information presented in the *Preliminary Geologic Hazards Evaluation City of Los Angeles Sidewalk Repair Program Los Angeles, California.* Ninyo & Moore. February 2018 (see *Appendix G*).

3.7.3.2 Project Design Features

PDF-HAZ-1: For each proposed Project site a database search pursuant to California Government Code Section 65962.5 would be conducted to identify applicability of any regulatory requirements or hazardous material risks associated with the construction site or the adjacent sites.

PDF-HAZ-2-In events of spills, leaks, or other contamination, the protocols pursuant to the *Hazardous Materials Incident Contingency Plan* published by the California Office of Emergency Services would be followed. A checklist for protocol notification to the public agencies can be found in Appendix E1 and online at https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/hazmat-publications. This would include notification to the City LAFD, who would make recommendations as to which outside agencies, such as DTSC, RWQCB, Department of Health Services, etc., would be consulted.

PDF-HAZ-3-If a Project site is on a public right away and contains contaminated soil then work would be Pursuant to the BOE Standard Specification Section No. 02310 *Earthwork* Subsection No. 3.3, *Contaminated Soils*, which specifies the requirements and procedures, including handling and disposing of contaminated soils or debris encountered during site excavations would be implemented.

PDF-HAZ-4-If the Project site on a public right away contains contaminated ground water, BOE Standard Specification Section No. 02235 *Dewatering* would be implemented. This requires National Pollutant Discharge Elimination System (NPDES) permitting, and it also includes Waste Discharge Requirements (WDR) for discharges into the storm drain. If discharged to the sanitary sewer system, an Industrial Waste Permit through the Bureau of Sanitation would be implemented.

Thresholds of Significance

The following City's 2006 *L.A. CEQA Thresholds Guide*, along with Appendix G of the CEQA Guidelines, guided the formulation of significance criteria to be considered for determining whether a project could have significant impacts related to hazards and hazardous materials.

A project impact would be considered significant if the following would occur as the result of construction or operation of the Project:

HAZ-1: Would the proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handling in such a way as to involve the release of hazardous materials into the environment? *Appendix G of the CEQA Guidelines.*

HAZ-2: Would the proposed Project emit/handle/involve hazardous materials and/or waste within one-quarter mile of an existing or proposed school? *Project-Specific Threshold derived from Appendix G of the CEQA Guidelines.*

HAZ-3: Would the proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? *Appendix G of the CEQA Guidelines*.

HAZ-4: Would the proposed Project hinder or impair an adopted emergency response or evacuation plan or route? *Project-Specific Threshold derived from Appendix G of the CEQA Guidelines.*

The Initial Study (Appendix A) considered the CEQA Guidelines Appendix G hazards and hazardous materials sample questions regarding airport land use plans, private airstrips, and wildland fires, and determined the impacts would be less than significant. Subsequent to the release of the Initial Study in 2017, the revised 2018 CEQA Guidelines modified Appendix G to move the private airstrip question to the noise chapter, and added a question regarding excessive noise in an airport land use plan; the noise analysis for the Project is provided in Chapter 3.10, *Noise*. Consistent with the analysis in the Initial Study and the *2006 L.A. CEQA Thresholds Guide* screening criteria, the continuing sidewalk repair activities under the Project would not result in a safety hazard in an airport land use plan or expose people or structures either directly or indirectly to significant risk form wildland fires, since the improvements such as repair and upgrades to pre-existing sidewalks would result in circumstances similar to existing conditions and would be temporary activities during construction. Therefore, there would be no significant impacts to airport land use plans and wildland fires from the Project, and no further analysis is provided in the Draft EIR.

3.7.3.3 Construction Impacts

HAZ-1. Would the proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handling in such a way as to involve the release of hazardous materials into the environment?

The impact would be less than significant.

Routine Transport, Use, Disposal, and Handling of Hazardous Materials

The continuation of construction activities arising from the Project under all construction scenarios would involve routine transport, use, and disposal of hazardous materials such as solvents, paints, oils, and grease and materials that are typically used in construction projects. Such transport, use, and disposal would be compliant with applicable regulations such as those under RCRA, OSHA, DOT, California Labor Code, and the CCR.

Moreover, these hazardous materials are generally used in small amounts, and any spills that may occur would be contained and cleaned according to the Materials Safety Data Sheet in the appropriate manner. The City LAFD is the designated enforcement agency for the City that regulates hazardous materials identified by U.S. EPA and CalEPA. Any potential construction-related hazardous releases or emissions would be from commonly used materials such as grease, solvents, and paints and would not include substances listed in 40 CFR 355 Appendix A: Extremely Hazardous Substances and Their Threshold Planning Quantities. Any such releases would be small and localized. Any spills that may occur would be contained and cleaned according to the Materials Safety Data Sheet (MSDS)/Globally Harmonized System (GHS) in the appropriate manner.

Other Releases of Hazardous Materials

During excavation related to the continuing sidewalk repair construction under the Project, contaminated groundwater and/or contaminated soil may occasionally be encountered, which may involve a release of hazardous materials into the environment. The excavation depth associated with Scenario 1 is typically up to approximately 5 feet and the construction would be on existing sidewalk and curbs, which are not contaminated or have been remediated prior to the initial construction. Substantial utility work, along with sidewalk and curb repairs, would occur throughout the City within one-quarter of mile of an existing or proposed school over the life of the Project. The excavation depth associated with this Scenario 2 could be up to 30 feet. The probability of encountering contamination during sidewalk construction work is very low based on the prior ongoing sidewalk repairs. If a potential impact is identified, its risk to the environment, including sensitive receptors, would be evaluated and PDF-HAZ-2 through PDF-HAZ 4 would be implemented as they are required under existing applicable law and regulation. These include and are not limited to those regulations and laws cited in the Section 3.7.1 and enforced by the corresponding and appropriate jurisdictional agency. Handling of hazardous materials and hazardous waste, in the City, for the Project, would follow all applicable federal, state and local regulations discussed under HAZ-1 and pursuant to PDF-HAZ 2 through PDF-HAZ 4 would be required per state regulations and BOE standards.

Specifically, if ground water is encountered as part of deep excavation and construction, then dewatering procedures described in PDF-HAZ-4 and permit requirements of the National Pollutant Discharge Elimination System (NPDES) would be applicable. Discharges of treated or untreated groundwater generated from dewatering operations or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits are currently regulated under a regional general permit, General Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-095, NPDES No. CAG994004).

Furthermore, in the event of storm water discharges during construction, it would be covered under Phase 1 *Los Angeles County Municipal Stormwater NPDES Permit (*MS4 Permit*)* for the City. Section 402 of the CWA establishes the NPDES permit, which is applicable to all discharges to waters of the United States, including stormwater associated with construction activities, industrial operations, municipal drainage systems, and point sources, to protect surface water quality. Under the current Phase 1 MS4 permit for Los Angeles County (Order No. R4-2012-175), as described further under Section 3.8.1.3, MS4 Permit. MS4 permits require that cities and counties develop and implement programs and measures, including BMPs, control techniques, system design and engineering methods, and other measures, as appropriate, to reduce the discharge of pollutants in stormwater to the maximum extent practicable (MEP) and achieve water quality standards. The MS4 permit also includes construction requirements for implementation of minimum construction site BMPs, as shown in Table 3.7-1, for erosion, sediment, non-stormwater management, and waste management on all construction sites that are less than 1 acre.

Table 3.7-1. City of Los Angeles MS4 Permit Minimum Construction Site BMPs

Erosion Controls	• Scheduling • Preservation of Existing Vegetation
Sediment Controls	• Silt Fence • Sand Bag Barrier • Stabilized Construction Site Entrance/Exit
Non-Stormwater Management	• Water Conservation Practices • Dewatering Operations
Waste Management	• Material Delivery and Storage • Stockpile Management • Spill Prevention and Control • Solid Waste Management • Concrete Waste Management • Sanitary/Septic Waste Management

Source: City of Los Angeles MS4 Permit. Los Angeles County Department of Public Works, *Construction Site Best Management Practices Manual,* August 2010 (available http://dpw.lacounty.gov/cons/specs/BMPManual.pdf).

Contaminated soils are considered hazardous waste under the California Health and Safety Code. Therefore, BOE Standard Specifications Section 02310, Subsection 3.3, *Contaminated Soil* would be implemented for routine construction activities, per PDF-HAZ-3. This includes, and is not limited to, a site-specific Health and Safety Plan, OSHA Trainings, and soils testing per the SCAQMD Rule 1166 permit, as discussed in Section 3.7.1.2, and required procedures in the CCR, Title 22.

Actions and procedures for handling unknown substances as those required in CCR Title 8, Section 5192, Subsection G, enforced by the California Department of Industrial Relations specifies mandatory regulations to assist employees and employers in certain grave circumstances for the training and use of Level A and Level B of Personal Protective Equipment and gear for worker safety would be applicable.

The type and extent of the contamination will dictate the appropriate response and remediation appropriate for the site and the agencies to be notified. When the presence of VOCs from contaminated soil is suspected, which would generally be detected initially by strong odor per SCAQMD Rule 1166 for petroleum hydrocarbons, SCAQMD would be notified. Under Rule 1166 samples would be taken to measure the level of contamination in the soil before identifying the site as contaminated. If the VOC levels exceed 50 parts per million (ppm), a site mitigation plan, pursuant to Rule 1166, would be prepared, which may include use of soil vapor suppressants, covers over and below the soil, containerization, or removal of the contaminated material. Offsite disposal of hydrocarbon contaminated waste would be pursuant under EPA's Title 40, Environment and Title 49 Transportation Code of Federal Regulation Section 172.704 as enforced by the DOT.

Applicable Existing Law and Hazardous Material Releases

To further support the less-than-significant impact determination for the Project, potential scenarios are outlined below. These scenarios demonstrate that adequate local response and regulations, understandings and practices are in place to avoid significant impact should a hazardous materials or hazardous waste release potentially occur or be discovered during the continuation of construction activities from the Project.

Scenario A: Immediate Threat to Public Safety and/or Public Health and the Environment – Generally, the City LAFD CUPA Section investigates spills of hazardous materials and enforces the cases through either an administrative penalty or through the Office of the City Attorney Environmental Justice Unit. The City LAFD and LAPD are first responders to any hazardous materials or hazardous waste releases that qualify as an immediate threat to public safety or the environment. As stated above, such a scenario that would constitute an immediate threat to public safety or the environment is not anticipated and would be rare, since applicable law and standard design features would address construction-related releases, and any construction-related releases are expected to be small and localized.

Regardless, State law requires spills of hazardous materials from construction-related activities as stated above to be reported to the City LAFD, CUPA, and OES. These first responders are trained to ensure public safety and the proper management of hazardous materials, hazardous waste, and emergency response within the City. In addition, the City's LASAN is an assisting agency, if there is an imminent threat to the watershed or surface water quality from sidewalks that might drain to street, from curb-side to curb side and storm drain runoff ways. Depending on the type of release, partnering responders may also include the County LAFD, U.S. Coast Guard, State Office of Emergency Services, National Response Center, Highway Patrol, etc.). The Deputy Health Officers of the County LAFD, Health and Hazardous Materials Division respond to incidents within the City and support the City LAFD, as a partnering CUPA agency, to fully evaluate imminent threats to public health, including those originating from biological and chemical releases, such as hazardous materials spills, release and abandonment. The notification protocol is detailed in Appendix E1, with a summary of associated scenarios, regulations, and participating response agencies.

Scenario B: Non-Immediate Threat and Equipment Involved (AST, UST or Utility) – If, during excavation and site investigation for the continuing repair activities, a prior release of potentially hazardous materials is determined to be from an above-ground storage tank (AST) or UST, the City LAFD, Bureau of Fire Prevention and Public Safety, CUPA Section, Environmental Unit for UST & Hazardous Materials supervises further response. The steps include evaluating the storage tank status (permitted and properly closed), identifying a responsible party, and proceeding with the closure, as appropriate. Typically, an AST or UST may be found on uses adjacent to the Project sites.

- **Local utility companies** would be contacted if it is apparent that the release is coming from utility equipment or pipelines. For example, if an above-ground transformer is leaking onto the sidewalk then the release would be addressed by the equipment owner (e.g., Los Angeles Department of Water & Power, etc.). Each utility owner maintains their own internal procedures and approach to safely clean-up releases, utilizing existing regulation.
- **Los Angeles Regional Water Quality Control Board (LARWQCB), Underground Tank Unit** – In case of a perceived threat to surface water or groundwater quality, the City LAFD is typically contacted. If warranted by the type and degree of release, they would then notify the LARWQCB via an Unauthorized Release Report. AST releases may also be referred to the LARWQCB in a similar manner.
- **DTSC** – City CUPA or participating agencies, upon consensus, may refer a site to the DTSC if the release appears to be above their level of expertise, associated with a school site or if DTSC is determined to be the lead agency by consensus due to a higher perceived risk to public health, public safety, and/or if environmental justice concerns are involved.
- **U.S. EPA** – City CUPA or participating agencies, upon consensus, may refer a case to the U.S. EPA, if it is determined to be under Federal jurisdiction (e.g., federal or military uses, chemical(s) released are subject to the TSCA, chemical release is at a level that meets or exceeds Federal reportable quantities, etc.)

Scenario C: Non-Immediate Threat and No Equipment Involved: This scenario can result in several different outcomes. The release case can be referred from the City LAFD, as CUPA lead, to any of the below agencies or directly reported to the below agencies from the responsible party.

- **County LAFD, Health and Hazardous Materials Division, Site Mitigation Unit** – A regulated business owner, public party or private party that would be responsible for release and/or cleanup, could request assistance. They are typically low to medium risk release, and the agreement for oversight of cleanup is voluntary and reimbursed to the County LAFD. In addition, the County LAFD is tasked with assessment and enforcement for Tier 2 hazardous waste facilities. [5] Tier 2 infers Conditional Authorization for onsite treatment of most hazardous waste streams with only one hazardous characteristic and quantities.

[5] *Notice of Approval for Tier 2 Level Implementation and Enforcement of Environmental Assessment and Corrective Action, Los Angeles County Fire Department Certified Unified Program Agency*, Department of Toxic Substances Control, May 9, 2008.

- **Los Angeles County Department of Public Health** – Assists with pathogenic public health risks, communicable diseases, and/or terrorist public health risks such as anthrax threats, etc. Other related long-term public health inspection and control programs are also operated by the County within the City.
- **LARWQCB, Site Cleanup Unit** – If no equipment leaks are associated with the release or the source is unknown under this scenario and there is a perceived threat to surface water or groundwater quality, the case may be referred to this unit of the LARWQCB for cleanup oversite.
- **DTSC and U.S. EPA** – See Scenario B, as it applies to Scenario C also.

Conclusion

The routine transport, use, and disposal of hazardous materials from the continuing activities arising from the Project would involve small amounts and be addressed through applicable law. Releases from existing groundwater and soil contamination is not expected, but would be addressed through PDF-HAZ-2 through PDF-HAZ-4 related to standard City BOE conditions and applicable law that address the proper handling and disposal of contaminated material. As a result, the Project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials.

Mitigation Measures

No mitigation is required.

HAZ-2. Would the proposed Project emit/handle/involve hazardous materials and/or waste within one- quarter mile of an existing or proposed school?

The impact would be less than significant.

Continuation of sidewalk repair construction work under the Project could occur throughout the City within one-quarter of mile of an existing or proposed school. The probability of encountering contamination during sidewalk construction work is very low due to the excavation depth and from the fact that the approximately 900 Scenario 1 type routine sidewalk construction repairs done from Fiscal Year of 2016 to Fiscal Year 2017 have not emitted/handled or involved hazardous materials within one-quarter of a mile of an existing or proposed school. In the rare scenario of encountering hazardous materials within one-quarter mile of an existing or proposed school, as discussed in HAZ-1, existing law and PDF HAZ-2 through PDF-HAZ 4 would apply to ensure that impacts would be less than significant. As a result, the Project would not emit/handle/involve hazardous materials and/or waste within one-quarter mile of an existing or proposed school.

Mitigation Measures

No mitigation is required

HAZ-3. Would the proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The impact would be less than significant.

Pursuant to PDF-HAZ-1, potential construction sites for the continuing sidewalk repair would require evaluation whether the sites may be on, or adjacent to, sites that are on the Cortese List, Government Code Section 65962.5. Appendix E2 of this Draft EIR contains the sites in Los Angeles that are in the Cortese List as of the publishing of the document. No known sidewalks or public rights-of-way are currently on the list. However, there may be instances where sidewalk repair work is occurring near a site that is on the Cortese List. Being near a Cortese List site is not necessarily an impact creating a significant hazard to the public or the environment. This is because the nature of the proposed work would only disturb soils of the adjacent site. For sidewalk work adjacent to a Cortese List site, compliance with respective agency regulatory requirements/corrective action plan as required by law would prevent cross contamination into the sidewalk site and vice versa (i.e., if a sidewalk site itself should be on the Cortese List) through evaluation of the site prior to commencing excavation/ construction, which would include an evaluation of risk of migration and responsive actions as necessary. As discussed in HAZ-1, any existing contamination would be addressed through PDF-HAZ-2 through PDF-HAZ-4 related to standard City BOE conditions and applicable law that address the proper handling and disposal of contaminated material.

If migrations have been found during construction onto those sidewalks, the corrective action associated with an active Cortese List site pursuant to Section 25187.5 (hazardous waste facility), Section 25220, Article 11 of Chapter 6.5 of Division 20 (hazardous facility property), Section 25242 (DTSC hazardous waste disposal), Section 25356, Section 116395 (water sites with organic contaminants), Section 25295 (USTs) of the Health and Safety Code; pursuant to Section 13273 (migration of hazardous waste), Section 13301 (cease and desist), Section 13304 (discharge of hazardous waste) of the Water Code; and pursuant to Section 18051 of Title 14 of the California Code of Regulations would be applicable.

In conclusion, the nature of the construction activities are such that they are unlikely to disturb any unidentified/unknown contamination. In the event contamination is uncovered (i.e., as a result of migration for a Cortese list site) during construction, PDFs and applicable laws and regulations dictate the steps to be taken and will ensure impacts would not create a significant hazard to the public or the environment and are less than significant.

Mitigation Measures

No mitigation is required.

HAZ-4. Would the proposed Project hinder or impair an adopted emergency response or evacuation plan or route?

The impact would be less than significant.

Impacts to emergency response or evacuation plans or routes are also discussed in Chapter 3.12, *Transportation/Traffic*. As set forth in Chapter 3.12, continuing construction activity arising from the Project could occur near emergency service facilities (e.g., fire stations and hospital) and along roadways used by emergency service providers. For substantial utility relocation work, occurring under Scenario 2, street closures for vehicle and pedestrian traffic may be required.

During the continuing construction arising under the Project, per standard procedures, adequate emergency access would be maintained during lane closures along major and secondary highways and collectors. Where feasible, for construction staging, traffic control would be employed to re-route pedestrians around the sidewalk construction area and signage would be posted to direct pedestrians and drivers. Construction managers and personnel would follow Work Area Traffic Control Handbook (WATCH) and/or Manual on Uniform Traffic Control Devices (MUTCD) guidelines to ensure the safety of vehicle, pedestrian, and bicycle traffic during re-routing. Compliance with such existing standard industry practices such as traffic control and signage, and requirements such as with those in the WATCH manual and "most recent of edition of the *SSPWC Greenbook* adopted by the Bureau of Engineering" would provide adequate emergency access. Access roads would be available for emergency personnel as required in the most recent copy of the *BOE Brownbook;* and traffic control, signage, and coordination with Los Angeles Department of Transportation (as appropriate) would occur.

Furthermore, in the unforeseen event of any hazardous material emergencies, the California Hazardous Material Incident Contingency Plan (HMICP), developed by the State's Office of Emergency Services (OES), includes several different scenarios of emergency responses to reduce confusion, improve safety, organize and coordinate actions in case of major unforeseen circumstances. A sample protocol is provided in Appendix E1 and online at https://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/hazmat-publications. The HMICP would be utilized by local governments to clarify agency roles and relationships concerning hazardous material emergencies.

In conclusion, because of the standard procedures and compliance with standard industry practices, the Project would not hinder or impair an adopted emergency response or evacuation plan or route, and impacts would be less than significant.

Mitigation Measures

No mitigation is required.

3.7.3.4 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.

HAZ-1. Would the proposed Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handling in such a way as to involve the release of hazardous materials into the environment?

HAZ-2. Would the proposed Project emit/handle/involve hazardous materials and/or waste within one- quarter mile of an existing or proposed school?

There would be no impact during operation.

The continuation of operational activities arising from the Project would only include street tree watering and inspection activities. No hazardous materials would be transported, used, or disposed of during normal project operations, including within one-quarter mile of an existing or proposed school.

HAZ-3. Would the proposed Project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

There would be no impact during operation.

The continuation of operational activities arising from the Project would only include street tree watering and inspection activities. Although these activities could occur within sites that are included in or are adjacent to sites in the Cortese list, soil and or groundwater would not be disturbed. Thus, potential contamination would remain undisturbed. Additionally, because these activities would not involve hazardous materials, they would not exacerbate existing subsurface conditions. No impacts would occur.

HAZ-4. Would the proposed Project hinder or impair an adopted emergency response or evacuation plan or route?

There would be no impact during operation.

The continuation of operational activities arising from the Project would only include street tree watering and inspection activities. These activities would be performed occasionally, on a small scale and within sidewalk footprints. Therefore, the Project would not hinder or impair any local emergency response or evacuation plan. Moreover, street tree watering and inspection activities do not feature permanent characteristics that could result in impacts on emergency response or evacuation in the area. No impacts would occur.

Mitigation Measures

No mitigation measures for operational activities are required.

3.7.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impact related to hazards and hazardous materials would occur.

3.8 Hydrology and Water Quality

This chapter describes the current hydrology and water quality regulatory setting and water quality conditions, and the potential impacts that would result from implementation of the proposed Project (Project). The environmental setting information and analysis in this chapter are based in part on the *Hydrology and Water Quality Technical Memorandum* prepared by Watearth, dated June 2018. That technical report is hereby incorporated by reference and included as Appendix I to this Draft EIR. The *Hydrology and Water Quality Technical Memorandum* was prepared to analyze hydrology and water quality impacts from the continuation of construction and operational activities arising from the Project. The hydrology modeling evaluates peak flow, based on the historical record of climate data from 2005 through 2012, and evaluates 2-, 10-, 50-, and 100-year storm events due to changes in canopy cover over the 30-year duration of the Project.

3.8.1 Regulatory Setting

This section provides an overview of the pertinent federal, state, and local policies governing hydrology and water quality for the Project.

3.8.1.1 Federal

Clean Water Act

The federal Clean Water Act (CWA) of 1977 (33 U.S. Code Section 1251 et seq.), which amended the federal Water Pollution Control Act of 1972, established the basic structure for regulating discharges of pollutants into the waters of the United States (not including groundwater). The CWA delegates authority to the U.S. Environmental Protection Agency (U.S. EPA) to implement pollution control programs. Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters. In addition, the CWA requires that states adopt U.S. EPA-approved water quality standards for water bodies. Water quality standards consist of two components: designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing) and the water quality criteria necessary to support those uses.

Section 303: Impaired Water Bodies (303[d] List) and Total Maximum Daily Loads

Section 303(d) of the CWA requires each state to identify and list impaired surface waters that do not meet, or that the state expects will not meet, state water quality standards. This is a subset of the 305(b) list, which contains information on all water bodies. The water quality standards are promulgated under the National Toxics Rule (NTR) or the California Toxics Rule (CTR) after minimum technology-based effluent limitations have been implemented for point sources. For these waters, the local jurisdictions are required to develop total maximum daily loads (TMDLs) of pollutants for impaired water bodies and a program of implementation to meet the TMDLs. The TMDL must account for the pollution sources that caused the water bodies to be listed by the state. The TMDL is a calculation of the maximum amount of a pollutant that a water body can receive while still meeting water quality standards. TMDLs also define an allocation of that load among the various sources of that pollutant (i.e., municipalities, other permitted entities).

Additionally, the TMDL can act as a plan to reduce pollutant loading, which improves water quality. After implementation of a TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

The SWRCB 303(d)-listed impaired waters that could be affected by the Project are discussed in Table 3.8-3, in Section 3.8.2.2, *Surface Waters and Local Hydrology.*

Section 401: Water Quality Certification

Section 401 of the CWA certification provides for the protection of the physical, chemical, and biological integrity of waters. Section 401 requires an applicant for any federal permit that proposes an activity that may discharge into waters of the United States to obtain certification from the state that the discharge will comply with the provisions of the CWA. Applicants are required to meet the effluent limitations and monitoring requirements necessary to ensure compliance with the federal license or permit.

Section 402: National Pollutant Discharge Elimination System (NPDES) Permits

Section 402 of the CWA establishes the NPDES permit program to regulate all point source discharges to waters of the United States, including stormwater associated with construction activities, industrial operations, and municipal drainage systems, to protect surface water quality. The NPDES permit program controls, minimizes, or reduces surface water impacts. Two types of the NPDES program stormwater permits would be relevant to the Project. These are discussed in Section 3.8.1.2.

National Flood Insurance Act and Flood Disaster Protection Act

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 were enacted to reduce the need for flood protection structures and limit disaster relief costs by restricting development in floodplains. The Federal Emergency Management Agency (FEMA) administers programs associated with these acts. One of FEMA's duties is to administer the National Floodplain Insurance Program (NFIP) and develop standards for fluvial and coastal floodplain delineation. The NFIP is a federal program that enables property owners in participating communities to purchase insurance to protect against flood losses in exchange for state and community floodplain management regulations in order to reduce future flood damages.

3.8.1.2 State

Porter-Cologne Water Quality Control Act

The *Porter-Cologne Water Quality Control Act* (Porter-Cologne Act) is the California equivalent of the federal CWA. It provides for statewide coordination of water quality regulations through the establishment of the State Water Resources Control Board (SWRCB) and nine separate Regional Water Quality Control Boards (RWQCBs) that oversee water quality on a day-to-day basis at the regional/local level. The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the water of the state" (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Act. Waters of the State (WoS) are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code Section 13050 (e)).

The RWQCB also regulates WoS under Section 401 of the CWA. A Water Quality Certification or a waiver must be obtained from the RWQCB if an action would potentially result in any impacts on jurisdictional WoS.

All discharges of waste to WoS are subject to regulation under the Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code). The Porter-Cologne Water Quality Control Act includes the California Toxics Rule; the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP); Inland Surface Water Quality Standards; the California Urban Water Management Act; and NPDES permits. Discharges to state waters are subject to NPDES permits. Water quality objectives are achieved primarily through the establishment and enforcement of waste discharge requirements (WDRs).

National Pollutant Discharge Elimination System

For compliance with the CWA within California, the SWRCB and RWQCBs are responsible for assessing water quality monitoring data for surface waters every 2 years to determine if they contain pollutants that exceed the levels established in water quality standards. The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCBs conduct planning, permitting, and enforcement activities.

The SWRCB and RWQCBs implement, monitor, and enforce the NPDES permitting requirements within their jurisdictions. In general, the regulations require all communities with populations of more than 50,000 to develop programs for reducing pollutants carried by stormwater runoff into waters of the United States. As with WDRs, the SWRCB and RWQCBs can issue individual NPDES permits to cover individual dischargers or general permits (state or regional) to cover a category of dischargers.

Construction General Permit

Pursuant to CWA Section 402(p), and as related to the goals of the Porter-Cologne Water Quality Control Act, the SWRCB has issued a statewide NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-009-DWQ, NPDES No. CAS000002, as amended by Order 2010-014-DWQ and 2012-06-DWQ) (Construction General Permit), adopted September 2, 2009. Every construction project that disturbs 1 or more acres of land surface or that is part of a common plan of development or sale that disturbs more than 1 acre of land surface requires coverage under the Construction General Permit. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least 1 acre of total land area.

Construction activities associated with the Project are not anticipated to be subject to the Construction General Permit because the permit does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility, such as activities associated with the Project. Also, all sites would be less than one acre and therefore, the Construction General Permit would not be applicable.

Municipal General Permit

Section 402 of the CWA mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for MS4s. Phase I MS4 permit regulations cover medium-size municipalities (between 100,000 and 250,000 people) and large municipalities (more than 250,000 people). Phase II MS4 permit regulations require that stormwater management plans/programs be developed by municipalities with populations of less than 100,000, including non-traditional small MS4s, which are facilities such as military bases, public campuses, and prison and hospital complexes.

The City of Los Angeles (City) is a permittee under the current Phase 1 MS4 permit for Los Angeles County (Order No. R4-2012-175), as described further under Section 3.8.1.3, *Los Angeles County Municipal Stormwater NPDES Permit (MS4 Permit).* MS4 permits require that cities and counties develop and implement programs and measures, including Best Management Practices (BMPs), control techniques, system design and engineering methods, and other measures, as appropriate, to reduce the discharge of pollutants in stormwater to the maximum extent possible.

3.8.1.3 Local and Regional

Los Angeles Basin Water Quality Control Plan (Basin Plan)

The Porter-Cologne Water Quality Control Act authorizes the regional water boards to adopt, review, and revise policies for all waters of the state (including both surface and groundwater) and directs them to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt Basin Plans on its own initiative. The RWQCBs are required, by law, to develop, adopt, and implement a Basin Plan for the entire region. Water quality standards are set forth in the regional Basin Plan.

According to Section 13050 of the California Water Code, Basin Plans consist of designation or establishment of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives for the waters within a specified area. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control.

Beneficial uses of waters within the Project study area and downstream receiving waters are shown in Table 3.8-4 in Section 3.8.2.2, *Surface Waters and Local Hydrology*. The Basin Plan specifies the water quality objectives for the all inland surface waters and enclosed bays and estuaries (including wetlands) in the region.[1]

Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles

Discharges of treated or untreated groundwater generated from permanent or temporary dewatering operations or other applicable wastewater discharges not specifically covered in other general or individual NPDES permits are currently regulated under a regional general permit, General Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (Order No. R4-2013-095, NPDES No. CAG994004).

[1] Los Angeles Regional Water Quality Control Board. 2014a. *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.*

Los Angeles County Municipal Stormwater NPDES Permit (MS4 Permit)

The current MS4 permit for Los Angeles County (Order No. R4-2012-175) was adopted on November 8, 2012; became effective December 28, 2012; and will expire on December 28, 2017. In accordance with Section 2235.4 of Title 23 of the California Code of Regulations, the terms and conditions of an expired permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on continuation of expired permits are complied with. Accordingly, if a new order is not adopted by the expiration date above, then the Permittees shall continue to implement the requirements of Order No. R4-2012-175 until a new one is adopted. Order No. R4-2012-175 is the fourth iteration of the stormwater permit for the MS4s in the Los Angeles region, which includes the Los Angeles County Flood Control District, Los Angeles County, and 84 incorporated cities (including the City) within the county watersheds, excluding the city of Long Beach. The permit contains the requirements necessary to improve efforts to reduce the discharge of pollutants in stormwater runoff to the maximum extent practicable (MEP) and achieve water quality standards. This permit requires runoff issues to be addressed during major phases of urban development (planning, construction, and operation) to reduce the discharge of pollutants from stormwater to the MEP, effectively prohibit non-stormwater discharges, and protect receiving waters. The MS4 permit also includes construction requirements for implementation of minimum construction site BMPs, as shown in Table 3.8-1, for erosion, sediment, non-stormwater management as well as waste management on all construction sites that are less than 1 acre under the City MS4 Permit. Below are examples of BMPs that may be employed for the Project. Refer to the Los Angeles County Department of Public Works, *Construction Site Best Management Practices Manual*, for additional details on these BMPs.[2]

Table 3.8-1. City of Los Angeles MS4 Permit Minimum Construction Site BMPs

Erosion Controls	Scheduling
	Preservation of Existing Vegetation
Sediment Controls	Silt Fence
	Sand Bag Barrier
	Stabilized Construction Site Entrance/Exit
Non-Stormwater Management	Water Conservation Practices
	Dewatering Operations
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management
	Concrete Waste Management
	Sanitary/Septic Waste Management

Source: City of Los Angeles MS4 Permit. Los Angeles County Department of Public Works, *Construction Site Best Management Practices Manual,* August 2010 (available at http://dpw.lacounty.gov/cons/specs/BMPManual.pdf).

[2] Los Angeles County Department of Public Works. 2010. *Construction Site Best Management Practices Manual.* Available: http://dpw.lacounty.gov/cons/specs/BMPManual.pdf.

City of Los Angeles Development Construction Model Program

The City Development Construction Model Program concerns NPDES Phase II requirements for construction sites within incorporated City lands. BMPs for construction (as well as source control and treatment) are detailed in the City's *Reference Guide for Stormwater Best Practices*.[3] The BMPs are consistent with those developed by the state and county and include erosion and sedimentation control measures, site management practices, materials and waste management, and general preventive maintenance and inspection.

City of Los Angeles Low-Impact Development Ordinance and Manual

In November 2011, the City adopted the Stormwater Low-Impact Development Ordinance (No. 181899), with the stated purpose of:

- Requiring the use of LID standards and practices in future developments and redevelopments to encourage the beneficial use of rainwater and urban runoff
- Reducing stormwater/urban runoff while improving water quality
- Promoting rainwater harvesting
- Reducing off-site runoff and providing increased groundwater recharge
- Reducing erosion and hydrologic impacts downstream
- Enhancing the recreational and aesthetic values in our communities

The City institutionalized the use of LID techniques for development and redevelopment projects. The City prepared the *Planning and Land Development Handbook for Low-Impact Development Manual*, dated May 2016, to describe the required LID features.[4]

However, Ordinance No. 181899 exempts "infrastructure projects within the public right-of-way," such as the Project. The majority of sidewalk and driveway work would be routine maintenance to restore walking areas to the original grade and/or meet applicable accessibility requirements within the public right-of-way. LID maybe implemented, as feasible, on private property in coordination and with approval of the property owner(s).

City of Los Angeles Floodplain Management Plan

The City's Floodplain Management Plan (FMP) was originally established by Ordinance No. 154,405, approved on September 17, 1980, and amended most recently in 2012 with a number of goals, including protecting human life, property, and minimizing impacts on business and infrastructure.[5] It is under the FMP that the City regulates structures within the 100-year floodplain but has planning authority over development within the 500-year floodplain.

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[33] City of Los Angeles Department of Public Works. 2000. *Reference Guide for Stormwater Best Practices*.

[4] City of Los Angeles. 2016. *Planning and Land Development Handbook for Low-Impact Development*. Available: http://www.lastormwater.org/wp-content/files_mf/lidmanualfinal.pdf. Accessed: April 23, 2018

[5] City of Los Angeles Bureau of Engineering. 2018. *Policies, Regulations, and Ordinances*. Available: http://eng.lacity.org/policies. Accessed: February 8, 2018.

3.8.2 Environmental Setting

This section describes the hydrology and water quality settings of the entire City and the impacts that would occur over an approximately 30-year period.

3.8.2.1 Watershed

The City covers 502.7 square miles (321,726.7 acres), with approximately 469 square miles (300,159 acres) of land and 34 square miles (21,760 acres) of water.[6] It encompasses portions of four watersheds: Los Angeles River (Hydrologic Unit Code [HUC] 18070105), Ballona Creek (HUC 18070104), Santa Monica Bay (HUC 18070104), and Dominguez Channel (HUC 18070104) (Table 3.8-2; Figure 3.8-1).[7] Each watershed presents unique settings, based on historic and current land use, various types of water resources (river, creek, or channel), and water quality and quantity parameters. Approximately 15% of the total land use in the City is streets; most of these streets have sidewalks, some of which are in disrepair.[8]

Table 3.8-2. Watersheds within the Project Study Area

Watershed (HUC-8)	Sub-watershed (HUC-10)	Sub-watershed Area (acres)	Project Area (acres)	Percent of Watershed
Los Angeles (18070105)	Big Tujunga Creek (1807010501)	97,715	10,964	11%
	Upper Los Angeles River (1807010502)	215,487	134,864	63%
	Lower Los Angeles River (1807010504)	135,085	37,909	28%
Santa Monica Bay (18070104)	Dominguez Channel	5,657	3,338	59%
	Frontal Santa Monica Bay-San Pedro Bay	17,495	3,072	18%
	Garapito Creek-Frontal Santa Monica Bay	50,636	26,269	52%
Ballona Creek – Santa Monica Bay (180070104)	Ballona Creek	81,978	68,205	83%
Dominguez Channel – Santa Monica Bay (180070104)	Dominguez Channel	47,310	5,176	11%
	Frontal Santa Monica Bay-San Pedro Bay	31,619	11,992	38%

Source: GIS dataset provided by Los Angeles Bureau of Engineering and https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2012.shtml. Accessed: February 2, 2018.

[6] U.S. Census Bureau. 2010. Available: https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2010_place_list_06.txt.

[7] L.A. Stormwater. n.d. *About Watersheds*. L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017. Shown as four watersheds per City's apparent preference.

[8] City of Los Angeles Bureau of Street Services. 2018. *Special Projects Division.* Available: http://bss.lacity.org/SpecialProjects/About.htm. Accessed: February 2, 2018.

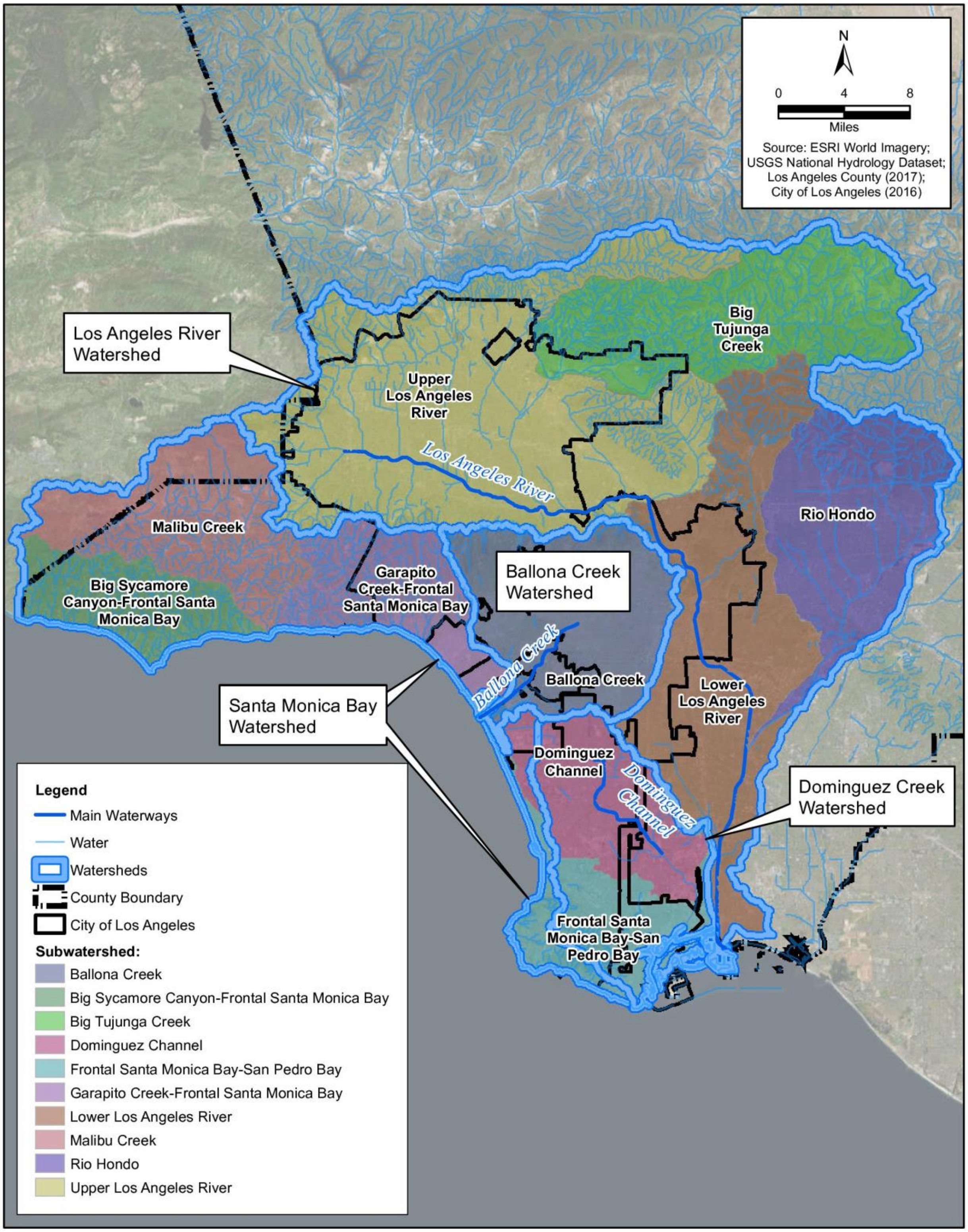

Figure 3.8-1. Watersheds in the City of Los Angeles

Los Angeles River Watershed

The Los Angeles River watershed covers approximately 831 square miles (531,790 acres), with 287 square miles (183,784 acres) included in the Project. The City has jurisdiction over 35% of the watershed, representing 61% of the Project's study area. In addition to the City, 43 other cities have jurisdiction in the watershed.

The watershed is highly developed, with the predominant land uses being residential (36%), open space and agriculture (44%), and commercial, industrial, and transportation (20%). Approximately one-third of the watershed is impervious surface.

The 55-mile long Los Angeles River originates in the San Fernando Valley and flows through the central portion of the City to San Pedro Bay, near Long Beach. Much of the Los Angeles River and its tributaries are completely channelized, including concrete-lined channels for flood protection. Within the Project's study area, much of the stormwater is managed through an extensive network of underground storm drains, along with a surface network of drainage ditches, most of which are concrete lined. Dams and reservoirs within the watershed were designed for flood control and groundwater recharge. The average dry-weather flow near the mouth of the river in Long Beach is 153 cubic feet per second, but the average wet-weather flow is double to triple that amount, with even larger flows possible during large storm events.[9]

Santa Monica Bay Watershed Management Area

Santa Monica Bay watershed is divided into three management areas. Ballona Creek and Dominguez Channel sub-watersheds are described separately below. The Santa Monica Bay watershed (HUC 18070104) management unit covers approximately 288 square miles (184,168 acres), with 46 square miles (29,611 acres) included in the Project. The City has jurisdiction over 16% of the watershed, representing 10% of the Project's study area.

The Santa Monica Bay watershed management unit includes approximately 55 miles of coastline and beaches with approximately 200 separate storm drain outfalls that drain to the Pacific Ocean. The terrain ranges from mountainous to coastal, with rugged open space and open channel canyons, with little human alternation, to the north. The middle and southern portions are more urban and include the City and other urban communities. In the developed areas, water drains through a network of above- and underground storm drains that carry runoff to the Pacific Ocean. Land use in the City's jurisdictional area is 32% residential; 48% open space, including parks and canyons; and 20% commercial, industrial, transportation, and educational.[10]

Ballona Creek Watershed Management Area

The Ballona Creek watershed (HUC 18070104) management unit covers approximately 128 square miles (81,978 acres), with 107 square miles (68,176 acres) included in the Project. The City has jurisdiction over 83% of the watershed, representing 23% of the Project's study area.

Ballona Creek is 10 miles long and mostly a concrete-lined channel that begins near the center of Los Angeles and flows southwesterly to the Pacific Ocean and into a large estuary. An extensive

[9] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.
[10] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.

system of underground storm drains feeds to the creek and estuary. The watershed is highly developed and includes at least seven jurisdictions, two of which are the City and the California Department of Transportation. Predominant land uses are residential (59%), vacant and open space (17%), and commercial (14%). Nearly half of the watershed is impervious surface.

Dominguez Channel Watershed Management Area

The Dominguez watershed (HUC 18070104) management unit covers approximately 109 square miles (78,929 acres), with 27 square miles (17,174 acres) included in the Project. The City has jurisdiction over 22% of the watershed, representing 6% of the Project's study area.

The nearly 16-mile-long Dominguez Channel originates in Hawthorne and drains approximately two-thirds of the watershed to the East Basin of the Los Angeles Harbor. The remaining area of the watershed, including the Wilmington Drain and Machado Lake, discharges independently to Los Angeles Harbor. More than 90% of the land area is developed, with approximately 61% being impervious surface. Predominant land uses are 41% residential, with industrial, commercial, and transportation uses totaling approximately 44% combined. The waterways are constructed of concrete, with a few small natural channels in the foothills. This watershed is managed by the City, Los Angeles County, and more than 15 cities and other jurisdictions.[11]

3.8.2.2 Surface Waters and Local Hydrology

Most surface waters are managed in concrete-lined channels and underground storm drain systems.[12] This is indicative of highly urbanized communities such as the City and surrounding communities. Surface water discharges into the Pacific Ocean from multiple outfalls, which can have significant discharge rates during large rainfall events, because retention is not one of the major elements of the stormwater collection system. Lakes and groundwater recharge areas throughout the City are intended to address water quantity issues related to drought and dry seasons.

All watersheds in the Project's study area have some degree of impairment. Table 3.8-3 provides a summary of surface water quality impairments, associated TMDLs, and potential sources of water quality impairments, as identified in the 303(d) and 305(b) integrated report list by sub-watershed. The summary includes listed impairments from the approved 2014/2016 303(d) list.

Los Angeles River watershed impairments include pollutants such as trash, metals, bacteria, nutrients, pesticides, and polychlorinated biphenyls (PCBs). These pollutants are often associated with urbanized, densely population areas and areas with a high percentage of impervious surface. The overall watershed is approximately one-third impervious surface, with higher rates within the City limits. Large areas of impervious surface result in more runoff because water cannot infiltrate to groundwater, and the lack of ponds and wetlands results in less retention time within the watershed. [13] This also results in reduced water quality due to little to no treatment of the water.

[11] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.
[12] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.
[13] California Waterboards. 2018. *Final 2016 Section 303(d) and 305(b) Integrated Report.* Available: https://www.waterboards.ca.gov/losangeles/water_issues/programs/303d/. Accessed: December 15, 2017.

Table 3.8-3. Study Area Water Quality Impairments[14]

Watershed	Water Body Name	Pollutant Category	Potential Sources	EPA TMDL (2014/2016)[15]
Los Angeles River	Aliso Canyon Wash	Metals Bacteria	Unknown non-Point	2005/2008 2012
	Arroyo Seco Reach 1	Bacteria Trash	Unknown and urban runoff/ storm sewers	2012 2008
	Bell Creek	Bacteria	Unknown	2012
	Bull Creek	Bacteria	Unknown	2012
	Burbank Western Channel	Bacteria Metals Trash Other inorganics	Unknown and urban runoff/ storm sewers	2012 2005 2008 2019*
	Dry Canyon Creek	Bacteria Metals	Unknown/ Non-point	2027* 2005
	Los Angeles River Reach 2	Nutrients Bacteria Metals Trash Nuisance	Unknown and urban runoff/ storm sewers Natural	2004 2009* 2005 2008 2019*
	Los Angeles River Reach 3	Nutrients Metals Trash Toxicity Bacteria	Unknown and urban runoff/ storm sewers	2004 2005 2008 2027* 2012
	Los Angeles River Reach 4	Nutrients Bacteria Toxicity Trash	Unknown and urban runoff/ storm sewers	2004 2019* 2027* 2004
	Los Angeles River Reach 5	Nutrients Metals Trash Nuisance Toxicity Miscellaneous	Unknown and urban runoff/ storm sewers	2004 2005 2008 2019* 2027* 2025*
	Los Angeles River Reach 6	Bacteria Metals Toxicity	Unknown	2012 2005/2008 2027*

[14] State Water Resources Control Board. 2018. *Impaired Water Bodies*. Available: https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed: June 28, 2018.
[15] Dates marked with an * are proposed TMDLs.

Watershed	Water Body Name	Pollutant Category	Potential Sources	EPA TMDL (2014/2016)[15]
	McCoy Canyon Creek	Bacteria Nutrients Metals	Unknown and urban runoff/ storm sewers	2027* 2003 2005
	Tujunga Wash	Nutrients Bacteria Metals Trash	Unknown and urban runoff/ storm sewers	2004 2012 2005 2008
	Verdugo Wash Reach 1	Bacteria Metals Trash	Unknown and urban runoff/ storm sewers	2019* 2021* 2008
	Verdugo Wash Reach 2	Bacteria Trash	Unknown and urban runoff/ storm sewers	2012 2008
Santa Monica Bay (18070104)	Dockweiler Beach	Bacteria	Nonpoint	2003
	Royal Palms Beach	Pesticides Other organics	Unknown/ Nonpoint	2012 2012
	Santa Monica Beach	Bacteria	Non-point	2003
	Santa Monica Canyon	Bacteria Metals	Unknown/ Nonpoint	2003 2019*
	Topanga Canyon Creek	Metals	Unknown	2019*
	Venice Beach	Bacteria	Nonpoint	2003
	Whites Point Beach	Pesticides Bacteria Other organics	Unknown/ Nonpoint	2012 2003 2012
	Will Rogers Beach	Bacteria	Nonpoint	2003
Ballona Creek – Santa Monica Bay (180070104)	Ballona Creek	Metals Bacteria Toxicity Trash Other inorganics	Unknown point source or unknown nonpoint source	2005 2007 2005 2001 2019*
	Ballona Creek Estuary	Metals Pesticides Bacteria Toxicity Other organics	Unknown point source or unknown nonpoint source	2005 2005 2007 2005 2005
Dominguez Channel – Santa Monica Bay (180070104)	Dominguez Channel	Bacteria Metals Toxicity	Unknown/ Nonpoint	2007 2012 2012
	Torrance Carson Channel	Bacteria Metals	Unknown	2007* 2012
	Wilmington Drain	Bacteria	Unknown	2007*

Watershed	Water Body Name	Pollutant Category	Potential Sources	EPA TMDL (2014/2016)[15]
Source: SWRCB 303(d) list, Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List/305(b) Report). *proposed TMDLs				

Similar to Los Angeles River watershed, the Santa Monica Bay watershed management area has a large, dense population and significant percentage of impervious surface that prevents infiltration of stormwater. This results in pollutants such as debris, bacteria, and toxics, including dichlorodiphenyltrichloroethane (DDT) and PCBs, reaching the drainage system and impairing water quality.[16] Additionally, the significant percentage of impervious surface area results in little to no infiltration to groundwater.

The Ballona Creek watershed management area's large, dense population and high percentage of impervious surface results in impairment by pollutants such as trash, bacteria, metals, toxics, sediment, and exotic vegetation.[17] Nearly half of the watershed is impervious surface, with the majority of stormwater managed in concrete-lined channels and underground storm drainage systems.

The Dominguez Channel watershed management area's large, dense population and high percentage of impervious surface results in impairment by pollutants such as trash, metals, bacteria, toxics, and nutrients.[18] More than 60% of the watershed is impervious surface, with few natural channels, resulting in little to no infiltration of stormwater to the soil and groundwater.

The quality of surface water features is protected by the Los Angeles RWQCB, which has established the beneficial uses supported by each feature. Beneficial uses form the cornerstone of water quality protection because, combined with water quality objectives, they form water quality standards. When beneficial uses are impaired by a pollutant that chronically exceeds its water quality objective, the RWQCB places the water body and pollutant on the CWA Section 303(d) list of water quality impairments. The RWQCBs must then begin developing a TMDL program that provides a programmatic response to the impairment in order for the water body to meet the water quality objectives. Beneficial uses of waters within the Project's study area and downstream receiving waters are shown in Table 3.8-4.

[16] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.
[17] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.
[18] L.A. Stormwater. n.d. *About Watersheds.* L.A.'s Watershed Protection Program. Available: http://www.lastormwater.org/about-us/about-watersheds/. Accessed: December 15, 2017.

Table 3.8-4. Study Area Beneficial Uses

Watershed (HUC-8)	Sub-Watershed (HUC-10)	Cold Freshwater Habitat	Commercial and Sport Fishing	Contact and Non-Contact Recreation	Estuarine Habitat	Groundwater Recharge	Industrial Service Supply & Industrial Process Supply	Marine Habitat	Migration of Aquatic Organisms	Municipal and Domestic Supply	Navigation	Rare, Threatened, or Endangered Species	Shellfish Harvesting	Spawning, Reproduction, and/or Early Development (SPWN)	Warm Freshwater Habitat	Wetland Habitat	Wildlife Habitat
Los Angeles (18070105)	Big Tujunga Creek	X				X				X		X		X	X	X	X
	Upper Los Angeles River	X				X	X			X		X		X	X	X	X
	Lower Los Angeles River		X		X	X	X	X	X	X	X	X	X	X	X	X	X
Santa Monica Bay (18070104)	Dominguez Channel	X							X	X		X	X	X	X	X	X
	Frontal Santa Monica Bay	X							X	X		X	X	X	X	X	X
	Garapito Creek-Frontal Santa Monica Bay	X							X	X		X	X	X	X	X	X
Ballona Creek – Santa Monica Bay (18070104)	Ballona Creek		X		X			X	X	X	X	X		X	X	X	X
Dominguez Channel – Santa Monica Bay (18070104)	Dominguez Channel			X								X					
	Frontal Santa Monica Bay-San Pedro Bay		X	X	X		X	X	X		X	X		X			X

Source: Los Angeles Regional Water Quality Control Board, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 2014b.

Rainfall

Annual average precipitation for the City, excluding mountain areas, is 15 inches but has ranged between 4 and 40 inches since record keeping began in 1880. In the last 10 years, annual rainfall has ranged between 4 and 28 inches. Mountain areas will experience higher rainfall levels than the valley bottoms during the same storm event. Table 3.8-5 identifies the rainfall received in the City for the past 10 years for each month. Drought spanned water years 2012 through 2016 and were the driest four-year statewide precipitation on record (2012-2015) and the smallest Sierra-Cascades snowpack on record (2015, with 5 percent of average) (DWR 2017a). Drought years were extraordinarily hot and 2014, 2015 and 2016 were California's first, second and third warmest year in terms of statewide average temperatures (DWR 2017a). Water year 2017 September 30, 2017) illustrated the variability in California's annual precipitation, ending the state's 5-year drought and coming in second for statewide runoff, behind the wettest year of 1983 (DWR 2017b).

Table 3.8-5. Study Area Total Precipitation

	Total Precipitation (inches)												
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Total**
2017	8.99	5.55	0.29	0.2	0.15	0.06	0	0	0.12	0.01	0.11	0	15.48
2016	3.28	0.69	2.23	0.31	0.05	0.01	0	0	0	0.32	1.27	5.02	13.18
2015	1.44	0.61	1.13	0.35	0.79	0.04	0.23	0	2.62	0.01	0.04	0.93	8.19
2014	0.04	3.74	0.95	0.22	0	0	0	0.02	0	0	0.5	4.33	9.8
2013	1.46	0.17	0.96	0	0.48	0	0.04	0	0	0.12	0.7	0.24	4.17
2012	1.53	0.24	2.27	1.82	0.01	0	0.03	0	0	0.07	1.77	2.69	10.43
2011	0.93	3.26	6.27	0	0.64	0.04	0	0	0.07	1.73	2.36	0.79	16.09
2010	5.89	6.33	0.51	1.18	0.18	0.01	0.03	0	0	1.87	0.69	11.23	27.92
2009	0.76	4.54	0.46	0.03	0	0.18	0	0	0	3.11	0	3.86	12.94
2008	8.89	2.48	0.04	0.07	0.21	0	0	0	0	0.01	1.25	3.57	16.52

Source: U.S. Climate Data, Weather History, January 2008-December 2017. Accessed: https://www.usclimatedata.com/climate/los-angeles/california/united-states/usca1339.

Floodplain

To manage the risks of flooding, the City, like many communities, implemented flood control measures for waterways in developing and developed areas. Figure 3.8-2 compiles the FEMA Flood Insurance Rate Map (FIRM) panels for the entire region within the City boundary. The area shown in blue represents the 100-year floodplain, or the area with a 0.1% annual chance of flooding. This is considered a high-risk area for flooding. The area in orange represents the 500-year floodplain, or the area with a 0.02% annual chance of flooding. This area has a moderate-to-low risk for flooding as defined by FEMA. The City is within portions of the 100-year and 500-year floodplains.

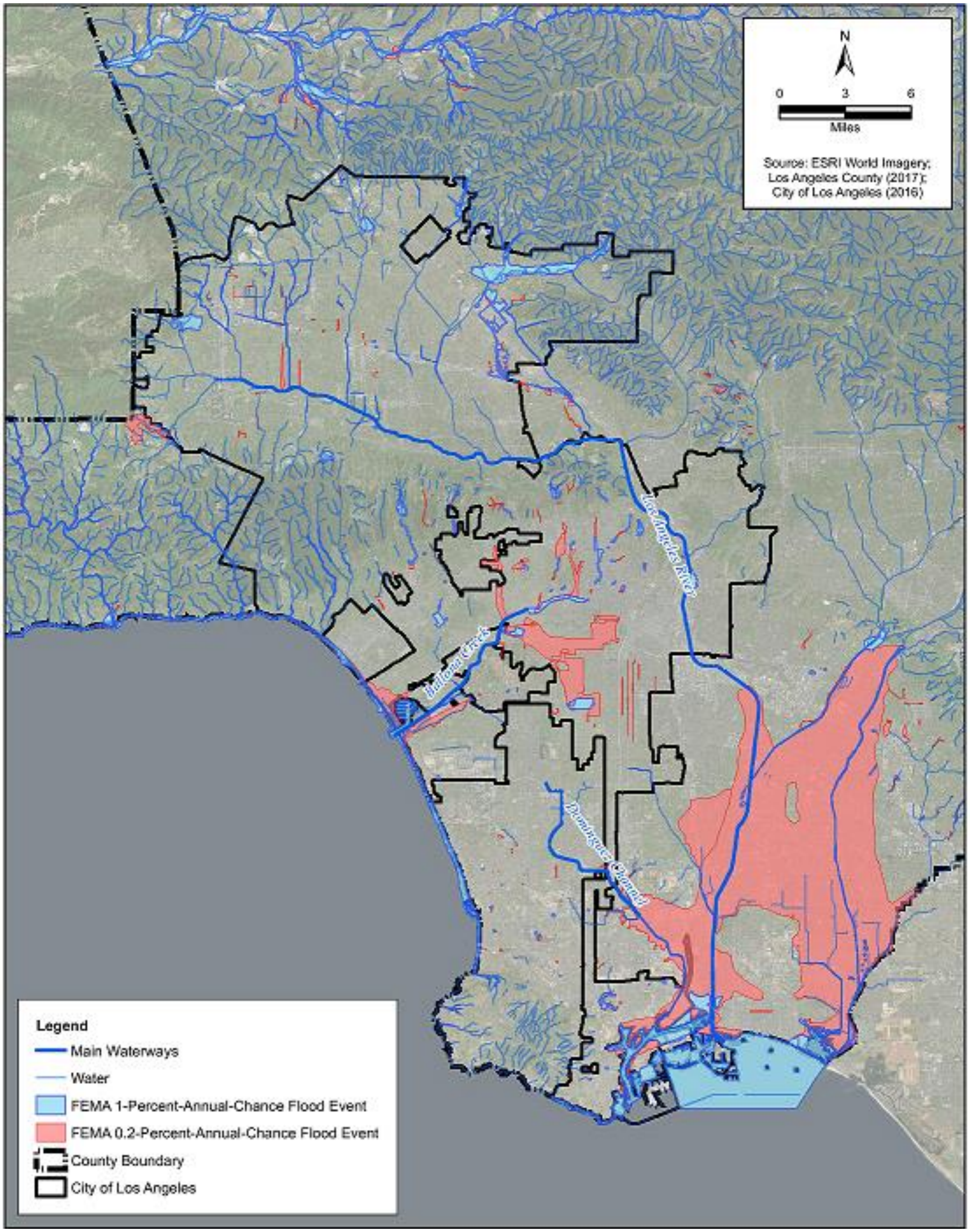

Figure 3.8-2. Federal Emergency Management Agency Flood Insurance Rate Map

3.8.2.3 Soils

Soils are important for estimating the potential for erosion and impacts on water quality.

Hydrologic soil groups are an informative ranking system for the runoff potential of soils. Erosion and water quality concerns are often related to runoff potential. Hydrologic group soils include four soil types, Group A, Group B, Group C, and Group D. See Hydrology Appendix I. The City consists of all four of these soil types. Group A soils have the lowest runoff potential and thus are of lower concern for erosion and erosion-related water quality issues. Rainwater is more likely to infiltrate to groundwater in these areas. Group D soils have the highest runoff potential and represent the greatest risk for erosion and erosion-related water quality issues.

The MS4 permit for Los Angeles County (including the City) contains the requirements necessary to improve efforts to reduce the discharge of pollutants in stormwater runoff to the maximum extent practicable (MEP) and achieve water quality standards. This permit requires runoff issues to be addressed during major phases of urban development (planning, construction, and operation) to reduce the discharge of pollutants from stormwater to the MEP, effectively prohibit non-stormwater discharges, and protect receiving waters. The MS4 permit also includes construction requirements for implementation of minimum construction site BMPs, as shown in Table 3.8-1, for erosion, sediment, non-stormwater management as well as waste management on all construction sites that are less than 1 acre under the City MS4 Permit. These BMPs may or may not be applicable to the Project. Refer to Section 3.8.1.3, *Local and Regional*, for additional details on the Los Angeles County MS4 Permit.

3.8.2.4 Groundwater

As shown in Figure 3.8-3, there are eight groundwater basins with a number of wells throughout the Project's study area. Infiltration through soil is the primary method of recharging groundwater. Depth to groundwater varies considerably throughout the City, from 5 feet to more than 400 feet, with the deepest areas in the San Fernando Valley area. Depths to groundwater for each basin within the Project's study area are provided in Table 3.8-6. In areas with shallow groundwater, groundwater dewatering at construction sites has the potential to affect groundwater quality, especially those upgradient of spreading grounds or natural infiltration zones.

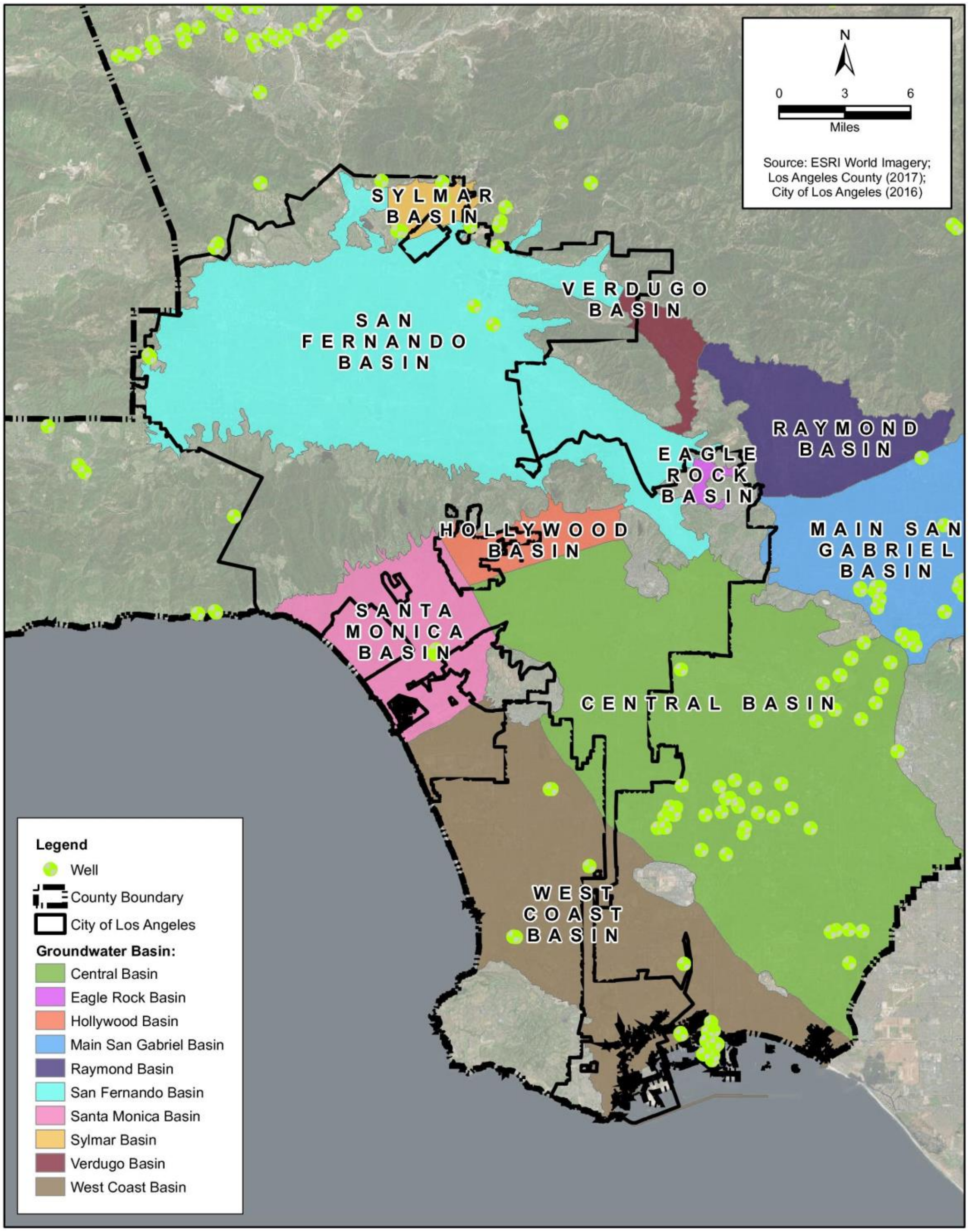

Figure 3.8-3. Groundwater in the City of Los Angeles

Table 3.8-6. Depths to Groundwater

Groundwater Basin	Groundwater Depths below Ground Surface (bgs)
Fernando[1]	20 feet, western area
	5 to 50 feet, eastern area
	250 to 400 feet, northern area
	150 to 200 feet, southern area
Sylmar[1]	50 to 150 feet
Verdugo[1]	100 feet
Eagle Rock[1]	5 to 20 feet
Santa Monica[2]	Up to 500 feet
Hollywood[3]	7 to 30 feet
Central Basin[4]	5 to 25 feet
West Coast Basin[5]	100 to 500 feet

[1] Annual Report: Watermaster Service in the Upper Los Angeles River Area, Los Angeles County, CA, December 2016.

[2] The 2010 City of Santa Monica Urban Water Management Plan.

[3] Recirculated Draft Environmental Impact Report, Melrose Triangle, City of West Hollywood, January 2014.

[4] Coastal Plain of Los Angeles Groundwater Basin, Central Subbasin, California Groundwater Bulletin 118, 2004.

[5] Watermaster Service in the West Coast Basin, Los Angeles County, California Department of Water Resources, September 2014.

3.8.3 Environmental Impact Analysis

3.8.3.1 Approach

There are various street tree species throughout the City that would be affected as part of the continuation of sidewalk repairs under the Project, which are estimated to remove 12,860 street trees and plant 30,405 new street trees over the 30-year period. The Project includes removal and replacement of street trees at a 2:1 ratios for years 1-10, 3:1 for years 11-20, and 2:1 for years 21-30. Changes in hydrology and water quality are anticipated as a result of street tree removal and replacements because of the change in street tree canopy cover that would occur over the 30 years. Sidewalk and curb ramp repairs would not drastically introduce more pavement because only the existing sidewalks and curb ramps would be repaired. Sidewalk repair construction sites would be located within residential and commercial areas and all sidewalk repairs will occur within the roadway right-of-way. The sidewalks would be constructed per applicable accessibility requirements including widening of the sidewalks and the street tree wells would be constructed per the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, see *Project Description.* As a result, there would be minimal change to the runoff and water percolation into the ground. Additionally, the Project is required to meet the discharge limits for construction and operational phases, as discussed in Section 3.8.1, *Regulatory Setting*.

The *Hydrology and Water Quality Technical Memorandum* in Appendix I models the changes in street tree canopy storage of rainfall and canopy cover over time as a result of the Project. The hydrology modeling covers site-specific design storm events and Citywide continuous simulation analysis. The site-specific analysis is performed using U.S. EPA *Stormwater Management Model (SWMM)* version 5.1 and examines potential changes to peak flow, infiltrations, and surface runoffs due to changes in tree canopy storage. The Citywide analysis is performed in *i-Tree Hydro* and examines potential water quality and stormwater volume impacts due to changes in canopy cover throughout the 30 year program.

For modeling purposes, a representative construction site, which consists of repairs on approximately 650 linear feet of approximately 5-foot wide sidewalk, was developed based on data available at the time of the NOP release and from Fiscal Year 2016-2017. Additional details on data from Fiscal Year 2016-2017 can be found in Appendix I. Hydrological models for the Project evaluated a typical construction site using variables such as the type of street tree, soils, gradient, and the amount of average rainfall throughout the City. Most of the Citywide trees are evergreen, which retain most of the leaves year-round; deciduous, which lose their leaves annually; and conifers. For modeling purposes, two broadleaf evergreen tree species, *Ficus m. nitidia* (Indian Laurel Fig) and *Certonia siliqua* (Carob tree); and two conifer species (pine trees), *Pinus canariensis* (Canary Island Pine) and *Pinus pinea* (Italian Stone Pine), represent the most commonly street trees removed because they have extensive roots that damage sidewalks. Trees with characteristics representative of trees that would be planted (replacement) include *Tabebuia impetiginosa* (Pink Trumpet Tree, broadleaf deciduous) and *Geijera parviflora* (Native Willow, broadleaf evergreen).

Rainfall Interception and Tree Water Storage

Canopy rainfall interception is the rainfall that is intercepted by the canopy of a tree and successively evaporates from the leaves. Precipitation that is not intercepted will fall as through fall onto the sidewalk or stemflow into the tree wells. Rainfall interception is dependent upon differences in tree canopy cover, leaf canopy architecture, leave area, leaf and branch angles, leaf smoothness, and bark thickness and roughness. Whether a tree is deciduous, evergreen, or conifer is a significant in rainfall interception and water storage. The amount of interception by tree canopy is dependent upon the amount of water required to saturate the tree. The amount of rainfall required to saturate a tree is a function of the average rainfall intensity, the canopy evaporation rate, the tree water storage capacity, and the canopy cover. Tree water storage can be split into two components—leaf storage and bark storage. The street tree type is significant because broadleaf evergreens and conifers have extensive canopies during the rainy season, which is the winter and the early spring, and thus, greater tree water storage potential. While broadleaf deciduous street trees do not have extensive canopies during the rainy season, and thus less tree water storage potential. This is because most of rainfall occurs in winter and early spring when deciduous trees are not in a stage of leaf-out (i.e. when trees produce leaves). Thus, rainfall interception for deciduous trees is primarily determined by the bark storage capacity, which is lower than the tree water storage capacity of the leaf-out period in the late spring and summer. In an area with a high percentage of impervious surfaces and reduced groundwater infiltration capability, interception by trees plays a role in capturing rainfall and associated runoff that would otherwise not be available. For more details on rainfall interception and tree storage see Appendix I.

Site-Specific Design Storm Analysis

The site-specific analysis, using EPA's *SWMM 5.1,* was performed to analyze stormwater runoff and peak-flow impacts due to changes in tree rainfall storage for 2-, 10-, 50-, and 100-year, 24-hour design storm events. For further discussion, see Appendix I. A conceptual representative construction site was developed and the model variables for Construction Scenario 1 and 2 were evaluated for post-construction conditions. Site-specific modeling used a series of different fixed parameters such as soil type, gradient, and rainfall as well as post-construction parameters such as representative tree species that would be planted including growth rates, canopy sizes, and leaf type. For analyses purposes, the existing tree with the highest water storage was selected for existing conditions to represent the worst-case scenario in terms of tree water storage lost. The existing tree with the largest water storage was Pinus spp. at 0.08 inch. Three scenarios were modeled: Street Tree Replacement Scenario 1 where two *Tabebuia impetiginosa* (broadleaf deciduous) are planted per street tree removed, resulting in the lowest amount of street tree water storage; Street Tree Replacement Scenario 2 is where two *Geijera parviflora* (broadleaf evergreen) are planted per street tree removed, resulting in the maximum amount of street tree water storage; and Street Tree Replacement Scenario 3 is where one of each tree species (one broadleaf deciduous and one broadleaf evergreen) is planted. Tree Replacement Scenario 2 is the only scenario where the mature tree water storage of two replacement trees will meet or exceed the storage lost from a *Pinus spp*. The tree maturity and tree water storage for the three potential replacement scenarios through the life of the Project are summarized in Table 3.8-7.

Table 3.8-7. Water Storage during Various Tree Maturity Stages

Year after Planting	Tree Replacement Scenario 1[1] (in)	Tree Replacement Scenario 2[2] (in)	Tree Replacement Scenario 3[3] (in)
1	0.002	0.006	0.004
5	0.011	0.044	0.028
10	0.021	0.082	0.051
15	0.024	0.095	0.060
30	0.024	0.095	0.060
Mature[4]	0.024	0.095	0.060

[1] Tree Replacement Scenario 1 assumes both replacement trees are *Tabebuia impetiginosa* (broadleaf deciduous)

[2] Tree Replacement Scenario 2 assumes both replacement trees are *Geijera parviflora* (broadleaf evergreen)

[3] Tree Replacement Scenario 3 assumes one replacement tree is *Tabebuia impetiginosa* and one replacement tree is *Geijera parviflora*

[4] For purposes of this Project, trees are considered mature 15 years after planting. This takes into consideration the proposed tree species maturity rates

Source: Watearth. Sidewalk Repair Program Hydrology and Water Quality Technical Memorandum. July 1, 2018. Appendix I.

3.8.3.2 Project Design Features

The proposed Street Tree Retention, Removal and Replacement Policy for Sidewalk Repair Program described in Chapter 2, *Project Description*, would set forth features related to inspection, pruning, street tree removal criteria, replacement ratios, replacement street tree site selection, planting specifications, as well as watering needs and maintenance, monitoring, and reporting requirements to create overall efficiency and minimize potential environmental impacts.

The following project design feature related to hydrology and water quality is proposed for implementation at construction sites for the Project**.**

PDF-HyWQ-1 Pursuant to Section 308-4.9.5-*Watering of the Standard Specification for Public Works Construction* "Greenbook," all planted areas would be kept moist during the establishment period. When a permanent irrigation system is not available, any temporary system would be used to provide adequate watering during the establishment period without erosion detrimental to planting.

Thresholds of Significance

HyWQ-1 through HyWQ-4 are thresholds of significance in the Hydrology and Water Quality sections of the *2006 L.A. CEQA Thresholds Guide*. Thresholds HyWQ-5 through HyWQ-7 are *Project-specific Thresholds* modified from the *2019 CEQA Guidelines Appendix G*, which was used as the Initial Study/Notice of Preparation Checklist.

HyWQ-1: Would the proposed Project cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources? *2006 L.A. CEQA Thresholds Guide.*

HyWQ-2: Would the proposed Project substantially reduce or increase the amount of surface water in a water body? *2006 L.A. CEQA Thresholds Guide.*

HyWQ-3: Would the proposed Project result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow? *2006 L.A. CEQA Thresholds Guide.*

HyWQ-4: Would discharges associated with the proposed Project create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *2006 L.A. CEQA Thresholds Guide*), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body?

HyWQ-5: Would the proposed Project result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on-site or off-site? *Appendix G of the CEQA Guidelines.*

HyWQ-6: Would the proposed Project result in structures being placed within a 100-year flood hazard area? *Appendix G of the CEQA Guidelines.*

HyWQ-7: Would runoff from the proposed Project site exceed the stormwater drainage capacity or degrade water quality? *Appendix G of the CEQA Guidelines.*

The *Hydrology and Water Quality Technical Memorandum* (Appendix I) is a quantitative analysis of impacts from the continuation of construction and operational impacts arising from the Project. Where applicable, the threshold of significance considers the quantitative analysis in the *Hydrology and Water Quality Technical Memorandum* to establish the level of impact, but where that is not appropriate, the analysis uses qualitative analysis to determine the level of impact.

The Initial Study (Appendix A) considered the Appendix G of the CEQA Guidelines hydrology and water quality sample questions regarding groundwater, 100-year flood hazard areas, and flooding/inundation as a result of a levee failure, dam failure, seiche, tsunami, or mudflow. It found that there would be no impacts, and determined that those issues would not be further discussed in the EIR.

3.8.3.3 Construction Impacts

The discussion below considers the thresholds of significance used to determine the hydrology and water quality impacts associated with the continuation of construction activities from the Project. Each impact criterion considers the hydrology and water quality impacts associated with Construction Scenario 1 and Construction Scenario 2.

HyWQ-1. Would the proposed Project cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources?

This impact would be less than significant during construction.

The majority of the proposed sidewalk improvements would not occur within a flood zone; however, as previously identified, portions of the City are within 100- and 500-year floodplains, which are potentially subject to flooding during storm events. As such, the continuation of sidewalk repairs under the Project could result in construction activities occurring within portions of the City's flood zones. During a 50-year storm event, flooding conditions would not be expected to change compared with existing conditions. Construction activities associated with the Project would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing flood flows. The overall drainage pattern would remain unchanged compared with existing conditions. In addition, the contractor would comply with the minimum construction BMPs identified in the MS4 permit for construction sites under 1 acre and implement construction BMPs to manage stormwater run-on and runoff from individual construction sites. Therefore, the Project would not result in construction impacts associated with flooding during the projected 50-year storm event and would not have the potential to harm people or damage property or sensitive biological resources during construction.

The U.S. Forest Service model, *i-Tree Hydro,* was used to calculate the runoff and water quality across the City as a result of changes due to deciduous canopy cover or evergreen canopy cover of the 2:1 and 3:1 replacement to removal ratios. Detailed calculations and model results for the site-specific and citywide analyses may be found in Appendix I. The street trees replanted in the sidewalks would be younger and hence smaller than the larger mature street trees that would be removed as part of the Project. As previously identified, street tree replacement could alter tree rainfall interception, which may increase temporary surface runoff within the 100- and 500-year floodplains repair areas. However, there is a 0 percent change in canopy cover and rainfall interception by street trees would not change from the start of the Project to the year 30 of the Project as street trees would be replaced at a 2:1 (program years 1–10 and 21–30) or 3:1 (program years 11–20) ratio (see Appendix I). The impacts are less than significant and, as detailed in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting. Furthermore, through the proposed street tree planting in the City's street tree canopy would not be impacted due to the Sidewalk Repair Project.

No increase in surface runoff volume was observed for the different Street Tree Replacement Scenarios modeled for water quality and hydrology (using the Project removal and replacement ratios and the representative tree species). The analyzed scenarios did not identify impacts on peak flow (maximum rate of discharge). See Appendix I for Hydrology and Water Quality. In addition, as identified in Table 3.8-1, construction BMPs per the MS4 permit requirements for construction sites under 1 acre ensure reduction stormwater run-on and runoff from individual construction sites. Therefore, the Project would not cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources. The impacts would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-2. Would the proposed Project substantially reduce or increase the amount of surface water in a water body?

This impact would be less than significant during construction.

As identified in HyWQ-1, the Project would not substantially reduce or increase the amount of surface water in a water body because the amount of impervious surfaces associated with the sidewalk improvements is not anticipated to change greatly compared to the existing conditions. No increase in surface runoff volume is anticipated from the replacement of mature street trees with younger, smaller street trees given the 2:1 and 3:1 replacement ratios proposed throughout the 30-year construction period. As detailed in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting In addition, as identified in Table 3.8-1, construction BMPs per the MS4 permit requirements for construction sites under 1 acre ensure reduction stormwater run-on and runoff from individual construction sites. The individual construction sites would not result in measurable changes in the amount of impervious surface. Therefore, the Project would not change the amount of surface water in a water body and the impacts would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-3. Would the proposed Project result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow?

This impact would be less than significant during construction.

Construction activities associated with the Project would not result in a permanent adverse change to the movement of surface water because the number of impervious surfaces is not anticipated to change compared with existing conditions, and the overall drainage patterns would be maintained. Because neither construction scenario would result in a net increase in impervious surfaces, the proposed Project would not affect the amount of surface water flowing to the nearest storm drains or nearby water bodies. Although minor changes in surface water flow may occur during construction when storm drain protection is installed, these changes are expected to affect stormwater flow into the storm drain system only temporarily and would not result in a permanent adverse change to the current or direction of water flow. As detailed in PDF-HyWQ-1, the newly planted street trees would be adequately watered during the establishment period without erosion detrimental to planting area. In addition, as identified in Table 3.8-1, construction BMPs per the MS4 permit requirements for construction sites under 1 acre ensure reduction stormwater run-on and runoff from individual construction sites. Therefore, Construction Scenarios 1 and 2 would not result in a permanent adverse change to the movement of surface water. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-4. Would discharges associated with the Project create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *L.A. CEQA Thresholds* Guide), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body?

This impact would be less than significant during construction.

The repair of existing sidewalks, removal and replacement of street trees, utility work, and sidewalk replacement could have the potential to lead to ground disturbance and polluted runoff. Soil disturbances from construction could allow silt to wash into storm drains and receiving waters, thereby making them turbid, which could further affect natural aquatic organisms. Construction Scenarios 1 and 2 would comply with the minimum construction site BMP requirements of the MS4 permit for erosion, sediment, non-stormwater management, and waste management, as previously shown in Table 3.8-1.

The BMPs that would reduce the potential of chemical contaminants affecting water quality would be implemented during construction activities. BMPs that would be implemented include erosion control (e.g., preservation of vegetation), sediment control (e.g., fiber rolls), non-stormwater management (e.g., water conservation), and waste management (e.g. concrete wash water). (Refer to the Los Angeles County Department of Public Works, *Construction Site Best Management Practices Manual*, for additional details on these BMPs.) Furthermore, as stated in PDF-HAZ-3, if the construction site is on a public right-of-way and contains contaminated soil, work would be pursuant to the BOE Standard Specification Section No. 02310 *Earthwork* Subsection No. 3.3, *Contaminated Soils*, which specifies the requirements and procedures, including handling and disposing of contaminated soils or debris encountered during site excavations would be implemented. Additionally, as stated in PDF-HAZ-4, if the construction site on a public right-of-way contains contaminated ground water, BOE Standard Specification Section No. 02235, *Dewatering,* would be followed. This standard specification also addresses WDRs for discharges into the storm drain. If water is discharged to the sanitary sewer system, conditions of the Industrial Waste Permit through the Bureau of Sanitation would be implemented.

The impacts of the discharges associated with the Project that create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *2006 L.A. CEQA Thresholds Guide*), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body, would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-5. Would the proposed Project result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on-site or off-site?

This impact would be less than significant during construction.

No direct alteration of streams or rivers is proposed under Construction Scenario 1 or 2. The Project would result in the temporary disturbance of sidewalks throughout the City, including soil excavation activities as a result of utility relocations under Construction Scenario 2. Temporary excavation activities and soil disturbance could erode, which has the potential to discharge from the construction site. However, given the small size of the individual construction sites (approximately 3,250 square feet, or 0.075 acre, for Construction Scenarios 1 and 2, respectively) and implementation of construction BMPs, per MS4 permit as required, to control runon and runoff and reduce erosion, it is unlikely that enough erosion could occur to result in permanent alteration of a receiving stream or river. The proper selection and implementation of erosion and water quality construction BMPs, especially in the rainy season, would significantly reduce the risk of erosion on or off an individual construction site. Required compliance with the MS4 permit's minimum construction site BMPs (listed in Table 3.8-1) and the planted areas would be adequately watered during the establishment period (as detailed in PDF-HyWQ-1) without erosion detrimental to planting. This would limit changes to the existing drainage pattern such that erosion or siltation would be reduced or avoided. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-6: Would the proposed Project result in structures being placed within a 100-year flood hazard area?

This impact would be less than significant during construction.

Under both Construction Scenarios 1 and 2, a small percentage of the construction sites may be within the 100-year flood hazard area. As such, construction activities could occur within portions of the 100-year flood zone. However, construction activities would not affect the overall flood zone or result in additional flooding within these areas because the Project activities are on existing built areas. The overall sidewalk structure within the floodplain would be similar to existing conditions. Because construction would not result in large structures being placed within a 100-year flood hazard area. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation is required.

HyWQ-7: Would runoff from the proposed Project site exceed the stormwater drainage capacity or degrade water quality?

This impact would be less than significant during construction.

The Project is not expected to exceed stormwater drainage capacity. There would be no change to the amount of impervious surface and no change in runoff volumes associated with the street tree canopy. Each construction site would be less than one acre and the construction site BMPs (listed in Table 3.8-1) would be consistent with the City's MS4 Permit conditions. Construction Scenario 2 presents a larger disturbance area than Construction Scenario 1 due to excavations for utility relocation activities than Construction Scenario 1. This would be a low-level risk during the dry season and a moderate risk during the rainy season. In addition, as identified in Table 3.8-1, all construction BMPs per the MS4 permit requirements for construction sites under 1 acre in the City further ensure reduction stormwater run-on and runoff from individual construction sites.

Post-construction, the Project would improve stormwater drainage capacity for some of the individual construction sites with replacement of stormwater inlet basins and associated piping. As identified in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting; the amount of water used would not exceed the stormwater drainage capacity. The impacts would be less than significant.

Mitigation Measures

No mitigation is required.

3.8.3.4 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.

HyWQ-1. Would the proposed Project cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources?

There would be no impact during operation.

The amount of impervious surfaces associated with the sidewalk improvements is not anticipated to change compared with existing conditions. Although some sidewalks may be slightly widened to comply with applicable accessibility requirements, the sidewalk replacement is anticipated to replace other existing impervious surfaces, such as a paved street, resulting in no net increase in impervious surfaces. Because the Project would not greatly increase impervious surfaces, no corresponding increase in surface runoff from impervious surfaces is anticipated.

The continuation of operational activities from the Project would involve street tree watering and inspection. For the first 3 years of planting, each street tree would be watered approximately 33 times per year. Each time a street tree is watered, it receives 30 gallons of water. The water used for street trees percolates into the ground and is used by the roots. As detailed in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting. In addition, the contractor would comply with the minimum construction BMPs identified in the MS4 permit for construction sites under 1 acre and implement construction BMPs to manage stormwater run-on and runoff from individual construction sites. Therefore, there is no potential for flooding as a result of street tree watering. There would be no impact during operation of the Project.

HyWQ-2. Would the proposed Project substantially reduce or increase the amount of surface water in a water body?

There would be no impact during operation.

The continuation of operational activities from the Project would involve street tree watering, which would not result in any changes to the amount of surface water in existing water bodies because, as described above, the water used for street trees percolates into the ground and is absorbed by the roots. As detailed in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting. In addition, the Project would comply with the minimum construction BMPs identified in the MS4 permit for construction sites under 1 acre and would manage stormwater run-on and runoff from individual construction sites.

HyWQ-3. Would the proposed Project result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow?

There would be no impact during operation.

The continuation of operational activities from the Project would involve street tree watering, which would not result in a change to the movement of surface water because, as described above, the water used for street trees percolates into the ground and is absorbed by the roots. Further, as detailed in PDF-HyWQ-1, the planted areas would be adequately watered during the establishment period without erosion detrimental to planting. In addition, the contractor would comply with the minimum construction BMPs identified in the MS4 permit for construction sites under 1 acre and would manage stormwater run-on and runoff from individual construction sites. Therefore, there would be no impact during operation of the Project.

HyWQ-4. Would discharges associated with the proposed Project create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *L.A. CEQA Thresholds Guide*), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body?

There would be no impact during operation.

The continuation of operational activities from the Project would involve inspection and street tree watering, which would not result in pollution, contamination, a nuisance, or discharges or cause regulatory standards to be violated because the water used for street trees percolates into the ground and is used by the roots. Furthermore, as detailed in PDF-HyWQ-1, the planted street trees would be adequately watered during the establishment period without erosion detrimental to planting area. In addition, compliance with the BMPs identified in the MS4 permit for construction sites under 1 acre would not create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code (see definitions on page G.2-4 of the *2006 L.A. CEQA Thresholds Guide*), or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for the receiving water body. For additional details on pollution, contamination, nuisance discharges, see Chapter 3.7, *Hazards and Hazardous Materials*. No pollution, contamination, nuisance, or discharge would occur as a result of the Project operation. There would be no impact.

HyWQ-5. Would the proposed Project result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on-site or off-site?

There would be no impact during operation.

The continuation of operational activities from the Project would involve watering street trees planted in street tree wells, which would not result in the alteration of a stream or river so that a change in the existing drainage pattern would occur, resulting in erosion or siltation on-site or off-site, because, as described above, the water used for street trees percolates into the ground and is used by the roots. No direct alteration of streams or rivers is proposed under Construction Scenario 1 or 2. The Project would result in the temporary disturbance of sidewalks throughout the City, including soil excavation activities as a result of utility relocations under Construction Scenario 2. Temporary excavation activities and soil disturbance could result in erosion of unprotected soils, which could discharge from the construction site. However, given the small size of the individual construction sites (approximately 3,250 square feet, or 0.075 acre, for Construction Scenarios 1 and 2) and implementation of construction BMPs, per the MS4 permit, to control runon and runoff, it is unlikely that enough erosion could occur to result in permanent alteration of a receiving stream or river. The proper selection and implementation of erosion and water quality construction BMPs, especially in the rainy season, would significantly reduce the risk of erosion on or off an individual construction site. This would further limit changes to the existing drainage pattern such that erosion or siltation would be reduced or avoided. Impacts would be less than significant.

HyWQ-6: Would the proposed Project result in structures being placed within a 100-year flood hazard area?

There would be no impact during operation.

The continuation of operational activities from the Project would involve inspection and street tree watering. Therefore, operation of the Project would not result in structures being placed within a 100-year flood hazard area because no new structures would be added to the sidewalk that could redirect or exacerbate existing flood flows. The overall sidewalk structure within the floodplain would be similar to existing conditions. There would be no impact during operation of the Project.

HyWQ-7: Would runoff from the proposed Project site exceed the stormwater drainage capacity or degrade water quality?

There would be no impact during operation.

The continuation of operational activities from the Project would involve inspection and street tree watering, which would not result in runoff from the construction site because, as described above, the water used for street trees percolates into the ground and is used by the roots. The planted areas would be adequately watered during the establishment period without erosions detrimental to planting. In addition, as identified in Table 3.8-1, BMPs per the MS4 permit requirements for construction sites under 1 acre ensure reduction stormwater run-on and runoff from individual construction sites. Therefore, there would be no impact.

Mitigation Measures

No mitigation measures for operational activities are required.

3.8.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to hydrology and water quality would occur.

3.9 Land Use and Planning

This section describes the regulatory, environmental settings, and potential impacts for land use and planning that would result from implementation of the proposed Project (Project). As analyzed below, impacts associated with land use and planning during the continuation of construction and operational activities arising from the Project would be less than significant and no mitigation measures are required.

3.9.1 Regulatory Setting

This section describes existing regulations that are applicable to the Project related to land use and planning.

3.9.1.1 Federal

American with Disabilities Act of 1990

The *American with Disabilities Act of 1990* (ADA) is a civil rights law that prohibits discrimination based on disability in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public. The purpose of the law ensures people with disabilities have the same rights and opportunities as everyone else and provides civil rights protections to individuals with disabilities similar to those provided to individuals based on race, color, sex, national origin, age, and religion. The ADA also guarantees equal opportunity for individuals with disabilities in public accommodations, employment, transportation, State and local government services, and telecommunications.

3.9.1.2 State

California Coastal Act of 1976

The *California Coastal Act of 1976* (Coastal Act) was enacted by the California legislature, which established it as the primary law that governs decisions of the California Coastal Commission (Commission). It was created in 1972 through the California Coastal Conservation Initiative and Proposition 20 and later made permanent by the legislature. Per the California Public Resources Code Division 2, Chapter 2, Section 30103, "Coastal Zone" means that land and water area of California, from the Oregon border to the border of the Republic of Mexico, specified on the maps identified and set forth in Section 17 of Chapter 1330 of the Statutes of 1976, extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high-tide line of the sea. In significant coastal estuarine habitat and recreational areas, the Coastal Zone extends inland to the first major ridgeline paralleling the sea or 5 miles from the mean high-tide line of the sea, whichever is less. In developed urban areas, the Coastal Zone generally extends inland less than 1,000 yards. The Coastal Zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem. It encompasses 1.5 million acres of land and is bounded by the Pacific Ocean on the west and an inland easterly boundary that traverses along the entire California coast.

The Coastal Act outlines standards for development within the Coastal Zone that seek to balance the right to develop with strong environmental policies aimed to protect coastal resources. It includes specific policies that address issues such as shoreline public access and recreation, lower-cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the Commission and by local governments. The Commission plans and regulates the use of land and water in the Coastal Zone.

The State of California's basic goals (Section 30001.5) for the Coastal Zone are to (a) protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources; (b) assure orderly, balanced utilization and conservation of coastal zone resources taking into account the social and economic needs of the people of the state; (c) maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners; (d) assure priority for coastal-dependent and coastal-related development over other development on the coast; (e) encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses, including educational uses, in the coastal zone.

The Coastal Act is designed to empower local governments to create Local Coastal Programs (LCPs) as land use policy to govern decisions that determine the conservation and the best use of coastal resources. LCPs are usually incorporated into a city's general plan for areas within that jurisdiction's Coastal Zone. Until the Commission certifies an LCP, the Commission makes the final decisions on all development within a city within the Coastal Zone and has appellate authority. Chapter 3 of the Coastal Act includes the standards used by the Commission in the review of coastal development permits and LCPs. It governs all development along the coast and mandates protection of public access, recreational opportunities, and marine and land resources.

Within the City of Los Angeles (City), the following communities (either totally or partially) are located within the Coastal Zone: Brentwood/Pacific Palisades, Venice. Palms/Mar Vista/Del Rey, Winchester/Playa Del Rey, San Pedro, and Wilmington/Harbor City. Also located within the Coastal Zone is the Los Angeles Harbor Complex. Projects located within the Coastal Zone need a consistency check with Coastal Act permit requirements. Los Angeles Municipal Code (LAMC) Section 12.20.2 authorizes applications for Coastal Development Permits prior to certification of the LCP. Projects that take place within City-owned/controlled property (i.e., on government property) are processed by the Department of Public Works, Bureau of Engineering, Environmental Management Group (DPW/BOE/EMG) for a Coastal Development Permit. Projects that are on private property or privately owned are processed by the Los Angeles City Planning Department for approval. Because the Project would occur on public rights-of-way, such as sidewalks, all Coastal Development Permits not within the Los Angeles City Port Master Plan would be processed by the Department of Public Works, Bureau of Engineering. The Harbor Department approves Coastal Development Permits within the Port of Los Angeles.

Environmentally Sensitive Habitat Area under the Coastal Act

Section 30107.5 of the Coastal Act defines Environmentally Sensitive Habitat Area (ESHA) as a rare and particular habitat for individual species of plants or animals, habitats for rare or valuable plant or animal species, and lastly, areas that could easily be disturbed or degraded by human activities. The Commission generally considers wetlands, estuaries, streams, riparian habitats, lakes, and portions of open coastal waters to be ESHAs because of the especially valuable role of they play in maintaining the natural ecological functioning of many coastal habitat areas and because these areas are easily degraded by human development (Statewide Interpretive Guideline for Wetlands and Other Wet Environmentally Sensitive Habitat Areas).

According to Section 30240 of the Coastal Act, ESHAs shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed. Furthermore, development in areas adjacent to ESHAs as well as parks and recreation areas shall be sited and designed to prevent impacts that would significantly degrade those areas and be compatible with the continuance of those habitat and recreation areas (amended by Ch. 285, Stats. 1991).

3.9.1.3 Local

City of Los Angeles Charter

The City Charter, Sections 580 and 581, grants powers and duties over rights-of-way, including sidewalks, to the Department of Public Works and the Board of Public Works or their designees.

City of Los Angeles General Plan

The City General Plan gives policy direction to the planning regulatory and implementation programs and addresses community development goals and policies relative to the distribution of land use. The City's General Plan includes the Framework Element, Plan for a Healthy Los Angeles – Health and Wellness Element, Housing Element, Mobility Element (i.e., Mobility Plan 2035), Noise Element, Air Quality Element, Conservation Element, Open Space Element, Safety Element, and Service Systems Element/Public Recreation Plan. These elements provide long-range citywide policy and direction, taking into account citywide goals and needs.

Los Angeles International Airport Master Plan

The 2004 Los Angeles International Airport (LAX) Plan provides the long-range land use policy framework and serves as the land use element for the City's General Plan for the airport and LAX Northside. It provides a broad policy statement regarding the conceptual design framework of future improvements at LAX, and is a component of the City's General Plan. The 2017 LAX Specific Plan guides implementation at a more focused level. It includes zoning and development regulations, and sets out the permitted and prohibited uses for property in the LAX Zone. The LAX plans collectively address the pressing need for modernization and improved levels of service as well as the very real demand for increased security. They are designed to protect critical airport infrastructure and provide for passenger safety and convenience in balance with community demands.

San Pedro Coastal Land Use Plan and San Pedro Specific Plan

The San Pedro Community Plan (implemented through Ordinance No. 185539) was adopted on June 26, 2018, by the City Council and consists of the San Pedro Coastal Land Use Plan and the San Pedro Specific Plan. Both the land use plan and the specific plan protect, maintain, enhance, and restore the overall quality of the Coastal Zone environment while meeting provisions of the Coastal Act. The San Pedro Specific Plan intends to preserve access to the beach and recreation areas and protect ocean and coastal views as seen from public areas such as highways, roads, beaches, parks, trails, accessways, and other public preserves.

Port Master Plan

Projects located within the boundaries of the Los Angeles Harbor must comply with the Port Master Plan. The objective of the Port Master Plan is to establish policies and guidelines to direct the future development of the Port of Los Angeles. The Port Master Plan is designed to better promote and safely accommodate foreign and domestic waterborne commerce, navigation, and fisheries in the national, state, and local public interest. The Port Master Plan also provides for additional public recreation facilities within the Port of Los Angeles consistent with sound and compatible port planning. The LCP is the Land Use Plan for Los Angeles Harbor and part of the Port Master Plan. The Board of Harbor Commissioners has been delegated Coastal Development Permit authority by the Coastal Act as a result of action of the Commission certifying the Port Master Plan. (City of Los Angeles 2014.)

Venice Coastal Zone Specific Plan

City Ordinance No. 172897 established the Venice Coastal Zone Specific Plan and created eight sub-areas within the Venice community. The Venice Coastal Zone Specific Plan is intended to comply with the Coastal Act for development within the Venice Coastal Zone. The purpose of the Venice Coastal Zone Specific Plan is to implement the policies and goals of the Coastal Act and address the unique conditions within the Venice Coastal Zone that must be consistent with the Los Angeles General Plan.

Venice Local Coastal Program

The Venice LCP is a policy and regulatory document required by the Coastal Act that establishes land use, development, natural resource protection, coastal access, and public recreation policies for the Venice Coastal Zone. The Venice LCP, certified by the Commission in 2001, is made up of two plans prepared by the Department of City Planning for certification by the Commission, the 2001 Venice Land Use Plan and the 2004 Venice Coastal Zone Specific Plan. The purpose of the Venice LCP is to define goals and land use policies for compliance with the Coastal Act. It is intended to restore the overall quality of the Venice Coastal Zone environment and its natural and man-made resources and to ensure that public coastal access and public recreation areas are provided as required by the Coastal Act (City of Los Angeles 2001).

City of Los Angeles Community Plans

The City's General Plan includes 35 community plans that collectively comprise the Land Use Element of the General Plan and are listed below in Table 3.9-1.

Table 3.9-1. City of Los Angeles Community Plans

Community Plans	Adopted Date
Arleta/Pacoima Community Plan	November 6, 1996
Bel Air/Beverly Crest Community Plan	November 6, 1996
Boyle Heights Community Plan	November 10, 1998
Brentwood/Pacific Palisades Community Plan	June 17, 1998
Canoga Park/Winnetka/Woodland Hills/West Hills Community Plan	August 17, 1999
Central City Community Plan	January 8, 2003
Central City North Community Plan	December 15, 2000
Chatsworth-Porter Ranch Community Plan	September 4, 1993
Encino/Tarzana Community Plan	December 16, 1998
Granada Hills/Knollwood Community Plan	October 2015
Harbor Gateway Community Plan	December 6, 1995
Hollywood Community Plan	December 13, 1998
Mission Hills/Panorama City/North Hills Community Plan	June 9, 1999
North Hollywood/Valley Village Community Plan	May 14, 1996
Northeast Community Plan	June 15, 1999
Northridge Community Plan	February 24, 1998
Palms/Mar Vista/Del Rey Community Plan	September 16, 1997
Reseda/West Van Nuys Community Plan	November 17, 1999
San Pedro Community Plan	June 26, 2018
Sherman Oaks/Studio City/Toluca Lake/Cahuenga Pass Community Plan	May 13, 1998
Silver Lake/Echo Park/Elysian Valley Community Plan	August 11, 2004
South Los Angeles Community Plan	August 2017
Southeast Community Plan	August 2017
Sun Valley/La Tuna Canyon Community Plan	August 13, 1999
Sunland/Tujunga/Shadow Hills/Lake View Terrace/East La Tuna Canyon Community Plan	November 18, 1997
Sylmar Community Plan	June 10, 2015
Van Nuys/North Sherman Oaks Community Plan	September 9, 1998
Venice Community Plan	September 29, 2000
West Adams/Baldwin Hills/Leimert Community Plan	April 19, 2017
West Los Angeles Community Plan	July 27, 1999
Westchester/Playa Del Rey Community Plan	April 13, 2004
Westlake Community Plan	September 16, 1997
Westwood Community Plan	July 27, 1999
Wilmington/Harbor City Community Plan	July 14, 1999
Wilshire Community Plan	September 19, 2001

City Sustainability Plans

The City has adopted a series of sustainability plans, which are summarized in Table 3.9-9 below with the analysis of Project's consistency with those plans. In addition, further description and analysis of the sustainability plans are included in Chapter 3.3, *Biological Resources* (urban forestry policies); Chapter 3.6, *Greenhouse Gas Emissions* (Sustainable City pLAn, GreenLA Action Plan, and Mobility Plan 2035); Chapter 3.8, *Hydrology and Water Quality* (runoff management plans and Los Angeles County Municipal Stormwater National Pollutant Discharge Elimination System Permit (MS4 permit)); and Chapter 3.12, *Transportation* (Mobility Plan 2035).

3.9.2 Environmental Setting

This section describes the environmental setting or conditions related to the Project. The information in this section is used in preparing the evaluation and conclusions of the impact analysis as well as determining any required mitigation measures. The City is located within Los Angeles County, covers 467 square miles, or 302,596 acres. As discussed in the Chapter 2, *Project Description*, approximately 76 percent of the City (230,337 acres) is developed and 24 percent (72,219 acres) is undeveloped. Land uses within the City generally consist of primarily residential uses (60 percent), in addition to public land (20 percent), commercial uses (7 percent), and industrial uses (7 percent). Approximately 15 percent of the City consists of streets and transportation infrastructure.

For purposes of the environmental impact analysis, the City has been organized into seven regional project zones that overlap with the boundaries of existing Area Planning Commissions (APCs) within the City. These project zones are defined as North Valley, South Valley, West Los Angeles, Central Los Angeles, East Los Angeles, South Los Angeles, and Harbor (Chapter 2, *Project Description*, Figure 2-2).

Existing land use distributions for each project zone is identified in Table 2-2 of Chapter 2, *Project Description*. Consistent with the overall City land use distributions, residential land uses are the most prominent in each project zone and ranges from 31.2 percent in the Harbor project zone to 68.3 percent in the South Los Angeles project zone. Figures 3.9-1 through 3.9-7 illustrate the land use distributions for each project zone. Figure 3.9-8 illustrates the Coastal Zone within the City.

Approximately 21 percent (63,888 acres) of City land is developed with infrastructure, including streets, storm drainage channels, utility facilities, and reservoirs. City streets are generally characterized in a grid-like linear pattern.

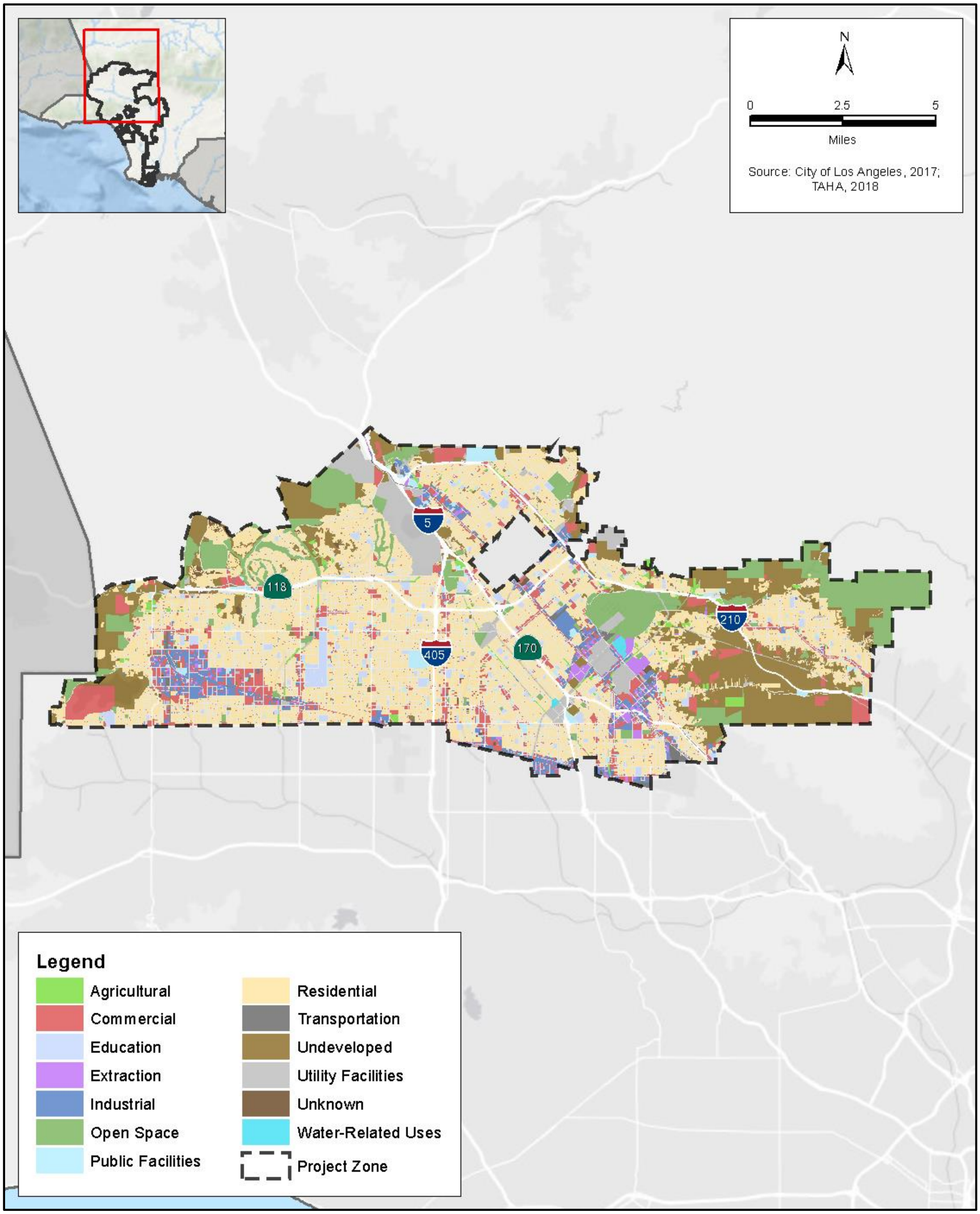

Figure 3.9-1. Land Use Distribution in the North Valley Project Zone

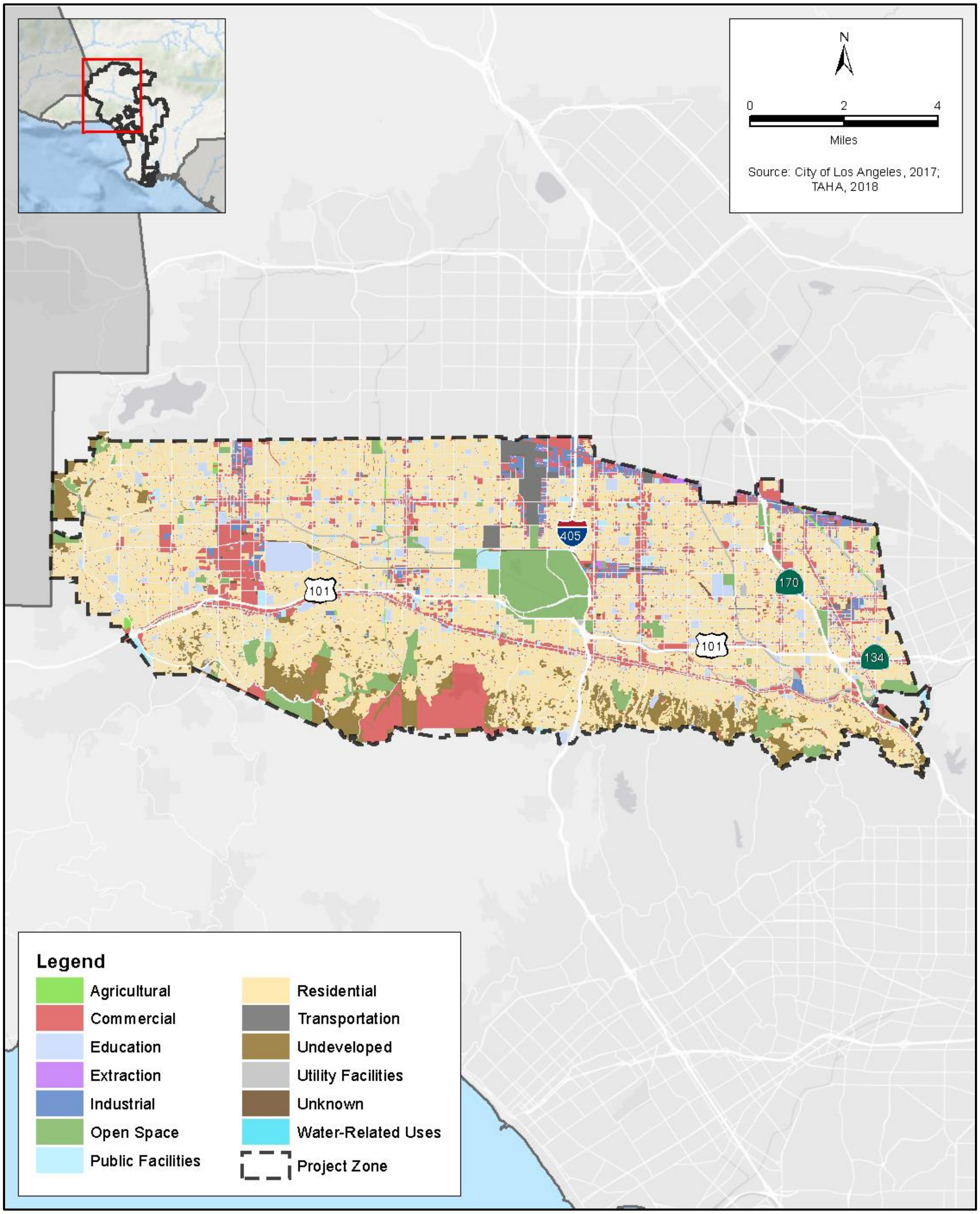

Figure 3.9-2. Land Use Distribution in the South Valley Project Zone

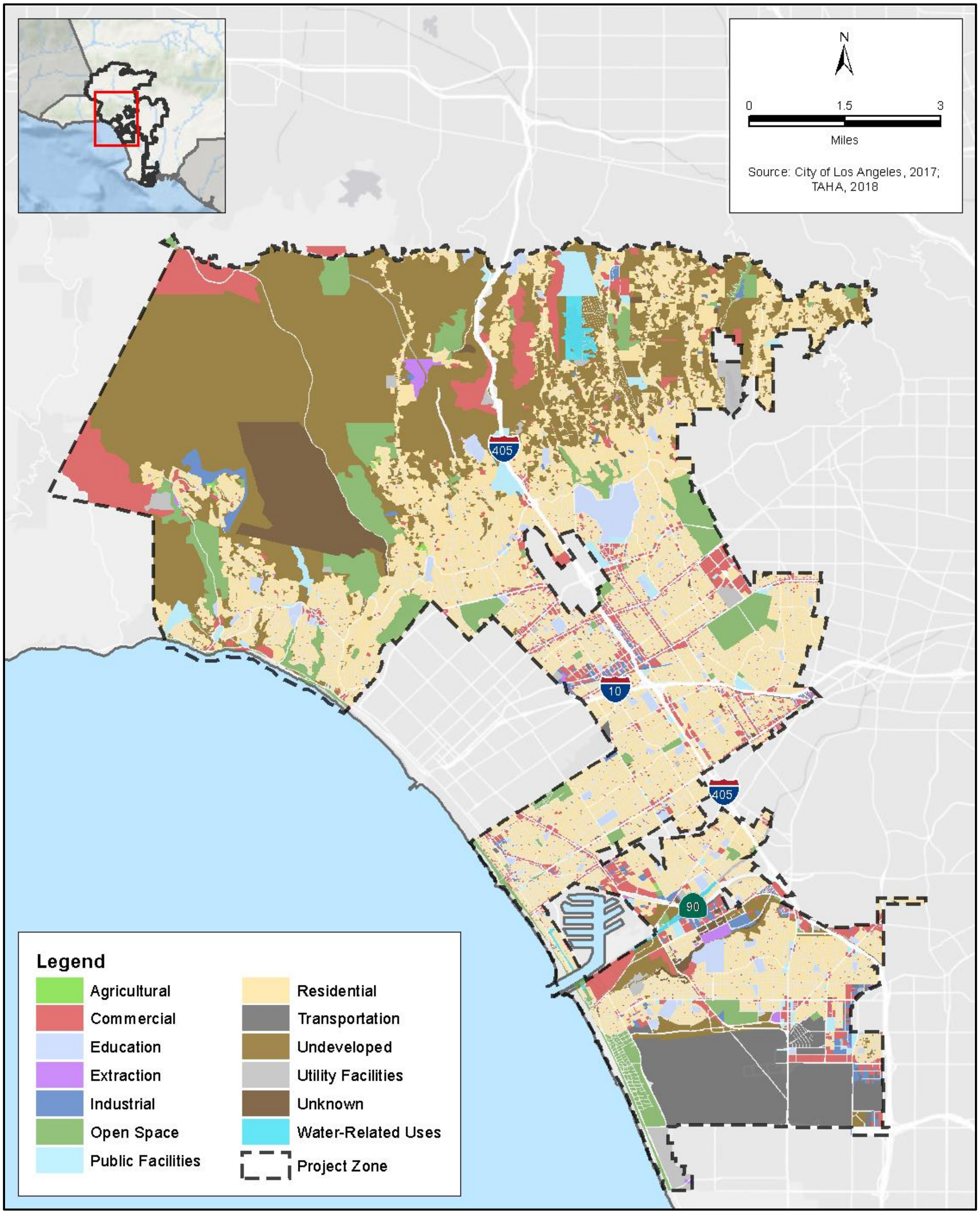

Figure 3.9-3. Land Use Distribution in the West Los Angeles Project Zone

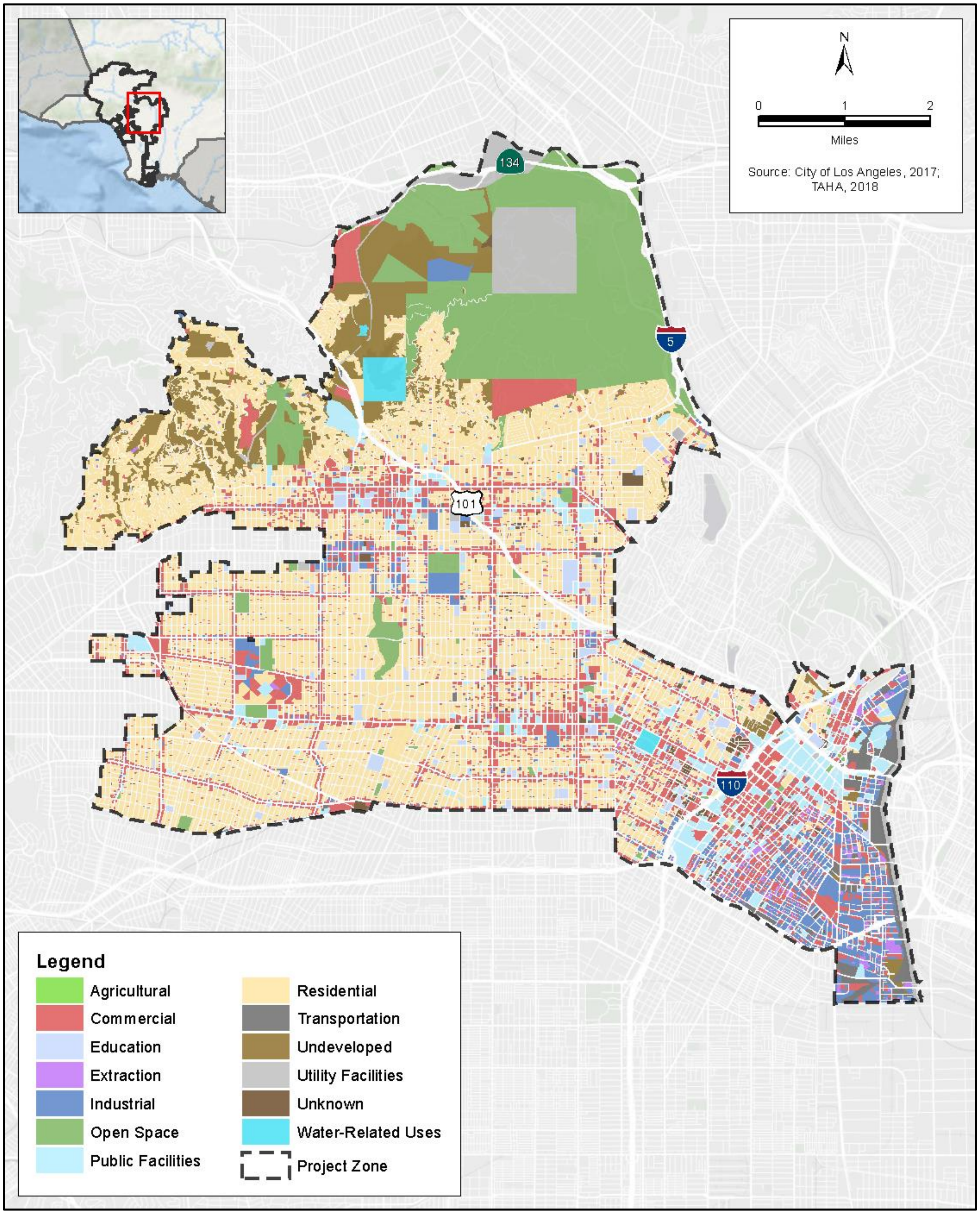

Figure 3.9-4. Land Use Distribution in the Central Los Angeles Project Zone

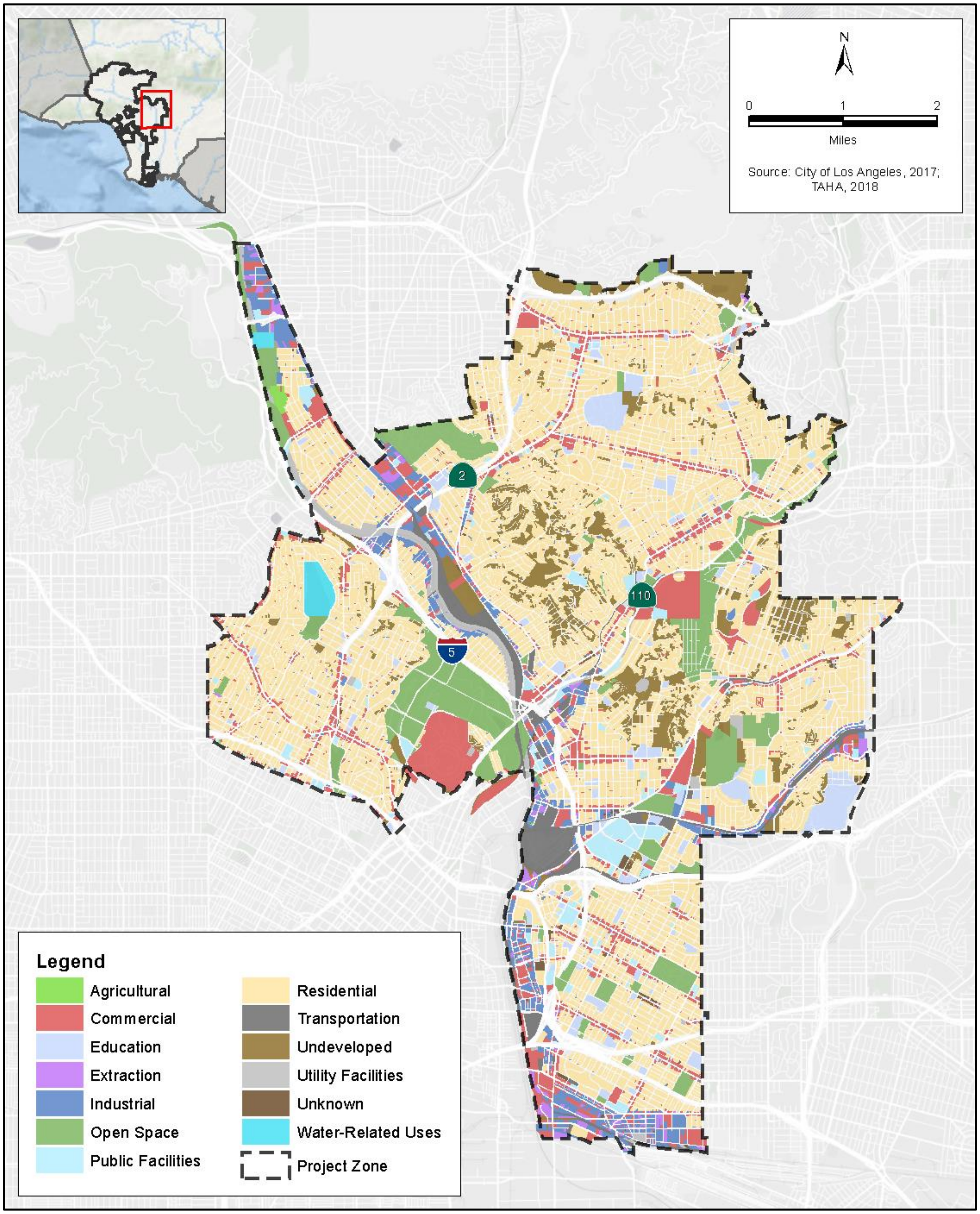

Figure 3.9-5. Land Use Distribution in the East Los Angeles Project Zone

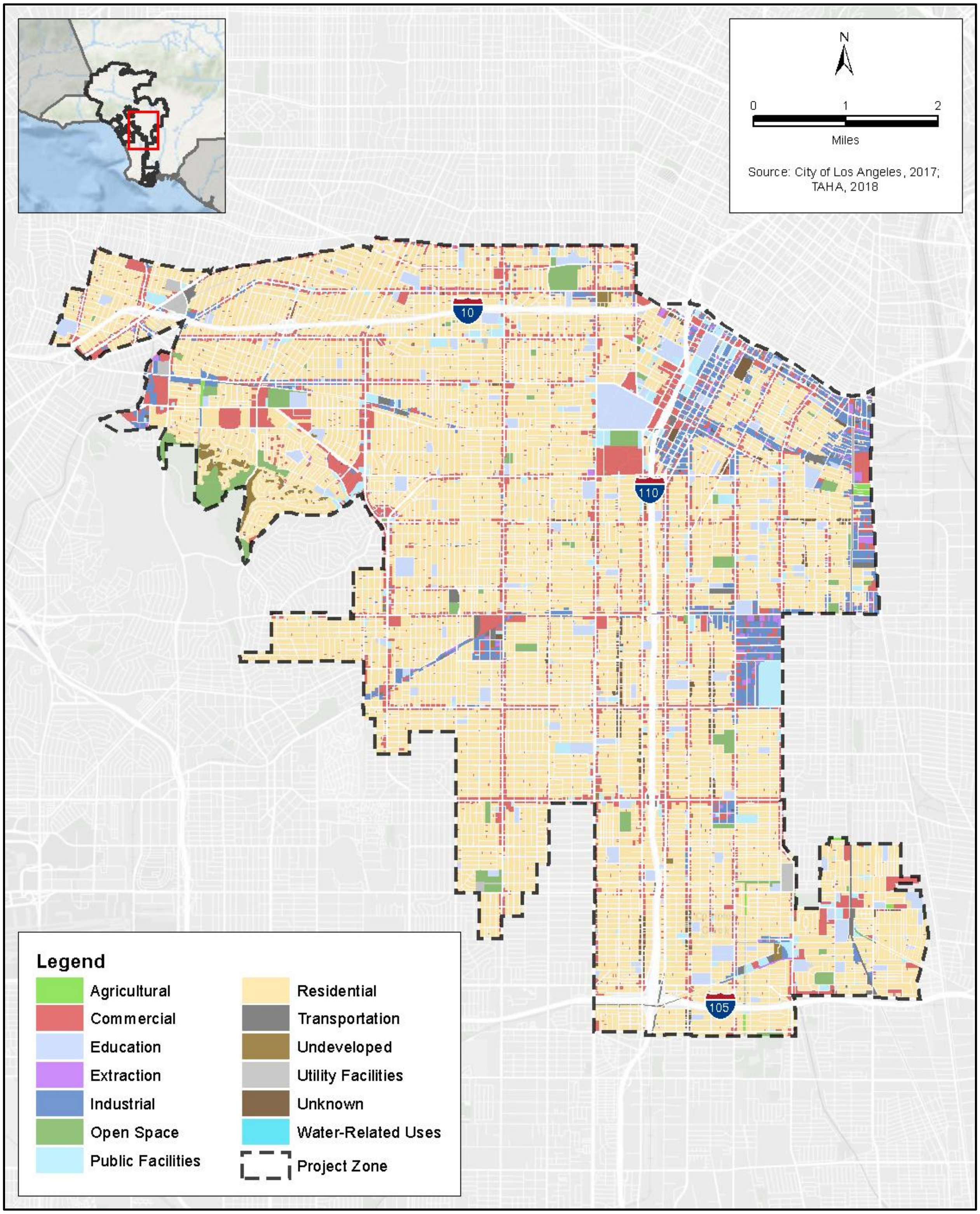

Figure 3.9-6. Land Use Distribution in the South Los Angeles Project Zone

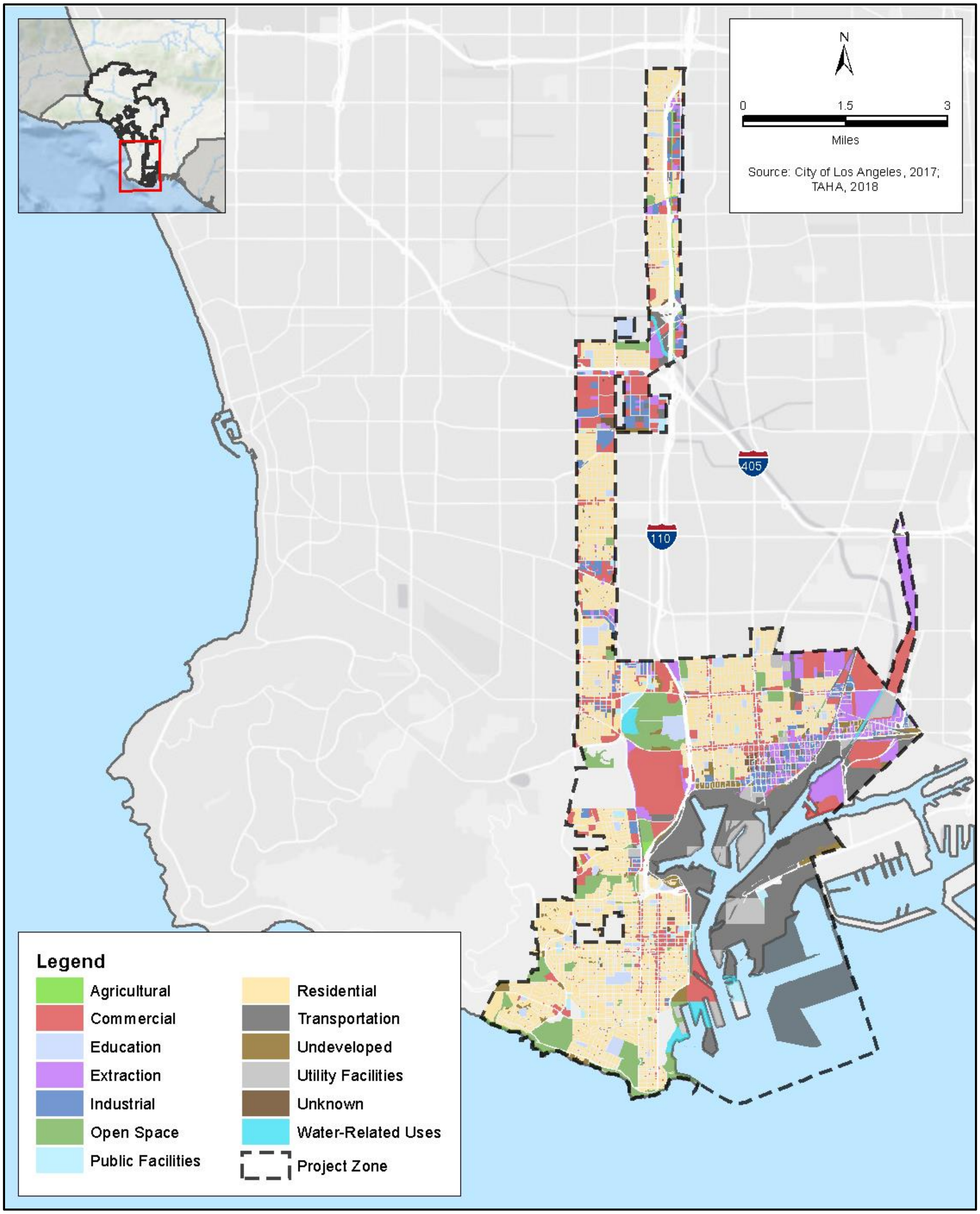

Figure 3.9-7. Land Use Distribution in the Harbor Project Zone

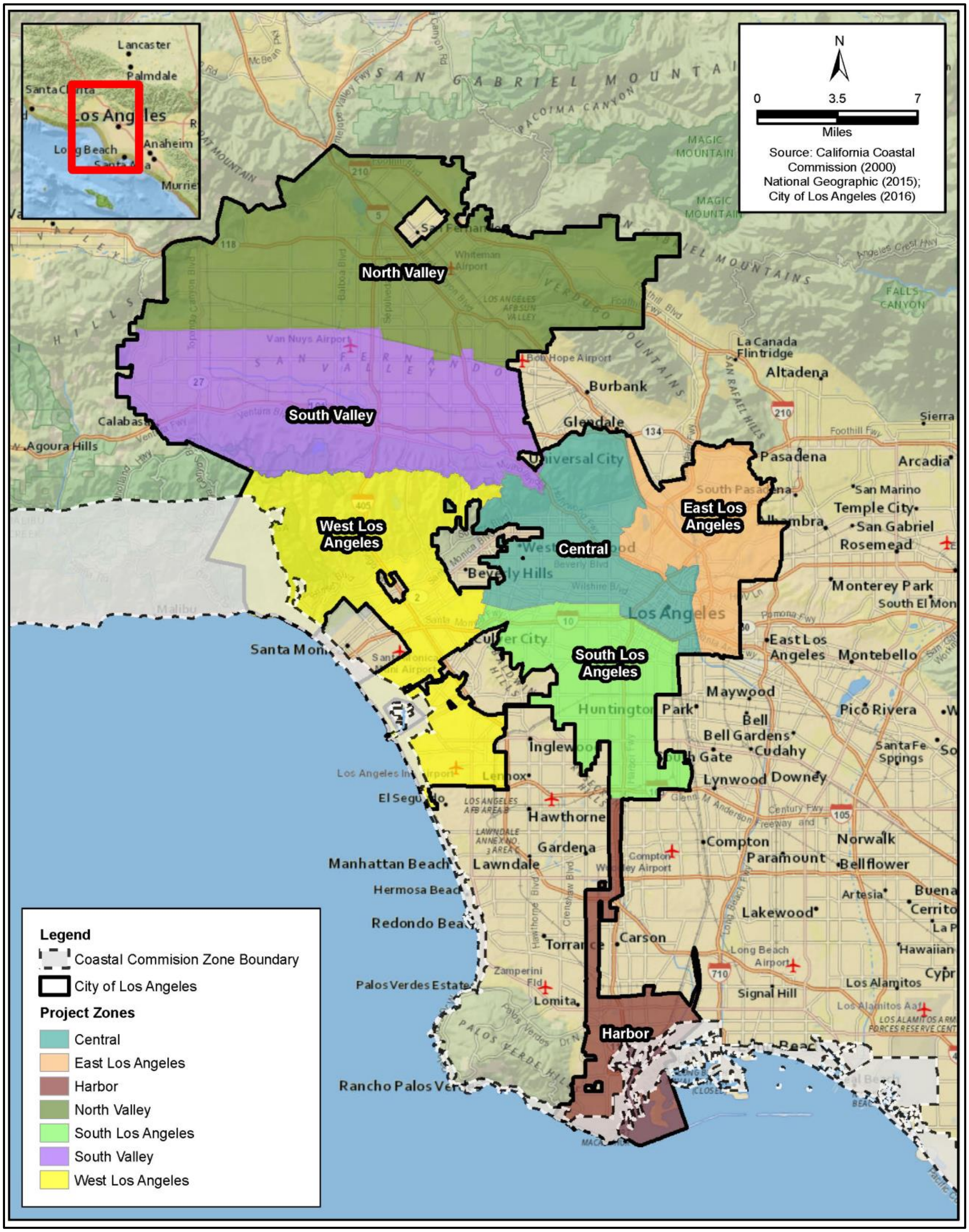

Figure 3.9-8. Coastal Zone within the City of Los Angeles

3.9.2.1 Applicable Goals, Objectives, and Policies

City of Los Angeles Mobility Plan 2035, adopted by the City Council in August 2015 and last amended in September 2016, provides the policy foundation for achieving a transportation system that balances the needs of all road users. As an update to the City's General Plan Transportation Element (last adopted in 1999), Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of Angelenos interact with their streets. The plan contains policies that provide pedestrian access. Table 3.9.2 lists the applicable goals, objectives, and policies of the City's Mobility Plan 2035 associated with accessibility and sidewalks, sustainability, and street trees and related to the Project.

Table 3.9-2. Applicable Policies of the City of Los Angeles Mobility Plan 2035

Policy	Descriptions
Policy 1.6	Multi-modal detour facilities: Design detour facilities to provide safe passage for all modes of travel during times of construction.
	World Class Infrastructure Objective: Bring all sidewalks to good condition by 2035.
Policy 2.3	Pedestrian Infrastructure: Recognize walking as a component of every trip, and ensure high quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.
Policy 2.15	Allocation of Transportation Funds: Expand funding to improve the built environment for people who walk, bike, take transit, and for other vulnerable roadway users.
Policy 3.1	Access for All: Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement – as integral components of the City's transportation system.
Policy 3.2	People with Disabilities: Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.
Source: City of Los Angeles 2016	

The City General Framework Element, adopted in December 1996 and amended in August 2001, establishes the broad overall policy and direction for the entire City General Plan. It provides a citywide context and a comprehensive long-range strategy to guide the comprehensive update of the General Plan's other elements. Table 3.9.3 lists the applicable goals, objectives, and policies of the City's General Plan Framework Element associated with accessibility and sidewalks, sustainability, and street trees and related to the Project.

Table 3.9-3. Applicable Goals, Objectives, and Policies of the City of Los Angeles General Plan Framework Element

Goal/Objective/Policy	Descriptions
Chapter 9 – Infrastructure and Public Services	
GOAL 9Q	A sustainable urban forest that contributes to overall quality of life.
Objective 9.41	Ensure that the elements of urban forestry are included in planning and programming of infrastructure projects which involve modification of dedicated parkway, sidewalk and/or raised median islands.
Policy 9.41.1	Develop a coordinated public works construction protocol to take into simultaneous consideration street tree placement, paving material selection, below or above ground utilities, etc.
Objective 9.42	Facilitate the planting of large canopied trees in street parkways.
Policy 9.42.1	Streamline the permitting processing for planting street trees.
Objective 9.43	Improve City tree selection, placement, and maintenance.
Policy 9.43.1	Adopt standardized procedures for tree selection that a) minimizes potential conflicts with City infrastructure and b) places the appropriate tree in a given site.
Policy 9.43.2	Adopt planting standards which provide for sufficient quantity and quality of soil to help trees reach their optimum size.
Policy 9.43.3	Develop a uniform care standard with focus on pruning which can be utilized by appropriate City departments
Objective 9.44	Ensure trees are adequately maintained within fiscal limitations, and seek additional non-traditional revenue sources.

Source: City of Los Angeles 2001

Table 3.9.4 lists the applicable goals, objectives, and policies related to the Project and associated with accessibility and sidewalks, sustainability, and street trees of the 35 community plans. Many of the goals, objectives, and policies of the 35 community plans that are similar or identical and have been grouped together: sidewalks, infrastructure, mobility; sustainability; and street trees. The Arleta/Pacoima Community Plan, Chatsworth-Porter Community Plan, Harbor Gateway Community Plan, and LAX Master Plan do not contain applicable goals, objectives, and policies associated with accessibility and sidewalks, sustainability, and street trees.

Table 3.9-4. Applicable Goals, Objectives, and Policies of the City of Los Angeles Community Plans

Goal/Objective/Policy	Community Plans
Sidewalks, Infrastructure, Mobility	
Goal: A system of safe, efficient and attractive bicycle, pedestrian and equestrian facilities.	Canoga Park Winnetka-Woodland Hills-West Hills (Goal 14) Central City North (Goal 13) Encino/Tarzana (Goal 14) Mission Hills/Panorama City/North Hills (Goal 14) Northeast Los Angeles (Goal 13) Northridge (Goal 14) Palms/Mar Vista/Del Rey (Goal 12) Reseda/West Van Nuys (Goal 14) Sherman Oaks/Studio City (Goal 14) Silverlake – Echo Park – Elysian Park (Goal 14) Sun Valley/La Tuna (Goal 15) Sunland/Tujunga/Shadow Hills/Lakeview Terrace/East La Tuna Canyon (Goal 14) Van Nuys/North Sherman Oaks Park (Goal 15) West Los Angeles (Goal 12) Westchester/Playa Del Rey (Goal 16) Westwood (Goal 11) Wilmington/Harbor City (Goal 13) Wilshire (Goal 11)
Goal: A community-wide pleasant street environment that is universally accessible, safe, and convenient for pedestrians. A street network that offers safe and pleasant walking environment for all people. A walkable community that is universally accessible, safe, pleasant, convenient, and contains an integrated pedestrian system that reduces vehicular conflicts, promotes walking and provides links within the community and to surrounding communities.	Granada Hills/Knollwood (Goal M4) San Pedro (Goal M3) South Los Angeles (Goal M3) Southeast Los Angeles (Goal M3) Sylmar (Goal M4) West Adams - Baldwin Hills - Leimert (Goal M3)
Objective: To promote pedestrian-oriented mobility and the utilization of the bicycle for commuter, school, recreational use, economic activity, and access to transit facilities.	Van Nuys/North Sherman Oaks Park (Objective 15-2) Venice (Objective 12-2) West Los Angeles (Objective 12-2) Westchester/Playa Del Rey (Objective 16-2) Westwood (Objective 11-2) Wilmington/Harbor City (Objective 13-2) Wilshire (Objective 11-2)
Priority Pedestrian Routes. Streets within commercial, transit-oriented, mixed-use and employment districts should have pedestrian priority, establishing pedestrian needs as paramount to vehicular circulation needs and encouraging investment in	San Pedro (Policy M3.2) South Los Angeles (Policy M3.2) Southeast Los Angeles (Policy M3.2) Sylmar (Policy M4.2)

Goal/Objective/Policy	Community Plans
pedestrian improvements and programs for identified segments.	
Mobility for Challenged Users. Support wherever feasible, transportation programs and services aimed at enhancing the mobility of young people, senior citizens, disabled persons and other populations dependent on transit.	San Pedro (Policy M1.2) West Adams – Baldwin Hills – Leimert (Policy M1.2)
Minimize Pedestrian Conflicts. Minimize conflicts between the various modes of motorized and non-motorized transportation by designing and constructing roads, sidewalks, crosswalks, bicycle lanes and trails to their proper specifications with appropriate signage and well-marked crossings to ensure safety for all users of the roadway, including buses, cars, pedestrians, bicyclists, and equestrians. Minimize conflicts between buses, cars, and pedestrians by designing and constructing sidewalks and crosswalks that make pedestrians feel safe and creating well-marked crossings at intersections and mid-block locations.	Granada Hills/Knollwood (Policy M3.1) San Pedro (Policy M3.4) South Los Angeles (Policy M3.4) Southeast Los Angeles (Policy M3.4) West Adams - Baldwin Hills - Leimert (Policy M3.4)
Pedestrian Amenities. Maintain sidewalks, streets and rights-of-way in good condition, free of obstructions, and with adequate lighting, trees and parkways. Streets must accommodate pedestrians comfortably through adequate sidewalks and parkway landscaping that provides a buffer from moving vehicles, shade from the sun, and street lighting that provides safety at night, unless specifically prescribed by the community for trails and equestrian amenities, or rural aesthetics. Maintain sidewalks, streets and rights-of-way in good condition, free of obstructions, and with adequate lighting, trees and parkways. Streets should accommodate pedestrians comfortably through adequate sidewalks, parkway landscaping that provides shade, and street lighting that provides for safety during the night.	Granada Hills/Knollwood (Policy M4.3) South Los Angeles Policy (Policy M3.3) Southeast Los Angeles Policy (Policy M3.3) Sylmar (Policy CF8.1) West Adams - Baldwin Hills - Leimert (Policy M3.3)
Pedestrian Amenities and Access to Transit. Improve pedestrian amenities and urban design along streets served by transit to create an easy and convenient user experience for people walking or bicycling by providing people-oriented built environment features such as bus bays or turnouts, street signage, striping, colored	San Pedro (Policy M6.2) South Los Angeles (Policy M6.2) Southeast Los Angeles (Policy M6.2) West Adams - Baldwin Hills - Leimert (Policy M6.2)

Goal/Objective/Policy	Community Plans
pavement, shade trees, countdown crosswalk signals, bus shelters, and bicycle racks or lockers. Improve pedestrian amenities and urban design on streets served by transit to create welcoming conditions for pedestrians accessing transit.	
BEL AIR/BEVERLY CREST COMMUNITY PLAN Chapter 3 Land Use Policies - Whenever feasible, street development should preserve existing trees. BOYLE HEIGHTS COMMUNITY PLAN Policy 3: That the unique character of community streets should be maintained and enhanced by improved design characteristics such as street trees, landscaped median strips, traffic islands, and special paving. CENTRAL CITY COMMUNITY PLAN Pedestrian Linkages: To provide an extensive, well-formed and well-maintained pedestrian network. GRANADA HILLS/KNOLLWOOD COMMUNITY PLAN Policy M3.1: Safety for All Users. Minimize conflicts between the various modes of motorized and non-motorized transportation by designing and constructing roads, sidewalks, crosswalks, bicycle lanes and trails to their proper specifications with appropriate signage and well-marked crossings to ensure safety for all users of the roadway, including buses, cars, pedestrians, bicyclists, and equestrians SAN PEDRO COMMUNITY PLAN Goal M1: A diverse system of streets that balances the needs of pedestrians, bicyclists, transit users, mobility-challenged persons and vehicles while providing sufficient mobility and abundant access options for the existing and future users of the street system. VENICE COMMUNITY PLAN Objective 12-3: To protect, maintain and improve pedestrian access to coastal resources including the system of walk streets.	
Sustainability	
Street beautification. Encourage streetscape improvements such as street trees, sidewalks, landscaping, lighting, and undergrounding of utilities.	San Pedro (Policy LU15.3) Sylmar (Policy LU 22.5) (Projects Within The Two Industrial Parks, Telfair Avenue And Balboa Boulevard, Should Maintain The Existing Landscaped Pattern.)
Sustainable Design. Develop design standards that promote sustainable development in public and private open space and street rights-of-way.	Granada Hills/Knollwood (Policy PF8.6) San Pedro (Policy CF7.5) Sylmar (Policy CF8.6)
Streetscape Guidelines/Street Design Guidelines. Develop and implement streetscape design guidelines that create walkable, pleasant environments.	South Los Angeles (Policy CF13.1) Southeast Los Angeles (Policy CF11.1) West Adams - Baldwin Hills - Leimert (Policy CF13.1)
Street Trees	
Street Tree Canopy. Identify protecting and developing tree cover that improves air quality and groundwater filtration as a priority, and encourage setting a target for street tree canopy cover in new developments and/or in areas identified as tree-deficient. Identify protecting and developing tree cover as a priority and encourage setting a	South Los Angeles (Policy CF 14.1) Southeast Los Angeles (Policy CF12.1) West Adams - Baldwin Hills - Leimert (Policy CF14.14)

Goal/Objective/Policy	Community Plans
target for street tree canopy cover in new development projects and/or in areas identified as tree-deficient.	
Tree Selection. Support policies of the Bureau of Street Services to reduce conflicts with existing infrastructure through proper tree selection and through the recognition of street trees as a vital component of the City's infrastructure.	Granada Hills/Knollwood (Policy CF8.3) San Pedro (Policy CF7.1) Southeast Los Angeles Policy (Policy CF11.2) Sylmar (Policy CF8.3)
Urban Forest. Encourage the preservation of the existing tree population and include new trees in an effort to achieve optimum canopy cover to reduce and mitigate the heat island effect. Include onsite trees in new development projects, whenever possible.	Sylmar (Policy CF CF8.1) Granada Hills/Knollwood (Policy CF8.1)
Shade Streets. Facilitate the planting and maintenance of street trees, which provide shade and give scale to residential and commercial streets in all neighborhoods in the City. Facilitate the planting and maintenance of street trees, which provide shade and give scale to residential and commercial streets in all neighborhoods in Granada Hills-Knollwood.	Granada Hills/Knollwood (Policy CF8.5) San Pedro (Policy CF7.4) Sylmar (Policy CF8.5)
Street Trees. Identify the placement of street trees as an important technique for stress- and crime-reduction.	South Los Angeles Community Plan (Policy CF13.2) West Adams - Baldwin Hills - Leimert (Policy CF13.2)

BRENTWOOD/PACIFIC PALISADES COMMUNITY PLAN

Policy 2-4.4: Landscape corridors should be created and enhanced and maintained through the planting of street trees

GRANADA HILLS/KNOLLWOOD COMMUNITY PLAN LU19.2: Streetscape Enhancement. Enhance the streetscape through the planting of additional street trees and creating bulb-outs and enhanced crosswalks.

SAN PEDRO COMMUNITY PLAN

Goal CF7: The preservation of a healthy and safe street tree population to maximize the benefits gained from the urban forest, such as air quality improvement and aesthetic enhancement.

NORTH HOLLYWOOD/VALLEY VILLAGE COMMUNITY PLAN

Circulation: Street aesthetics should be emphasized by street trees and planted median strips and by paving. Streets, highways and freeways, when developed, should be designed and improved in harmony with adjacent development and to facilitate driver and passenger orientation.

SYLMAR COMMUNITY PLAN

Goal CF8: The preservation of a healthy and safe tree population in all neighborhoods to maximize the benefits gained from the urban forest, such as air quality improvement and aesthetic enhancement.

Policy CF8.4: Native Plants. Encourage the use of plant communities native to Los Angeles which achieve native biodiversity and enhance existing wildlife habitats.

Goal/Objective/Policy	Community Plans
Policy M2.1: Streetscapes. Encourage and support streetscape improvements in neighborhood areas that foster the appeal of the street as a gathering place including street furniture, well-maintained street trees and landscaping, publicly accessible courtyards, wide sidewalks, bicycle access and appropriate traffic control measures to reduce travel speeds	
WESTLAKE COMMUNITY PLAN	
Circulation Policy 2: That any unique character of a community street be maintained and enhanced by improved design characteristics such as street trees, landscaped median strips, traffic islands, and special paving.	
Source: Department of City Planning, City of Los Angeles	

Table 3.9-5 lists the applicable goals, objectives, and policies of the San Pedro Coastal Land Use Plan related to the Project and associated with accessibility, sidewalks, sustainability, and street trees.

Table 3.9-5. Applicable Goals, Objectives, and Policies of the San Pedro Coastal Land Use Plan

Goal LU19	Maximized public access and recreational opportunities to and within the Coastal Zone consistent with sound resource conservation principles and in balance with the rights of private property owners.
Source: Department of City Planning, City of Los Angeles 2018	

Table 3.9.6 lists the applicable goals, objectives, and policies of the Venice Coastal Zone Specific Plan and the Venice LCP related to the Project and associated with accessibility and sidewalks, sustainability, and street trees.

Table 3.9-6. Applicable Goals, Objectives, and Policies of the Venice Coastal Zone Specific Plan and the Venice Local Coastal Program

Goal/Objective/Policy	Descriptions
Venice Coastal Zone Specific Plan	
Section 12.A.2.b	No shrub or hedge in the public right-of-way shall be higher than 42 inches. The bottom of tree canopies shall be maintained at least eight feet above the existing grade.
Venice Local Coastal Program	
Policy I.F.1	*Historic and Cultural Resources*. The historical, architectural and cultural character of structures and landmarks in Venice should be identified, protected and restored where appropriate, in accordance with historical preservation guidelines. The following buildings, streets, and trees have been identified through the coordinated efforts of surveys performed by the Venice Historical Society, Venice Community, State Coastal Conservancy and City of Los Angeles as significant architectural, historical and cultural landmarks in the Venice Coastal Zone. • Venice City Hall Lighthouse Street Bridge • Eastwind Community Gardens Crown Arms (Catamaran St.) • Bay Cities Laundry • Sidewalk Café (1915) • Waldorf Hotel (1913)

	• St. Charles Hotel (1905) - (St. Marks Annex) • Abbot Kinney Boulevard between Venice Boulevard and Brooks Avenue • Old Venice Jail • Breakwater (1905) • Brick Street - 18th Street • 64-72 Market Street (1913-14) • Canals Bridges • Old Venice Library • The Windward area, including the Windward Colonnades, Windward Apartments (1906), 52 Windward Avenue and 80 Windward Avenue (constructed in 1905 and housed the Venice First National Bank) • Walk streets (as shown in the land use plan on Exhibit 19, Pedestrian Access and Bicycle Trails)
Source: City of Los Angeles 2001, 2004	

Table 3.9-7 presents the goals contained in the Port Master Plan related to the Project and associated with accessibility and sidewalks, sustainability, and street trees.

Table 3.9-7. Goals of the Port Master Plan

Goal	Descriptions
Goal 4: Increase Public Access to the Waterfront	As a part of a larger community, the Port will provide for enhanced public access to the waterfront and visitor-serving facilities including retail, restaurants, museums, and parks. Waterfront access should be provided to both the local communities of San Pedro and Wilmington. These visitor-serving areas should be developed to connect with local commercial districts directly outside the port district, such as Downtown San Pedro and the Wilmington Avalon Corridor. Within the visitor-serving areas, pedestrian and bicycle pathways should connect a series of commercial and open space destinations as well as allow the opportunity to network into regional resources such as the California Coastal Trail. Public access areas and residential areas adjacent to the port should be buffered through landscaping, as feasible.
Source: City of Los Angeles 2014	

Table 3.9-8 presents the goals contained in the LAX Master Plan related to the Project and associated with accessibility and sidewalks, sustainability, and street trees.

Table 3.9-8. Goals of the LAX Master Plan

Section 3.2.4 Open Space: Goal P1	Protect existing state-designated sensitive habitat areas.
Source: City of Los Angeles 2004	

The applicable goals, objectives, and policies of the City's sustainability plans are summarized below in Table 3.9-9 with the analysis of the Project's consistency with those plans.

3.9.3 Environmental Impact Analysis

3.9.3.1 Approach

Potential impacts associated with the Project were based upon a review and assessment of applicable land use planning documents, including the City General Plan, General Plan Framework Element, and the 35 Community Plans as well as the Port Master Plan, LAX Master Plan, San Pedro Coastal Land Use Plan, and Venice LCP. It should be noted that the Los Angeles Harbor Department (for the Port of Los Angeles), Los Angeles Department of Water and Power (LADWP), and the Los Angeles World Airports (for LAX) would be responsible for sidewalk repair on sites within their jurisdictions.

Based upon these documents, an analysis was prepared to determine if the Project is consistent with the land use designations and zoning, as well as the applicable goals, objectives, and policies, listed in Tables 3.9-2 through 3.9-10. The analysis indicates if the Project would be "inconsistent." If an "inconsistent" determination is indicated, impacts related to land use and planning are not necessarily considered potentially significant, since the overall context and intent must also be considered. Therefore, the discussion below identifies potential Project–related impacts and measures that may be required to mitigate these, if they are found to be potentially significant.

As discussed in Chapter 2, *Project Description*, the Project is a citywide sidewalk repair and maintenance program that would occur for the span of a 30 years. The Project consists of the continuation of construction and maintenance related activities and is construction in nature. Impacts related to the Project are anticipated to be focused during the construction period rather than the operational period.

3.9.3.2 Project Design Features

No project design features specific to land use are proposed, although project design features related to biology (see Chapter 3.3, *Biological Resources*, for further detail) may affect land use resources and are referenced where appropriate**.**

3.9.3.3 Thresholds of Significance

The following significance criteria are based on Appendix G of the CEQA Guidelines and the City's 2006 *L.A. CEQA Thresholds Guide* and provide the basis for determining significance of impacts associated with land use and planning resulting from the implementation of the Project. The determination of whether a land use and planning 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.

LU&P-01: Would the proposed Project be consistent with adopted land use goals, objectives, or policies of applicable lands use plans? *L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

LU&P-02: Would the proposed Project create incompatible land uses with the immediate surrounding land uses? *L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

The Initial Study (Appendix A) considered the CEQA Guidelines Appendix G land use and planning sample question regarding habitat conservation plan or natural community conservation plan. The analysis for that sample question is addressed in Chapter 3.3, *Biological Resources*.

3.9.3.4 Construction Impacts

As discussed in Chapter 2, *Project Description*, the Project would affect all areas of the City for the life of the program. Implementation of the Project would include the continuation of several construction activities, including street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repaving, street tree well enlarging, relocation of street signs and street lights, construction of walls under three feet, and replacing utility covers. The Project includes two construction scenarios. Construction Scenario 1 would include sidewalk repairs, curb ramp repairs, street tree removal and replacement, and minor utility work. Construction Scenario 2 would include sidewalk repairs, curb ramp repairs, street tree removal and replacement, and substantial utility work. Minor utility relocation and construction activities would be for a minimum average of approximately five days. Substantial utility relocation and construction activities could last for up to 30 non-consecutive days of construction, depending on the type of work is required. The construction scenarios are generally the same with the exception of the level of intensity for utility relocation and work. It should be noted that the proposed components under each scenario could vary slightly and the characterization of the two construction scenarios are for analysis purposes.

The Project would also develop the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, which would establish criteria for street tree preservation, removal and replacement where street trees are the cause; guide and establish a more efficient approval procedure; and set forth ministerial permit requirements. Refer to Chapter 2, *Project Description*, for further details regarding the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program.

Generally, implementation of the Project would be located within public rights-of-way and would not change or impact the adjacent and surrounding land uses. Analysis of the construction scenarios and Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program is provided below.

LU&P-1. Would the proposed Project be consistent with adopted land use goals, objectives, or policies of applicable land use plans?

This impact would be less than significant during construction.

Consistency with the City of Los Angeles General Plan and General Plan Framework

Approximately 140 species of trees have been identified that contribute to the biodiversity of the urban forest. The result of the street tree activities under both construction scenarios would improve the livability of future residents of the communities, would continue to develop a sustainable urban forest throughout the City, and would enhance and improve sidewalks for better accessibility of all pedestrians. Street trees would be preserved to the extent feasible with the condition that the street trees are not damaging to the sidewalks and are healthy. However, to repair damaged sidewalks and ensure compliance with applicable accessibility requirements, street tree removal and replacement, root pruning, and street tree canopy pruning activities may be required. The removed street trees would be replaced at a 2:1 street tree replacement ratio for years 1–10; a 3:1 street tree replacement ratio for years 11–21; and a 2:1 street tree replacement ratio for years 22–30 with younger, healthier trees that would provide canopy shade as the street tree matures. Consistent with the applicable objectives and policies of the General Plan and General Plan

Framework, street tree activities would help achieve the goals of accommodating the needs of people with disabilities, and the need for high quality safe pedestrian access on all sidewalks by ensuring sidewalks are compliant with applicable accessibility requirements. Street tree activities would also be consistent with sustainability goals, objectives, and policies as biodiversity of the urban forest would be enhanced, and the maintenance of street trees would be improved. Maintenance of the street trees would continue through the Bureau of Street Services.

All utility relocation activities would also be consistent with the applicable policies as such activities may be required to repair, enhance and maintain sidewalks, and ensure the sidewalks are compliant with applicable accessibility requirements. Minor utility relocation activities would take between three to four days to be completed. During these construction activities pedestrians would be safely detoured around the activities to avoid construction. Utilities may be impacted in the short-term but improvements associated with the utility relocation would meet the goals, objectives, and policies required to maintain efficient infrastructure.

The Project would also be consistent with sustainability policies of the General Plan as stormwater best management practices (BMPs) (i.e., green infrastructures such as bioswales, permeable pavement, etc.), and green infrastructure and/or low impact development (LID) BMPs would be implemented where possible. Furthermore, the Project may also use low-emission concrete and low-emission materials to meet the City's sustainability goals of lowering emissions. Therefore, the Project under both construction scenarios would be consistent with the applicable sidewalk, infrastructure, mobility, sustainability, and street tree policies identified in the Mobility Plan 2035, an element of the General Plan, and the General Plan Framework. Impacts would be less than significant.

Consistency with the City of Los Angeles Community Plans

As previously discussed, goals, objectives, and policies of the City's community plans were grouped together into topics: sidewalks, infrastructure, mobility; sustainability; and street trees. Analysis of the applicable goals, objectives, and policies of the community plans based on these three topics.

Both construction scenarios would result in safe, efficient, attractive, and improved pedestrian facilities for all pedestrians. Sidewalk repair and maintenance activities would ensure all sidewalks and curbs would meet applicable accessibility requirements. These activities would minimize pedestrian conflicts through safe design and repair uneven and damaged sidewalks that affect pedestrian activity, including young, seniors, or disabled persons with mobility disabilities. Consistent with the sustainability policies of the community plan, sidewalk and maintenance activities under Construction Scenario 1 would promote sustainable improvements and standards to the sidewalk infrastructure, and encourage streetscape improvements through the installation of pedestrian amenities (e.g., vegetation, lighting, bicycle parking) and implementation of stormwater BMPs and LID BMPs. Construction Scenario 1 would be consistent with goals, objectives, and policies associated with sidewalks, infrastructure, and mobility; and sustainability.

Street tree preservation, removal and/or replacement, and pruning activities may be required to repair damaged sidewalks and provide accessible sidewalk and curbs that would serve all pedestrians, including those with mobility disabilities. Consistent with policies of the community plans, the Project would protect street tree canopies with the condition that the street trees are not damaging sidewalks, are healthy, and can survive pruning activities. The Project would encourage the preservation of the existing street tree population, to the extent feasible, and replace removed street trees at a 2:1 ratio for the first 10 years, a 3:1 ratio for years 11 through 21, and a 2:1 ratio for years 22 through 30 with younger, healthier trees that would provide a canopy as the street trees mature. Through the street tree process, biodiversity of the urban forest would be considered and maintained by ensuring species of street trees are diverse and compatible with the adjacent and surrounding land uses and development. Selection of the street trees would improve the overall landscaping of the sidewalks by replacing dead, damaged, or diseased street trees with younger, healthier trees. Status of protected street tree species and native tree species would undergo a detailed selection criterion to determine its viability. Street tree activities would enhance and improve the community street character; promote the benefits of an urban forest; encourage streetscape improvements; and create walkable and pleasant environments. Maintenance of the street trees would continue through the Bureau of Street Services. As such, street tree activities would be consistent with the goals, objectives, and policies associated with sustainability and street trees.

Utility relocation activities would also be consistent with applicable policies; such activities may be required to repair, enhance, and improve damaged sidewalks and ensure the sidewalks meet applicable accessibility requirements. Minor utility relocation activities would take approximately 5 days at a minimum to be completed, while substantial utility relocations could take up to 30 non-consecutive construction days. During these construction activities, pedestrians would be safely detoured around the activities to avoid construction. Consistent with policies, minor utility relocation activities would beautify streets and sidewalks through improvements to the streetscapes. Utilities may be impacted in the short-term but improvements associated with the minor utility relocation would meet the goals, objectives, and policies to create an efficient, walkable, and safe environment and improve pedestrian access and amenities on sidewalks. Therefore, the Project would be consistent with the applicable goals, objectives, and policies associated with sidewalks, infrastructure, and mobility; sustainability; and street trees as identified in the community plans. Impacts would be less than significant.

Consistency with the California Coastal Act

The Project would have to comply with the Coastal Act in the designated Coastal Zone areas. For public infrastructure projects and those projects constructed in the public right-of-way, such as the Project, the City Engineer at the Los Angeles Department of Public Works, Bureau of Engineering, makes findings of consistency with the policies of the Coastal Act at a local level.

For the Project, the Department of Public Works would work to ensure that the Project is consistent with the Coastal Act. Within the areas specified in Section 30601, which is known in the City permit program as the Dual Permit Jurisdiction area, the Coastal Act requires that any development that receives a local coastal development permit also obtain a second (or "dual") coastal development permit from the Commission. The Commission's standard of review for proposed development in the Dual Permit Jurisdiction area is Chapter 3 of the Coastal Act. For projects located inland of the areas identified in Section 30601 (i.e., projects in the Single Permit Jurisdiction), the City local coastal development permit is the only coastal development permit required. Within Dual Permit Jurisdiction areas, approval from both the local jurisdiction (i.e., City) and the Commission is required.

Section 30610 of the Coastal Act provides general provisions for repair, maintenance, and utility hook-up from being excluded from permit requirements. The provisions state that no coastal development permit shall be required for repair or maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities; however, if the Commission determines that certain extraordinary methods of repair and maintenance involve a risk of substantial adverse environmental impact, it shall, by regulation, require that a permit be obtained pursuant to that chapter of the Public Resources Code.

The Project, which involves the repair of existing sidewalks and associated curb ramps, would need concurrence from the Commission for qualifying under a repair, maintenance, and utility hook-up exclusion on a case-by-case basis. If the Commission does not qualify the Project as a repair, maintenance, and utility hook-up project, per Section 30610 (d) of the Public Resources Code, then a Coastal Permit (single and/or dual jurisdiction) must be acquired prior to any construction activities within the Coastal Zone. The permit application process includes notification of adjoining property owners and/or occupants and interested agencies of the construction activities. With respect to the local entity (Board of Public Works), there exists an appeal period of 10 calendar days for the Notice of Decision approval and an additional 20 business days for appeal on Notice of Permit issuance by the local entity to the state (Commission). The Coastal Development Permit process also includes notification to the adjacent property owners within 100 feet of the Project Site, minus public rights-of-way such as streets.

Consistency with the City's Sustainability Goals

Each individual sidewalk repair project arising under the Project would include several features that would be compatible with City sustainability goals and policies. These features would include stormwater best management practices, safety protocols during construction, and green infrastructure design. A summary of the Project's consistency with the City's sustainability goals is provided below in Tables 3.9-9 and 3.9-10.

Alternative Materials Pilot Program

The City is implementing an alternative materials pilot program to evaluate the effectiveness of alternatives to Portland cement concrete in sidewalk repair. As of the end of July 2018, there have been approximately 10 locations throughout the City where alternative materials have been or are planned to be installed. These materials include permeable and rubber materials and pavers and alternatives to Portland Cement concrete. The City is continuing to evaluate the efficacy and cost-effectiveness of these alternative materials. The City will evaluate each of the pilot sites to determine whether the use of alternative materials is feasible. Table 3.9-10 shows a summary of each pilot program.

Table 3.9-9. Relationship between Project and City of Los Angeles Sustainability Documents

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
General Plan Framework Element	The General Plan Framework Element is a guide for communities to implement growth and development policies by providing a comprehensive, long-range view of the City.	**GOAL 5A:** A livable City for existing and future residents and one that is attractive to future investment. A City of interconnected, diverse neighborhoods that builds on the strengths of those neighborhoods and functions at both the neighborhood and citywide scales. **Relevant guidance:** 1. "Sidewalks should be... lined with open canopied street trees" 2. "The primary commercial streets within pedestrian-oriented districts and centers should have… [s]hade trees… to provide a continuous canopy along the sidewalk and/or palm trees" <u>Objective 5.5:</u> Enhance the livability of all neighborhoods by upgrading the quality of development and improving the quality of the public realm. <u>Policy 5.5.4:</u> Determine the appropriate urban design elements at the neighborhood level, such as sidewalk width and materials, street lights and trees, bus shelters and benches, and other street furniture. <u>Objective 5.8:</u> Reinforce or encourage the establishment of a strong pedestrian orientation in designated neighborhood districts, community centers, and pedestrian-oriented subareas within regional centers, so that these districts and centers can serve as a focus of activity for the surrounding community and a focus for investment in the community. <u>Policy 5.8.2:</u> The primary commercial streets within pedestrian-oriented districts and centers should have the following characteristics: • Sidewalks: 15–17 feet wide (see illustrative street cross-sections).	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements. 2. Increase in pedestrian safety by repairing the sidewalks to applicable accessibility requirements and more street trees will also enhance the livability of neighborhoods. 3. Construction materials for sidewalk repairs would comply with City standards. 4. SRP would repair and thereby improve access (i.e., pedestrian infrastructure). *Willits* Settlement repairs prioritize sidewalk repairs using a variety of factors such as transit stops and multimodal connections. [1] 5. Repaired sidewalk infrastructure and more street trees would encourage the establishment of strong, pedestrian-oriented design. 6. Follow the proposed Revised Street Tree Preservation, Removal and Replacement Policy for the Sidewalk Repair Program which includes canopy pruning policies.

[1] City Council File No. 14-0163-S3, January 24, 2018

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		• Mid-block medians (between intersections): landscaped where feasible. • Shade trees, pruned above business signs, to provide a continuous canopy along the sidewalk and/or palm trees to provide visibility from a distance. • Pedestrian amenities (e.g., benches, pedestrian-scale lighting, special paving, window boxes, and planters).	
		GOAL 9B: A stormwater management program that minimizes flood hazards and protects water quality by employing watershed-based approaches that balance environmental, economic and engineering considerations. **Relevant objectives and policies:** Objective 9.6: Pursue effective and efficient approaches to reducing stormwater runoff and protecting water quality. Objective 9.7: Continue to develop and implement best management practices based stormwater program which maintains and improves water quality.	1. The Project will implement best available technology and water conservation techniques for deep watering of newly planted street trees.
		GOAL 9Q: A sustainable urban forest that contributes to overall quality of life. **Relevant objectives and policies:** Objective 9.41: Ensure that the elements of urban forestry are included in planning and programming of infrastructure projects which involve modification of dedicated parkway, sidewalk and/or raised median islands. Policy 9.41.1: Develop a coordinated public works construction protocol to take into consideration simultaneous street tree placement, paving material selection, below or above ground utilities, etc. Policy 9.41.2: Encourage the use of permeable paving wherever possible. (P24) Objective 9.42: Facilitate the planting of large canopied trees in street parkways. (P4) Objective 9.43: Improve City tree selection, placement and maintenance. Policy 9.43.3: Develop a uniform care standard with focus on pruning which can be utilized by appropriate City departments	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements. 2. Where feasible, install permeable surfaces. 3. Sidewalk repairs would be per applicable accessibility requirements and would consider and underground utilities.

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		Policy 9.43.3: Develop a uniform care standard with focus on pruning which can be utilized by appropriate City departments Objective 9.44: Ensure trees are adequately maintained within fiscal limitations, and seek additional non-traditional revenue sources.	
		Goal 9M: A supply of electricity that is adequate to meet the needs of Los Angeles Department of Water and Power electric customers located within Los Angeles. Objective 9.26: Monitor and forecast the electricity power needs of Los Angeles' residents, industries, and businesses. Policy 9.26.1: The Los Angeles Department of Water and Power (LADWP) shall continue to monitor and forecast its customers' peak load on its system and identify which parts of the system should be upgraded to accommodate expected growth. Objective 9.27: Continue to ensure that all electric power customers will receive a dependable supply of electricity at competitive rates. Policy 9.27.1: The LADWP shall continue to generate or purchase electric power to serve its customers. Objective 9.28: Provide adequate power supply transmission and distribution facilities to accommodate existing uses and projected growth. Policy 9.28.1: The LADWP shall continue to plan its power supply capability far enough in advance to ensure that it has available capacity to meet customer demand before it is needed. Policy 9.28.2: The LADWP shall continue to ensure that the City's transmission and distribution system is able to accommodate future peak electric demand for its customers. Policy 9.28.3: The LADWP shall continue to advise the Planning and Building and Safety Departments of any construction project that would overload a part of the distribution system during a period of peak demand. Objective 9.29: Provide electricity in a manner that demonstrates a commitment to environmental principals, ensures maximum customer value, and is consistent with industry standards.	1. After approximately 30 years, SRP will result in an overall larger street tree canopy within the City. The larger street tree canopy will improve urban heat island conditions, which will help reduce temperatures within the City and reduce the use of air-conditioning and the electricity associated with it.

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		Policy 9.29.1: Develop and deliver services to attract, assist, and retain industries and businesses in Los Angeles. Policy 9.29.2: Promote the responsible use of natural resources, consistent with City environmental policies.	
Sustainable City pLAn	This document is a roadmap to achieve short-term sustainability results and putting LA on the path to achieving longer term sustainability goals.	**Goal:** 150,000 acre-feet per year of storm water capture **Applicable strategies:** 1. Expand use of permeable pavement in large infrastructure projects 2. Expand the number of green infrastructure sites (e.g., bioswales, infiltration cutouts, street trees)	1. Where feasible, install permeable surfaces.
		Goal: Increase landfill diversion rate by 90% by 2035 **Applicable strategies:** 1. Increase construction and demolition waste recycling beyond current 65%	1. The Project will implement best available technology and water conservation techniques for deep watering of newly planted street trees.
		Goal: Reduce urban/rural temperature differential by at least 1.7°F by 2025, and by at least 3.0°F by 2035 **Applicable strategies:** 1. Add street trees, prioritizing neighborhoods with the most severe urban heat island effect 2. Install cool pavement and cool street coverings 3. Pilot installation of "cool slurry" pavement (this is already in progress)	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements. 2. Where feasible, use cool surfaces.
		Goal: Reduce GHG emissions by 45% below 1990 levels by 2025, by 60% below 1990 levels by 2030, and by 80% below 1990 levels by 2050 **Applicable strategies:** N/A	1. The pLAn strategies provide context for the SRP: SRP may consider low-emission concrete or other low-emissions materials towards this goal.
		Goal: Reduce municipal GHG emissions by 35% by 2025, and by 55% by 2035 (relative to a 2008 baseline) **Applicable strategies**: N/A	1. The pLAn strategies provide context for the SRP: SRP may consider low-emission concrete or other low-emissions materials towards this goal.
		Goal: Reuse and/or repurpose 25% of waste products by 2025, and 50% of waste products by 2035 (emphasis on organic waste streams) **Applicable strategies:** 1. Create an anaerobic digester and/or food waste pre-processing facility to better manage organic waste (it would not be up to BSS to create the digester, but BSS could send	

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		waste to the digester if there is one that accepts the waste that the SRP produces) 2. Retrofit City Asphalt Plant 1 to produce at least 50% recycled content asphalt (it would not be up to BSS to retrofit plant, but BSS could collaborate with the plant to send asphalt being replaced to plant, and use asphalt from AP1 where possible)	
		Goal: Increase the percentage of trips made by walking/biking/transit to at least 35% by 2025 and 50% by 2035 **Applicable strategies**: 1. Improve pedestrian and bicycle infrastructure and other sustainable transport, emphasizing connections to mass transit	1. SRP would repair and thereby improving access. (i.e., pedestrian infrastructure). *Willits* Settlement repairs prioritize sidewalk repairs using a variety of factors such as transit stops and multimodal connections. [2]
GreenLA Action Plan	The GreenLA Action Plan is guidance designed to promote sustainable development to reduce GHG emissions 35 percent below 1990 levels by 2030.	**Energy Goals** • Increase the generation of renewable energy; • Encourage the use of mass transit; • Develop sustainable construction guidelines; and • Increase Citywide energy efficiency. **Water Goals** • Decrease per capita water use to reduce electricity demand associated with water pumping and treatment. **Transportation Goals** • Power the City vehicle fleet with alternative fuels; and • Promote alternative transportation (e.g., mass transit and rideshare). **Other Goals** • Create a more livable City through land use regulations; and • Increase recycling.	1. SRP would help encourage the use of mass transit by repairing sidewalks, crosswalks, curb ramps, etc., near mass transits. 2. Sidewalk repairs would be per applicable accessibility requirements and would consider and underground utilities. 3. After approximately 30 years, SRP will result in an overall larger street tree canopy within the City. The larger street tree canopy will improve urban heat island conditions, which will help reduce temperatures within the City and reduce the use of air-conditioning and the electricity associated with it.

[2] City Council File No. 14-0163-S3, January 24, 2018.

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
Vision Zero	Vision Zero is a commitment to eliminate traffic deaths in the City by 2025.	**Goal:** Zero traffic deaths on LA streets by 2025 The website has limited information about projects and policies related to sidewalks.	1. Increase in pedestrian safety by repairing the sidewalks to applicable accessibility requirements and more street trees will also enhance the livability of neighborhoods.
Mobility Plan 2035	The Mobility Plan 2035 aims to provide a policy foundation for achieving a transportation system that balances the needs of all users. The Plan is an update to the City's General Plan Transportation Element (last adopted in 1999).	**Goal:** Safety First **Policy 1.6 Multi-Modal Detour Facilities:** Design detour facilities that provide safe passage for all modes of travel during construction, specifically allow for sidewalk space to avoid exposing pedestrians to oncoming traffic. **Policy 1.7 Regularly Maintained Streets:** Enhance roadway safety by maintaining the street, alley, tunnel, and bridge system in good to excellent condition. **Related Program:** SF.25 Trash Facilities installs sidewalk trashcans.	1. Increase in pedestrian safety of by repairing the sidewalks to applicable accessibility requirements and more street trees will also enhance the livability of neighborhoods. 2. SRP would help encourage the use of mass transit by repairing sidewalks, crosswalks, curb ramps, etc., near mass transits.
		Goal: World Class Infrastructure **Objective:** Bring all sidewalks to good condition by 2035. Bring all City-owned streets, tunnels, and bridges to good condition by 2035 **Policy 2.1 Adaptive Reuse of Streets:** Design, plan, and operate streets to serve multiple purposes and provide flexibility in design to adapt to future demands. City sustainability can be enhanced with trees and stormwater collection. **Policy 2.3 Pedestrian Infrastructure:** Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment. Providing more attractive and wider sidewalks, and adding pedestrian signalization, street trees, and other design features encourages people to take trips on foot instead of car. This helps to reduce cars on the road and emissions, increase economic vitality, and make the City feel like a more vibrant place.	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements. 2. The Project will implement best available technology and water conservation techniques for deep watering of newly planted street trees.

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		Policy 2.15 Allocation of Transportation Funds. Expand funding to improve the built environment for people who walk, bike, take transit, and for other vulnerable roadway users.	
		Goal: Access for All Angelenos **Policy 3.1 Access for All:** Recognize all modes of travel, including pedestrian, bicycle, transit, and vehicular modes - including goods movement - as integral components of the City's transportation system. Encourages, wider, smooth sidewalks lined with mature shade trees, disabled access ramps. Related Program: SF.26 Tree Canopy which expands the City's tree canopy using tree species that are appropriate for the location, climate, water supply, planting conditions and existing infrastructure. **Policy 3.2 People with Disabilities:** Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way. **Policy 3.5 Multi-Modal Features:** Enhance public realm around transit stations to encourage walking (i.e., sidewalks, street trees, street lights, and wayfinding) Related Program: ENG.9 First/Last Mile Transit Connectivity Program which enhances sidewalk amenities by installing landscaping, shading, lighting, directional signage, shelters, curb extensions, mid-block crosswalks, ADA ramps, etc. Related Program: ENG.9 Green Alleys Program which introduces low-impact development stormwater features in alleys **Policy 3.8 Bicycle Parking:** Providing bicyclists with convenient, secure and well-maintained bicycle parking facilities Related Program: SF.19 Sidewalk Bicycle Parking Program: install and maintain bicycle racks on sidewalks.	1. Sidewalks would be repaired/upgraded to applicable accessibility requirements. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements. 2. SRP would repair sidewalks and improve access (i.e., pedestrian infrastructure). *Willits* Settlement repairs prioritize sidewalk repairs using a variety of factors such as transit stops and multimodal connections.[3]
		Goal: Clean Environments & Healthy Communities **Policy 5.5 Green Streets:** Maximize opportunities to	1. The Project would implement best available technology and water

[3] City Council File No. 14-0163-S3, January 24, 2018

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		capture and infiltrate stormwater within the City's public right-of-ways. On sidewalks, incorporate Best Management Practices (BMPs) such as canopy trees, planters, bioswales, pervious paving, infiltration trenches, curb extensions, and modifying parkway areas between roadway and sidewalk so that stormwater can be directed there from streets and sidewalks.	conservation techniques for deep watering of newly planted street trees.
Water Quality Compliance Master Plan for Urban Runoff: Clean Stormwater/ Urban Runoff Mater Plan	This document reviews urban runoff management in the City and describes methods to improve runoff management.	While the document is not primarily a sustainability document (i.e., it focuses on mitigating water pollutants as opposed to mitigating GHG emissions) there is overlap with LA stormwater sustainability concerns (i.e., mitigating stormwater runoff, enhancing local groundwater supply). Document recommendation: Implement best management practices to reduce the volume of urban runoff. Best management practices that promote stormwater capture include infiltration practices (e.g., bioswales, porous pavement, tree wells, retention grading) and direct capture (e.g., cisterns and rain barrels, onsite use of stormwater).	1. The Project would implement best available technology and water conservation techniques for deep watering of newly planted street trees.
Bureau of Street Services Urban Forestry Policies	This webpage is a compilation of City urban forestry policies.	Relevant policies include: • Achieve an optimum degree of canopy cover in order to shade City streets and thereby help mitigate the urban heat island effect, and maximize the benefits from the urban forest ecosystem. • Provide mixed age tree population, adequate species diversity and an appropriate mix of tree types (evergreen vs. deciduous), in order to provide a diverse forest ecosystem more able to adapt to changing environmental pressures such as disease, pest infestation, etc. • Provide varied forms, textures, structure, flowering characteristics and other aesthetic benefits to enhance the types of street environments found in the City. • Contribute to and preserve the integrity of the native remnant forest both within and adjacent to the public right-of-way. • Ensure the survival of newly planted trees.	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements.

Sustainability Document	Summary of Document	Applicable Goal	Implementation of Goal in SRP
		• Utilize consistent, approved state-of-the-art standards for planting, pruning, management and removal of trees along the public streets. • Protect and provide for the necessary care of existing Street Trees.	
City of LA Trash Monitoring and Reporting Plan (TMRP) (primary document associated with City's MS4 Permit)	This document outlines a standardized trash-monitoring approach across two major LA Basin watersheds, which the City must implement to comply with the City's MS4 permit.	To comply with MS4, the City must install BMPs to improve water quality.	1. The Project would implement best available technology and water conservation techniques for deep watering of newly planted street trees.
Bureau of Street Services State of the Trees	This document assesses the state of the City's street trees, using five metrics to assess the state of the tree population	While the document does not list specific sustainability goals, it states that "One of the Bureau's primary goal is to optimize street tree benefits by maintaining a sustainable, healthy, safe, and appealing street tree population." The Bureau measures their achievement of these goals with five metrics, being (1) tree species diversification, (2) tree age diversification, (3) tree stocking rate, (4) tree health, and (5) tree maintenance program. Though the goal is not directly related to sustainability (i.e., GHG emissions reduction, resource conservation, or climate resilience), these metrics could be taken into consideration in the implementation of the SRP. The document also refers to Sustainable City pLAn goals related to street trees (including protecting and supporting biodiversity in the urban ecosystem, increasing stormwater capture, and reducing UHI) which are listed in this table under the Sustainable City pLAn row.	1. Follow the Street Tree Preservation, Removal and Replacement Policy included in the Project for street tree removals and replacements which includes policies on size, type, location, age, and maintenance of newly planted street trees.

Source: ICF 2018.

Table 3.9-10 Alternative Materials Pilot Programs

Alternative Material	Site No.	CD	Facility Name	Address	Field Construction Start	Field Construction Completion
Category 3 - Cementitious Pavers	276	7	Andres Pico Adobe	10940 Sepulveda Blvd., Mission Hills, CA 91345	Nov 2017	Dec 2017
Category 3 - Cementitious Pavers	199	4	Battalion 5 - Fire Station 35 *	1601 N. Hillhurst Avenue, Los Angeles, CA 90027	March 2018	April 2018
Category 2 - Rubber Materials and Pavers	312	12	Chase Park **	22525 W. Chase St., Los Angeles, CA 91304	April 2018	April 2018
Category 2 - Rubber Materials and Pavers	333	6	Devonshire Arleta Park	14215 Devonshire St., Pacoima, CA 91331	April 2018	April 2018
Category 2 - Rubber Materials and Pavers	5	5	Robertson Library	1719 S. Robertson Blvd, Los Angeles, CA 90035	March 2018	May 2018
Category 2 - Rubber Materials and Pavers	101	3	Parthenia Park	21444 Parthenia St., Canoga Park, CA 91304	June 2018	August 2018
	283	10	Baldwin Hills Recreation Center	5401 Highlight Pl., Los Angeles, CA 90016	June 2018	August 2018
	1942	13	Fountain Community Gardens	5620 Fountain Ave, Los Angeles, CA 90028	June 2018	August 2018
Category 2 - Rubber Materials and Pavers	548	2	Victory-Vineland Recreation Center	11117 W. Victory Blvd., North Hollywood, CA 91606	August 2018	September 2018
	392	8	Hoover-Gage Park	817 W. Gage Ave., Los Angeles, CA 90044	September 2018	September 2018
	222	14	Battalion 1 - Fire Station 9	430 E. 7th Street, Los Angeles, CA 90014	September 2018	October 2018
Category 3 - Cementitious Pavers	337	15	Drum Barracks Civil War Museum	1052 N Banning Blvd., Wilmington, CA 90744	June 2018	July 2018
	535	1	Valencia Triangle	Los Angeles, CA 90017	July 2018	July 2018
Category 6 - Alternatives to Portland Cement Concrete	340	15	Drum Barracks Park	Wilmington CA 90744	June 2018	July 2018
Category 2 – Material and Pavers	2	9	Vernon Branch Library	Los Angeles, CA 90011	September 2018	October 2018

Mitigation Measures

No mitigation measures are required.

LU&P-2. Would the proposed Project create incompatible land uses with the immediate surrounding land uses?

This impact would be less than significant during construction.

Both construction scenarios would include sidewalk repairs, curb ramp repairs, street tree removal and replacement, and utility work. Construction would occur 5 days a week, with work beginning as early as 7:00 a.m. at the site and to be completed by 2:30 p.m. Property owners would be notified and consulted prior to sidewalk repair if such repairs require regrading private driveways or pathways. Construction staging would generally be located on the site adjacent to the sidewalk improvements and may occupy up to four street parking spaces for a minimum average of 5 days under Construction Scenario 1 and up to 30 days for Construction Scenario 2. Traffic control and signage would be posted and implemented for pedestrian and street safety.

Both construction scenarios would consist of site-specific short-term and temporary construction, repair, and maintenance activities focused on the City's overall infrastructure and associated ancillary facilities, and would be located primarily within public right-of-way. Street repair and maintenance activities, street tree activities, and minor utility work may create an inconvenience to pedestrians and adjacent development, but signage and traffic control measures would be implemented for pedestrian and street safety and all work would be temporary. Construction activities would not directly impact adjacent or surrounding land uses and would not create incompatible land uses. Therefore, no impacts would occur.

The Coastal Act also identified ESHAs that are within the Coastal Zone. The Venice LCP includes ESHAs in the Venice Coastal Zone, which consists of Ballona Lagoon and the Grand Canal south of Washington Boulevard, the Venice canals north of Washington Boulevard, habitat buffer areas on the east and west banks of Ballona Lagoon, and the California least tern nesting areas. The dunes west of LAX are also a designated an ESHA and include the approximately 200-acre El Segundo Blue Butterfly Habitat Restoration Area. Construction activities in or near an ESHA would avoid unnecessary impacts on life resources, pursuant to the Habitat Protection section of the California Coastal Commission Regional Interpretative Guidelines within the Coastal Act. If "development" does occur in or near an ESHA, then a 50-foot buffer strip (measured from the outer limit of riparian vegetation or, if the waters are estuarian, a minimum of 100 feet from the outer limit of estuarian vegetation) shall be required in new development to protect the habitat value of riparian areas where the opportunity exists (Sections 30251, 30240, 30230, 30231) (PDF-BIO-6).

Mitigation Measures

No mitigation measures are required.

3.9.3.5 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.

LU&P-1. Would the proposed Project be consistent with adopted land use goals, objectives, or policies of applicable land use plans?

This impact would be less than significant during operation.

The Project is a citywide long-term sidewalk and maintenance repair program that would extend for 30 years. Implementation of the Project and improvement activities, as identified in Chapter 2, *Project Description*, would result in accessible sidewalks and curb ramps, providing better accessibility for all pedestrians. Street trees would also complement and enhance the overall urban forest. The retention of disease-free street trees, root pruning activities to ensure healthy street tree growth and minimized impacts to sidewalks, canopy pruning, and the protection of native trees (to the extent feasible) would result in positive improvements to the urban forest environment consistent with applicable adopted street tree land use and sustainability goals, objectives, and policies, as discussed above. As a result, canopy shade would continue to be present around the City, and new street trees would mature and reestablish lost canopy.

The Project would also be consistent with sustainability polices identified in the General Plan, General Plan Framework, and community plans, as identified above and also provided in Chapter 2, *Project Description*. Implementation of the Project would result in achieving accessibility and connectivity for all people, including those with mobility disabilities; a livable city for existing and future residents; a safe, clean and health environment for all people; and a healthy and diverse urban forest. The proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program would also help contribute to the Project's sustainability goal by providing objective standards and guidelines reflective of the City's overall sustainability plan.

The Project under operation would be consistent with adopted land use goals, objectives, and policies associated with sidewalks, infrastructure, mobility; sustainability; and street trees. Therefore, operational impacts would be less than significant.

LU&P-2. Would the proposed Project would create incompatible land uses with the immediate surrounding land uses?

The impact would be less than significant during operation.

Implementation of the Project would result in sidewalks and curb ramps that would be compliant with applicable accessibility requirements, providing better accessibility for all pedestrians. The City's sidewalks and street trees are part of the overall infrastructure of the City and would not affect or conflict with adjacent or surrounding land uses. Future maintenance activities related to street trees (e.g., pruning, watering, monitoring), as part of the Bureau of Urban Forestry duties, would also be located entirely within the public right-of-way and would not encroach onto adjacent properties nor impact surrounding land uses. Operations would also comply with the Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program. Therefore, operational impacts would be less than significant.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.9.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts to land use and would occur.

3.10 Noise

This chapter describes the potential impacts of the proposed Project (Project) as it relates to noise and vibration. The applicable laws, regulations, and methods used to determine the effect of the Project are described herein. This chapter describes the regulatory setting, existing environmental setting, and analyzes the environmental impacts of the Project associated with construction noise and construction vibration as detailed in the Sidewalk Repair Program Noise and Vibration Technical Report, which is included as Appendix J of this Draft EIR. The noise and vibration modeling evaluates, as a worst case scenario, potential noise exposure to the closest sensitive uses with the maximum use of equipment.

3.10.1 Noise Fundamentals

Characteristics of Sound

Sound is most commonly experienced by people as pressure waves passing through air. These rapid fluctuations in air pressure are processed by the human auditory system to produce the sensation of sound. The rate at which sound pressure changes occur is called the frequency. Frequency is usually measured as the number of oscillations per second or Hertz (Hz). Sound is technically described in terms of the loudness (amplitude) and frequency (pitch).[1] The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The A-weighted scale, abbreviated dBA, reflects the normal hearing sensitivity range of the human ear. On this scale, the range of human hearing extends from approximately 3 to 140 dBA. Typical indoor and outdoor A-weighted sound levels are shown in Figure 3.10-1.[2]

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," decreases by approximately 6 dBA over hard surfaces (e.g., reflective surfaces, such as parking lots or smooth bodies of water) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces, such as soft dirt, grass, or scattered bushes and trees) for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level is 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on.

Noise Definitions

This noise analysis discusses sound levels in terms of equivalent noise level (L_{eq}). L_{eq} is the average noise level on an energy basis for any specific time period. The L_{eq} for one hour is the average energy noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. L_{eq} can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

1 California Department of Transportation, *Technical Noise Supplement*, 2013.
2 Brüel & Kjær, Fundamentals of Environmental Noise Monitoring, 2013.

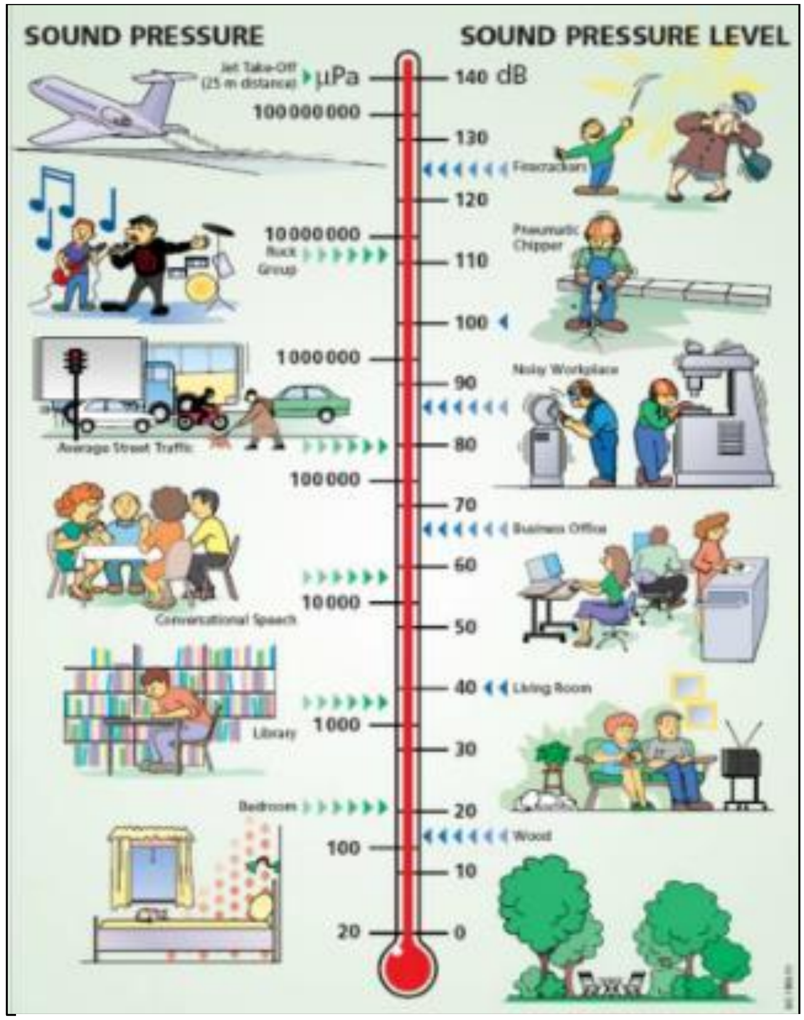

Figure 3.10-1 Typical Indoor and Outdoor Sound Pressure Levels

Effects of Noise

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of work or human activity that is exposed to the noise source.

Generally, noise is most audible when traveling by direct line-of-sight. In urban environments, barriers, such as walls, berms or buildings, are often present, which breaks the line-of-sight between the source and the receiver, and greatly reduces noise levels from the source since sound can only reach the receiver by bending over the top of the barrier. However, if a barrier is not high or long enough to break the line-of-sight from the source to the receiver, its effectiveness is reduced.

3.10.2 Groundborne Vibration Fundamentals

Characteristics of Vibration

Vibration is an oscillatory motion through a solid medium, such as soil or concrete, in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration is also acoustic energy transmitted as waves through the solid medium. The rate at which pressure changes occur is called the frequency of the vibration, measured by the number of oscillations per second or Hertz (Hz). Vibration may be the form of a single pulse of acoustical energy, a series of pulses, or a continuous oscillating motion.

The way that vibration is transmitted through the ground depends on the soil type, the presence of rock formations or man-made features and the topography between the vibration source and the receptor location. As a general rule, vibration waves tend to dissipate and reduce in magnitude with distance from the source. Also, the high frequency vibrations are generally attenuated rapidly as they travel through the ground, so that the vibration received at locations distant from the source tends to be dominated by low-frequency vibration. The frequencies of ground-borne vibration most perceptible to humans are in the range from less than 1 Hz to 100 Hz.

Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of vibration are trains, buses on rough roads, and construction activities, such as blasting, pile driving, and heavy earth-moving equipment.

High levels of vibration may cause physical personal injury or damage to buildings. However, groundborne vibration levels rarely affect human health. Instead, most people consider groundborne vibration to be an annoyance that can affect concentration or disturb sleep. In addition, high levels of groundborne vibration can damage fragile buildings or interfere with equipment that is highly sensitive to groundborne vibration (e.g., electron microscopes).

Vibration Definitions

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings and is usually measured in inches per second (ips). The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The Vdb acts to compress the range of numbers required to describe vibration.

Effects of Vibration

When ground-borne vibration arrives at a building, a portion of the energy will be reflected or refracted away from the building, and a portion of the energy will typically continue to penetrate through the ground-building interface. However, once the vibration energy is in the building structure, it can be amplified by the resonance of the walls and floors. Occupants can perceive vibration as motion of the building elements (particularly floors) and also rattling of lightweight components, such as windows, shutters, or items on shelves. At very high amplitudes (energy levels), low-frequency vibration can cause damage to buildings.

Unlike noise, groundborne vibration is not a phenomenon that most people experience every day. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

3.10.3 Regulatory Setting

3.10.3.1 Federal

Federal Noise Control Act of 1972

The Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, the U.S. Environmental Protection Agency (U.S. EPA) determined that subjective issues such as noise would be better addressed at local levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to specific federal agencies, and state and local governments. However, noise control guidelines and regulations contained in the U.S. EPA rulings in prior years remain in place.

Although the Project is not related to transportation, the Federal Transit Administration (FTA) has published relevant guidance for assessing potential building damage associated with construction activity. According to the FTA, non-engineered timber and masonry buildings can be exposed to groundborne vibration levels of 0.2 ips without experiencing structural damage. Buildings extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to groundborne vibration levels of 0.12 ips without experiencing structural damage.

Occupational Safety and Health Administration Hearing Conservation

The Occupational Safety and Health Administration (OSHA) has developed permissible noise exposure limits to protect workers from occupational noise. OSHA sets legal limits on noise exposure in the workplace based on a worker's time weighted average over an 8-hour day. The noise limits vary with exposure time and are presented in Table 3.10-1. If noise exposures are above the levels shown below for an employee, hearing protection is required to reduce noise exposure below these levels.

Table 3.10-1. OSHA Hearing Thresholds

Duration, Hours per Day	Sound Level, dBA
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115

Federal Highway Administration Traffic Noise and Abatement Guidance

The Federal Highway Administration (FHWA) Traffic Noise Analysis and Abatement Guidance presents information related to relative loudness of environmental noise. The relative loudness of environmental noise is shown in the FHWA document and correlates a decibel change in sound levels with a perceived relative loudness. The sound level change is applicable in the field as opposed to a quiet laboratory environment where smaller sound level differences could be perceived. A decrease of 10 dB is perceived as half as loud and similarly a decrease of 20 dB is perceived as 25 percent as loud. Sound level increases are perceived similarly, with a 10 dB increase perceived as a doubling of loudness and a 20 dB increase perceived as 4 times as loud.

The FHWA Traffic Noise Analysis and Abatement Guidance also includes estimated building reduction factors for various construction types. The building reduction factors estimate the noise reduction achieved due to the exterior of the structure. It is important to note that these reductions are estimates as the noise reduction through an exterior façade can vary depending on a range of factors related to the construction assembly of the walls. Door/window dimensions, door/window seals, and absorption inside the room also have an effect on noise reduction. The reduction factors shown in Table 3.10-2 assume that windows and doors are closed. A building reduction factor of 20 dBA is included in this guidance for a light frame building with ordinary sash (closed) window conditions, which is consistent with southern California residential construction standards.

Table 3.10-2. FHWA Building Reduction Factors

Building Type	Window Condition	Noise Reduction Due to Exterior of the Structure
All	Open	10 dB
Light Frame	Ordinary Sash (closed)	20 dB
	Storm	25 dB
Masonry	Single Glazed	25 dB
	Double Glazed	35 dB

3.10.3.2 State

California Department of Transportation Technical Noise Supplement

The California Department of Transportation (Caltrans) Technical Noise Supplement provides numerical estimates of how noise levels affect speech communication. At approximately 5 feet, normal conversation is possible below 65 dBA. Above 65 dBA, more vocal effort is required during conversation. Increased vocal effort correlates with increasing levels of speech interference as conversation is altered, reduced, or simplified to adapt to a noisy environment.

Caltrans Transportation and Construction Vibration Guidance Manual

Caltrans' construction vibration guidance document presents a detailed synthesis of construction related vibration research over the last few decades and provides recommended vibration criteria for evaluating potential building damage and human annoyance due to vibration from construction activities.

For potential building damage, buildings are categorized based on structure and condition with varying vibration limits associated with each structure and construction type. There are additional vibration criteria presented that categorize the vibration source as a transient source or a continuous/frequent intermittent source. A transient source is defined as a single isolated vibration event whereas a continuous/frequent intermittent source includes a repetitive construction activity like pile driving, even if the source of vibration is impulsive in nature. The Caltrans structural guideline vibration criteria are shown in Table 3.10-3.

Table 3.10-3. Guideline Vibration Damage Potential Threshold Criteria

	Maximum PPV (ips)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely Fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structure	0.5	0.3
New residential structure	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: Transient sources create a single isolated vibration event. Continuous/frequent intermittent sources include impact pile drivers, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans Transportation and Construction Vibration Guidance Manual (Table 19).

Caltrans also provides guidance on vibration perceptibility in humans in terms of transient sources and continuous/frequent intermittent sources, as shown in Table 3.10-4.

Table 3.10-4. Guideline Vibration Annoyance Potential Criteria

	Maximum PPV (ips)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single isolated vibration event. Continuous/frequent intermittent sources include impact pile drivers, vibratory pile drivers, and vibratory compaction equipment.
Source: Caltrans Transportation and Construction Vibration Guidance Manual (Table 20).

3.10.3.3 Regional

Los Angeles County Airport Land Use Commission Comprehensive Land Use Plan

In Los Angeles County, the Regional Planning Commission has the responsibility for acting as the Airport Land Use Commission and for coordinating the airport planning of public agencies within the county. The Airport Land Use Commission coordinates planning for the areas surrounding public use airports. The Comprehensive Land Use Plan provides for the orderly expansion of Los Angeles County's public use airports and the area surrounding them. It is intended to provide for the adoption of land use measures that will minimize the public's exposure to excessive noise and safety hazards. In formulating this plan, the Airport Land Use Commission has established provisions for safety, noise insulation, and the regulation of building heights within areas adjacent to each of the public airports in the County.

3.10.3.4 Local

City of Los Angeles Municipal Code

The City of Los Angeles (City) Municipal Code (LAMC) contains construction noise limits in Chapter XI Noise Regulation Section 112.05 Maximum Noise Level of Powered Equipment or Powered Hand Tools. The regulation states, "Between the hours of 7:00 a.m. and 10:00 p.m., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:

(a) 75 dB(A) for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dB(A) for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dB(A) for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors."

Unless technically infeasible, the construction noise limit in the City is, therefore, 75 dBA between the hours of 7:00 a.m. and 10:00 p.m. at a distance of 50 feet from the equipment within a residential zone or within 500 feet of a residential zone. LAMC Section 112.05 defines technical infeasibility to mean that "said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment."

3.10.4 Environmental Setting

3.10.4.1 Noise

The noise most commonly experienced in the study area is produced by on-road automobiles, trucks and buses. Vehicular noise varies with the volume, speed, and type of traffic. Slower traffic produces less noise than fast moving traffic. Trucks typically generate more noise than cars. Infrequent or intermittent noise is also associated with vehicles, including sirens, vehicle alarms, slamming of doors, garbage and construction vehicle or equipment activity, and honking of horns. Other sources of noise within the study area include construction truck traffic and aircraft fly-overs. Common stationary sources of noise include, but are not limited to, short-term construction activities, mechanical equipment such as heating, ventilation, and air conditioning units and outdoor spaces (e.g., pools, activity in private yards).

In order to provide a snapshot of the existing ambient exterior noise conditions for a range of environments within the City, 10 long-term noise measurements (24 hours or more) were conducted. While it is not practical to capture every noise environment that exists in the study area; the measurement locations were chosen to represent a diverse mix of conditions, both geographically and in terms of the major noise contributors. At least one measurement was obtained in each of the seven Area Planning Commissions (APCs) boundaries within the City. The 10 locations are designated as LT1 through LT10. All measurement locations were within the incorporated City boundaries. Measurement durations ranged from 42 to 51 hours. As shown in Appendix J, Noise and Vibration Technical Report, average noise levels are reported for three different timeframes that are of particular interest for the Project based on the Project description and LAMC. The first time period of interest is between 7:00 a.m. and 3:00 p.m., which is when the majority of sidewalk repair would take place, during daytime hours when certain sensitive receptors, such as residential homes, are typically unoccupied. The second time period is 7:00 a.m. to 10:00 p.m. which is the overall daytime period when construction is permitted by the LAMC. The final time period encompasses the nighttime hours of 9:00 p.m. to 7:00 a.m.; nighttime construction is not part of the Project. Measurement LT5 was conducted using a Rion NL-22 Type 2 sound level meter.[3] All other measurements were conducted using Piccolo SLM-P3 Type 2 sound level meters. The sound level meters for each measurement were field calibrated for accuracy using a Larson Davis CAL200 acoustical calibrator. Table 3.10-5 below summarizes the noise measurement locations and the average noise levels from 7:00 a.m. to 3:00 p.m.

Table 3.10-5. Sampled Noise Measurement Locations and Noise Levels

Location	Description	Address	Average Hourly and (Range of Hourly) Noise Level from 7:00 am to 3:00 pm (dBA)
LT1	Residence within 500 feet of a regional transit hub	10127 Remmet Avenue, Chatsworth	64 (58–67)
LT2	In heavy industrial area	11202 Tuxford Street, Sun Valley	73 (72–74)
LT3	Opposite Civic Center	14401 Sylvan Street, Van Nuys	71 (64–79)

3 Type 2 sound level meters are considered “General Purpose Grade” for field use.

Location	Description	Address	Average Hourly and (Range of Hourly) Noise Level from 7:00 am to 3:00 pm (dBA)
LT4	Senior living (multi-family)	10475 Wilshire Boulevard, Los Angeles	73 (71–78)
LT5	Residence close to LAX	7601 Earldom Avenue, Playa Del Rey	68 (66–69)
LT6	In commercial area	6614 Melrose Avenue, Los Angeles	75 (73–77)
LT7	LAC+USC Medical Center Hospital Tower	2051 Marengo Street, Los Angeles	64 (63–66)
LT8	Residence adjacent to Expo Line light rail	3778 S Harvard Boulevard, Los Angeles	69 (68–73)
LT9	Residence adjacent to school	841 W 134th Street, Gardena	61 (54–65)
LT10	Residences adjacent to a High Injury Network street	1020 S Cabrillo Avenue, San Pedro	61 (58–64)

3.10.4.2 Vibration

Typically, existing vibration along roadways is generated by heavy trucks whose vibration level depends on vehicle type, weight, and pavement conditions. Heavy trucks normally operate on major streets. There are numerous major arterials located within the City on which there is heavy truck activity and where vibration is likely to be perceptible.

3.10.4.3 Sensitive Use

The City's 2006 *L.A. CEQA Thresholds Guide* considers noise-sensitive uses as including residences, transient lodgings, schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds, and parks. Noise-sensitive uses are considered sensitive receptors and both of these terms are used interchangeable, from herein on, in this document.

3.10.5 Environmental Impact Analysis

3.10.5.1 Approach

Noise

Potential noise impacts associated with continuation of construction activities of the Project were evaluated based on prior and anticipated construction equipment schedule and phasing information. Modeling and analysis was conducted for two typical construction scenarios (Scenario 1 and Scenario 2) presented in Chapter 2, *Project Description.* Construction-related noise was analyzed using data and modeling methodologies from FHWA's Roadway Construction Noise Model (RCNM), which predicts average noise levels at nearby receptors by analyzing the type of equipment, the distance from source to receptor, and usage factor (the fraction of time the equipment is operating in its noisiest mode while in use).[4] This methodology calculates the composite average noise levels for the operation of multiple pieces of equipment at the same time.

The average combined equipment noise levels for an 8-hour work day (i.e., 8-hour L_{eq}) during each phase of construction was calculated at a reference distance of 50 feet. Distances from the noise source were then estimated for each phase. Results of the noise modeling at 50 feet are provided in Appendix J, Noise and Vibration Technical Report.

The continuation of sidewalk repair construction activities would, in many instances, take place closer than 50 feet from a sensitive receptor. The City includes buildings of various ages, architecture, and uses. Therefore, in order to standardize such variables for California Environmental Quality Act (CEQA) analysis purposes, location of sensitive receptor (as the most conservative approach) from the repair activities are modeled. This also meets the requirement of the Project threshold discussed below. According to the Los Angeles Zoning Code, a typical setback distance for a residence is 20 feet from the sidewalk and a typical setback distance from daycare, hospitals, and other sensitive receptors is 10 feet from the sidewalk. (See LAMC Sections 12.08 C.1, 12.12 C.1, 12.13 C.1.) Consistent with the RCNM methodology, it was assumed that construction noise levels would be reduced at a rate of 6 dB per doubling of distance from the source. As construction activities would occur fewer than 50 feet from a sensitive receptor, distances of 10 and 20 feet from the noise source were used to determine noise impacts for the Project.

Vibration

To ensure the vibration thresholds are not exceeded, impact distances have been calculated for each vibration producing equipment item used during the continuation of construction activities associated with the Project. The impact distance represents the minimum distance required between the construction equipment and the foundation of the nearest structure for building damage or the minimum distance required between the construction equipment and the nearest occupied space of a sensitive receptor for human response to comply with the thresholds. Impact distances for vibration producing construction equipment are shown in Table 3.10-6.

Table 3.10-6. Vibration Impact Distances

Construction Equipment	Reference PPV Vibration Level at 25 ft (ips)*	Human Annoyance Impact Distance (ft)	Building Damage Impact Distance (ft)
Skid Steer/Backhoe/Mini Excavator	0.003	1	0.4
Excavator	0.089	23	8
Truck/Dump Truck/Aggregate Delivery Truck	0.076	20	7

* Reference PPV levels sourced from FTA document Transit Noise and Vibration Impact Assessment

To calculate the impact distances using a PPV building damage limit of 0.3 ips and PPV human annoyance limit of 0.1 ips, the following formula was adapted from the Caltrans Transportation and Construction Vibration Guidance Manual.

4 Federal Highway Administration. 2008. FHWA Roadway Construction Noise Model (RCNM), Software Version 1.1. December 8, 2008. Prepared by: U.S. Department of Transportation, Research and Innovative Technology Administration, John A. Volpe National Transportation Systems Center, Environmental Measurement and Modeling Division.

$$D_{Impact} = 25\left(\frac{PPV_{Ref}}{PPV_{Limit}}\right)^{\frac{1}{n}}$$

Where: D_{Impact} is the impact distance (ft)
PPV_{Ref} is the reference PPV at 25 ft (ips)
PPV_{Limit} is the vibration threshold limit (ips)
n is the vibration attenuation rate though the ground (n=1.1)

The vibration attenuation rate through the ground is assumed to equal 1.1 representing hard soil. This is a conservative assumption that can be used as a basis for estimating vibration attenuation for construction activities within the Project area.

3.10.5.2 Project Design Features

PDF-NOI-1: As feasible during construction, a 10-foot distance between construction equipment and a commercial use sensitive receptor, and a 20-foot distance between construction equipment and residential sensitive receptor should be maintained, per the Los Angeles Zoning Code typical setback distances for these uses.

PDF-NOI-2: As feasible during construction, noise best management practices (BMPs) will be implemented as provided below:

1. Unnecessary idling of internal combustion engines should be strictly prohibited.
2. All equipment should be kept in good repair with all worn, loose and unbalanced machine parts to be replaced.
3. Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from neighboring houses.
4. Construction would occur in the daytime hours as allowable by LAMC Section 41.40 - Construction Noise.
5. Notify all adjacent property owners and land users of the construction length, duration, and hours of noise and vibration producing construction activities, in writing.
6. Provide and make available contact information for Sidewalk Repair concerns, on construction activities, prior to and on-site during construction.

PDF-NOI-3: As feasible during construction, vibration BMPs will be implemented as provided below:

1. Use lower powered equipment or techniques such as concrete saws instead of jack hammers, as much as practicable.
2. Minimize the time of use of vibration generating equipment as much as practicable.
3. Notify all adjacent property owners and land users of the construction length, duration, and hours of noise and vibration producing construction activities, in writing.
4. Provide and make available contact information for Sidewalk Repair concerns, on construction activities, prior to and on-site during construction.

3.10.5.3 Thresholds of Significance

As part of the Initial Study (see Appendix A), it was determined that the Project would not result in a substantial permanent increase in ambient noise levels in the project vicinity in excess of established standards (operational noise), and would not generate any ground-borne vibration impacts after construction is complete (operational vibration). Accordingly, these issues are not further analyzed in detail in the EIR.

For the Project, the City was guided by the *L.A. CEQA Thresholds Guide*, existing guidance from other agencies, and evidence developed from Appendix J, Noise and Vibration Technical Report, in formulating the thresholds of significance for noise and vibration impacts.

L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* is a "guidance document" that is intended to be available as a voluntary tool for city staff, project applicants, and the public to use when evaluating projects in the City. (Pp. vii, 1-2.) The *L.A. CEQA Thresholds Guide* "recognizes that the impacts resulting from a particular action depend on the project setting, design, and operational components and that the determination of significance and the appropriate criteria for evaluation are the responsibility of the lead agency." (*Id*., p. viii.) The *L.A. CEQA Thresholds Guide* therefore "does not substitute for the use of independent judgment to determine significance or the evaluation of the evidence in the record[.]" (*Id*., p. 2.) This is because the "impact resulting from a particular action depends on the project setting, design, and operational components." (*Id*., p. 4.) The *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on noise levels from construction if:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise sensitive use;
- Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday.

The *L.A. CEQA Thresholds Guide* further states that ambient noise levels are measured as a Community Noise Equivalent Level (CNEL) which is a 24-hour average sound level with an evening penalty of 5 dB between the hours of 7:00 p.m. and 10:00 p.m. and a nighttime penalty of 10 dB between the hours of 10:00 p.m. and 7:00 am.

The *L.A. CEQA Thresholds Guide* does not provide any specific vibration criteria.

Evaluation of Noise Thresholds for the Project

The *L.A. CEQA Thresholds Guide* construction noise thresholds are not suitable for the Project as the continuation of construction activities under the Project are not confined to one stationary project area like the usual construction projects contemplated in the guide, and will occur collectively over a longer time period of time. The majority of the construction activities under the Project will be, moreover, short-term, mobile, and limited to daytime hours as provided in the Section 2.1, *Project Description*.

Since the City's adoption of the *L.A. CEQA Thresholds Guide*, the California Natural Resources Agency made revisions to the CEQA Guidelines (December 2018), as found in title 14 of the California Code of Regulations Section 15000 et seq., including to CEQA Guidelines section 15064.7 (Thresholds of Significance) and Section 15064 (Determining Significance), as well as to Appendix G.

Those revisions include clarifications as follows. "A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant." (CEQA Guidelines Section 15064.7(a).) As part of the revisions to the CEQA Guidelines, the Resources Agency also clarified that "[e]ach public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects." (*Id.*, subd. (b).) Thresholds to be adopted for general use must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process. (*Ibid.*)

Moreover, CEQA Guidelines Section 15064.7(b), as revised, states that "Lead agencies may also use thresholds on a case-by-case basis as provided in Section 15064(b)(2)." Section 15064(b)(2) also explains that thresholds of significance may assist lead agencies in determining whether a project may cause a significant impact and, when using a threshold, the agency should briefly explain how compliance with the threshold means that the project's impacts are less than significant. Compliance with the threshold, moreover, does not relieve a lead agency of the obligation to consider substantial evidence indicating that the project's environmental effects may still be significant. (CEQA Guidelines Section 15064(b)(2).) Finally, the Resources Agency added subdivision (d) to Guidelines Section 15064.7, setting forth the criteria for use of environmental standards as thresholds of significance in environmental documents prepared pursuant to CEQA.

Based on the above, project-specific noise thresholds have been developed to satisfy CEQA Guidelines Sections 15064(f) and 15064.7 for the Project based on the research conducted and outlined in Appendix J, Noise and Vibration Technical Report.

Evaluation of Vibration Thresholds for the Project

Although the *L.A. CEQA Thresholds Guide* does not include vibration criteria, the CEQA Guidelines, Appendix G sample question asks whether there is generation of excessive groundborne vibration levels. As no further guidance is provided defining excessive groundborne vibration levels, as discussed in Appendix J, vibration thresholds for the Project have been developed based on the 2013 Caltrans document "Transportation and Construction Vibration Guidance Manual."

CEQA Significance Thresholds for Noise and Vibration Used in Draft EIR

The project-specific noise and vibration thresholds are as follows. The Project would have a significant noise or vibration impact if the Project construction would result in any of the following:

NOI-1: Would the proposed Project exceed an interior noise level of 85 dBA L_{eq} (8-hr) and result in an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted L_{eq}) during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive use? *City of Los Angeles.*

NOI-2: In terms of potential building damage, would the proposed Project result in ground-borne vibration caused by construction exceeding a velocity of 0.3 ips PPV at the building foundations of the nearest structure? *City of Los Angeles.*

NOI-3: In terms of potential human annoyance, would the proposed Project result in ground-borne vibration caused by construction exceeding 0.1 ips PPV at the nearest occupied space of a sensitive use? *City of Los Angeles.*

NOI-4: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the proposed Project expose people residing or working in the project area to excessive noise levels? *CEQA Thresholds Guide.*

3.10.5.4 Construction Noise Impacts

Construction noise levels generated by the continuation of construction activities of the Project would fluctuate within the City depending on the particular type, number, and duration of usage for the varying equipment. The effects of construction noise largely depend on the type of construction activities occurring on any given day; noise levels generated by those activities; distances to noise sensitive receptors; potential noise attenuating features such as topography, vegetation, and existing structures; and the existing ambient noise environment in the receptor's vicinity. Construction generally occurs in several discrete stages, each phase requiring a specific complement of equipment with varying equipment type, quantity, and intensity. These variations in the operational characteristics of the equipment change the effect they have on the noise environment of the project site and in the surrounding area for the duration of the construction process.

To assess noise levels associated with the various equipment types and operations, construction equipment can be considered to operate in two modes, mobile and stationary. Mobile equipment sources move around a construction site performing tasks in a recurring manner (e.g., loaders, graders, dozers). Stationary equipment operates in a given location for an extended period of time to perform continuous or periodic operations (e.g., a generator). Operational characteristics of heavy construction equipment are additionally typified by short periods of full-power operation followed by extended periods of operation at lower power, idling, or powered-off conditions.

The construction noise modeling is discussed in further detail in Appendix J, Noise and Vibration Technical Report.

NOI-1: Would the proposed Project result in an interior noise level of 85 dBA L_{eq} (8-hr) to be exceeded and an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted L_{eq}) to be exceeded during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive use?

The impact would be potentially significant where a 10-foot distance for commercial sensitive uses and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source.

As discussed in Chapter 2, *Project Description*, Scenario 1 includes sidewalk repair, street tree removal and replacement and minor utility work that is expected to occur for approximately 5 days at a minimum. Scenario 2 includes sidewalk repair, street tree removal/replacement, major utility work and crosswalk repaving expected to occur from 5 to 30 days (nonconsecutive) per construction site. The difference between the two scenarios is the additional equipment needed for the major utility work and crosswalk repaving as part of Scenario 2.

As discussed in Section 3.10.5.1 above, since in many instances the continuation of construction activities for Scenario 1 and Scenario 2 would occur fewer than 50 feet from a sensitive receptor, distances of 10 feet from the commercial use and 20 feet from the residential use from the noise source were used to conservatively determine construction noise impacts for the Project based on the City's frontage requirements from the streets. City zoning, over the years, has separated various land uses and required front, rear and side yard setbacks which assists in reducing the adjacent street noise heard in residences. Other sensitive uses typically zoned as commercial have been built with certain provisions of building codes intended to reduce noise including the orientation of the structure, setbacks, shielding and sound insulation of the building. (LAMC Section 91.1207.14.1.) Furthermore, the City of Los Angeles Building Code provides guidelines for residential and commercial building construction including the use of foam plastic insulation to reduce the effects of weather and noise from the outside, as well as noise in between structures. Though sound transmission control requirements were added to the national Uniform Building Code in 1992, and incorporated into the City of Los Angeles Building Code (LAMC Section 91) in 1994, typical older structures would have noise attenuation decrease through walls, doors, windows, etc. The calculated Presumed Interior Sound Level (dBA) discussed in this section considers the noise attenuation of 20 dBA as a result of the walls or the façade of the sensitive receptor with a typical setback of 10 feet (less than 20 feet).

Tables 3.10-7 and 3.10-8 for Scenarios 1 and 2, respectively, show the results of noise modeling at 10-foot and 20-foot setbacks from the construction noise source, along with the 20-dBA reduction in noise due to the building façade, which acts as a noise barrier to muffle sound.

For Scenarios 1 and 2, respectively, the calculated interior sound level would not exceed the project-specific interior threshold of 85 dBA L_{eq} (8-hr) through the various phases of construction activities. It is recognized that speech may be interrupted; however, construction would be short-term in duration and no hearing damage would occur. Construction of both scenarios would likely result in a an exterior noise level increase of more than 10 dBA above the loudest ambient sound level (hourly A-weighted L_{eq}) during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive receptor depending on the setback.

Table 3.10-7. Scenario 1 Noise Modeling Results (10 Feet and 20 Feet)

Phase	Equipment	L_{eq} (8 hr) at 50 ft., dBA	Sound Level at 20 ft., dBA	Sound Level at 10 ft., dBA	*Presumed Interior Sound Level, dBA	Interior Thresh-old of 85 dBA	Above Thresh-old?
Mobilization	Compressor, Air	68					
	Generator (<25KVA, VMS signs)	70					
	Combined Equipment	***72***	***80***	**86**	**66**	**85**	**NO**
Street Tree Removal	Truck, Flat Bed	64					
	Saw	63					
	Wood Chipper (based on chain saw)	68					
	Stump Grinder (based on chain saw)	74					
	Skid Steer Loader (based on backhoe)	68					
	Combined Equipment	***76***	**84**	**90**	**70**	**85**	**NO**
Traffic Control, Demolition, and Concrete Removal	Hammer, Jack	82					
	Saw, Concrete	77					
	Skid Steer Loader (based on backhoe)	71					
	Truck, Dump	70					
	Tractor	74					
	Combined Equipment	***84***	**92**	**98**	**78**	**85**	**NO**
Utility Adjustment	Manhole Cutter (based on rock drill)	68					
	Saw, Concrete	77					
	Mixer, Concrete (or concrete mixer truck)	69					
	Combined Equipment	***78***	**86**	**92**	**72**	**85**	**NO**
Grading/ Formwork	Roller	66					
	Truck, Flat Bed	64					
	Combined Equipment	***68***	**76**	**82**	**62**	**85**	**NO**

Phase	Equipment	L_{eq} (8 hr) at 50 ft., dBA	Sound Level at 20 ft., dBA	Sound Level at 10 ft., dBA	*Presumed Interior Sound Level, dBA	Interior Thresh-old of 85 dBA	Above Thresh-old?
Concrete Pouring	Mixer, Concrete (or concrete mixer truck)	74					
	Mixer, Concrete Vibratory	70					
	Combined Equipment	***75***	**83**	**89**	**69**	**85**	**NO**
Street Tree Planting	Truck, Flat Bed	66					
	Mini Excavator (based on backhoe)	68					
	Combined Equipment	***70***	**78**	**84**	**64**	**85**	**NO**
Cleanup	Truck, Pickup	68					
	Combined Equipment	***68***	**76**	**82**	**62**	**85**	**NO**

*Assumptions: Calculated (or Presumed) Interior Sound Level assumes a 20 dBA attenuation due to structure/building wall using the exterior sound level calculated at 10 ft. The building reduction factor of 20 dBA is referenced from the FHWA Traffic Noise Analysis and Abatement Guidance (Table 3.10-2) and is consistent with Southern California residential construction standards (Light Frame/Ordinary Sash).

Source: Federal Highway Administration. 2011. Highway Traffic Noise: Analysis and Abatement Guidance. FHWA-HEP-10-025. December 2011.

Table 3.10-8. Scenario 2 Noise Modeling Results (10 and 20 Feet)

Phase	Equipment	L_{eq}(h), dBA at 50 ft.	Sound Level at 20 ft., dBA	Sound Level at 10 ft., dBA	*Presumed Interior Sound Level, dBA	Interior Thresh-old of 85 dBA	Above Thresh-old?
Mobilization	Compressor, Air	68					
	Generator (<25KVA, VMS signs)	70					
	Combined Equipment	***72***	***80***	***86***	**66**	**85**	**NO**
Street Tree Removal	Truck, Flat Bed	64					
	Saw	63					
	Wood Chipper (based on chain saw)	68					
	Stump Grinder (based on chain saw)	74					
	Skid Steer Loader (based on backhoe)	68					
	Combined Equipment	***76***	**84**	**90**	**70**	**85**	**NO**
Traffic Control, Demolition, and Concrete Removal	Hammer, Jack	82					
	Saw, Concrete	77					
	Skid Steer Loader (based on backhoe)	71					
	Truck, Dump	70					
	Tractor	74					
	Combined Equipment	***84***	**92**	**98**	**78**	**85**	**NO**
Utility Relocation	Excavator	75					
	Saw, Concrete	77					
	Compactor	70					
	Paver	68					
	Combined Equipment	***82***	**90**	**96**	**76**	**85**	**NO**
Grading/ Formwork	Roller	66					
	Truck, Flat Bed	64					
	Combined Equipment	***68***	**82**	**76**	**56**	**85**	**NO**

Phase	Equipment	L_{eq}(h), dBA at 50 ft.	Sound Level at 20 ft., dBA	Sound Level at 10 ft., dBA	*Presumed Interior Sound Level, dBA	Interior Thresh-old of 85 dBA	Above Thresh-old?
Concrete Pouring	Mixer, Concrete (or concrete mixer truck)	74					
	Mixer, Concrete Vibratory	70					
	Combined Equipment	***75***	**89**	**83**	**63**	**85**	**NO**
Street Tree Planting	Truck, Flat Bed	66					
	Mini Excavator (based on backhoe)	68					
	Combined Equipment	***70***	**78**	**84**	**64**	**85**	**NO**
Crosswalk Repaving	*Saw, Concrete*	*80*					
	Skid Steer Loader (based on backhoe)	*68*					
	Truck, Dump	*67*					
	Paver	*68*					
	Line Striper (based on generator (<25KVA,)	*64*					
	Combined Equipment	***80***	**88**	**94**	**74**	**85**	**NO**
Cleanup	Truck, Pickup	68					
	Combined Equipment	***68***	**76**	**82**	**62**	**85**	**NO**

*Assumptions: Calculated (or Presumed) Interior Sound Level assumes a 20 dBA attenuation due to structure/building wall using the exterior sound level calculated at 10 ft. The building reduction factor of 20 dBA is referenced from the FHWA Traffic Noise Analysis and Abatement Guidance (Table 3.10-2) and is consistent with Southern California residential construction standards (Light Frame/Ordinary Sash).

Source: Federal Highway Administration. 2011. Highway Traffic Noise: Analysis and Abatement Guidance. FHWA-HEP-10-025. December 2011.

The occupied space of the sensitive receptor should be representative of a frequently occupied, noise-sensitive area such as a living room, sleeping area, dining area, classroom, or waiting room. Even though impacts under Scenarios 1 and 2 would not exceed the Project significance thresholds, as provided in PDF-NOI-2, construction noise BMPs would be implemented as feasible with the Project including prohibiting unnecessary engine idling, keeping all equipment in good condition, locating noise-generating equipment as far as possible away from neighboring homes, completing construction activities during daytime hours, notifying property owners and occupants of upcoming construction activities, and making available contact information for land users to communicate Sidewalk Repair concerns. Because the interior noise thresholds would not be exceeded, the impact would be **less than significant** for Scenarios 1 and 2.

There is a certain subgroup of individual sidewalk projects under Scenarios 1 and 2 that consists of sidewalk and curb ramp repairs which would occur under unusual circumstances or environments. In instances where the 10-foot distance for commercial sensitive uses and 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source, there may be a potentially significant construction noise impact. All local, state and federal standards would be applicable, where appropriate, yet there may be construction sites over the next 30 years where structures are located that were built prior to the uniform building codes being mandated that do not have a large building frontage or setback; or have thin uninsulated walls. Such cases would be very few and unpredicted under the current scope of the Project. Therefore, the Project may result in a potentially significant impact where an interior noise level of 85 dBA L_{eq} (8-hr) and an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted L_{eq}) could be exceeded during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive receptor. Exceedances of the applicable construction noise thresholds would still occur even after imposition of the construction noise BMPs in PDF-NOI-1. The impact is therefore significant for individual sidewalk projects where the 10-foot distance for commercial sensitive uses and the 20-foot distance for residential sensitive uses cannot be maintained.

Mitigation Measures

Pursuant to PDF-NOI-2, the Project is already requiring best management practices for construction noise impacts where feasible. However, despite those measures, construction noise impacts may still exceed the significance threshold where the 10-foot distance for commercial sensitive uses and the 20-foot distance for residential sensitive uses cannot be maintained. In addition, further noise reduction measures were considered, including as set forth in Appendix J2 typical mitigation and options as provided in the FHWA Construction Noise Handbook (FHWA, FHWA-HEP-06-015, August 2006). The analysis provided in Appendix J2 shows that most of the measures are already being implemented, or are otherwise infeasible or inapplicable. Therefore, no other feasible mitigation is available, and construction noise impacts would remain significant and unavoidable where the 10-foot distance for commercial sensitive uses and the 20-foot distance for residential sensitive uses cannot be maintained.

NOI-2: In terms of potential building damage, would the proposed Project result in ground-borne vibration caused by construction exceeding a velocity of 0.3 ips PPV at the building foundations of the nearest structure?

The impact would be less than significant for a vast majority of Project sites. However, the impact would be significant where the distance from the construction vibration source to the building foundation of the nearest structure is less than 8 feet.

Construction activity can result in varying degrees of vibration, depending on the equipment and methods employed. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. As discussed in Chapter 2, *Project Description*, Scenario 1 includes sidewalk repair, street tree removal and replacement, and minor utility work expected to last approximately 5 days at a minimum. Scenario 2 includes sidewalk repair, street tree removal and replacement, major utility work and crosswalk repaving expected to occur from 5 to 30 nonconsecutive construction days per construction site. Equipment used during construction of Scenario 1 and Scenario 2 would include vibratory equipment, including a skid steer, backhoe, mini excavator, excavator, truck, dump truck, and aggregate delivery truck. As shown in Table 3.10-6, vibration impact distances for building damage have been determined for the various types of vibratory construction equipment. These impact distances were calculated using a PPV building damage limit of 0.3 ips as discussed in Section 3.10.5.1 above. These are the distances at which vibratory equipment near a structure could potentially cause damage to that structure. The vibration impact distances for building damage range from 0.4 feet at the closest for a skid steer, backhoe, and mini excavator, to 8 feet at the greatest distance for an excavator. This means that if vibratory equipment is located closer to the building foundation of the nearest structure than the distances provided, then there is potential for damage.

As discussed in Chapter 2, *Project Description*, the Project would affect most areas of the City for 30 years. Implementation of the Project would include the continuation of several construction activities, including street tree root pruning, street tree canopy pruning, street tree removal, street tree planting, sidewalk repair, relocation of street signs and adjusting utility boxes. All construction activities would occur on and adjacent to public sidewalks, which are generally greater than 8 feet from the nearest structure façade. For most Project sites for Scenario 1 and Scenario 2, the vibratory equipment would be located 8 feet or more from the foundation of the nearest building, and no building damage would be expected. There could be rare instances where building setbacks are fewer than 8 feet from the vibratory equipment at the sidewalk.

There is a certain subgroup of individual sidewalk projects under Scenarios 1 and 2 that consists of sidewalk and curb ramp repairs which would occur under unusual circumstances or environments. In instances where the 8-foot distance cannot be maintained, there may be potentially significant vibration impacts to the nearest structure. All local, state and federal standards would be applicable, where appropriate, yet there still may be Project sites over the next 30 year that are located near older structures that were built prior to the uniform building codes being mandated. Such cases would be few and unpredicted under the current scope of the Project. Exceedances of the applicable construction noise thresholds would still occur even after imposition of the construction vibration BMPs in PDF-NOI-3. Therefore, the Project may result in a temporary potentially significant vibration impact to building foundations where an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor.

Mitigation Measures

Pursuant to PDF-NOI-3, the Project is already requiring best management practices for construction vibration impacts where feasible. However, despite those measures, construction vibration impacts may still exceed the significance threshold for construction vibration where an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor. In addition, further noise and vibration reduction measures were considered, including as set forth in Appendix J2 typical mitigation and options as provided in the FHWA Construction Noise Handbook (FHWA, FHWA-HEP-06-015, August 2006.) The analysis provided in Appendix J2 shows that most of the measures are already being implemented or are otherwise infeasible or inapplicable. Therefore, no other feasible mitigation is available, and construction vibration impacts would remain significant and unavoidable where an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor.

NOI-3: In terms of potential human annoyance, would the proposed Project result in ground-borne vibration caused by construction exceeding 0.1 ips PPV at the nearest occupied space of a sensitive use?

The impact would be less than significant for a vast majority of Project sites. However, the impact would be significant where the distance from the construction vibration source to the nearest occupied space of a sensitive use is less than 23 feet.

As discussed previously, construction activities associated with the Project would include various types of vibratory equipment. In addition to vibration impact distances for building damage, distances for human annoyance, including from noise, have also been determined. As shown in Table 3.10-6, vibration impact distances for human annoyance range from 1 foot at the closest for skid steer, backhoe, and mini excavator, to 23 feet at the greatest distance for an excavator. This means that if vibratory equipment is located closer to the nearest occupied space of a sensitive receptor than the distances provided, then there is a potential for annoyance. These impact distances were calculated using a PPV human annoyance limit of 0.1 ips as discussed in Section 3.10.5.1 above. The occupied space of the sensitive receptor should be representative of a frequently occupied, vibration-sensitive area such as a living room, sleeping area, dining area, waiting room, or office space. This does not include a garage, bathroom, loading area or storage area. For most Project sites, the nearest occupied space of a sensitive receptor would be located further than 23 feet from the vibratory equipment, and significant human annoyance would not be expected. There could be rare instances where the occupied space of a sensitive use is closer than 23 feet.

There is a certain subgroup of individual sidewalk projects under Scenarios 1 and 2 that consists of sidewalk and curb ramp repairs which would occur under unusual circumstances or environments. In instances where the 23-foot distance cannot be maintained, there may be potentially significant vibration impacts related to human annoyance. All local, state, and federal standards would be applicable, where appropriate, yet there still may be construction sites over the next 30 years that are located near structures that were built prior to the uniform building codes being mandated. Such cases would be very few and unpredicted under the current scope of the Project. Exceedances of the applicable construction noise thresholds would still occur even after imposition of the construction vibration BMPs in PDF-NOI-3. Therefore, the Project may result in a temporary potentially significant vibration impact to human annoyance where a 23-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor.

Mitigation Measures

As discussed in NOI-3, the Project is already requiring best management practice for construction vibration impacts where feasible pursuant to PDF-NOI-3, and the analysis in Appendix J2 of the FHWA Construction Noise Handbook measures shows that most measures to reduce vibration are already being implemented or are otherwise infeasible or inapplicable. Despite these measures, construction vibration impacts may still exceed the significance threshold for construction vibration where a 23-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor. Therefore, no other feasible mitigation is available for the Project, and construction vibration impacts would remain significant and unavoidable where a 23-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor.

NOI-4: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the proposed Project expose people residing or working in the project area to excessive noise levels?

The impact would be less than significant.

There are three public use airports in the City of Los Angeles, including Los Angeles International Airport (LAX), Van Nuys Airport, and Whiteman Airport. LAX is located southwest of downtown Los Angeles and is the second busiest airport in the United States. Van Nuys Airport and Whiteman Airport are located in the San Fernando Valley in the northern portion of the City. In addition to the public use airports, there are several private use airports and airstrips located in the City.[5] Also, several municipal airports, private use airports, and airstrips are located in other jurisdictions located adjacent to the City of Los Angeles. The Bob Hope Airport (Burbank), Compton/Woodley Airport, Hawthorne Municipal Airport, and Santa Monica Municipal Airport are all located approximately two miles or less from the City of Los Angeles city limit. As such, portions of the construction activities that would be continued by the Project would be constructed within the vicinity of an airport land use plan and/or within two miles of a public or private use airport. As previously discussed under NOI-1 above, the calculated interior sound levels for the construction of Scenario 1 and Scenario 2 would not exceed the project-specific interior threshold of 85 dBA L_{eq} (8-hr). It is recognized that speech may be temporarily interrupted; however, construction would be short-term in duration and no hearing damage would occur. In addition, the Project would not result in any permanent change to noise levels. As such, the Project would not expose people residing or working in the Project area to, or otherwise generate, excessive noise levels and the impact would be less than significant.

Mitigation Measures

No mitigation is required.

5 Airnav, search by Location, available at: https://www.airnav.com/airports/, accessed February 19, 2019.

3.10.6 Significant Unavoidable Adverse Impacts

There are significant and unavoidable adverse impacts related to construction noise and construction vibration in the limited instances where: a 10-foot distance for commercial sensitive receptors and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source; an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor; or a 23-foot distance cannot be maintained from the vibratory equipment to the nearest occupied space of a sensitive receptor.

3.11 Public Services

An assessment of public services generally includes identification of impacts related to the provision of police, fire, schools, parks, and libraries. As stated in Chapter 2, *Project Description*, the proposed Project (Project) consists of the continuation of sidewalk repair and removal and replacement of street trees. The Project would not increase the population of the City of Los Angeles (City), as discussed in the Initial Study (Appendix A). As such, the Project would not increase demand for public services such as schools, parks, and libraries. Potential increase in demand for police and fire protection services that would result from the Project is discussed in this chapter.

3.11.1 Regulatory Setting

3.11.1.1 Federal

There are no federal regulations concerning police and fire protection services that apply to the Project.

3.11.1.2 State

California Fire Plan

The California Department of Forestry and Fire Protection has drafted a comprehensive document for wildland fire protection in California. The California Fire Plan (Fire Plan) is the road map for the state for reducing the risk of wildfire. The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. The Fire Plan provides preventative measures and guidelines to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The current Fire Plan was finalized in late 2018.

3.11.1.3 Local

Los Angeles City Charter

Section 520 of the Los Angeles City Charter, states that the Los Angeles Fire Department's (LAFD) duty is to control and extinguish injurious or dangerous fires and to remove that which is liable to cause those fires. It also requires the LAFD to enforce all ordinances and laws relating to the prevention or spread of fires, fire control, and fire hazards within the City; as well as conduct fire investigations and protect lives and property in case of disaster or public calamity.

City of Los Angeles Municipal Code

The Los Angeles Municipal Code (LAMC) contains 18 chapters, including Public Safety and Protection (Chapter 5) (City of Los Angeles 2013). Article 2, in Chapter 5 of LAMC, titled Police and Special Officers, contains regulations governing administrative issues, such as requirements for police badges and uniforms, and Article 7, titled Fire Protection and Prevention, contains the fire code for the City. The City Fire Code (Fire Code) prescribes laws that may be enforced by the LAFD to help safeguard life and property from fire, explosion, panic, or other hazardous conditions that may arise in the City. The Fire Code includes information pertaining to administrative issues, such as the requirements for filling out and submitting Hazardous Materials Release Response Plans and Inventory Statements, and technical requirements associated with the storage, management, and disposal of hazardous materials, such as underground chemical storage tanks, asbestos-containing materials/asbestos-containing building material, and various other combustible and flammable materials. The Fire Code also includes mandates from the State of California's Fire Code.

City of Los Angeles General Plan Framework Element

The City General Plan Framework Element (Framework), adopted in December 1996 and readopted in August 2001, provides a comprehensive, long-range strategy for accommodating long-term growth in the City. The Infrastructure and Public Services chapter of the Framework sets forth goals, objectives, and policies for fire protection and emergency medical services (EMS) in the City. The objectives and policies in the Infrastructure and Public Services chapter ensure that every neighborhood has the necessary level of fire protection service, EMS, and infrastructure. Under the Framework, the City standard for response distance from the fire station to the destination location is 1.5 miles (City of Los Angeles 1995), which is consistent with the specifications for response distances in LAMC.

The City's General Plan Framework Element identifies that every neighborhood should have the necessary police services, facilities, equipment, and manpower required to provide for the public safety needs of that neighborhood. Objective 9.13 and Policy 9.13.1 of the Infrastructure and Public Services Chapter, within the Framework Element, require the monitoring and reporting of police statistics and population projections for the purpose of evaluating existing and future police protection needs. Objective 9.14 requires that adequate police services, facilities, equipment, and personnel are available to meet such needs. Further, Objective 9.15 requires police services to provide adequate public safety in emergency situations by maintaining mutual assistance agreements with other local law enforcement agencies, State law enforcement agencies, and the National Guard.

In 1994, the Los Angeles Police Department (LAPD) incorporated the use of the COMPSTAT Program. The COMPSTAT Unit implements the General Plan Framework goal of assembling statistical population and crime data to determine necessary crime prevention actions. This system implements a multi-layered approach to police protection services through statistical and geographical information system analysis of growing trends in crime through a specialized crime control model.

City of Los Angeles General Plan Safety Element

The City General Plan Safety Element recognizes that most jurisdictions rely on emergency personnel (police, fire, gas, and water) to respond to and handle emergencies.

The Safety Element of the City General Plan sets forth specific policies and objectives related to safety. These policies and objectives emphasize hazard mitigation, emergency response, and disaster recovery. The Safety Element serves as a guide for the construction, maintenance, and operation of fire protection facilities in the City. It sets forth policies and standards for fire station distribution and location, fire suppression water flow (or "fire flow"), firefighting equipment access, emergency ambulance services, and fire prevention activities. Population density, nature of on-site land uses, and traffic flow are also considered by LAFD in evaluating the adequacy of fire protection services throughout the City.

Los Angeles Fire Department Strategic Plan 2018-2020

LAFD's Strategic Plan 2018-2020, A Safer City 2.0, is the LAFD Strategic Plan. A Safer City 2.0 focuses on five overarching goals over a three year planning period:

1. Provide Exceptional Public Safety and Emergency Service
2. Embrace a Healthy, Safe and Productive Work Environment
3. Capitalize on Advanced Technology
4. Enhance LAFD Sustainability and Community Resiliency
5. Increase Opportunities for Personal Growth and Professional Development

Public Safety Bond, Proposition Q

Proposition Q, the Citywide Public Safety Bond Measure, was approved by voters in March 2002. Proposition Q allocated $600 million to renovate, improve, expand and construct police, fire, 911, and paramedic facilities. The 2002 Prop Q Program included the modernization of three police stations and the construction of two new police stations as well as the construction of two bomb squad facilities and a downtown jail. In March 2011, the program was expanded to include renovations to existing LAFD facilities throughout the City. A total of 80 renovation projects at LAFD facilities were scheduled These renovation projects include the installation of diesel exhaust capture systems, upgrades to air filtration and electrical systems, re-roofing, remodeling, parking lot repair, painting, and other improvements. The fire renovation projects identified under this measure have been completed.[1]

Resilient Los Angeles

The City was selected as an inaugural member of the 100 Resilient Cities Network in 2013. Since then, residents of the City have come together to develop Resilient Los Angeles, a strategy by and for residents of the City that leverages the City's strengths and advances new partnerships in order to prepare the City to fortify infrastructure, protect the economy, and make the City safer. Resilient Los Angeles includes 4 chapters, 15 goals, and 96 actions for residents of the Los Angeles, neighborhoods, the Los Angeles, and partners to implement.

3.11.1.4 Environmental Setting

Fire protection services are provided by the LAFD and police services are provided by the LAPD.

3.11.1.5 Fire Protection and Prevention, and Emergency Services

Los Angeles Fire Department

The LAFD serves as the City's full-spectrum life safety agency, providing fire prevention, firefighting, medical care, technical rescue, hazardous materials mitigation, disaster response, public education, and community services to approximately 3.9 million people (U.S. Census Bureau 2016). LAFD comprises of 3,246 uniformed fire personnel and 353 professional support personnel (Los Angeles Fire Department 2018a). As shown in Figure 3.11-1, LAFD is divided into the following four bureaus: the Central Bureau; the West Bureau; the Valley Bureau; and the South Bureau. LAFD maintains 106 fire stations across its 471-square-mile jurisdiction. Table 3.11-1 provides the addresses and communities in which the City's fire stations are located.

[1] City of Los Angeles, Proposition Q Bond Program, http://clkrep.lacity.org/onlinedocs/2008/08-0293_misc_5-30-08.pdf Accessed February 27, 2019.

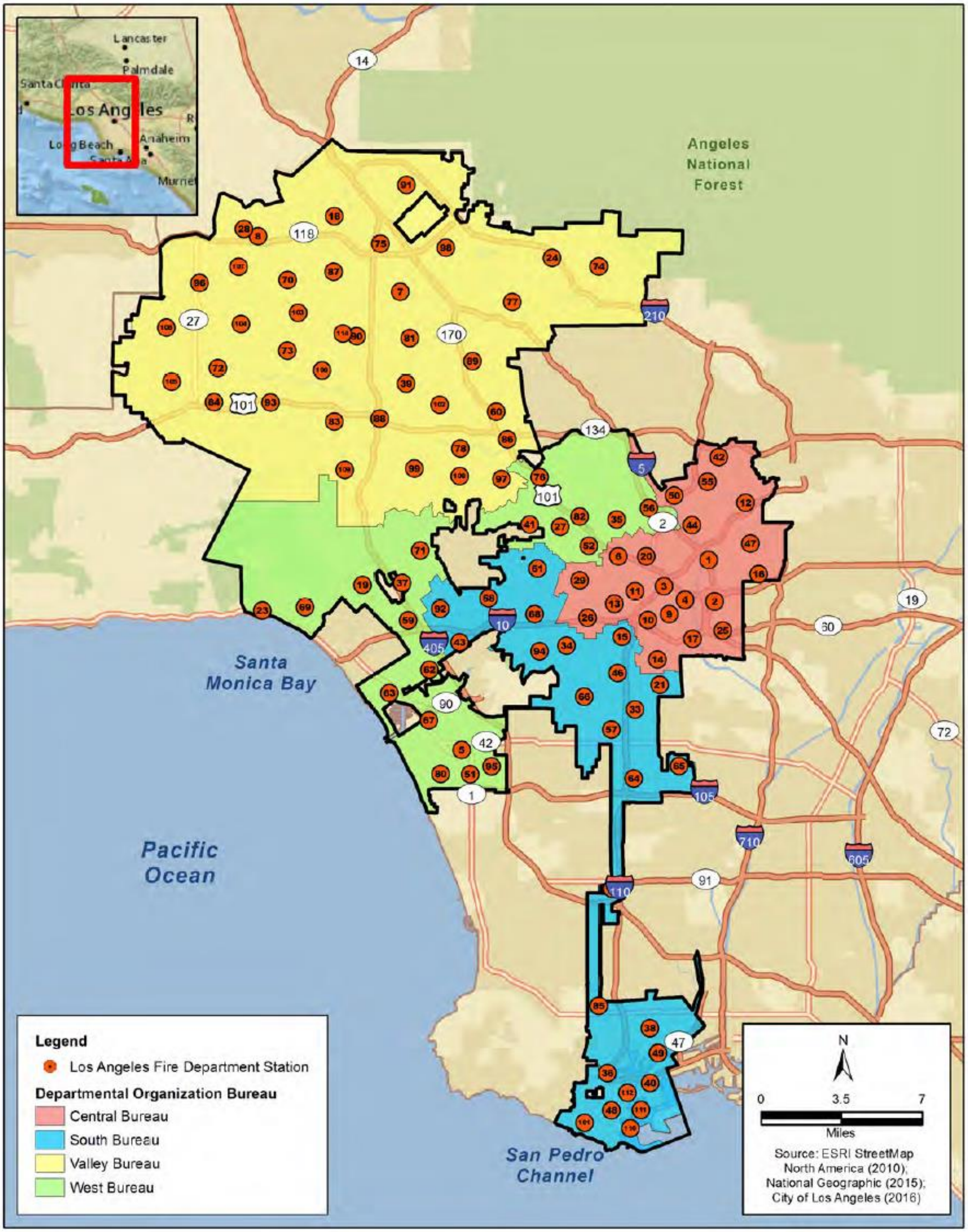

Figure 3.11-1. City of Los Angeles Fire Protection Facilities and Bureau Divisions

Table 3.11-1. City of Los Angeles Fire Station Locations

Station No.	Address	Community
1	2230 Pasadena Avenue, Los Angeles, CA 90031	Lincoln Heights
2	1962 East Cesar Chavez Avenue, Los Angeles, CA 90033	Boyle Heights
3	108 North Fremont Avenue, Los Angeles, CA 90012	Civic Center/Bunker Hill
4	450 East Temple Street, Los Angeles, CA 90012	Little Tokyo/Olvera Street/ Chinatown
5	8900 South Emerson Avenue, Los Angeles, CA 90045	Westchester/LAX Area
6	326 North Virgil Avenue, Los Angeles, CA 90004	Angelino Heights
7	14630 Plummer Street, Los Angeles, CA 91402	Panorama City
8	11351 Tampa Avenue, Los Angeles, CA 91326	Porter Ranch
9	430 East 7th Street, Los Angeles CA 90014	Central City
10	1335 South Olive Street, Los Angeles, CA 90015	Convention Center District
11	1819 West 7th Street, Los Angeles, CA 90057	Westlake/MacArthur Park
12	5921 North Figueroa Street, Los Angeles, CA 90042	Highland Park/Arroyo Seco
13	2401 West Pico Boulevard, Los Angeles, CA 90006	Pico-Union/Koreatown
14	3401 South Central Avenue, Los Angeles, CA 90011	Newton
15	3000 Hoover Street, Los Angeles, CA 90007	University Village/USC
16	2011 North Eastern Avenue, Los Angeles, CA 90032	South El Sereno
17	1601 South Santa Fe Avenue, Los Angeles, CA 90021	Industrial Eastside
18	12050 Balboa Boulevard, Los Angeles, CA 91344	Knollwood/Granada Hills
19	12229 West Sunset Boulevard, Los Angeles, CA 90049	Brentwood
20	2144 West Sunset Boulevard, Los Angeles, CA 90026	Echo Park
21	1192 East 51st Street, Los Angeles, CA 90011	South Los Angeles
23	17281 Sunset Boulevard, Los Angeles, CA 90272	Palisades Highlands
24	9411 Wentworth Street, Los Angeles, CA 91040	Shadow Hills/Sunland
25	2927 Whittier Boulevard, Los Angeles, CA 90023	South Boyle Heights
26	2009 South Western Avenue, Los Angeles, CA 90018	West Adams
27	1327 North Cole Avenue, Los Angeles, CA 90028	Hollywood
28	11641 Corbin Avenue, Los Angeles, CA 91326	Porter Ranch
29	4029 West Wilshire Boulevard, Los Angeles, CA 90010	Hancock Park
33	6406 South Main Street, Los Angeles, CA 90003	South Central
34	3661 7th Avenue, Los Angeles, CA 90018	Crenshaw
35	1601 North Hillhurst Avenue, Los Angeles, CA 90027	Los Feliz
36	1005 North Gaffey Street, Los Angeles, CA 90731	North San Pedro
37	1090 Veteran Avenue, Los Angeles, CA 90024	Westwood/UCLA
38	124 East "I" Street, Los Angeles, CA 90744	Wilmington
39	14415 Sylvan Street, Los Angeles, CA 91401	Van Nuys
40	330 Ferry Street, Los Angeles, CA 90731	Terminal Island
41	1439 North Gardner Street, Los Angeles, CA 90046	Hollywood (Hills & Northwest)
42	2021 Colorado Boulevard, Los Angeles, CA 90041	Eagle Rock
43	3690 Motor Avenue, Los Angeles, CA 90034	Palms
44	1410 Cypress Avenue, Los Angeles, CA 90065	Cypress Park

Station No.	Address	Community
46	4370 South Hoover Street, Los Angeles, CA 90037	Coliseum Area
47	4575 Huntington Drive South, Los Angeles, CA 90032	El Sereno
48	1601 South Grand Avenue, Los Angeles, CA 90015	San Pedro
49	400 Yacht Street, Berth 194, Los Angeles, CA 90744	East Harbor Basin
50	3036 Fletcher Drive, Los Angeles, CA 90065	Glassell Park/Atwater Village
51	10435 Sepulveda Boulevard, Los Angeles, CA 90045	LAX/Terminal Area
52	4957 Melrose Avenue, Los Angeles, CA 90029	Hollywood (Southeast)
55	4455 East York Boulevard, Los Angeles, CA 90041	Eagle Rock
56	2759 Rowena Avenue, Los Angeles, CA 90039	Silver Lake
57	7800 South Vermont Avenue, Los Angeles, CA 90044	South LA
58	1556 South Robertson Boulevard, Los Angeles, CA 90035	Pico/Robertson
59	11505 Olympic Boulevard, Los Angeles, CA 90064	West Los Angeles
60	5320 Tujunga Avenue, Los Angeles, CA 91601	North Hollywood
61	5821 West 3rd Street, Los Angeles, CA 90036	Fairfax
62	11970 Venice Avenue, Los Angeles, CA 90066	Mar Vista
63	1930 Shell Avenue, Los Angeles, CA 90291	Venice
64	10811 South Main Street, Los Angeles, CA 90061	South Los Angeles
65	1801 East Century Boulevard, Los Angeles, CA 90002	Watts
66	1909 West Slauson Boulevard, Los Angeles, CA 90047	Southwest LA/Hyde Park
67	5451 Playa Vista Drive, Los Angeles, CA 90094	Playa Vista
68	5023 Washington Boulevard, Los Angeles, CA 90016	Mid-City
69	15045 Sunset Boulevard, Los Angeles, CA 90272	Pacific Palisades
70	9861 Reseda Boulevard, Los Angeles, CA 91324	Northridge
71	107 South Beverly Glen Boulevard, Los Angeles, CA 90024	Bel Air/Holmby Hills
72	6811 De Soto Avenue, Los Angeles, CA 91303	Canoga Park
73	7419 Reseda Boulevard, Los Angeles, CA 91335	Reseda
74	7777 Foothill Boulevard, Los Angeles, CA 91042	Tujunga/Sunland
75	15345 San Fernando Mission, Los Angeles, CA 91345	Mission Hills
76	3111 North Cahuenga Boulevard, Los Angeles, CA 90068	Cahuenga Pass
77	9224 Sunland Boulevard, Los Angeles, CA 91352	Sun Valley
78	4041 Whitsett Avenue, Los Angeles, CA 91604	Studio City/Valley Village
80	7250 World Way, Los Angeles, CA 90045	LAX/Crash Rescue
81	14355 Arminta Street, Los Angeles, CA 91402	Panorama City
82	5769 Hollywood Boulevard, Los Angeles, CA 90028	Hollywood (Hills & Northeast)
83	4960 Balboa Boulevard, Los Angeles, CA 91316	Encino
84	21050 Burbank Boulevard, Los Angeles, CA 91367	Woodland Hills
85	1331 West 253rd Street, Los Angeles, CA 90710	Harbor City
86	4305 Vineland Avenue, Los Angeles, CA 91602	Toluca Lake
87	10124 Balboa Boulevard, Los Angeles, CA 91344	Granada Hills
88	5101 North Sepulveda Boulevard, Los Angeles, CA 90049	Sherman Oaks
89	7063 Laurel Canyon Boulevard, Los Angeles, CA 91605	North Hollywood
90	7921 Woodley Avenue, Los Angeles, CA 91406	Van Nuys Airport Area

Station No.	Address	Community
91	14430 Polk Street, Los Angeles, CA 91342	Sylmar
92	10556 West Pico Boulevard, Los Angeles, CA 90064	Century City
93	19059 Ventura Boulevard, Los Angeles, CA 91356	Tarzana
94	4470 Coliseum Street, Los Angeles, CA 90016	Crenshaw District/Baldwin Hills
95	10010 International Road, Los Angeles, CA 90045	LAX Area/Hotel District
96	21800 Marilla Street, Los Angeles, CA 91311	Chatsworth
97	8021 Mulholland Drive, Los Angeles, CA 90046	Laurel Canyon/Mulholland
98	13035 Van Nuys Boulevard, Los Angeles, CA 91331	Pacoima
99	14145 Mulholland Drive, Los Angeles, CA 91423	Beverly Glen
100	6751 Louise Avenue, Los Angeles, CA 91406	West Van Nuys/Lake Balboa
101	1414 25th Street, Los Angeles, CA 90007	San Pedro South Shores
102	13200 Burbank Boulevard, Los Angeles, CA 91401	South Van Nuys/Valley Glen
103	18143 Parthenia Street, Los Angeles, CA 91325	Northridge/CSUN
104	8349 Winnetka Avenue, Los Angeles, CA 91306	Winnetka
105	6345 Fallbrook Avenue, Los Angeles, CA 91367	Woodland Hills
106	23004 Roscoe Boulevard, Los Angeles, CA 91304	West Hills
107	20225 Devonshire Street, Los Angeles, CA 91311	Chatsworth
109	16500 Mulholland Drive, Los Angeles, CA 90049	Encino Hills
110	2945 Miner Street, Berth 44-A, Los Angeles, CA 90371	Fort MacArthur Area
111	954 South Seaside Avenue, Berth 260, Los Angeles, CA 90731	Fish Harbor
112	444 South Harbor Boulevard, Berth 86, Los Angeles, CA 90731	Ports O' Call/Cruise Terminal
114	16617 Arminta Street, Los Angeles, CA 91406	Air Operations/Crash Rescue

Source: Los Angeles Fire Department 2018b

Table 3.11-2 provides an overview of the existing LAFD emergency operations resources. As shown, LAFD maintains 92 type 1 engines (designed for structural firefighting), 42 truck/light forces, 93 paramedic ambulances, 47 basic life support ambulances, four hazardous materials squads, six helicopters, and more.

Table 3.11-2. Current Los Angeles Fire Department Emergency Operations Resources

LAFD Emergency Operations Resources	
Bureaus	4
Battalions	14
Fire Stations	106
Engines - Type 1	92
Truck/Light Forces	42
Paramedic Ambulances	93
Basic Life Support Ambulances	47
Hazardous Materials Squads	4
Assessment Truck/Light Forces	29

LAFD Emergency Operations Resources	
Brush Patrols	15
USAR Companies	6
Airport Units	7
Swift Water Rescue Teams	4
Helicopters	6
Dozers/Loaders	5
Heavy Rescue	1
Fire Boats	5
Foam Tenders	4
Source: Los Angeles Fire Department 2015	

As shown in Table 3.11-3, the 2017 average response times of the LAFD are: 6 minutes and 36 seconds for EMS calls; 6 minutes and 24 seconds for non-EMS calls; 5 minutes and 40 seconds for critical advanced life support calls; and 5 minutes and 9 seconds structural fire calls. As shown in Table 3.11-3, LAFD has continued to see rises in emergency responses, both pertaining to fire and EMS. 2017 average response times were slightly slower than 2016 average response times for all call types.

Table 3.11-3 Los Angeles Fire Department 2017 Response Time Averages

LAFD Response Time Statistics			
		Response Time	
		Year 2017	Year 2016
Call Type	EMS	6:36	6:30
	Non-EMS	6:24	6:16
	Critical ALS	5:40	5:35
	Structural Fire	5:09	5:06
Source: Los Angeles Fire Department 2018c			

3.11.1.6 Police Protection

Los Angeles Police Department

The LAPD, for the purposes of providing police protection services, divides the City into the following four bureaus: the Central Bureau; the West Bureau; the South Bureau; and the Valley Bureau. The four bureaus are further divided into 21 service areas, which are serviced by the LAPD's 21 community police stations. Within each service area, smaller geographic units referred to as Reporting Districts are used for resource deployment purposes as well as to assist in compiling statistical data. The LAPD also includes a variety of support systems including the Direct Support Division, Special Operations, Municipal Division, SWAT, K-9, and Mounted Units. Figure 3.11-2 depicts the geographic extent of each station's service area. Table 3.11-4 provides names and locations of each community police station.

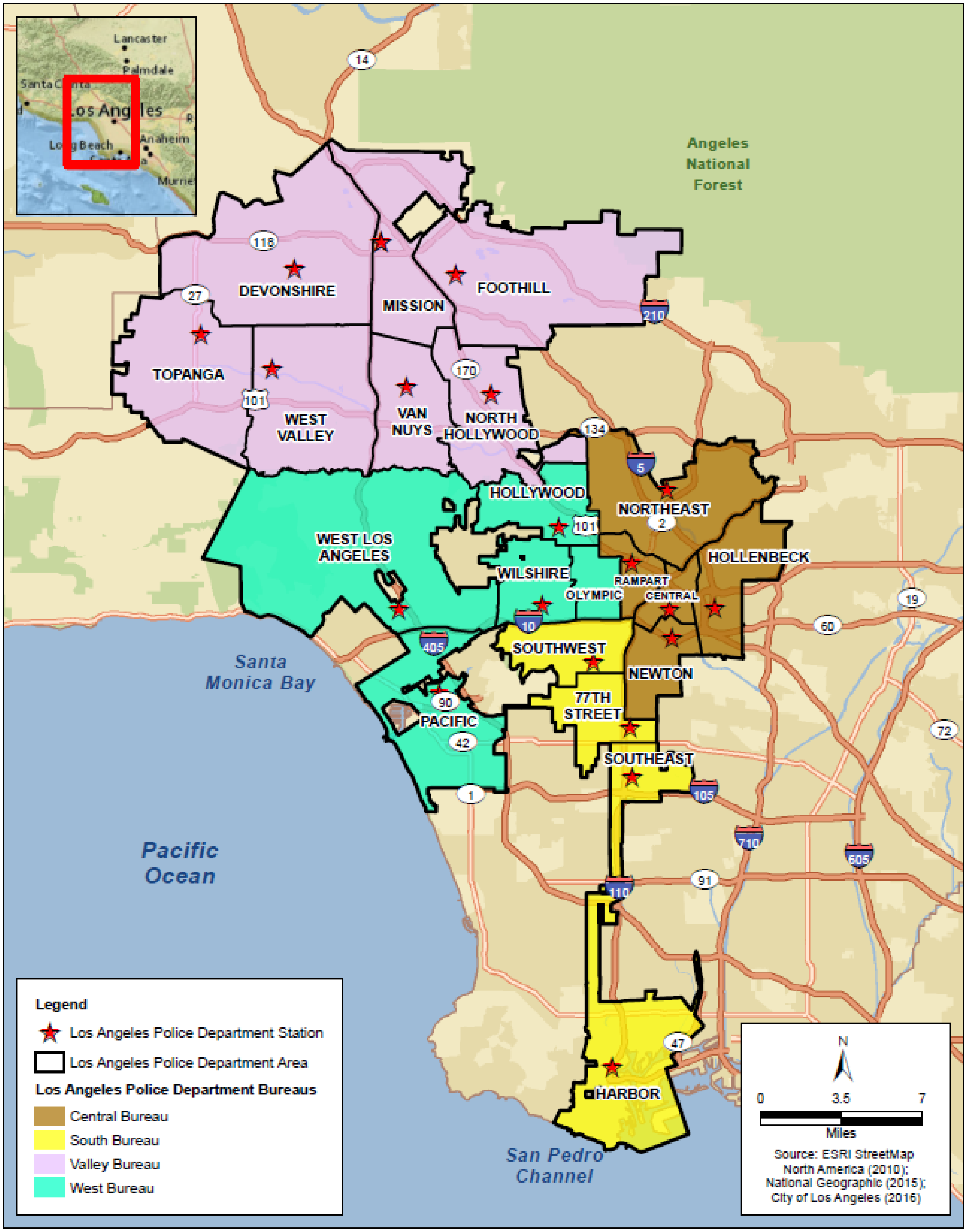

Figure 3.11-2. City of Los Angeles Police Protection Facilities and Bureau and Area Divisions

Table 3.11-4. Los Angeles Police Department Station Names and Locations

Station Name	Address
Central Community Police Station	251 East Sixth Street Los Angeles, CA 90014
Devonshire Community Police Station	10250 Etiwanda Avenue Northridge, CA 91325
Foothill Community Police Station	12760 Osborne Pacoima, CA 91331
Harbor Community Police Station	2175 John S. Gibson Blvd. San Pedro, CA 90731
Hollenbeck Community Police Station	2111 E. First Street Los Angeles, CA 90033
Hollywood Community Police Station	1358 N. Wilcox Hollywood, CA 90028
Mission Community Police Station	11121 Sepulveda Blvd Mission Hills, CA 91345
Newtown Community Police Station	3400 Central Avenue Los Angeles, CA 90011
North Hollywood Community Police Station	11640 Burbank Boulevard North Hollywood, CA 91601
Northeast Community Police Station	3353 San Fernando Road Los Angeles, CA 90065
Olympic Community Police Station	1130 South Vermont Los Angeles, CA 90006
Pacific Community Police Station	12312 Culver Boulevard Los Angeles, CA 90066
Rampart Community Police Station	1401 W. Sixth Street Los Angeles, CA 90017
77th Community Police Station	7600 Broadway Los Angeles, CA 90003
Southeast Community Police Station	145 W. 108th Street Los Angeles, CA 90061
Southwest Community Police Station	1546 West Martin Luther King Boulevard Los Angeles, CA 90062
Topanga Community Police Station	21501 Schoenborn Street Canoga Park, CA 91304
Van Nuys Community Police Station	6240 Sylmar Avenue Van Nuys, CA 91401
West Los Angeles Community Police Station	1663 Butler Avenue Los Angeles, CA 90025
West Valley Community Police Station	19020 Vanowen Street Reseda, CA 91335
Wilshire Community Police Station	4861 West Venice Boulevard Los Angeles, CA 90019

Source: Los Angeles Police Department 2018b

As of February 2018, 10,037 sworn officers and 2,819 civilian officers are responsible for covering 468 square miles of Los Angeles City (Los Angeles Police Department 2018a). Table 3.11-5 shows the 2015 Census data. In the City there are 3,976,322 people and 468 square miles service area that need to be covered by LAPD. LAPD currently has an officer to population ratio of 2.5 officers for every 1,000 residents. This ratio is the same as it was in 2016 (Los Angeles Police Department 2016).

Table 3.11-5. Los Angeles Police Department Statistics

LAPD Statistics	
Category	**Amount**
Number of Sworn Officers	10,037
Square miles of Service Area	468
Population	3,976,322
Officer Per Square Mile	21
Officer Per 1,000 Population	2.5
Number of 911 Calls in 2014	1,255,733

Source: Los Angeles Police Department 2018a and U.S. Census Bureau 2016

3.11.2 Environmental Impact Analysis

3.11.2.1 Approach

The CEQA Guidelines, Appendix G sample question for the public services of police and fire protection asks whether the project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives.

Consistent with Appendix G, the City's 2006 *L.A. CEQA Thresholds Guide* provides that the determination of significance for police protection services should be evaluated based on three factors:

1. The demand for police services anticipated during the continuation of the construction and operation of sidewalk repairs pursuant to the Project compared to the expected level of service available, considering as applicable scheduled improvements to LAPD services (facilities, equipment, and officers) and the Project's proportional contribution to the demand;
2. Whether the Project includes security and/or design features that would reduce the demand for police services (which would be a part of the evaluation of Factor #1 on the demand for police services and the associated physical improvements); and
3. The population increase resulting from the Project, based on the net increase of residential units or square footage of non-residential floor areas. (The Project does not include residential uses and would not result in population growth. Therefore, this factor does not apply here.)

Consistent with Appendix G, the *2006 L.A. CEQA Thresholds Guide* states that the Project would normally have a significant impact on fire protection if it requires the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

This chapter addresses possible increased response times for police protection and fire protection services by analyzing street and roadway access due to construction efforts. Because the Project is Citywide, this analysis also addresses the ability of the Project and any design features to avoid increasing response times for police protection and fire services that may result in the need for new or modified police and fire protection facilities.

3.11.2.2 Thresholds of Significance

Based on the above environmental impact analysis approach and consistent with CEQA Guidelines Appendix G and the *L.A. CEQA Thresholds*, a project would normally have a significant impact on police or fire protection services if the following would occur:

PS-1: Would the demand for police services at the time of the proposed Project build-out compared to the expected level of service available result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

PS-2: Would the proposed Project require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service? *2006 L.A. CEQA Thresholds Guide and Appendix G of the CEQA Guidelines.*

3.11.2.3 Construction Impacts

PS-1. Would the demand for police services at the time of the proposed Project build-out compared to the expected level of service available result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities?

There would be a less-than-significant impact during construction.

Demand for additional police protection during construction is usually created when there is a net increase in population in an area as a result of the Project. The continuing construction activities from the Project would not result in an increase in population because construction crews employed to repair sidewalks would not require housing relocation to Los Angeles during the duration of construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population, and there is no evidence that ensuring the accessibility of the sidewalks would lead to increased population growth. No other element of the continuing construction activities from the Project has the potential for a population increase.

The Project consists of the continuation of construction activity associated with sidewalk and curb repairs that are part of routine maintenance. This routine maintenance would also include street tree removal and replacement. As the construction activities from the Project would not require security personnel or services, the Project does not propose any additional security or project design features to reduce any increased demand for police services.

Construction activities would have the potential to temporarily increase the demand on police services. Road and lane closures due to construction activities related to individual projects could affect response times of police vehicles. Traffic delays caused by potential closures could impede the ability of police vehicles to efficiently move along roadways to their destination. Additionally, temporary road closures may also result in detours that impact response time However, as discussed in Chapter 3.12, *Transportation*, during lane closures, street tree removal and replacements, or other any other construction activity that disrupts the flow of vehicles, pedestrians, or bicyclist, flagpersons would be provided to control pedestrian, vehicular, or bicycle traffic. Short-term temporary parking restrictions and/or lane closures are expected when sites are in active construction. Although temporary lane closures reduce the capacity of affected streets and have the potential to increase congestion and result in delays for emergency responders, because the lane closures would be infrequent and limited to small portions of streets, the lane closures would not result in mobility conditions that would be substantially different from existing conditions on roadways. Because there are no expected access restrictions, construction staging is not expected to inhibit access to police protection facilities. In particular, as stated in PDF-TR-1, construction managers and personnel will follow the guidelines outlined in the Work Area Traffic Control Handbook (WATCH), which details information for traffic control, including pedestrian and bicycle traffic, in construction work areas. Therefore, there would not be any increased demand for police services as a result of the construction activities from the Project, and impacts from the Project on police services would be less than significant.

Mitigation Measures

No mitigation is required.

PS-2: Would the proposed Project require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service?

There would be a less-than-significant impact during construction.

The work associated with the Project includes sidewalk and curb repairs, along with street tree removal and replacement that are part of routine maintenance. Work during this time would not typically require on-site fire services because the contractor would ensure good operating condition of mechanical equipment, careful storage of flammable materials in appropriate containers, and the immediate and complete cleanup of spills of flammable materials, per the Global Harmonized System/Material Safety Data Sheet prepared by the United Nations. Construction activities could potentially expose combustible materials (e.g., wood, plastics, sawdust, coverings, and coatings) to fire risks from machinery and equipment sparks, exposed electrical lines, and chemical reactions in combustible materials and coatings. However, in compliance with Occupational Safety and Health Administration (OSHA) requirements, construction managers and personnel would be trained in emergency response and fire safety operations. Project construction would also comply with requirements and policies relating to fire safety practices. Hence, there is no need for additional fire protection services apart from the existing level of service available within the City. Because there are no expected access restrictions, construction staging is not expected to inhibit access to fire protection facilities. Furthermore, as discussed above in PS-1 and in Chapter 3.12, *Transportation*, any temporary disruption in transportation flow due to construction activities would be addressed through standard traffic flow measures and following the guidelines of the WATCH per PDF-TR-1, which specify measures for traffic control during construction. Therefore, impact from the Project to the fire protection service would be less than significant.

Mitigation Measures

No mitigation is required.

3.11.2.4 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.

PS-1. Would the demand for police services at the time of the proposed Project build-out compared to the expected level of service available result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities?

PS-2: Would the proposed Project require the addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service?

There would be a less-than-significant impact during operation.

Post construction activity includes inspecting sidewalks and watering 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. The operational activities from the Project would not increase the demand for police or fire protection. LAFD and LAPD services are based on the community's needs. LAFD and LAPD conduct ongoing evaluations to determine community needs. If ongoing evaluations indicate increased response time, then the acquisition of equipment, personnel, and/or new stations is considered. In addition, the repaired sidewalks would provide improved infrastructure for safe and effective police and fire protection services. No element of operation of the Project pertains to a potential population increase or access restrictions, which would potentially result in increased demand for police and fire protection services. Therefore, the continuing operational activities from the Project would not require the provision of new or physically altered governmental facilities to meet existing fire and police protection service ratios. Operational activities of the Project would result in a less-than-significant impact.

Mitigation Measures

No mitigation for operational activities is required.

3.11.3 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impact related to public services would occur.

3.12 Transportation/Traffic

This chapter describes the regulatory setting, existing transportation/traffic conditions of the proposed Project (Project) and the potential impacts that would result from its implementation.

3.12.1 Regulatory Setting

A review of the various regulatory requirements was conducted to identify regulations that address traffic and transportation. This section summarizes the various regulatory requirements that are relevant to the Project. The Project is discussed in Chapter 2.0, *Project Description*.

3.12.1.1 Federal

Americans with Disabilities Act of 1990

Titles I, II, III, and V of the *Americans with Disabilities Act of 1990* (ADA) have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination on the basis of disability in "places of public accommodation" (businesses and nonprofit agencies that serve the public) and "commercial facilities" (other businesses). The regulations promulgated to implement ADA include *Appendix A to Part 36 (Standards for Accessible Design)*, establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. Examples of key guidelines include detectable warnings for pedestrians entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travelway and a vibration-free zone for pedestrians.

3.12.1.2 State

Congestion Management Program

The *Congestion Management Program* (CMP) is a state-mandated program enacted by the California State legislature to address the increasing concern that urban congestion is affecting the economic vitality of the state and diminishing the quality of life in some communities. The hallmark of the CMP is that it is intended to address the impact of local growth on the regional transportation system. Statutory requirements of the CMP include monitoring Level of Service (LOS) on the CMP Highway and Roadway network, measuring frequency and routing of public transit, implementing the Transportation Demand Management and Land Use Analysis Program and helping local jurisdictions meet their responsibilities under the CMP. The CMP pertains specifically to new or additional traffic trends in the region's freeways or at designated monitoring stations. The CMP evaluates traffic trends by measuring circulation performance at freeways and at designated monitoring stations. Designated monitoring stations are located across the Los Angeles County (County) at selected major arterial intersections.

Senate Bill 743

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014. The purpose of SB 743 is to streamline the review under the California Environmental Quality Act (CEQA) for several categories of development projects including the development of infill projects in transit priority areas. SB 743 also intends to balance the needs of congestion management with State-wide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions. SB 743 adds Chapter 2.7: Modernization of Transportation Analysis for Transit Oriented Infill Projects to the CEQA Statute (Section 21099). Section 21099(d)(1) provides that aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. In addition, SB 743 mandates that alternative metric(s) for determining impacts relative to transportation shall be developed to replace the use of Level of Service (LOS) in CEQA documents. Under SB 743, the focus of transportation analysis changes from vehicle delay to vehicle miles traveled (VMT).

VMT Guidelines

The California Governor's Office of Planning and Research (OPR) released two rounds of chapter proposals for updating the CEQA Guidelines related to evaluating transportation impacts and, after further study and consideration of public comment, submitted a final set of revisions to the Natural Resources Agency in November 2017. The Natural Resources Agency evaluated the updates to the CEQA Guidelines, and the Office of Administrative Law approved the revised CEQA Guidelines on December 28, 2018.

The December 2018 updates to the State CEQA Guidelines in support of these goals establish VMT as the primary metric for evaluating a project's impacts on the environment and transportation system. The revised guidelines require that a project's environmental assessment must assess and disclose whether it conflicts or is inconsistent with local plans or policies. The revised guidelines also state, among other things, that "transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less-than-significant transportation impact."

OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) provides recommendations regarding significance thresholds for development projects with common land use types, for general plans, and for transportation projects. It lists more than two dozen types of transportation projects that would most likely not lead to a substantial or measurable increase in vehicle travel and therefore should not require an induced travel analysis. Among them are "rehabilitation, maintenance, replacement, safety and repair projects designed to improve the condition of existing transportation assets ([…] pedestrian facilities) and that do not add additional motor vehicle capacity."

3.12.1.3 Local and Regional

Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments (SCAG) is a Joint Powers Authority under California state law and was established as an association of local governments and agencies that voluntarily convene as a forum to address regional issues. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura), 191 cities in an area covering more than 38,000 square miles, and six County Transportation Commissions that hold the primary responsibility for programming and implementing transportation projects, programs, and services in their respective counties.

SCAG is designated under federal law as a Metropolitan Planning Organization (MPO) and as a Regional Transportation Planning Agency and a Council of Governments under state law. SCAG Bylaws provide for representation of Air Districts in the region. SCAG develops long-range regional transportation plans including growth forecast components, regional transportation improvement programs, and a portion of the South Coast Air Quality Management District's air quality management plans.

According to SCAG, their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range visioning plan that balances future mobility and transportation needs with economic, environmental and public health goals. The RTP/SCS consists of a vision for the region's future and is developed with input from local governments, county transportation commissions (CTCs), tribal governments, non-profit organizations, businesses, and local stakeholders within their region.

There are over 4,000 transportation projects from local county plans identified in the 2016–2040 RTP/SCS, including highway improvements, railroad grade separations, bicycle lanes, new transit hubs, replacement bridges, and pedestrian improvements. These future investments seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices for everyone (SCAG 2016).

Los Angeles County Congestion Management Program

The Los Angeles County CMP is a state-mandated program enacted by the California State Legislature with the passage of Proposition 111 in 1990, administered by the Los Angeles County Metropolitan Transportation Authority (Metro). The purpose of the CMP is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use, and air quality planning programs throughout the County. One required element of the CMP is a process to evaluate the transportation and traffic impacts of large projects on the regional transportation system. That process is undertaken by local agencies, project applicants, and traffic consultants through a transportation impact report usually conducted as part of the CEQA project review process.

The 2010 CMP for the County (adopted October 28, 2010) was developed, in part, to link local land use decisions with their impacts on regional transportation. The CMP identifies a system of highways and roadways, and establishes a minimum LOS performance measurements of LOS E (except where the 1992 base year LOS is worse than E, in which case base year LOS is the standard) for highway segments and key roadway intersections on this system. A traffic impact analysis (TIA) is required for projects that generate at least 50 new trips at CMP monitoring intersections or 150 one-way trips on mainline freeway monitoring locations during either the AM or PM peak hour on weekdays (Metro 2010).

Great Streets for Los Angeles – Los Angeles Department of Transportation Strategic Plan

In September 2014, the Mayor's Office and City of Los Angeles (City) Department of Transportation (LADOT) released Great Streets for Los Angeles, LADOT's first strategic plan to turn the City's essential infrastructure—its streets and sidewalks—into safer, more livable 21st-century public spaces that accommodate everyone who uses them. The LADOT Strategic Plan builds upon Mayor Garcetti's Great Streets Initiative, which looks at Los Angeles's streets as valuable assets which can be used to revitalize neighborhoods across the City and make mobility easier for residents, whether they walk, bike, drive, or take transit. The plan also stresses the importance of working closely with other City and regional agencies, such as the Bureau of Street Services and Metro, to provide safe, accessible transportation services and infrastructure. The 2018–2020 update to *Great Streets for Los Angeles* identifies the progress on commitments made in the 2014 edition of the strategic plan, approximately 70 percent of which were successfully completed (LADOT 2018).

City of Los Angeles General Plan

Community Plans

Community plans guide the physical development of neighborhoods by establishing the goals and policies for land use. The 35 distinct community plans compose the Land Use Element of the General Plan, a state-required element. While the City General Plan sets out a long-range vision and guide to future development, the community plans provide the specific, neighborhood-level detail, transportation network, relevant policies, and implementation strategies necessary to achieve the General Plan objectives. Policies and objectives of these plans that pertain to transportation focus on continued improvements to the public transportation and circulation system.

Mobility Plan 2035

The City Mobility Plan 2035, adopted on September 7, 2016, provides the policy foundation for achieving a transportation system that balances the needs of all road users. As an update to the City's General Plan Transportation Element (last adopted in 1999), Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of residents interact with their streets. The Mobility Plan contains policies that pertain to maintaining safe and attractive sidewalks.

2010 Bicycle Plan

The City 2010 Bicycle Plan (Bicycle Plan), adopted on March 1, 2011, is a component of the Transportation Element of the City's General Plan (later renamed to Mobility Plan 2035) (Los Angeles Department of City Planning 2011). The purpose of the Bicycle Plan is to increase, improve, and enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation. The Bicycle Plan establishes policies and programs to increase the number and type of bicyclists in the City and to make every street in the City a safe place to ride a bicycle.

The Bicycle Plan has been updated to reflect public input received since it was originally adopted in 2011. The Bicycle Plan, in its entirety, has been incorporated into the Mobility Plan 2035 and is no longer a standalone chapter devoted to a single mode but instead reflects the City's commitment to a holistic and balanced complete street approach that acknowledges the role of multiple modes (pedestrians, bicycles, transit, and vehicles).

Los Angeles Municipal Code

Los Angeles Municipal Code (LAMC) Section 12.37 contains requirements related to highway and collector street dedication and improvement. LAMC Section 17.05 contains standards that that have been updated to expand the role of the Street Standards Committee and to reflect the City's new focus on complete streets.

LAMC Section 62.61 states that temporary lane closures resulting from non-emergency construction along major and secondary highways or collector streets would be limited to off-peak hours. Permits may be issued on a case-by-case basis to provide exemption.

3.12.2 Environmental Setting

The Project would be limited to areas within the City with existing sidewalks. Refer to the Chapter 2, *Project Description*, for a detailed discussion of existing sidewalk infrastructure. This section describes the environmental setting or conditions related to traffic and transportation in the Project vicinity, which represents the baseline required to evaluate the Project's impacts.

The City includes access to a variety of transportation modes, including regional freeway access, an extensive local roadway network, local and regional transit systems, an existing bikeway network, and sidewalk network.

3.12.2.1 Existing Street System

Regional Access

The City has a freeway network that includes Interstates (I-), United States Highways (US-), and State Routes (SR-). Bicycles and pedestrians are not allowed on freeways, but are allowed on state highways that function as arterial roads. Portions of state highways, including Pacific Coast Highway (SR-1), Santa Monica Boulevard (SR-2), and Venice Boulevard (SR-187), are currently designated as part of the citywide bikeway network. Freeways and state highways also accommodate transit vehicles.

Local Roadway Network

The City has approximately 7,500 miles of public streets that accommodate a variety of motorized and non-motorized vehicles, including private motor vehicles, taxis, freight vehicles, transit vehicles, and bicycles. The Mobility Plan 2035 includes numerous functional classifications: Boulevard I, Boulevard II, Avenue I Avenue II, Avenue III, Collector Street, Industrial Collector Street, Local Standard, Local Limited, Industrial Local, Pedestrian Walkway, Shared Street, Access Roadway, One-Way Service Road-Adjoining Arterial Streets, Bi-Directional Service Road-Adjoining Arterial Streets, Hillside Collector, Hillside Local, and Hillside Limited Standard. The majority of the Boulevard, Avenue, and Collector Street roadway network within the City is laid out in a grid pattern and roadway users generally have multiple route options for traveling through the City (City of Los Angeles 2016).

Emergency Access

California state law requires that drivers yield the right-of-way to emergency vehicles and remain stopped until the emergency vehicles have passed. Generally, multi-lane arterial roadways allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle. The Los Angeles Fire Department (LAFD), in collaboration with LADOT, has developed a Fire Preemption System, a system that automatically turns traffic lights to green for emergency vehicles travelling on designated streets in the City.

Existing Public Transit Service

The City is served by multiple transit operators. Metro is the primary transit operator within the City. Metro operates local bus, rapid bus, busway service, light rail, and heavy rail throughout the City. Local jurisdictions, including the City of Los Angeles, operate additional service. LADOT operates local DASH service as well as commuter bus routes. Several other municipal bus operators provide additional transit service connecting the City to neighboring jurisdictions and counties.

Existing Bicycle Facilities

Bikes are legally permitted to operate on any Boulevard, Avenue, Collector Street, or Local Street with or without specific bicycle lane designation. LAMC Section 56.15 prohibits the use of bicycles, unicycles, skateboards, carts, wagons, or any other device moved exclusively by human power, on sidewalks in a "willful or wanton disregard for the safety of persons or property."

3.12.3 Environmental Impact Analysis

3.12.3.1 Approach

For the purposes of assessing the traffic impact on adjacent roadways, the construction and operation traffic trip generation arising from the Project were qualitatively evaluated. In determining the level of significance, the assessment assumed that the continuing construction and operational activities arising from the Project would comply with relevant regulations, ordinances, and guidance presented below as part of Section 3.12.3.2, Project Design Features.

The continuing construction activity from the Project would occur across the entire City, and the effect on traffic would not be considered additive. Impacts would not be based on citywide activity because of the geographic distribution of construction sites. Instead, they would be evaluated for two prototypical construction scenarios.

3.12.3.2 Project Design Features

Key elements of the Project related to transportation that are considered project design features are identified below:

- **PDF-TR-1:** Per the California Manual of Uniform Traffic Control Devices, the construction manager is responsible for ensuring that all work is in full compliance with the current edition of the Work Area Traffic Control Handbook (WATCH) manual, including the requirement of flaggers in Section 9 (Flagger Temporary Traffic Control) for lane closures during street tree removal or other any other construction activity that disrupts the flow of vehicles, pedestrians, or bicyclists.
- **PDF-TR-2:** When construction occurs at an intersection, stopping sight distance would be maintained for vehicles and bicyclists approaching the intersection, per WATCH Flagger Temporary Traffic Control.
- **PDF-TR-3:** Adjacent property owners, whether public or private, would be notified of any upcoming construction. Signage would also be posted in advance of construction, notifying the public of any construction-related lane closures or parking restrictions, in accordance with Section 7-10, Public Convenience and Safety, and Section 302-4.5, Scheduling, Public Convenience and Traffic Control, of the Standard Specifications of Public Works Construction, or the "Greenbook" (2012).
- **PDF-TR-4:** Temporary accessibility-compliant access would be provided and signage would be used, where needed, to direct pedestrians to alternative pedestrian routes or through the use of a temporary walkway, physically separated from vehicle traffic, to provide a more direct detour, in accordance with Section 7-10, Public Convenience and Safety, of the Standard Specifications of Public Works Construction, or the "Greenbook" (2012).

- **PDF-TR-5:** If construction requires a temporary closure of an on-street bicycle facility, signage would be placed to inform drivers and bicyclists of the upcoming bicycle facility closure, indicating a shared lane ahead per WATCH Bicycle Considerations.
- **PDF-TR-6:** If construction requires a temporary closure of an existing transit facility (e.g., bus stop), the project manager shall be responsible for coordinating with the affected transit provider to ensure users are informed of the temporary stop relocations.
- **PDF-TR-7:** Per City's Department of Public Works *Brownbook 7th Edition*, in "Storage of Equipment and Materials," a permit from the Bureau of Street Services shall be obtained before any construction materials or equipment are stored in the public right-of way. All storage of equipment and materials shall be done under approved pollution prevention and erosion control plan as required by California Construction Permit Order No. 2009-009-DWQ.
- **PDF-TR-8:** Truck trips would be coordinated to arrive and depart at off-peak commute times to the extent feasible, pursuant to LAMC Section 62.61.
- **PDF-**TR-9: Any work involving signal disruption would be coordinated with LADOT and the Los Angeles Police Department (LAPD) to identify and implement temporary traffic control needs per the 2012 "Greenbook" Standard Specification for Public Works Construction Section 307-5 et seq., Temporary Street Lighting and Traffic Signal Systems.

3.12.3.3 Construction

Construction activity would occur Monday through Friday, with construction crews arriving at construction sites around 7:00 AM. Construction start times may be delayed to 9:00 AM for sites in busy areas without on-street parking.

This Draft EIR evaluates two prototypical construction scenarios. Each repair would be unique and the construction needs would vary depending several factors, including, but not limited to, the condition of the sidewalk, the adjacent land uses, how busy the adjacent street is, the level of pedestrian traffic, whether utilities need to be moved or street trees replaced, and the presence of a bus stop. PDF-TR-1 through PDF-TR-9 would be followed.

For analysis purposes, an average site is assumed to be 650 linear feet long and 5 feet wide for each scenario. This assumption is based on data gathered from past work. As a conservative approach, it is also assumed that each repair site would include a street tree removal when the street tree cannot survive root pruning. Each Construction Scenario 1 repair project is anticipated to take a minimum average of 5 work days to complete, while Construction Scenario 2 is anticipated to take 30 work days to complete. Both Construction Scenario 1 and Construction Scenario 2 may be occurring simultaneously throughout the City at any given time. Of the approximately total 12 crews at peak construction activity at the last 5 years of the Project, it is assumed that up to 11 crews would be working on a Construction Scenario 1 site on a given day. Construction Scenario 2 would be more intensive than Construction Scenario 1 and would include substantial utility repair work as well as crosswalk repaving. Only a single crew is assumed to be conducting repairs for Construction Scenario 2 on any given day during the last years of the Project because that is when the greatest amount of sidewalk repair sites will be repaired.

The removal and replacement of street trees would be incremental and would change every 5 years based on the specific individual project activity increase required by the *Settlement* in combination with the proposed Revised Street Tree Retention, Removal and Replacement for the Sidewalk Repair Project. For example, the Project would include planting approximately 2,900 replacement street trees in the first 5 years and incremental planting of approximately 30,405 replacement street trees of the life of the Project. Street tree replacement to removal ratios would be 2:1 during Project years 1–10; 3:1 from years 11–21; and 2:1 from years 22–30. With respect to construction activities, the number of worker crews throughout the City at a given time is anticipated to increase every 5 years of the Project because of the increase in sidewalk repair (i.e., 298 repair sites annually in years 1–5, 344 annually in years 6-10, 396 annually in years 11–15, 457 annually in years 16–20, 527 annually in years 21–25, and 607 annually in years 26–30), as shown in Table 3.2-8 in Chapter 3.2*, Air Quality*.

Each construction scenario is discussed in detail below.

Construction Scenario 1: Sidewalk and/or Curb Ramp Repairs, Street Tree Removals and Replacements, and Minor Utility Work

For Construction Scenario 1, the construction would last approximately 5 days, at the minimum. The construction would be broken down into phases with varying numbers of worker trips and truck trips. Based on the resources available, the Project would involve up to 11 active Construction Scenario 1 sites per day.

Table 3.12-1 shows the trip generation estimates for the Project by phase. As shown in Table 3.12-1, the highest daily construction trip generation for an individual phase is estimated to be 26 daily trips and would occur during the concrete pouring phase. Under Construction Phase 1, up to three phases could be concurrent at an individual site. Assuming the three stages with the greatest potential trip generation (1. Mobilization, Traffic Control, Demolition and Removal; 2. Grading/Formwork; and 3. Concrete Pouring) would occur on the same day, up to a total of 62 one-way trips could be generated under Construction Scenario 1, for these three stages, as a result of worker commute trips and truck trips. Table 3.12-2 shows trip generation estimates per site, as well as the citywide total trips by year.

Table 3.12-1. Construction-Period Daily Trip Generation Estimates by Phase

Phase (Activity)	Event Length (Days)	Workers/ Site	Trucks/ Site	Daily Worker Trips	Daily Truck Trips	Total Daily Trip Gen.
1. Mobilization, Traffic Control, Demolition and Removal[a]	2	4	5	8	10	18
2. Grading/Formwork[a]	1	5	4	10	8	18
3. Concrete Pouring	1	9	4	18	8	26
4. Utility Adjustment[b]	2–20	5	2	10	4	14
4a. Street Tree Removal	1	5	2	10	4	14
4b. Street Tree Planting [c]	2	4	2	8	4	12
5. Crosswalk Repaving[d]	0–5	4	1	8	2	10
6. Cleanup[e]	1	4	3	8	6	14

[a.] Trucks for this phase include water trucks.

[b.] Under Construction Scenario 1, utility adjustment is expected to take 2 days; Under Construction Scenario 2, utility adjustment is expected to take up to 20 days.

[c.] The street tree planting event length is based on the maximum activity duration under the 3:1 replacement scenario during years 11 to 21 of the program.

[d.] Crosswalk repaving is not including as part of Construction Scenario 1; Under Construction Scenario 2, crosswalk repaving is expected to take up to 5 days. No more than one construction site is expected to be active under Construction Scenario 2 at any given time.

[e.] Cleanup is estimated to require three workers/site under Construction Scenario 1 and four workers/site under Construction Scenario 2. The number of workers/site from Construction Scenario 2 is included above, which overstates impacts under Construction Scenario for this phase.

Table 3.12-2. Construction-Period Daily Trip Generation Estimates by Year

Years	Construction Scenario 1 Maximum Daily Trips Per Site[a]	Construction Scenario 2 Maximum Daily Trips Per Site[b]	Active Crew Teams[c]	Citywide Maximum Daily Trips[d]
1–5	62	76	6	386
6–10	62	76	7	448
11–15	62	76	8	510
16–20	62	76	9	572
21–25	62	76	11	696
26–30	62	76	12	758

Source: Anderson pers. comm.

[a] Under Construction Scenario 1, no more than three phases would be completed at each site during a particular day. To assume a conservative maximum trip generation scenario, the three construction phases with the greatest trip generation (1. Mobilization, Traffic Control, Demolition and Removal; 2. Grading/Formwork; and 3. Concrete Pouring) have been assumed to occur on the same day. In addition, different workers are assumed for each phase at a site, which likely overstates the number of trips. Approximately half of maximum daily trips would during a peak hour, which would not trigger the need for a TIA under the CMP guidelines.

[b] Under Construction Scenario 2, no more than four phases would be completed at each site during a particular day. To ensure a conservative maximum trip generation scenario, the four construction phases with the greatest trip generation (1. Mobilization, Traffic Control, Demolition and Removal; 2. Grading/Formwork; and 3. Concrete Pouring; and 4. Utility Adjustment) are assumed to occur on the same day. In addition, different workers are assumed for each phase at a site, which likely overstates the number of trips. Approximately half of maximum daily trips would during a peak hour, which would not trigger the need for a TIA under the CMP guidelines.

[c] The number of crew teams active at a given time would vary by year and level of funding.

[d] Citywide maximum daily trips assumes all but one of the crew teams would be working at a Construction Scenario 1 site, and the remaining crew team would work at a Construction Scenario 2 site.

Construction worker commute trips to the construction yard would occur prior to the AM peak hours, before 6:00 AM. Constructions workers would return to the construction yard by 3:00 PM and would commute home from there during the PM peak hours. Up to 18 worker commute trips (half of daily worker commute trips) per Construction Scenario 1 site could occur in the PM peak hours if three phases are worked at a site in a day. Up to 13 truck trips (half of daily truck trips) to the construction site could occur during the AM peak period, but would be timed to avoid peak hours as feasible.

With respect to construction activities, the number of worker crews throughout the City at a given time is anticipated to increase every 5 years of the Project because of the increase in sidewalk repair (i.e., 298 repair sites annually in years 1–5, 344 annually in years 6–10, 396 annually in years 11–15, 457 annually in years 16–20, 527 annually in years 21–25, and 607 annually in years 26–30).

It is assumed that up to 11 crews would be working on a Construction Scenario 1 site on a given day. Construction trip generation would vary from day to day based on how many crews are active and which construction phase is occurring. The Citywide Construction daily trip generation (including one crew at a Construction Scenario 2 site) would be 758 trips if all total 12 crews in years 26 through 30 were working on the maximum number of phases in a single day (three phases under Construction Scenario 1 and four phases under Construction Scenario 2). Project trip generation would be reduced earlier in Project implementation, assuming there would be fewer construction activities per day, compared to later years of the Project where additional crews would be present. It should be noted that trip generation would be geographically dispersed throughout the City, and effects would not be confined to one area at a time.

During Construction Scenario 1, short-term temporary parking restrictions and/or lane closures are expected when sites are in active construction. Full street closures may be required on small residential streets, but are expected to be infrequent and would not exceed a few hours at a time.

Construction Scenario 2: Sidewalk Repair with Curb Ramp Repairs, Crosswalk Repaving, Street Tree Removals and Replacements, and Substantial Utility Work

For Construction Scenario 2, the total construction would last for up to 30 days at each construction site. The construction would be divided into phases, with varying numbers of worker trips and truck trips. Based on the resources available, only a single instance of Construction Scenario 2 is anticipated per day.

As shown in Table 3.12-1, the highest daily construction trip generation for an individual phase is estimated to be 26 daily trips and would occur during the concrete pouring phase. Under Construction Phase 2, up to four phases could be concurrent at an individual site. Assuming the four construction phases with the greatest potential trip generation (1. Mobilization, Traffic Control, Demolition and Removal; 2. Grading/Formwork; 3. Concrete Pouring; and 4. Utility Adjustment) would occur on the same day, up to 76 one-way trips could be generated under Construction Scenario 2 as a result of worker commute trips and truck trips, Table 3.12-2 shows trip generation estimates per site, as well as the Citywide total trips by year.

Given that the construction worker commute trips would occur after 3:00 PM, construction for Construction Scenario 2 could generate up to 23 worker commute trips (half of daily worker commute trips) during the PM peak hours if four phases are worked at a site in a day. Up to 15 truck trips (half of daily truck trips) could occur during the AM peak period, but they would be timed to avoid peak hours as feasible.

Construction Scenario 2 is expected to involve more lane closures than Construction Scenario 1. The substantial utility work would vary based on site conditions and required repairs. During the substantial utility adjustments, the electric power supply may need to be turned off, potentially affecting nearby traffic signal equipment.

3.12.3.4 Operations

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.

3.12.3.5 Thresholds of Significance

The following significance criteria are informed by Appendix G of the CEQA Guidelines and the City's 2006 *L.A. CEQA Thresholds Guide*, which provide guidance for determining significance of impacts associated with transportation/traffic resulting from the Project. While the Draft EIR was being prepared with prior guidance documents and methodology, on July 30, 2019, the City Council per CEQA Guidelines Section 15064.7 approved the Los Angeles Department of Transportation (LADOT) Transportation Assessment Guidelines (LADOT Guidelines), which establishes guidelines for transportation assessment based on legislative and regulatory changes consistent with the VMT impact methodology, SB 743, and the revised 2018 CEQA Guidelines. (City of Los Angeles, 2019.)

The determination of whether a transportation/traffic 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, and is consistent with LADOT Guidelines.

In general, under the LADOT Guidelines, a transportation assessment is not required for the Project since it is a Transportation Project that does not modify existing roadway vehicle capacity and therefore does not: (1) induce additional VMT by increasing vehicle capacity; or (2) reduce roadway through-lane capacity. Notwithstanding, based on the LADOT Guidelines, this Draft EIR still considers at least for informational purposes that impacts are significant if the Project would result in any of the following:

- **TR-1:** Would the proposed Project result in temporary traffic constraints due to construction? *City of Los Angeles.*

  The determination of significance shall be made on a case-by-case basis, considering the following factors*:*

  - The length of time of temporary street closures or closures of two or more traffic lanes;
  - The classification of the street (major arterial, state highway) affected;

- The existing congestion levels on the affected street segments and intersections;
- Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
- Potential safety issues involved with street or lane closures; and
- The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.

- **TR-2:** Would the proposed Project result in the temporary loss of access due to construction? *City of Los Angeles.*

  The determination of significance shall be made on a case-by-case basis, considering the following factors:

  - The length of time of any loss of pedestrian or bicycle circulation past a construction area;
  - The length of time of any loss of vehicular, bicycle, or pedestrian access to a parcel fronting the construction area;
  - The length of time of any loss of ADA pedestrian access to a transit station, stop, or facility;
  - The availability of nearby vehicular or pedestrian access within ¼ mile of the lost access; and
  - The type of land uses affected, and related safety, convenience, and/or economic issues.

- **TR-3:** Would the proposed Project result in the temporary loss of bus stops or the rerouting of bus lines due to construction? *City of Los Angeles.*

  The determination of significance shall be made on a case-by-case basis, considering the following factors:

  - The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
  - The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
  - The existence of other bus stops or routes with similar routes/destinations within a ¼ mile radius of the affected stops or routes; and
  - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).

- **TR-4:** Would the proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(2) by substantially inducing additional automobile travel due to operations? *City of Los Angeles.*
- **TR-5**: Would the proposed Project negatively affect residential streets due to operations? *City of Los Angeles.*

Thresholds in the LADOT Guidelines regarding whether a project that would: (1) conflict with a program, plan, ordinance, or policy addressing the circulation system; (2) substantially increase hazards due to a geometric design feature or incompatible uses; (3) negatively affect pedestrian, bicycle, or transit facilities; and (4) negatively affect access, safety, and circulation apply to

Development Projects defined as proposed land use development projects, and not Transportation Projects like the Project.

Notwithstanding, the Project: (1) would create a negligible impact on VMT and would not generate a net increase of 250 or more daily vehicle trips, as discussed below in Section 3.12.3.7; (2) would not be required to make any voluntary or required modification to the public right-of-way for vehicles; and (3) would not involve a lot 0.5 acres or more in total gross area or fronting along a street classified as an avenue/boulevard. Accordingly, the Project would not have required further assessment under the LADOT Guidelines under these thresholds for Development Projects.

3.12.3.6 Construction Impacts

TR-1. Would the proposed Project result in temporary traffic constraints due to construction?

This impact would be less than significant.

Under all construction scenarios, construction activity would typically involve restricting on-street parking adjacent to construction activity. In cases where on-street parking is prohibited, a single travel lane may be closed to allow construction access to the sidewalk. Full street closures may be required on small residential streets, but such closures are expected to be infrequent and would not exceed a few hours at a time. In all other cases, construction activity would not require closure of two or more travel lanes along any individual roadway segment.

Construction activity may occasionally require use of flagpersons within near construction sites. Street closures may occur for short periods, but would be limited to residential streets and would not extend into the peak period. Local access would be maintained and traffic control would implement best practices from the WATCH manual per PDF-TR-1 that serves as an industry standard for construction-related traffic control both within the work-site and on the nearby local street network.

Construction activity could occur along any roadway within the City with an existing sidewalk in disrepair and may involve temporary short-term lane closures associated with crosswalk repaving or travel lane restriping. Consistent with LAMC Section 62.61, temporary lane closures along major and secondary highways or collector streets would be limited to off-peak hours to the maximum extent feasible but would likely require applications for exemptions and permit fees if closures are required during AM or PM peak hours. Major or secondary highways or collectors correspond to Boulevards I, Boulevards II, Avenues I, Avenues II, Avenues III, and Collectors per the designations of the Mobility Plan 2035. Signage and traffic control operators would be used to redirect traffic to adjacent routes. Local vehicular, bicycle, and pedestrian access would be maintained throughout construction per PDF-TR-3 through PDF-TR-5.

In addition, substantial utility work may result in temporary disruption to the traffic signal operations. Any work involving signal disruption would be coordinated with LADOT and the Los Angeles Police Department (LAPD) to identify and implement temporary traffic control needs per the 2012 “Greenbook” Standard Specification for Public Works Construction Section 307-5 et seq., Temporary Street Lighting and Traffic Signal Systems. Worksite Traffic Control Plans (TCPs) would be developed as needed for substantial utility work or temporary road closures to ensure that any construction-related impacts are minimized to the greatest extent possible, per “Greenbook” Section 7-10.2.

Some local streets have weight limitations or restrictions that limit truck traffic. Typically, trucks would not travel on these streets except to obtain access to a specific site. The City's policy is to allow trucks to travel in a "reasonable fashion" to and from a work site. Truck trips would comply with this policy, including coordination to arrive and depart at off-peak commute times to the extent feasible per PDF-TR-8.

Existing traffic levels and intersection and segment LOS vary across the City. Areas of substantial traffic congestion would be anticipated to experience the effects of increased traffic from daily construction trips to a greater degree than in areas with relatively low levels of congestion, such as residential streets. Construction trip generation is expected to be widely distributed across the City and the effects would be localized. However, worker commute trips could occur during PM peak hours and are expected to vary, but could be up to 18 trips per day (half of total worker commute trips) for each site under Construction Scenario 1 and up to 23 trips per day (half of total worker commute trips) for each site under Construction Scenario 2, depending on the level of construction activity. Up to 13 truck trips under Construction Scenario 1 and up to 15 truck trips under Construction Scenario 2 to/from the site could occur during the AM peak hours, with some trips staggered throughout the day as work occurs. To the extent feasible, truck trips would be coordinated to arrive and depart outside of peak commute times per PDF-TR-8.

As described above, the maximum estimated daily construction trip generation at any single repair site would be 76 daily trips, with up to approximately half of that total expected during peak hours. For lane closures that would be required during the AM peak hours between 7:00 and 9:00 AM, site-specific applications for exemption from LAMC Section 62.61 and payment of a permit fee would be required and have been included as a project design feature. For lane closures along streets that directly lead to a freeway on- or off-ramp, special accommodations along roadways that lead directly to a freeway would be considered on a case-by-case basis and may involve consultation with the California Department of Transportation. All construction-related traffic control that would occur near freeway on- or off-ramp or other state highways would comply with the guidelines in the WATCH manual to ensure effective traffic control and safety.

In addition, substantial utility work may result in temporary disruption to the traffic signal operations. Any work involving signal disruption would be coordinated with LADOT and LAPD to identify and implement temporary traffic control needs per PDF-TR-9. TCPs would be developed as needed for substantial utility work or temporary road closures to ensure that any construction-related impacts are minimized to the greatest extent possible.

The Project would involve construction vehicles and equipment near traveled roadways, which has the potential to result in safety issues. Potential safety hazards due to the maneuvering of construction-related vehicles and equipment near travel lanes would be minimized through the clear demarcation of work zones and use of flagpersons in cases where equipment or construction vehicles would need to occupy the roadway for short periods of time, per the WATCH manual and PDF-TR-1. Consequently, impacts related to safety from street or lane closures would be minor.

Construction could occur near emergency service facilities (e.g., fire stations and hospital) and along roadways used by emergency service providers. Though adequate emergency access would be maintained during lane closures along major and secondary highways and collectors, compliance with the WATCH manual guidelines and PDF-TR-1 would further ensure a less-than-significant impact. Construction would have a minimal impact on access to nearby emergency services because coordination with nearby emergency service providers would ensure construction activity would not significantly disrupt emergency service access.

As discussed above, construction activities would involve lane closures and parking restrictions and would generate worker commute trips, as well as construction material hauling trips, some of which would occur during peak traffic hours and affect roadway operations near Project sites. Construction activities would be geographically widely distributed throughout the City, and the project would generate a relatively low number of trips at any individual construction site. Therefore, temporary traffic impacts would not be substantial during construction, which may last up to 30 days at any construction site. Furthermore, the effects of lane closures and parking restrictions would be minimized through compliance with LAMC Section 62.61 and the WATCH manual, as well as through the use of flagpersons. Consequently, the Project's in-street construction impacts related to temporary traffic constraints would be less than significant.

Mitigation Measures

No mitigation measures are required.

TR-2. Would the proposed Project result in the temporary loss of access due to construction?

This impact would be less than significant.

A construction activity could result in temporary parking restrictions and/or lane closures around each Project site for up to approximately 30 work days. Vehicular access would be restricted when repairs occur at driveways. In instances where vehicle access is restricted, advanced notice would be provided to relevant property owners per PDF-TR-3. Alternative access and parking would be identified in coordination with the property owner as needed.

In addition, construction activity may involve temporary curb lane closures associated with substantial utility work and/or crosswalk repaving. Lane closures along major and secondary highways or collectors streets would occur during off-peak periods in consultation with LADOT. Signage and flagpersons would be used to redirect traffic. To the extent feasible, local vehicular, bicycle, and pedestrian access would be maintained throughout construction.

Construction activity would likely result in a temporary disruption of pedestrian access along the portion of sidewalk being repaired. Pedestrian access to adjacent properties would be accommodated during construction. Temporary access in compliance with applicable accessibility requirements to adjacent land uses would be provided as requested and signage would be used, as needed, to direct pedestrians to alternative pedestrian routes, per PDF-TR-4.

As identified above, construction activities would result in a temporary loss of access related to driveway obstructions, temporary loss of parking spaces, and disruptions to pedestrian travel. However, due to the short-term duration of these losses in access and that the Project team would coordinate its activities with affected property owners and occupants, impacts related to potential temporary loss of access would be less than significant.

Mitigation Measures

No mitigation measures are required.

TR-3. Would the proposed Project result in the temporary loss of bus stops or the rerouting of bus lines due to construction?

This impact would be less than significant.

Construction activity could result in temporary impacts on bus stops for up to approximately 30 work days for a construction site. In addition, construction activity may involve temporary curb lane closures associated with substantial utility work and/or crosswalk repaving. Per PDF-TR-6, to the maximum extent feasible, the lane closures would occur during off-peak periods in consultation with LADOT. For those lane closures that would occur during peak travel times, an exemption and permit in compliance with LAMC Section 62.61 would be required. At construction locations with temporary lane closures along existing bus routes, the Project team would coordinate with the relevant transit providers to establish temporary route detours.

Due to the likelihood of construction activities coinciding with bus stops, it is likely that temporary impacts on bus stops would occur. These impacts would be limited to the maximum 30-day construction period and would be coordinated with the appropriate transit providers to ensure that effects on bus riders would be minimized per PDF-TR-6. Consequently, impacts related to temporary loss of bus stops or rerouting of bus lines would be less than significant.

Mitigation Measures

No mitigation measures are required.

3.12.3.7 Operational Impacts

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

The continuing operational activities from the Project would involve the generation of VMT associated with street tree establishment period and regular maintenance and inspection activities. However, given the negligible changes in VMT that would result from the operational activities from the Project and that the LADOT Guidelines specify that transportation projects that are not likely to lead to a substantial or measurable increase in vehicle travel are not required to prepare an induced travel analysis, no quantitative VMT analysis is required for the Project. Because the Project fits the definition of rehabilitation, maintenance, replacement, safety, and repair projects and would not add motor vehicle capacity, the Project would have a less-than-significant impact related to operational VMT generation.

TR-4. Would the proposed Project conflict or be inconsistent with CEQA Guidelines Section 15064.3 (b)(2) by substantially inducing additional automobile travel due to operations?

The impact would be less than significant.

Per the LADOT Guidelines, the Project would not require any further assessment for inconsistency with VMT because the Project involves the rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets and do not add additional motor vehicle capacity and hence is not likely to lead to substantial or measurable increase in vehicle travel.

Mitigation Measures

No mitigation measures are required.

TR-5. Would the proposed Project negatively affect residential streets due to operations?

The impact would be less than significant.

Per the LADOT Guidelines, the Project would not require any further assessment for residential streets because the operational activities from the Project would not generate a net increase of 250 or more daily vehicle trips. It does not reduce vehicle travel lane capacity.

Mitigation Measures

No mitigation measures are required.

3.12.4 Significant Unavoidable Adverse Impacts

No significant and unavoidable adverse impact related to transportation would occurs.

3.13 Tribal Cultural Resources

This chapter evaluates potential Tribal Cultural Resources (TCRs) impacts associated with the continuation of construction and operational activities of the proposed Project (Project). The applicable laws, regulations, and methods for historic and archaeological resources, as described in Chapter 3.4, *Cultural Resource*s, may also apply to TCRs. This chapter first describes the ethnographic setting of the surrounding region and project area. This chapter also describes the TCR regulations pertinent to the Project and evaluates the potential for impacts involving TCRs. The discussion of TCRs relies upon a Sacred Lands File Search obtained from the Native American Heritage Commission (NAHC), and consultation conducted between LABOE and the Gabrieleño Band of Mission Indians-Kizh Nation (see Confidential Appendix K, retained in the files of BOE).

TCRs are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either: (1) included or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR) or included in a local register of historical resources; or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant, considering the significance of the resource to a California Native American tribe. A cultural landscape that meets these criteria is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

3.13.1 Regulatory Setting

3.13.1.1 Federal

Federal regulations that apply to the Project are provided in the Chapter 3.4, *Cultural Resources*.

3.13.1.2 State

California Environmental Quality Act Historic Resources

In accordance with Section 21084.1 of the California Environmental Quality Act (CEQA), the Project would have a significant adverse environmental impact if it “causes a substantial or potentially substantial adverse change in the significance of an historical resource.” Because TCRs are considered historical resources for the purposes of CEQA, Public Resources Code (PRC) Section 21084.1 applies and is described further in Chapter 3.4, *Cultural Resources*.

California Register of Historical Resources

Established by PRC Section 5024.1(a) in 1992, the CRHR serves as “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent feasible, from substantial adverse change.” Because TCRs are considered historical resources for the purposes of CEQA, PRC Section 5024.1(a) applies and is described in Chapter 3.4, *Cultural Resources*.

State Assembly Bill 52—Tribal Cultural Resources

Assembly Bill (AB) 52 amended CEQA to require that the analysis of project impacts on cultural resources include a specific analysis of impacts on TCRs. AB 52 was signed into law on September 25, 2014, and it requires lead agencies to evaluate a project's potential to affect TCRs and establishes a consultation process for California Native American Tribes as part of CEQA. TCRs include sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are eligible for inclusion in the CRHR or included in a local register of historical resources. AB 52 also gives Lead Agencies the discretion to determine whether a resource qualifies as a TCR on the basis of criteria for listing in the CRHR. The lead agency must support such a determination with substantial evidence.

The intent of AB 52 is to "set forth a process and scope that clarifies California tribal government involvement in the CEQA process, including specific requirements and timing for lead agencies to consult with tribes on avoiding or mitigating impacts to tribal cultural resources." It applies to projects with Notices of Preparation or Notices of Negative Declaration/Mitigated Negative Declaration released on or after July 1, 2015.

AB 52 defines TCRs, amends Appendix G of the CEQA Guidelines to include a separate section for TCRs, and creates a formal requirement for consultation with California Native American Tribes in the CEQA process. Pursuant to PRC Section 21080.3.2, Tribal Governments can request consultation with a lead agency and give input regarding potential impacts on TCRs before the agency decides what type of environmental review is necessary for a project. The PRC further requires avoiding damage to TCRs, if feasible. If not, Lead Agencies must mitigate impacts on TCRs to the extent feasible.

As set forth in PRC Section 21074, TCRs are defined as follows.

- (a) "Tribal cultural resources" are either of the following:
  - (1) Sites, features, places, and objects with cultural value to descendant communities or cultural landscapes, that are any of the following:
    - (A) Included in or eligible for inclusion in the California Register of Historical Resources.
    - (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
  - (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.
- (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

For projects with a Notice of Preparation after July 1, 2015, the lead agency is required to consult with California Native American Tribes that are traditionally and culturally affiliated with the project area if (1) the tribe requests to the lead agency in writing to receive notification of projects; and (2) the tribe requests consultation on a specific project prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report. Consultation is:

> "…the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance." (Government Code Section 65362.4)

PRC Section 21080.3.2(a) lists consultation topics that may be discussed, including TCRs, project alternatives, project impacts, and possible mitigation measures.

Consultation ends when one of the following outcomes occurs:

1. Both parties agree to measures to avoid or mitigate significant effects on a TCR. The agreed-upon mitigation measures are included in the environmental document (PRC Section 21082.3(a)); or
2. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Sections 21080.3.2(b)(1-2) and 21080.3.1(b)(1)).

California Native American Graves Protection and Repatriation Act (Act) (2001)

In the California Health and Safety Code (HSC), Division 7, Part 2, Chapter 5 (Sections 8010–8030), broad provisions are made for the protection of Native American cultural resources. The Act sets the state policy to ensure that all California Native American human remains and cultural items are treated with due respect and dignity. The Act also provides the mechanism for disclosure and return of human remains and cultural items held by publicly funded agencies and museums in California. Likewise, the Act outlines the mechanism with which California Native American tribes not recognized by the federal government may file claims to human remains and cultural items held in agencies or museums.

State Health and Safety Code 7050.5/California Public Resources Code Section 5097.9

HSC Section 7050.5 and PRC Section 5097.9 contain provisions for the treatment of human remains contained in archaeological sites. Under HSC Section 7050.5, if human remains are discovered during any project activity, the county coroner must be notified immediately. If human remains are exposed, HSC Section 7050.5 states that no further disturbance shall occur until the county coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. Construction must halt in the area of the discovery of human remains, the area of the discovery shall be protected, and consultation and treatment shall occur as prescribed by law. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased person(s) so they can inspect the burial site and make recommendations for treatment or disposal.

California Health and Safety Code, Section 7051

Under this code, every person who removes any part of any human remains from any place where it has been interred, or from any place where it is deposited while awaiting interment or cremation, with intent to sell it or to dissect it, without authority of law, or written permission of the person or persons having the right to control the remains under Section 7100, or with malice or wantonness, has committed a public offense that is punishable by imprisonment in the state prison.

California Code of Regulations, Title 14, Section 4307

Under this state preservation law, no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

3.13.1.3 Local

City of Los Angeles Cultural Heritage Ordinance

The City of Los Angeles (City) maintains a list of all sites, buildings, and structures that have been designated through the Cultural Heritage Ordinance as Historic-Cultural Monuments (HCMs). TCRs may be included in a local register of historical resources and therefore would be considered to be historical resources for the purposes of CEQA. The City Cultural Heritage Ordinance is described in Chapter 3.4, *Cultural Resources*. Table 3.4-2 displays a list of HCMs that may be of potential concern to local consulting tribes.

City of Los Angeles Conservation Element

The Conservation Element of the City General Plan (adopted September 2001) is designed to enhance, preserve, and protect the City's existing natural resources and other resources. TCRs may include archaeological sites, and the Conservation Element specifically addresses archaeological resources in Section 3 of Chapter 2, with the objective to "protect the City's archaeological…resources for historical, cultural, research and/or educational purposes." Moreover, its policy is to "continue to identify and protect significant archaeological…sites and/or resources known to exist or that are identified during land development, demolition or property modification activities."

3.13.2 Environmental Setting

3.13.2.1 The Gabrieleño

The project area lies within the territory of the Gabrieleño Native American people, a Uto-Aztecan (or Shoshonean) group that may have entered the Los Angeles Basin as recently as 1500 before present (Bean and Smith 1978). The Gabrieleño are characterized as one of the most complex societies in native Southern California, along with the Chumash, their coastal neighbors to the northwest. This complexity derives from their overall economic, ritual, and social organization (Bean and Smith 1978:538; Kroeber 1925:621).

The Gabrieleño spoke a language that falls within the Cupan group of the Takic subfamily of the Uto-Aztecan language family. This language family is extremely large and includes the Shoshonean groups of the Great Basin. Given the geographic proximity of Gabrieleño/Tongva and Serrano bands living in the area and the linguistic similarities, ethnographers have suggested that they shared the same ethnic origins (Kroeber 1925).

In early protohistoric times, the Gabrieleño occupied a large territory including the entire Los Angeles Basin. This region encompasses the coast from Malibu to Aliso Creek, parts of the Santa Monica Mountains, the San Fernando Valley, the San Gabriel Valley, the San Bernardino Valley, the northern parts of the Santa Ana Mountains, and much of the middle to the lower Santa Ana River. They also occupied the islands of Santa Catalina, San Clemente, and San Nicolas. Within this large territory were more than 50 residential communities with populations ranging from 50 to 150 individuals. The Gabrieleño had access to a broad and diverse resource base. This wealth of resources, coupled with an effective subsistence technology, well-developed trade network, and ritual system, resulted in a society that was among one of the most materially wealthy and culturally sophisticated cultural groups in California at the time of contact (Bean and Smith 1978).

Very little is known about early Gabrieleño social organization because the band was not studied until the 1920s and had already been greatly influenced by missionaries and settlers by that time (Kroeber 1925). Kroeber's (1925) work indicates that the Gabrieleño were a hierarchically ordered society with a chief who oversaw social and political interactions both within the Gabrieleño culture and with other groups. The Gabrieleño had multiple villages ranging from seasonal satellite villages to larger, more permanent settlements. Resource exploitation was focused on village-centered territories and hunting ranged from deer, rabbits, birds, and other small game to sea mammals. Fishing for freshwater fish, saltwater mollusks, and crustaceans, and gathering acorns and various grass seeds were also important (Bean 1978:538–549). Fishing technology included basket fish traps, nets, bonefish hooks, harpoons, and vegetable poisons, and ocean fishing was conducted from wooden plank canoes lashed and asphalted together. Gabrieleño houses were large, circular, thatched, and domed structures of tule, fern, or carrizo that were large enough to house several families. Smaller structures were also present in the villages and were used in a variety of ways. These structures were earth covered, and different ones were used as sweathouses, meeting places for adult males, ritual huts, and ceremonial enclosures (Heizer 1962:289–293) Recorded ethnographic and archaeological sites associated with Gabrieleño settlements are few. This is directly attributable to the extensive and prolonged urban development of the City region over the last one and a half centuries (California Department of Parks and Recreation 2005:16).

3.13.2.2 The Tataviam

The Tataviam belong to the family of Serrano peoples who migrated down into the Antelope, Santa Clarita, and San Fernando Valleys some time before 450 A.D. The Tataviam may be among the larger "Shoshonean" migration into Southern California that occurred 2,000 to 3,000 years ago (Johnson and Earle 1990). The Tataviam people lived primarily on the upper reaches of the Santa Clara River drainage system, east of Piru Creek, but they also marginally inhabited the upper San Fernando Valley, including the present-day City of San Fernando and neighborhood of Sylmar (which they shared with their inland Gabrieleño/Tongva neighbors).

The Tataviam were hunter-gatherers who were organized into a series of clans throughout the region, living in small villages and becoming semi-nomadic when food was scarce. They were hunters and gatherers who prepared their foodstuffs in much the same way as their neighbors. Jimsonweed, native tobacco, and other plants found along the local rivers and streams provided raw materials for baskets, cordage, and netting. Larger game was generally hunted with the bow and arrow, while snares, traps, and pits were used for capturing smaller game. These resources were supplemented with roots, bulbs, shoots, and seeds that, if not available locally, were obtained in trade with other groups. At certain times of the year, communal hunting and gathering expeditions were held. Meat was generally prepared by cooking in earthen ovens, boiling, or sun drying. Cooking and food preparation utensils consisted primarily of lithic (stone) knives and scrapers, mortars and metates, pottery, and bone or horn utensils. Resources available to the desert-dwelling Tataviam included honey mesquite, piñon, yucca, mesquite, and cacti fruits (Solis 2008).

There is little information regarding Tataviam social organization, although information from neighboring groups shows similarities among Tataviam, Chumash, and Gabrieleño ritual practices. At first contact with the Spanish in the late 18th century, the population of this group was estimated at less than 1,000 persons. By 1810 nearly all the Tataviam population had been baptized at San Fernando Mission (King and Blackburn 1978).

No NRHP or CRHR listed TCRs were identified in the City as a result of the records search. A review of the City HCM list identified two prehistoric archaeological sites, a Gabrieleño Indian site in the vicinity of Griffith Park (HCM #112) the Gabrieleño village of Sa'angna near the Ballona wetlands (HCM #490).

3.13.3 Environmental Impact Analysis

3.13.3.1 Approach

CEQA requires lead agencies to notify California Native American Tribes who have formally requested notification on CEQA projects under AB 52 that the City proposes to undertake the Project. Analysis of potential impacts related to TCRs was based on information from the NAHC and from confidential tribal consultation conducted under the provisions of AB 52.

On May 25, 2017, pursuant to the requirements of AB 52 that require tribal consultation, the City as the lead agency for the Project sent consultation notification letters via certified mail to the California Native American Tribes that requested notification of any projects in the area. The formal notification of the Project was provided to representatives of 11 tribes/tribal organizations on May 25, 2017. The letters included a description and location of the Project and the City's contact information. Letters were sent via certified mail to the following tribes identified by the NAHC:

- Fernandeno/Tataviam Band of Mission Indians
- Gabrielino/Tongva San Gabriel Band of Mission Indians
- Gabrielino-Tongva Tribe
- Gabrielino Tongva Indians of California Tribal Council
- Soboba Band of Luiseno Indians
- Ti'At Society/Inter Tribal Council of Pimu
- Los Angeles City/County Native American Indian Commission
- Gabrielino/Tongva Nation
- California Native American Heritage Commission
- San Fernando Band of Mission Indians
- Gabrieleño Band of Mission Indians—Kizh Nation

A record of these letters is included as Confidential Appendix K of this Draft EIR.

The City received a letter response from one tribe, the Gabrieleño Band of Mission Indians—Kizh Nation (Kizh Gabrieleño Tribe) (Andrew Salas, Tribal Chair), on June 27, 2017. Consultation began on September 20, 2017. A qualified archaeologist reviewed and researched the documentation provided by the tribe as well as the evaluation of impacts presented in this chapter. Any maps and other evidentiary consultation materials provided by the tribe are considered confidential and are retained in the City's administrative files for the Project. On October 5, 2018, the City sent a letter to the Gabrieleno Band of Mission Indians – Kizh Nation indicating that mutual agreement cannot be reached on measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR and that AB 52 consultation would be considered concluded. The letter also indicated that the Tribe could submit further information to the City regarding the Draft EIR and Project.

Project Design Features

No project design features specific to TCRs are proposed, although project design features related to cultural resources (see Chapter 3.4, *Cultural Resources* for further detail) may affect TCRs and are referenced where appropriate**.**

3.13.3.2 Thresholds of Significance

The City's 2006 *L.A. CEQA Thresholds Guide* does not specifically address TCRs. However, Appendix G of the CEQA Guidelines identifies sample questions regarding potential impacts on TCRs to assist in determining thresholds of significance.

A project's impacts would be considered significant if the Project would result in the following:

TCR-1: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k) or

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Appendix G of the 2019 CEQA Guidelines.

3.13.3.3 Construction Impacts

Potential impacts on TCRs during the construction and operational activities of the Project are analyzed below separately. In this regard, impacts on TCRs are analyzed by determining if the proposed activities have the potential to affect TCRs; identifying if the work would be located at or near a TCR; in consultation with one or more consulting parties, applying the criteria for determining the significance of impacts on TCRs set forth in Section 15064.5 of the CEQA Guidelines; and relating them to the relevant plans and policies. For a description of the activities under each of the three construction scenarios, please see Chapter 2, *Project Description*.

TCR-1. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

This impact would be potentially significant during construction.

TCRs may be found throughout the City. Information on TCRs is much more difficult to obtain than most archaeological resources. Currently, there is no database of such resources and they cannot be identified by simply conducting a cultural resources records search, contacting the NAHC, or surveying the land. Identification of such resources requires coordination with consulting Native American tribes and the tribes themselves may need to confer with elders and other tribal members in their identification. Furthermore, the precise location of TCRs is often difficult to determine, as they are often only documented through the oral history of the tribe.

The City has conducted and concluded AB 52 consultation with the Gabrieleño Band of Mission Indians—Kizh Nation. Consultation details are in a confidential Appendix K. The confidentiality is to maintain the integrity and respect of the detail information provided by and to the Gabrieleño Band of Mission Indians-Kizh Nation. The consultation was concluded when the City, acting in good faith and after reasonable effort, concluded that mutual agreement could not be reached as to whether a significant effect exists and/or any measures to mitigate or avoid a significant effect to TCRs. Nevertheless, the information from the tribal consultation was thoroughly considered in the analysis of TCRs presented in this chapter.

As described in the analysis of excavation activities during construction in Chapter 3.4, *Cultural Resources,* because construction activities under Scenarios 1 and 2 would occur throughout the City on existing sidewalks, it is unlikely that native fill will be involved. Utility relocation would also be on previously disturbed soil and where utilities were placed by previous trenching and construction activities. Therefore, the impact is less than significant to TCRs under Scenarios 1 and 2. In addition, Standard BOE Specifications in PDF-CUL-5, as described in Chapter 3.4, *Cultural Resources*, is in place for such routine construction activities to manage unforeseen circumstances, such as the unexpected discovery of TCRs.

Notwithstanding, as discussed in Chapter 3.4, *Cultural Resources*, there may be rare instances during construction activities in a Construction Scenario 3 where, after the assessment of TCRs in PDF-CUL-1 and despite the implementation of PDF-CUL-2 of the Secretary of the Interior's Standards for the Treatment of Historic Properties and PDF-CUL-3 of archaeological treatment plans, the integrity and significance of TCRs cannot be maintained, such impacts would be significant.

Mitigation Measures

As discussed in Chapter 3.4, *Cultural Resources,* for the large majority of the Project in Scenarios 1 and 2, impacts to TCRs are less than significant, and no mitigation is required. However, in Scenario 3 where the significance of a TCR cannot be maintained despite the implementation of PDFs, no other feasible mitigation measures have been identified and thus impacts to significant TCRs would remain significant and unavoidable.

3.13.3.4 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.

TCR-1. Would the proposed Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

This impact would be less than significant during operations.

The operational activities under the Project would include visual site inspections and street tree watering. No ground disturbance activities would take place as a result of the Sidewalk Repair Project operation. Impacts would be less than significant.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.13.4 Significant Unavoidable Adverse Impacts

For most of the Project (Scenario 1 and 2), the findings for TCRs would be less than significant. However, if through a rare chance there is an adverse change to the significance of a TCR under Scenario 3 due to significant historical and/or unique archaeological impacts, there would also be a significant unavoidable adverse impact.

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 Deman d (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.

3.15 Energy

This chapter describes the existing energy resources that serve the proposed Project (Project) area, including the supply and demand of electrical service and availability, and consumption of transportation fuels, and the impacts on those resources that could occur due to the Project (see Chapter 2, *Project Description*). The Project would not result in the consumption of any natural gas for construction or operation. Therefore, natural gas is not discussed further in this chapter.

3.15.1 Regulatory Setting

3.15.1.1 Federal

There are no federal regulations that apply to the Project.

3.15.1.2 State

California Environmental Quality Act, Appendix F, Energy Conservation

The California Environmental Quality Act (CEQA) Guidelines Appendix F, Energy Conservation, requires EIRs to include a discussion of potential energy impacts and energy conservation measures. Appendix F places "particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy," and notes that significant energy impacts should be "considered in an EIR to the extent relevant and applicable to the project."

Senate Bill 1078

In 2002, Senate Bill (SB) 1078 (Public Utilities Code, Chapter 2.3, Sections 387, 390.1, and 399.25) implemented a California Renewable Portfolio Standard, which established a goal that 20 percent of the energy sold to customers be generated by renewable resources by 2017. The goal was accelerated in 2006 under SB 107 and expanded in 2011 under SB 2, which requires electric service providers and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Senate Bill 1389, Chapter 568, Statutes of 2002

The California Energy Commission (CEC) is responsible for, among other things, forecasting future energy needs for the state and developing renewable energy resources and alternative renewable energy technologies for buildings, industry, and transportation. SB 1389 (Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report, assessing major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors. The report is also intended to provide policy recommendations to conserve resources, protect the environment, and ensure reliable, secure, and diverse energy supplies. The 2015 *Integrated Energy Policy Report*, required under SB 1389, was released to the public in February 2016.

Assembly Bill 2076, Reducing Dependence on Petroleum

The CEC and California Air Resources Board (CARB) are directed by Assembly Bill (AB) 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15 percent less than 2003 demand by 2020.

Senate Bill 375—Sustainable Communities Strategy

SB 375 was adopted with a goal of reducing greenhouse gas (GHG) emissions from cars and light trucks. Each metropolitan planning organization (MPO) across California is required to develop a sustainable communities strategy (SCS) as part of its regional transportation plan (RTP) to meet the region's GHG emissions reduction target. The 2016–2040 RTP/SCS prepared by the Southern California Association of Governments (SCAG) includes commitments to reduce emissions from transportation sources to comply with SB 375. Please refer to Chapter 3.6*, Greenhouse Gas Emissions*, for additional information on SB 375.

3.15.1.3 Local

The City of Los Angeles (City) General Plan Framework Element, Chapter 9, *Infrastructure and Public Services*, contains the following goals and policies relevant to the Project:

Goal 9M

A supply of electricity that is adequate to meet the needs of Los Angeles Department of Water and Power electric customers located within Los Angeles.

Objective 9.26

Monitor and forecast the electricity power needs of Los Angeles' residents, industries, and businesses.

Policy 9.26.1

The Los Angeles Department of Water and Power (LADWP) shall continue to monitor and forecast its customers' peak load on its system and identify which parts of the system should be upgraded to accommodate expected growth.

Objective 9.27

Continue to ensure that all electric power customers will receive a dependable supply of electricity at competitive rates.

Policy 9.27.1

The LADWP shall continue to generate or purchase electric power to serve its customers.

Objective 9.28

Provide adequate power supply transmission and distribution facilities to accommodate existing uses and projected growth.

Policy 9.28.1

The LADWP shall continue to plan its power supply capability far enough in advance to ensure that it has available capacity to meet customer demand before it is needed.

Policy 9.28.2

The LADWP shall continue to ensure that the City's transmission and distribution system is able to accommodate future peak electric demand for its customers.

Policy 9.28.3

The LADWP shall continue to advise the Planning and Building and Safety Departments of any construction project that would overload a part of the distribution system during a period of peak demand.

Objective 9.29

Provide electricity in a manner that demonstrates a commitment to environmental principals, ensures maximum customer value, and is consistent with industry standards.

Policy 9.29.1

Develop and deliver services to attract, assist, and retain industries and businesses in Los Angeles.

Policy 9.29.2

Promote the responsible use of natural resources, consistent with City environmental policies.

3.15.2 Environmental Setting

3.15.2.1 Electricity

Existing power and electrical services to Project area are provided by the LADWP, which supplies more than 26 million megawatt hours (MWh) of electricity per year for its 1.4 million residential and business customers (Los Angeles Department of Water and Power 2018). As of 2016, LADWP has more than 7,880 MWh of generation capacity. It is responsible for the maintenance of approximately 10,000 miles of overhead distribution lines and underground distribution cables and 15,452 transmission towers. They also maintain 160 distributing stations, 21 receiving stations, and over 50,000 substructures. Of LADWP's total power resources, about 29 percent are from renewable sources, 34 percent from natural gas, 9 percent from nuclear, and 19 percent from coal. About 70 percent of the electricity in the City is consumed by business and industry, with the remaining 30 percent of residents averaging about 500 kilowatt hours of usage per month.

LADWP also prepares energy forecasts as a part of their Power Integrated Resource Plan (PIRP). LADWP's Load Forecast incorporates updates to reflect the latest load forecast, fuel price and projected renewable price forecasts, and other numerous modeling assumptions. The most recent PIRP from 2016 projects out to Fiscal Year 2039/40. The growth in annual peak demand over the next 10 years is predicted to be about 0.9 percent, approximately 50 megawatts (MW) per year. A summary table of the projected net energy demand for its service area through 2040 are shown in Table 3.15-1.

Table 3.15-1. LADWP Projected Energy Demand through 2040

Demand Forecast	Year		
	2020	2030	2040
Yearly Demand	23,098 GW[a]	27,170 GW	31,301 GW
Peak Daily Demand	5,707 MW	6,507 MW	7,321 MW

Source: Los Angeles Department of Water and Power Integrated Resources Plan, 2016.
[a.] 1 gigawatt (GW) = 1000 MW.

California has a diverse portfolio of energy resources. The state ranked fourth in the nation in conventional hydroelectric generation and first in the nation for net electricity generation from renewable resources. Other energy sources in the state include natural gas, nuclear, and biofuels (U.S. Energy Information Administration 2017).

Energy efficiency efforts have dramatically reduced statewide per capita energy consumption relative to historical averages. According to the U.S. Energy Information Administration, California consumed approximately 7,830 trillion British thermal units (BTUs) of energy in 2016. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is amongst the lowest in the country, with 199 million BTUs in 2016, ranking California 48th among all states in the country. Natural gas accounted for the majority of energy consumption (32 percent), followed by gasoline (22 percent), distillates and jet fuel (14 percent), interstate electricity (11 percent), nuclear and hydroelectric power (6 percent), and a variety of other sources (U.S. Energy Information Administration 2017). The transportation sector consumed the most energy (38.5 percent), followed by the industrial and commercial sectors (California Energy Commission 2016a).

California's per capita energy consumption, in general, is declining because of improvements in energy efficiency and designs. However, despite this reduction in per capita energy use, the state's overall (i.e., non-per capita) energy consumption is expected to increase over the next several decades because of growth in the population, jobs, and demand for vehicle travel. Electricity usage is anticipated to grow about 26 percent over the next two decades, and diesel fuel consumption may increase by 35 percent to 42 percent over that same time period. Gasoline usage, however, is expected to decrease by 8.5 percent to 11.3 percent. This decrease would largely be a result of high fuel prices, efficiency gains, and competing fuel technologies (California Energy Commission 2016a).

Locally, LADWP is committed to a renewable energy policy that seeks to supply 100 percent renewable energy by 2045 to the utility's customers. LADWP has a diverse power production portfolio, which consists of a variety of renewable and non-renewable sources. As of 2017, LADWP received 30 percent of its power from renewable sources, primarily wind and biomass/waste. Energy production from hydroelectric source (2 percent of LADWP's mix) typically varies by season and by year, depending on hydrologic conditions. Regional electricity loads also tend to be higher in the summer because high summer temperatures drive increased demand for air-conditioning. Los Angeles County consumes a relatively large portion of the state's overall energy. LADWP's electricity consumption is approximately 8.8 percent of the statewide total (California Energy Commission 2016).

The "urban heat island effect" also contributes to the amount of energy consumed in the City. The United States Environmental Protection Agency (U.S. EPA) provides the following definition of "heat island" and describes how it impacts energy:

> "The term 'heat island' describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a City with 1 million people or more can be 1.8°F to 5.4°F (1°C to 3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality" (United States Environmental Protection Agency 2018a).

As described above, the urban heat island effect contributes to energy demand due to increases in the use of air conditioning during warmer weather. According to *Energy-Saving Potentials and Air Quality Benefits of Urban Heat Island Mitigation*, an urban heat island report cited by the U.S. EPA, electricity demand for cooling increases 1.5 to 2.0 percent for every 1° Fahrenheit (F) increase in air temperatures, starting from 68°F to 77°F, suggesting that 5 to 10 percent of community-wide demand for electricity is used to compensate for the heat island effect (Akbari 2005). During extreme heat events, which are exacerbated by urban heat islands, the resulting demand for cooling can overload electric systems and require a utility to institute controlled, rolling brownouts or blackouts to avoid power outages.

The urban heat island effect is relevant to the Project because the street trees help reduce the urban heat island effect. Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration, which is the process by which water is transferred from the land to the atmosphere by evaporation from plants. Shaded surfaces, for example, may be 20°F to 45°F cooler than the peak temperatures of unshaded materials. Evapotranspiration, alone or in combination with shading, can help reduce peak summer temperatures by 2°F to 9°F (U.S. Environmental Protection Agency 2018c). A simple way to cool cities is to plant urban vegetation. On a large scale, the evapotranspiration from vegetation will cool a community a few degrees in the summer. The 2005 Akbari study stated that computer simulations for Los Angeles show that planting three trees per house can cool down the City by an average of 2°F to 3°F. The City is implementing an alternative materials pilot program that began in late 2017 to evaluate the effectiveness of cool pavement technologies and inform future decisions related to reducing the urban heat island effect throughout the City (City 2018). See Chapter 3.9, *Land Use and Planning*, for additional information on alternative materials. Also, see Chapter 3.6, *Greenhouse Gas Emissions*, for additional discussion of the urban heat island effect.

3.15.2.2 Transportation Fuels

In California, the transportation sector is the state's largest energy-consumer, due to high demand from California's many motorists, major airports, and military bases. The majority of transportation energy is currently derived from a wide variety of petroleum products. Automobiles and trucks consume gasoline and diesel fuel. The transportation sector consumes relatively minor amounts of natural gas or electricity, but propelled mainly by air quality laws and regulations, technological innovations in transportation are expected to increasingly rely on compressed natural gas and electricity as energy sources. Energy consumption by on-road motor vehicles reflects the types and numbers of vehicles, the extent of their use (typically described in terms of vehicle miles traveled [VMT]), and their fuel economy (typically described in terms of miles per gallon [mpg]).

Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 and 12.7 billion gallons in 2030, a reduction of 20 to 22 percent (California Energy Commission 2017). This decline is due to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (United States Environmental Protection Agency 2018b).

3.15.3 Environmental Impact Analysis

3.15.3.1 Approach

The energy analysis for the Project evaluated the following sources of energy consumption associated with the project:

- Short-term construction—gasoline and diesel consumed by vehicles and construction equipment.
- Operational on-road vehicles—BTUs associated with gasoline and diesel consumed by watering and inspection vehicles.
- Increased demand for power, heating, and cooling—electricity consumed as a result of the urban heat island effect.

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. California is the most populous state in the nation and its total energy demand is second only to Texas (United States Energy Information Administration 2012).

Continuation of the construction and operational maintenance activities from the Project would result in energy consumption through gasoline and diesel fuel use. Annual transportation fuel consumption during the operational activities of the Project was quantified by totaling the estimated gasoline required for maintenance of the sidewalk repair sites. Electricity would not be consumed for either construction or operation/maintenance activities. Removal of street trees could result in increased cooling costs from a temporary loss of the street tree canopy until no net loss in the street tree canopy is achieved (see Chapter 3.3 *Biological Resources*). It is important to note that street trees are expected to be replaced at a 2:1 ratio for the first 10 years, at a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the Project. Hence, there is a gain in canopy size that would occur. Annual electricity consumption required for the Project as a result of the loss of the street tree canopy cannot be quantified because of the variable nature of street tree growth, but it is qualitatively evaluated by describing the estimated period of net loss in the street tree canopy and discussing potential associated increase in cooling costs in Section 3.15.3.4, *Construction Impacts*. The estimated period of net gain in the street tree canopy and the potential associated beneficial decrease in cooling costs are also described. For consumption of transportation fuels, analysts combined the estimated gasoline and diesel fuel use associated with the use of construction equipment, haul trucks, and vehicles used for worker commutes.

The estimated amount of transportation fuel consumed under the Project is based on air quality assumptions and associated projections provided in Chapter 3.2*, Air Quality,*[1] which provides estimates both in the form of gallons of transportation fuel consumed per year and pounds (or kilograms) of carbon dioxide emitted per year. For the purpose of energy analysis, estimates provided in gallons of gasoline consumed per year were used directly. Estimates provided in pounds of carbon dioxide per year were converted into gallons of transportation fuel per year by using a factor of 22.5 pounds of carbon dioxide per gallon of diesel fuel and 19.4 pounds of carbon dioxide per gallon of gasoline (The Climate Registry 2017). Appendix L*, Energy Calculations,* of this document provides the detailed data assumptions and calculations used to determine the total estimated amount of energy consumed during construction and operation of the Project. Furthermore, because construction and operation of the Project would occur simultaneously and be ongoing over its lifetime, the Project's potential impacts on energy consumption are also assessed by including aggregate estimates that consider the demand/consumption associated with both construction (for both scenarios) and operation. This approach provides overall consumption estimates (for the lifetime of the Project) for transportation fuels; there would be no consumption of electricity during construction and, therefore, only transportation fuels are considered on an aggregate basis.

3.15.3.2 Project Design Features

No project design features associated with energy resources are anticipated.

3.15.3.3 Thresholds of Significance

The following significance criteria discussion is based on Appendix G of the CEQA Guidelines and City-specific guidelines, including the City's 2006 *L.A. CEQA Thresholds Guide*, and provide the basis for determining significance of impacts associated with energy impacts resulting from the Project. The determination of whether an energy 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.

For energy impacts, the Appendix G sample questions ask the following:

VI.a) Would the project result in potentially significant environment impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

VI.b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed in Section 3.8.1, *Regulatory Setting*, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing the wasteful and inefficient use of energy). Therefore, for the purposes of this analysis, *wasteful*, *inefficient*, or *unnecessary* are defined as circumstances in which the Project would conflict with applicable state or local energy legislation, policies, and standards or result in increased per capita energy consumption. Accordingly, inconsistency with legislation, policies, or standards designed to avoid wasteful, inefficient, and

[1] See Chapter 3.2*, Air Quality* for a detailed description of the approach used to create the assumptions and associated projections of carbon dioxide emissions and fuel consumption associated with the Project that inform the fuel consumption estimates used herein.

unnecessary energy usage, as well as increased per capita energy consumption relative to the current citywide average, is used to evaluate whether the Project would result in a significant impact related to energy resources and conservation.

In addition, Appendix F of the CEQA Guidelines states that the means for achieving the goal of energy conservation include the following:

1. Decreasing overall per capita energy consumption.
2. Decreasing reliance on fossil fuels such as coal, natural gas, and oil.
3. Increasing reliance on renewable energy sources.

The *L.A. CEQA Thresholds Guide* provides further guidance for determining the significance of impacts on energy. Based on the *L.A. CEQA Thresholds Guide*, a determination of impacts on energy would be made by considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure or capacity-enhancing alterations to existing facilities.
- Whether and when the needed infrastructure was anticipated by adopted plans.
- The degree to which the project designs and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Therefore, for the purposes of this Draft EIR, and consistent with Appendix F and Appendix G of the CEQA Guidelines, as well as the *L.A. CEQA Thresholds Guide*, the Project would have a significant environmental impact on energy resources if the following were to occur:

- **EN-1:** Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy? *Appendix G of the CEQA Guidelines* and the *L.A. CEQA Thresholds Guide*.

3.15.3.4 Construction Impacts

EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?

This impact would be less than significant during construction.

Electricity Consumption

Construction activities under the Project would not require the consumption of electricity. Although electric compressors and concrete vibrators would be used for sidewalk repair, a diesel-powered generator would produce the electricity required to operate these pieces of equipment.

While construction activities under the Project would not require direct consumption of electricity, the required removal of street trees under the Project could indirectly increase electricity consumption due to the urban heat island effect. As described in Section 3.15.2.1, *Electricity*, an urban heat island describes developed areas that are hotter than rural areas. The majority of the City is highly developed, such as the neighborhoods of Koreatown, Echo Park, and Westlake. One contributor to the urban heat island heat is denuded landscape. The Project would result in the removal of up to 12,860 street trees over the lifespan of the Project, but would plant up to 30,405 street trees, resulting in an overall net gain of 128 acres in the street tree canopy beginning in year 30 of the Project and continuing beyond year 30. In each 5-year construction increment, more street trees would be planted than removed; however, if the street trees removed are mature, there would be a short-term loss of street tree canopy until the replacement street trees reach maturity. At the site of each individual street tree removal, the replacement street tree will reach maturity in 15 years, as noted in Chapter 3.3, *Biological Resources*. With the replacement of street trees at either a 2:1 or 3:1 ratio under the Project, the replacement street trees will result in a localized increase in the street canopy after maturity. Therefore, the Project could contribute to the Los Angeles urban heat island and increased temperatures in the City temporarily.

An energy utility's planning regarding the energy needs of its service territory relies on local and regional development plans. This dynamic process is subject to regulatory oversight by the Public Utility Commission (PUC). Every two years, through *Long-Term Procurement Plan* proceedings, the PUC assesses the system and local resource needs of the state's three investor-owned utilities over a 10-year horizon.[2] The PUC establishes upfront standards for utility procurement and cost recovery by reviewing and approving proposed procurement plans prior to their implementation. Integral to this process is the utility demand forecast, which is subject to review by the CEC and used in its Integrated Energy Policy Report.[3] To ensure consistency with approved plans, the PUC conducts annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. This continual planning process ensures that the local energy requirements for a region, both current and planned, will be accommodated by the local utility. Consequently, it is anticipated that the Project would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity.

In addition, the Project would not impede the local utility's ability to meet the Project's peak- and base-period demand for electricity and other forms of energy. As described in Section 3.15.2.1, peak energy demand, including demand of electricity, increases as a result of increased temperatures. Therefore, the Project may indirectly contribute to a localized increase in electricity consumption until there is a no net loss in street tree canopy, which is anticipated by year 30 of the Project. The amount the Project would contribute to increased energy use for cooling is indeterminable due to the complexity of the urban heat island effect and the many factors that contribute to it. It is unlikely that this increased electricity demand would be large enough to affect local and regional electricity supplies so that additional capacity or infrastructure would be required to meet increased demand. When the City experiences a net gain in street tree canopy by year 30, the effect on the urban heat island would decrease. The gain in canopy size would contribute to reduced electricity costs for cooling Citywide over the long term. The Project would not result in the wasteful, inefficient, or unnecessary consumption of energy. There would be a less-than-significant impact related to electricity consumption.

Transportation Fuel Consumption

During the construction scenarios, the following activities would require the consumption of transportation fuel: use of heavy-duty construction equipment; worker trips to and from construction sites; material delivery and disposal trips; and loading demolition debris into trucks.

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[2] The PUC issues key Long-Term Procurement Plan decisions on planning assumptions and scenarios.

[3] Pursuant to law (SB 1389, Bowen and Sher, Chapter 568, Statutes of 2002), the California Energy Commission is required to assess and forecast all aspects of energy supply, production, transportation, delivery and distribution, demand, and prices. The California Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety (Public Resources Code Section 25301(a)).

The anticipated consumption of transportation fuel required for the continuing construction activities from the Project is approximately 148,705 gallons of transportation fuel (gasoline and diesel) per year during peak construction activity, as shown in Appendix L, *Energy Calculations*. This would total approximately 3.3 million gallons, or 418,456 BTUs, of transportation fuel for construction over the 30-year lifetime of the Project. As stated in Section 3.15.2.3, the California Energy Commission estimates that the overall consumption of transportation fuel in California was 15.8 billion gallons in 2017 and would be between 12.3 and 12.7 billion gallons by 2030. The City would use a fleet of fuel-efficient vehicles for all work that would be required under the Project, which would reduce the demand for transportation fuels. Therefore, the Project would not result in a wasteful, inefficient, and unnecessary usage of energy; result in a substantial increase in energy demand that would affect local or regional energy supplies; or require additional capacity or infrastructure to meet an increased demand. As a result, transportation fuel impacts would be less than significant.

Mitigation Measures

No mitigation is required for construction impacts.

3.15.3.5 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.

EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?

This impact would be less than significant during operation.

Electricity Consumption

Operational activities from the Project include watering and inspecting the street trees that are newly planted during sidewalk repair and the only energy used would be in the form of transportation fuel would be used. Impacts associated with potential increased costs are discussed in Section 3.15.3.4, *Construction Impacts*. As noted, the Project would result in the removal of up to 12,860 street trees over the 30-year lifespan of the Project, but would plant up to 30,405 street trees, resulting in an overall net gain of approximately 128 acres in the street tree canopy beginning in year 30 of the Project and continuing beyond year 30. Therefore, in the long term, the Project would contribute to reducing citywide temperatures and electricity consumption.

Transportation Fuel Consumption

Other vehicles used for street tree watering and inspections could result in the consumption of gasoline and/or diesel fuel. The anticipated consumption of transportation fuel during operational activities from the Project is approximately 10,623 gallons of transportation fuel per year, as shown in Appendix L, *Energy Calculations*. This would total approximately 318,690 gallons of transportation fuel, or approximately 41,280 BTUs, for operation over the 30-year lifetime of the Project. As stated in Section 3.15.2.3, the California Energy Commission estimates that the overall consumption of transportation fuel in California was 15.8 billion gallons in 2017 and between 12.3 and 12.7 billion gallons by 2030. The City would use a fleet of fuel-efficient vehicles for all work that would be required under the Project. As a result, transportation fuel impacts during the operational activities from the Project would be less than significant.

Therefore, the Project would not result in the wasteful, inefficient, and unnecessary usage of energy or a substantial increase in energy demand that would affect local or regional energy supplies.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.15.3.6 Summary of Combined Construction and Operational Impacts

Construction and operation would occur over the lifetime of the Project simultaneously at various times and locations. Table 3.15-2 provides a summary of the potential impacts of the Project regarding the consumption of transportation fuels on an aggregate basis, combining the effects of both construction and operation. Based on the analysis in the chart, combined construction and operational impacts from the Project would be less than significant.

Mitigation Measures

No mitigation measures related to combined construction and operational impacts are required.

3.15.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to energy would occur.

Table 3.15-2. Summary of Construction plus Operations Impacts

Threshold of Significance	Construction Scenarios 1 and 2	Operation	Aggregate Impacts
EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?	Construction Scenarios 1 and 2 would result in the consumption of 148,705 gallons of transportation fuel (gasoline and diesel) per year, approximately 3.3 million gallons of transportation fuel over the lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies.	Operational activities would result in the consumption of 10,623 gallons of transportation fuel per year, 318,690 gallons of transportation fuel over the 30-year lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies.	Construction and operation would result in consumption of a total of 159,328 gallons of transportation fuel per year, 3.7 million gallons over the 30-year lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies. The impact would be less than significant.

Source: ICF 2019.

3.16 Wildfire Hazards

3.16.1 Introduction

This chapter addresses potential wildfire impacts that may result from the proposed Project (Project). The following discussion addresses existing wildfire hazard conditions of the Project area and construction site surroundings, considers applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from the Project, as applicable.

3.16.2 Regulatory Setting

3.16.2.1 Federal

Federal Wildland Fire Management Policy

The 1995 Federal Wildland Fire Management Report produced the first single comprehensive federal fire policy for the Departments of the Interior and Agriculture. That review was stimulated by the 1994 fire season with its 34 fatalities and growing recognition of fire problems caused by fuel accumulation. The resulting 1995 Federal Fire Policy recognized, for the first time, the essential role of fire in maintaining natural systems

In the aftermath of the escape of the Cerro Grande Prescribed Fire in May of 2000, the Secretaries of the Interior and Agriculture requested a review of the 1995 Federal Fire Policy and its implementation.

The 2001 Federal Fire Policy and its implementation are founded on the following Guiding Principles:

- Firefighter and public safety is the first priority in every fire management activity.
- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
- Fire management plans, programs, and activities support land and resource management plans and their implementation.
- Sound risk management is a foundation for all fire management activities.
- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
- Fire management plans and activities are based upon the best available science.
- Fire management plans and activities incorporate public health and environmental quality considerations.
- Federal, State, tribal, local, interagency, and international coordination and cooperation are essential.
- Standardization of policies and procedures among federal agencies is an ongoing objective.

3.16.2.2 State

California Department of Forestry and Fire Protection (Cal Fire)

Cal Fire protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. Cal Fire's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year (Cal Fire 2012). The Office of the State Fire Marshal supports Cal Fire's mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including by regulating buildings in which people live, congregate, or are confined; by controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; by providing statewide direction for fire prevention in wildland areas; by regulating hazardous liquid pipelines; by reviewing regulations and building standards; and by providing training and education in fire protection methods and responsibilities.

2018 Strategic Fire Plan for California

2018 Strategic Fire Plan for California (2018 Plan) is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection.

In 2018, the Board of Forestry and Fire Protection adopted a new strategic fire plan to update and address fire concerns in California. The Board has adopted fire plans since the 1930s and periodically updates them to reflect current and anticipated needs. Over time, as the environmental, social, and economic landscape of California's wildlands has changed, the Board has evolved the Strategic Fire Plan to better respond to these changes and to provide the Cal Fire with appropriate guidance "…for adequate statewide fire protection of state responsibility areas." (Public Resources Code (PRC) Section 4130). The 2018 Plan calls for a natural environment that is more fire resilient; buildings and infrastructure that are more fire resistant; and a society that is more aware of and responsive to the benefits and threats of wildland fire; all achieved through local, state, federal, tribal, and private partnerships.

The goals that are critical to achieving the 2018 Plan's vision revolve around fire prevention, natural resource management, and fire suppression efforts, as broadly construed. Major components are:

- Improve the availability and use of consistent, shared information on hazard and risk assessment;
- Promote the role of local planning processes, including general plans, new development, and existing developments, and recognize individual landowner/homeowner responsibilities;
- Foster a shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as Community Wildfire Protection Plans (CWPP);
- Increase awareness and actions to improve fire resistance of man-made assets at risk and fire resilience of wildland environments through natural resource management;
- Integrate implementation of fire and vegetative fuels management practices consistent with the priorities of landowners or managers;
- Determine and seek the needed level of resources for fire prevention, natural resource management, fire suppression, and related services; and
- Implement needed assessments and actions for post-fire protection and recovery.

California Public Resources Code

Fire Hazard Severity Zones – Public Resources Code Sections 4201–4204

PRC Sections 4201–4204, directed Cal Fire to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as fire hazard severity zones (FHSZ), define the application of various mitigation strategies to reduce risk associated with wildland fires. Since the Project takes place throughout the City of Los Angeles (City), the construction sites may be located in Local Responsibility Areas (LRAs).

Very High Fire Hazard Severity Zones - Government Code Sections 51175–89

In 1992, Government Code Sections 51175–51189 established the classification for very high fire hazard severity based on fuel loading, terrain, weather, and other relevant factors identified by Cal Fire as major causes of wildfire spread and on the severity of fire hazard that is expected to prevail in those areas. The code established the requirements for those that maintain an occupied dwelling within a designated very high fire hazard severity zone (VHFHSZ). The VHFHSZs define the application of mitigation measures to reduce risk associated with uncontrolled wildfires and require that the measures be taken. Local agency designates the VHFHSZs within its jurisdiction as required by Cal Fire. Where local fire protection agencies, such as the LAFD, are responsible for wildfire protection, the land is classified as a LRA. Hence, the VHFHSZ in the City are classified as such under LRA.

Senate Bill 1241

In 2012, Senate Bill 1241 added Section 66474.02 to Title 7 Division 2 of the California Government Code, commonly known as the Subdivision Map Act. The statute prohibits subdivision of parcels designated very high fire hazard, or that are in a State Responsibility Area (SRA) unless certain findings are made prior to approval of the tentative map. The statute requires that a city or county planning commission make three new findings regarding fire hazard safety before approving a subdivision proposal. The three findings are, in brief: (1) the design and location of the subdivision and its lots are consistent with defensible space regulations found in PRC Section 4290-91, (2) structural fire protection services will be available for the subdivision through a publicly funded entity, and (3) ingress and egress road standards for fire equipment are met per any applicable local ordinance and PRC Section 4290.

Fire Safe Development Regulations

In 1991, the Fire Safe Development Regulations were developed to implement PRC Section 4290 and stipulate minimum requirements for building construction in SRAs. These regulations address ingress and egress (road widths, turnouts, etc.), building and street sign visibility, emergency water standards, and fuel modification. In June 2012, Cal Fire and the Board of Forestry and Fire Protection formed a workgroup to revise the Fire Safe Development Regulations. Changes to the regulations were effective January 1, 2016. This workgroup was re-engaged in 2017 to align the update timeline for the Fire Safe Regulations with the triennial California Fire Code cycle. The workgroup has been reviewing the existing regulations based on feedback received from the 2016 updates to reduce inconsistencies and improve clarity. These changes are anticipated to be effective with the 2020 California Fire Code on January 1, 2020.

California Building Code and Fire Code

The California Code of Regulations (CCR), Title 24, is a compilation of building standards, including fire safety standards for residential and commercial buildings. The California Building Code standards serve as the basis for the design and construction of buildings in California. The California Fire Code is a component of the California Building Code. Typical fire safety requirements of the California Fire Code include: the installation of sprinklers in all high-rise buildings; the establishment of fire resistance standards for fire doors, building materials, and particular types of construction; and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas. The California Fire Code applies to all occupancies in California, except where more stringent standards have been adopted by local agencies. Specific California Fire Code regulations have been incorporated by reference, with amendments, in the Los Angeles Building Code, Fire Safety Regulations.

3.16.2.3 Local

City of Los Angeles Municipal Code

The City Municipal Code (LAMC) contains 18 chapters, including a Public Safety and Protection (Chapter 5) (City of Los Angeles 2013). Article 2, in Chapter 5 of LAMC, titled Police and Special Officers, contains regulations governing administrative issues, such as requirements for police badges and uniforms, and Article 7, titled Fire Protection and Prevention, contains the fire code for the City. The City Fire Code (Fire Code) in Section 57 et al. of the LAMC, prescribes laws that may be enforced by the LAFD to help safeguard life and property from fire, explosion, panic, or other hazardous conditions that may arise in the City. The Fire Code includes information pertaining to administrative issues, such as the requirements for filling out and submitting Hazardous Materials Release Response Plans and Inventory Statements, and technical requirements associated with the storage, management, and disposal of hazardous materials, such as underground chemical storage tanks, asbestos-containing materials/asbestos-containing building material, and various other combustible and flammable materials.

The Fire Code also includes mandates from the State of California's Fire Code. VHFHSZs are lands designated by the LAFD pursuant to Government Code 51178 that were identified and recommended to local agencies by the Director of Forestry and Fire Protection based on criteria that includes fuel loading, slope, fire weather, and other relevant factors. These areas must comply with the Brush Clearance Requirements of the Fire Code Section. VHFHSZs were first established in the City in 1999 and replaced the older "Mountain Fire District" and "Buffer Zone."

Brush Clearance Requirements

California has seen an increase in frequency and size of wildfires, including historic brushfires in the City such as the La Tuna, Creek, and Skirball fires. Additionally, smaller brushfires have been accidentally started by well-intentioned residents performing brush clearance. On October 17, 2018, Los Angeles City Council adopted Ordinance No. 185789. This Ordinance addresses Section 57.305.5.2 and 57.332.1, 57.322.1.1.10 and 57.322.1.1.10.1 and amended Section 57.322.1.1 to Article 7, Chapter V of the LAMC. Through the Ordinance, the new and amended sections of the LAMC prohibit the use of certain metal cutting blades for brush clearance activities in VHFHSZs, and establish specific requirements, and penalties for violations for brush clearance activities. The applicable requirements (from each LAMC section) for brush clearing activities in the VHFHSZ are listed as project design features of this Project in Section 3.16.4.2 below.

City of Los Angeles General Plan Framework Element

The City General Plan Framework Element (Framework), adopted in December 1996 and readopted in August 2001, provides a comprehensive, long-range strategy for accommodating long-term growth in the City. The Infrastructure and Public Services chapter of the Framework sets forth goals, objectives, and policies for fire protection and emergency medical services (EMS) in the City. The objectives and policies in the Infrastructure and Public Services chapter ensure that every neighborhood has the necessary level of fire protection service, EMS, and infrastructure. Under the Framework, the City standard for response distance from the fire station to the destination location is 1.5 miles (City of Los Angeles 1995), which is consistent with the specifications for response distances in LAMC.

City of Los Angeles General Plan Safety Element

The City General Plan Safety Element recognizes that most jurisdictions rely on emergency personnel (police, fire, gas, and water) to respond to and handle emergencies.

The Safety Element of the City General Plan sets forth specific policies and objectives related to safety. These policies and objectives emphasize hazard mitigation, emergency response, and disaster recovery. The Safety Element serves as a guide for the construction, maintenance, and operation of fire protection facilities in the City. It sets forth policies and standards for fire station distribution and location, fire suppression water flow (or “fire flow”), firefighting equipment access, emergency ambulance services, and fire prevention activities. Population density, nature of on-site land uses, and traffic flow are also considered by LAFD in evaluating the adequacy of fire protection services throughout the City.

City of Los Angeles Emergency Operations Organization and Hazard Mitigation Plan

The Department of Emergency Operations Organization (EOO) within the City is responsible for the City's emergency preparations (planning, training and mitigation), response and recovery operations. The EOO is comprised of all agencies of the City's government and centralizes command and information coordination to enable its unified chain-of-command to operate efficiently and effectively in managing the City's resources.

The City 2018 Hazard Mitigation Plan (HMP), which is prepared to lessen the vulnerability to disasters and to reduce risks from natural hazards. An HMP serves as a guide for decision makers as they commit City resources to minimize the effects of natural hazards. The HMP integrates with existing planning mechanisms such as building and zoning regulations, long-range planning mechanisms, and environmental planning. The planning process includes conducting a thorough hazard vulnerability analysis, creating community disaster mitigation priorities, and developing subsequent mitigation strategies and projects.

Los Angeles Fire Department Strategic Plan 2018-2020

The LAFD Strategic Plan 2018-2020, A Safer City 2.0, is the next generation of the first ever LAFD Strategic Plan. A Safer City 2.0 focuses on five goals to guide the LAFD in the next three years:[1]

1. Provide Exceptional Public Safety and Emergency Service,
2. Embrace a Healthy, Safe and Productive Work Environment,
3. Capitalize on Advanced Technology
4. Enhance LAFD Sustainability & Community Resiliency,
5. Increase Opportunities for Personal Growth and Professional Development.

The LAFD provides fire prevention, firefighting, medical care, technical rescue, hazardous materials mitigation, disaster response, public education, and community services to approximately 3.9 million people (U.S. Census Bureau 2016) in the City. LAFD comprises of 3,246 uniformed fire personnel and 353 professional support personnel (Los Angeles Fire Department 2018). LAFD currently operates 114 fire stations which house emergency response personnel and equipment. The LAFD addresses fire emergencies (e.g., structural, vegetation, and automobile); medical aid emergencies (all chief complaints including vehicle accidents); special rescue emergencies (e.g., confined space rescue, trench rescue, low angle rescue, high angle rescue, and water rescue); hazardous materials incidents (including explosive devices and weapons of mass destruction); and mass disaster incidents (e.g., earthquakes, flooding, and wind).

3.16.3 Environmental Setting

A wildfire is a nonstructural fire that occurs in vegetative fuels, excluding prescribed fire. Wildfires can occur in undeveloped areas and spread to urban areas where the landscape and structures are not designed and maintained to be ignition resistant. A wildland-urban interface is an area where urban development is located in proximity to open space or "wildland" areas. The potential for wildland fires represents a hazard where development is adjacent to open space or within close proximity to wildland fuels or designated fire severity zones. The hot, arid climate of the City, especially during the summer and fall, can dry out vegetation and cause dry brush to be prone to fires caused by lightning strikes and spontaneous combustion. Steep hillsides and varied topography within portions of the City also contribute to the risk of wildland fires. Fires that occur in wildland-urban interface areas may affect natural resources as well as life and property.

Cal Fire has mapped areas of significant fire hazards in the state through its Fire and Resources Assessment Program (FRAP). These maps place areas of the state into different FHSZ based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban conflagration could result in catastrophic losses. As part of this mapping system, land where Cal Fire is responsible for wildland fire protection and generally located in unincorporated areas is classified as a SRA. This map is available at https://egis.fire.ca.gov/arcgis/rest/services/FRAP/SRA/MapServer. In addition to establishing local or state responsibility for wildfire protection in a specific area, Cal Fire identifies the VHFHSZ, and a city, by ordinance, designates areas as VHFHSZ or non-VHFHSZ within their jurisdiction. Where local fire protection agencies, such as the LAFD, are responsible for wildfire protection, the land is classified as a LRA. Hence, the VHFHSZ in the City are classified as such under LRA.

[1] http://www.lafd.org/about/about-lafd/strategic-plan

The City first established its VHFHSZ in the in 1999 which replaced the older "Mountain Fire District" and "Buffer Zone." The statewide VHFHSZ was carefully determined according to California Government Code, Sections 51175 through 51189, and thus, under the direction of Cal Fire, the City determined the VHFHSZ boundaries within its jurisdiction, as defined in LAMC Sections 57.4908.1.1 through 57.4908.1.3. The City VHFHSZ comprises most of the hilly and mountainous regions including portions of the following communities: Baldwin Hills, Bel Air Estates, Beverly Glen, Brentwood, Castellammare, Chatsworth, Eagle Rock, East Los Angeles, Echo Park, El Sereno, Encino, Glassell Park, Granada Hills, Hollywood, Lake View Terrace Los Angeles, Los Feliz, Montecito Heights, Monterey Hills, Mount Olympus, Mount Washington, Pacific Palisades, Pacoima, Palisades Highland, Porter Ranch, San Pedro, Shadow Hills, Sherman Oaks, Silver Lake, Studio City, Sunland, Sun Valley, Sylmar, Tarzana, Tujunga, West Hills, Westwood, Woodland Hills. The City VHFHSZ is widespread and thus, the possibility exists that sidewalk and curb ramp repair could occur within or adjacent to a VHFHSZ zones. The City VHFHSZs are identified in LAMC Section 57.4908.1.1, Figure 3.16-1.

3.16.4 Environmental Impact Analysis

3.16.4.1 Approach

The wildfire resource category was added to the Initial Study/Appendix G checklist of the California Environmental Quality Act (CEQA) Guidelines in December 2018 by the California Natural Resources Agency. The project design features and thresholds analysis are based on Section 3.16.2 *Regulatory Setting* and applicable laws and regulations as noted in the impact findings.

3.16.4.2 Project Design Features

PDF-WF-1: The Project Manager is responsible for compliance with applicable LAMC Fire Code Section 57 et seq. for construction sites on, adjacent to or in the immediate vicinity of a VHFHSZ as designated through LAMC Sections 57.4908.1.1 through 57.4908.1.3 and identified on City maintained databases such as NavigateLA and Zone information and Map Access System (ZIMAS) (which have digitalized LA General Plan and zoning maps).

PDF-WF-2: No person shall travel or trespass upon any firebreak or fire road as stated in Section 57.4908.8.2 of the LAMC.

PDF-WF-3: Pursuant to LAMC Section 57.4908.5 open flame is prohibited upon any road, street, or fire road with the VHFHSZ

PDF-WF-4: No smoking is allowed where conditions are such as to make smoking a hazard and in spaces where flammable or combustible materials are stored or handled per Section 310.2 of the California Fire Code. Further, it shall be unlawful for any person to light, ignite or smoke any cigar, cigarette, tobacco in a pipe or other form of smoldering substance within the VHFHSZ compliant with LAMC Section 57.4908.6. The Section also prohibits open flame upon any road, street, or fire road within the VHFHSZ.

PDF-WF-5: No person, except one authorized and acting within the scope of his official duties, shall remove, deface, mar, mutilate, or change the position of any sign, installed by the Chief pursuant to this article, designating "CLOSED AREA," "NO SMOKING," "NO OPEN FIRES," "RESTRICTED ENTRY," or other sign or device installed to give warning and to regulate persons' actions within the VHFHSZ as stated in Section 57.4908.9.1.

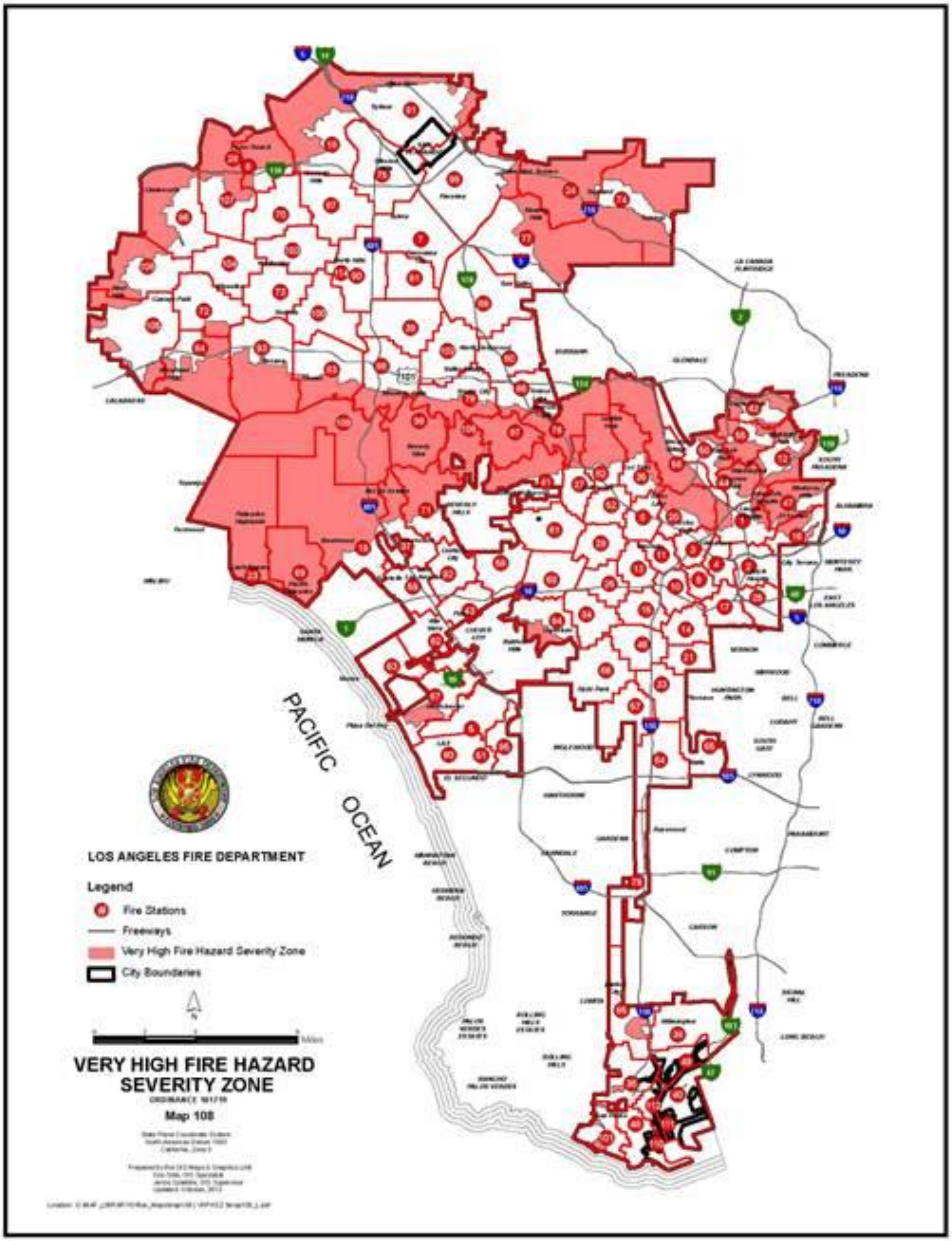

Figure 3.16-1. Very High Fire Hazard Severity Zone

PDF-WF-6: Pursuant to Ordinance No. 185789 which added Sections 57.305.5.2, 57.305.5.2.1, 57.322.1.1.10 and 57.322.1.1.10.1, and amended Section 57.322.1.1 to Article 7, Chapter V of the LAMC, the applicable requirements for brush clearing activities in the VHFHSZ would apply including, but not limited to:

- Use of metal cutting blades for grass or brush clearance shall be limited to those which are non-ferrous/non-sparking.
- Brush clearance cannot be done on red flag days, when fire weather conditions are at their peak.
- Individuals engaged in brush clearance operations shall not engage in any other activities during their actual clearance of grass or brush.
- Individuals engaged in grass or brush clearance operations shall use an appropriate extinguishing agent immediately to extinguish a fire.
- All fires, regardless of size, shall be reported immediately via the 9-1-1 system to the Fire Department.
- An approved fire extinguisher, or a pressurized garden hose with attached nozzle shall be within 10 feet of any grass or brush clearance operation, to quickly extinguish a small fire before it burns out of control.
- Where a gasoline container is present at the site of the grass or brush clearance operation, a minimum 4A 60 BC dry chemical fire extinguisher shall be within 10 feet of the brush clearance operation.
- A cell phone capable of dialing 9-1-1 shall be charged and readily accessible to the grass or brush clearance operation.
- A safety strap shall be used at all times for any tool or appliance with hot exhaust. Hot exhaust shall not come in contact with any brush, grass, flash fuels, or other flammable material.

3.16.4.3 Thresholds of Significance

The following new Appendix G questions identify factors to be considered for determining whether a project could have significant impacts related to wildfire hazards in a VHFHSZ or near or in an SRA. In these areas, would the project:

WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan? *Appendix G of the CEQA Guidelines.*

WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? *Appendix G of the CEQA Guidelines.*

WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? *Appendix G of the CEQA Guidelines*

WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? *Appendix G of the CEQA Guidelines.*

3.16.4.4 Construction Impacts

WF-1. If located in or near SRAs or lands classified as VHFHSZs, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

This impact would be less than significant during construction.

Cal Fire identifies the VHFHSZ, and a city, by ordinance, designates areas as VHFHSZ or non-VHFHSZ within their jurisdiction. See Figure 3.16-1 for areas within the City that are designated as a VHFHSZ. Where local fire protection agencies, such as the LAFD, are responsible for wildfire protection, the land is classified as a LRA. Therefore, the VHFHSZs in the City are classified as such under LRA. During construction and where feasible, staging would be adjacent to the sidewalk improvement activities. Therefore, staging areas could affect adjacent sidewalks and streets in front of construction areas. If this is the case, traffic control would be employed to re-route pedestrians around the sidewalk construction area and signage would be posted to direct pedestrians and drivers. As detailed in Chapter 3.12, *Transportation/Traffic*, construction managers and personnel would follow Work Area Traffic Control Handbook (WATCH) and/or Manual on Uniform Traffic Control Devices (MUTCD) guidelines to ensure the safety of vehicle, pedestrian, and bicycle traffic during re-routing. Adequate emergency access would be maintained during lane closures along major and secondary highways and collectors for a less-than-significant impact, and compliance with the WATCH manual guidelines would ensure a less-than-significant impact. If temporary lane closures are required for improvements, coordination with the Los Angeles Department of Transportation (LADOT) would be conducted for traffic control, signage, and coordination, as stated in PDF-TR-1. Potential impacts on emergency response or evacuation plans or routes would be less than significant.

During substantial utility relocation work, street closures for vehicle and pedestrian traffic may be required. However, access on roads would be available for emergency personnel, traffic control, signage, coordination LADOT (as appropriate) and implementation of WATCH and/or MUTCD guidelines would also take place. Furthermore, the California Hazardous Material Incident Contingency Plan (HMICP), developed by the State's Office of Emergency Services (OES), includes several different scenarios of emergency responses to reduce confusion, improve safety, organize and coordinate actions in case of major unforeseen circumstances. The HMICP is anticipated to be utilized by local governments to clarify agency roles and relationships concerning hazardous material emergencies, as stated in PDF-HAZ-2. Therefore, potential impacts on emergency response or evacuation plans or routes would be less than significant.

Mitigation Measures

No mitigation is required.

WF-2. If located in or near SRAs or lands classified as VHFHSZs, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Impacts would be less than significant during construction.

The Project consists of the continuation of sidewalk and curb ramps repair throughout the City. This work would require, in some areas, street tree removals and replacement, canopy pruning, or root pruning, as well as utility relocations. City maintained databases such as NavigateLA and ZIMAS (which have digitalized City General Plan and zoning maps) identify areas that are designated

VHFHSZ. This information is derived from planning documents such as City General Plan, specific plans, community plans, etc. and is now digitally available through geographic information systems. As can be noted, portions of the City are located within VHFHSZ zones as seen in Figure 3.16-1; thus, it is possible that construction activities could occur near or adjacent to such areas. However, as mentioned, the work would be on concrete sidewalks, curbs, gutters, ramps. Some infrastructure would be metal like maintenance hold lids, gutter grills, or utility pipes. Even though construction activities could occur on slope or in prevailing wind conditions, it would be on existing built environment like concrete and/or metal and/or street tree wells- none are flammable and it is not foreseeable that any of the work on such preexisting built environments would be performed near a flammable wildfire source such as to cause any exacerbation of wildfire risks. Thus, the impact would be less than significant. There are no occupant structures that would be part of the continuing repair activities from the Project. Compliance with the existing laws such as those in LAMC Fire Code Section 57 et seq. mentioned in PDF-WF-1 through PDF-WF-6, for construction sites on, adjacent to or in the immediate vicinity of a VHFHSZ, which would be reviewed and identified in NavigateLA and/or ZIMAS will avoid worker mishaps.

Although fire can be a potential threat in some areas of the City, the Project would not include housing or commercial development and would not draw a substantial amount of people during construction activities. The Project is not intended to change the use of the sidewalks. This work would require, in some areas, street tree removals and replacement, canopy pruning, or root pruning, as well as utility relocations. Minor utility relocation typically requires a trench of 36 inches deep as well as mini-excavators, staging areas for excavated soils, and a tamper rammer for compacting soils. Minor utility relocation could take a minimum average of approximately 5 days whereas, substantial utility relocation could take up to approximately 30 days. This may include utility relocation, 36- or 76-inch-deep trenching. As discussed in detail in Chapter 2, *Project Description*, the minor utility laterals such as gas and water service laterals may need to be encountered; or a utility cover may need to be replaced. Such activities do no exacerbate or reduce the wildfire risks. The brush clearance and compliance with the existing regulations mentioned in PDF-WF-1 through PDF-WF-6 would avoid the possibility of injury to people and a threat to the environment as a result of the construction activities from the sites located in or near SRAs or lands classified as VHFHSZ, or due to slope, prevailing winds, and other factors. The Project will result in a less-than-significant impact related to exacerbating wildfire risks, and would not affect the exposure of Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Mitigation Measures

No mitigation is required.

WF-3. If located in or near SRAs or lands classified as VHFHSZs, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?

This impact would be less than significant during construction.

As noted above in the discussion in WF-2, the Project would be limited to continuing activities to replace the existing affected sidewalks and streetscape. Other than the elements of the Project as discuss in Chapter 2, P*roject Description*, the Project would not require installation or maintenance infrastructure due to the Project site being located in a VHFHSZ. The Project components themselves, however, like substantial utility work in Scenario 2, may include catch basins, storm drain reconstruction, street sign relocation, or other overhead utility work, as detailed in the *Project Description*, in areas that are classified as VHFHSZ. Such work does not change the risk of the existing conditions of an area that is classified as a VHFHSZ. Compliance with established regulations and applicable laws such as those by the City General Plan's Safety Element, the Los Angeles County Fire Department, and in the LAMC, etc., as discussed in 3.16.2 *Regulatory Setting*, and the best management practices listed in PDF-WF-1 through PDF-WF-6 would reduce probability of worker injury, or threat to property or infrastructure. Therefore, the Project would not require the installation or maintenance of additional Project associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment

Mitigation Measures

No mitigation is required.

WF-4. If located in or near SRAs or lands classified as VHFHSZs, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

This impact would be less than significant during construction.

Cal Fire identifies the VHFHSZ, and a city, by ordinance, designates areas as VHFHSZ or non-VHFHSZ within their jurisdiction. See Figure 3.16-1 for areas within the City that are designated as a VHFHSZ. Where local fire protection agencies, such as the LAFD, are responsible for wildfire protection, the land is classified as a LRA. Therefore, the VHFHSZs in the City are classified as such under LRA.

Changes in street tree canopy due to street tree removal and replacement were modeled to determine the potential change to surface runoff, infiltration, and water quality within sidewalk areas. There would be no increase in impervious cover due to sidewalk repair activities because only the existing sidewalk would be replaced. Even though sidewalk replacements may involve minor widening of existing sidewalks in some locations to comply with applicable accessibility requirements, widening is anticipated to replace existing impervious surfaces and/or be offset by the widening of street tree wells from 4x4 to 4x6 consistent with the proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, such that there would be no net increase in impervious surfaces. Existing drainage patterns would be generally maintained by the Project.

The Project includes the continuation of repair and upgrading City owned-and-operated sidewalks and curb ramps in public areas throughout the City. This work would require, in some areas, street tree removals and replacement, canopy pruning, or root pruning, as well as utility relocations. Project implementation does not include any habitable structures. Implementation of the Project would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures

No mitigation is required.

3.16.4.5 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.

WF-1. If located in or near SRAs or lands classified as VHFHSZs, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

This impact would be less than significant during operation.

Operational activities from the Project includes street tree watering and inspection activities. These activities would be performed occasionally, on a small scale and within sidewalk footprints. Therefore, the Project would not hinder or impair any local emergency response or evacuation plan. Moreover, street tree watering and inspection activities do not feature permanent characteristics that could result in impacts on emergency response or evacuation in the area. Impacts would be less than significant.

WF-2. If located in or near SRAs or lands classified as VHFHSZs, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

This impact would be less than significant during operation.

It is possible that street tree watering and inspection activities consistent with the Project would be performed within or adjacent to Selected Wildfire Hazard Areas or VHFHSZ as shown in Figure 3.16-1. Compliance with the existing laws and applicable regulations state in PDF-WF-1 through PDF-WF-4 would that those watering and monitoring the street trees are not exposed to pollutant concentrations from a wildfire. Impacts would be less than significant.

WF-3. If located in or near SRAs or lands classified as VHFHSZs, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?

This impact would be less than significant during operation.

Operational activities from the Project would involve only street tree watering and inspection activities consistent with the Street Tree Retention, Removal and Replacement Policy and may take place in or near state responsibility areas or lands classified as VHFHSZs. Such work does not change the risk of the existing conditions of an area that is classified as a VHFHSZ. Therefore, the Project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment.

WF-4. If located in or near SRAs or lands classified as VHFHSZs, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

This impact would be less than significant during operation.

The Project would not include housing or commercial development. Operational activities from the Project would involve only street tree watering and inspection activities, which would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Existing drainage patterns would be generally maintained or repaired by the Project. Thus, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides resulting from runoff, post-fire slope instability, or drainage changes.

Mitigation Measures

No mitigation measures for operational activities are required.

3.16.5 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to wildfire impacts would occur.

Chapter 4
Cumulative Impacts

4.1 Introduction

Sections 15126 and 15130 of the State CEQA Guidelines provide that EIRs consider the significant environmental effects of a proposed project, as well as cumulative impacts. "Cumulative impacts" are two or more individual effects that, when considered together, are considerable or compound and increase other environmental impacts (CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and possible future projects producing related or cumulative impacts (CEQA Guidelines Section 15130[b][1][A]) or through a summary of projections adopted in a local, regional, or statewide plan (CEQA Guidelines Section 15130[B]).

An EIR is to focus the discussion on the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (CEQA Guidelines Section 15130). "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (CEQA Guidelines Section 15065[a][3]).

As set forth in the CEQA Guidelines (Section 15130[b]), the discussion of cumulative impacts must reflect the severity of the impacts, as well as the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. The analysis should be guided by the standards of practicality and reasonableness, and it should focus on the cumulative impacts to which the other identified projects contribute to the cumulative impact. "The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable."

Based on the foregoing direction, the analysis in this DEIR chapter provides:

- Long-range demographic forecasts based on adopted regional plans.
- A determination of whether the long-term impacts of all related past, present, and future plans and projects would cause a cumulatively significant impact.
- A determination as to whether implementation of the proposed project would have a "cumulatively considerable" contribution to any significant cumulative impact. (See CEQA Guidelines Sections 15130[a] and 15130[b], 15355[b], 15064[h], and 15065[c].)

The cumulative impacts analysis considers the long-term effects of a proposed project (i.e., over the 30-year implementation period of the Sidewalk Repair Program, in accordance with the City's obligations under the *Willits* settlement). These impacts may not be apparent in the near term but may evolve into beneficial or adverse impacts in the long term. The discussion of cumulative impacts is guided by standards of practicality and reasonableness. Beneficial impacts are also considered in this analysis of cumulative impacts. In the case of the proposed Project, beneficial impacts include those associated with improved sidewalks, access, and mobility or improvements to the environment.

4.2 Summary of Projections

There are two ways to address the question of which related actions should be considered in the context of past, present, and reasonably foreseeable actions when considered with the proposed Project. As stated above, State CEQA Guidelines Section 15130(b) allows the discussion to proceed along the lines of either a "list of past, present, and probable future projects producing related or cumulative impacts" or a "summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative impact. Such plans may include a general plan, a regional transportation plan, or plans for the reduction of greenhouse gas (GHG) emissions. A summary of projections may also be contained in an adopted or certified environmental document for such a plan."

For purposes of this EIR, the geographic boundary considered in the environmental analysis varies depending on the type of resource considered. For instance, impacts related to air quality would be regional because the emissions from construction and operation of the Project would not be restricted to the City. Consequently, the cumulative impact analysis considers environmental impacts within the air basin. GHG emissions, similarly, are cumulative and global in nature. Generally, however, the cumulative impacts analysis considers the geographic scope to include the City, and reflects consideration of whether the Project will cause a new significant cumulative impact or result in a cumulatively considerable contribution to a previously identified significant cumulative impact included in an adopted local, regional, or statewide plan. Therefore, the EIR uses the "summary of projections" methodology.

The cumulative impacts analysis for each resource area also considers impacts related to the general growth projected for the area as well as the policies and programs that are in place to protect, conserve, and improve environmental resources. The regional plans and programs for land use and mobility were consulted for planned future conditions. General plans prepared by the City and County, as well as the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP), provide information on trends as well as forecasts relevant to the cumulative impacts analysis for specific disciplines.

The discussion below describes the plans, programs, and projections as well as the context in which the proposed Project may contribute to potential cumulative impacts.

4.2.1 City of Los Angeles General Plan

As discussed in Chapter 3.9, Land Use, the City of Los Angeles General Plan is a comprehensive long-range declaration of purposes, policies, and programs for development of the City. The General Plan includes a Framework Element as well as several other elements that help to guide land use and planning decisions in the City. For purposes of the cumulative impacts analysis for the Project, the Framework Element and Mobility Plan 2035 are addressed herein.

4.2.1.1 Framework Element

The General Plan Framework Element (City of Los Angeles 2001) is a strategy for long-term growth that sets a citywide context for guiding updates to the community plan and citywide elements. The Framework Element does not mandate or encourage growth. Because population forecasts are estimates about the future and not an exact science, it is possible that population growth, as estimated, may not occur. It may be less, or it may be more. The City could be at the beginning of a long decline in population or a sharp increase. Should the City continue to grow, the Framework Element will provide a means for accommodating new population and employment growth in a manner that enhances rather than degrades the environment. The Framework Element is based on a planning horizon for population and employment growth, with approximately 820,000 new residents and approximately 390,000 new jobs.

4.2.1.2 Mobility Plan 2035

Mobility Plan 2035, an element of the City of Los Angeles General Plan (City of Los Angeles 2016), provides the policy foundation for achieving a transportation system that balances the needs of all road users. The purpose of the plan is to guide future development of a citywide transportation system that provides for the efficient movement of people and goods. In 2008, the California State Legislature adopted Assembly Bill 1358, The Complete Streets Act, which requires local jurisdictions to "plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban or urban context." Mobility Plan 2035 incorporates "complete streets" principles and lays the policy foundation for how future generations of Angelenos interact with their streets.

Mobility Plan 2035 includes goals that define the City's high-level mobility priorities. Each of the goals contains objectives (i.e., targets to help measure the progress of the plan) and policies (broad strategies that guide the City's achievement of the plan's five goals).

The following objectives and policies are applicable to the Sidewalk Repair Program:

- **Safety First Objective:** Increase pedestrian safety in the design and implementation of "complete streets" projects in the top 25% of Senate Bill 565 disadvantaged communities in the City or as subsequently identified through tools used by the City.
- **World Class Infrastructure Objective:** Bring all sidewalks to good condition by 2035. Bring all City-owned streets, tunnels, and bridges to good condition by 2035.
- **Access for All Angelenos Objective:** Install pedestrian access curb ramps at 100% of intersections by 2035.
- **Policy 1.1 Roadway User Vulnerability:** Design, plan, and operate streets to prioritize the safety of the most vulnerable roadway user.
- **Policy 1.2 Complete Streets:** Implement a balanced transportation system on all streets, tunnels, and bridges, using "complete streets" principles to ensure the safety and mobility of all users.
- **Policy 1.6 Multimodal Detour Facilities:** Design detour facilities to provide safe passage for all modes of travel during times of construction.
- **Policy 2.3 Pedestrian Infrastructure:** Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment.
- **Policy 3.2 People with Disabilities:** Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way.

4.2.2 Los Angeles County General Plan

The Los Angeles County General Plan (County of Los Angeles 2015a) provides a policy framework and establishes a long-range vision for how and where the unincorporated areas will grow. It establishes goals, policies, and programs to foster healthy, livable, and sustainable communities. The County General Plan uses a regional strategy to guide growth in a way that plans for more efficient and sustainable land use patterns and address climate change, mobility, and community development. The General Plan plans for total growth by encouraging development in areas with infrastructure and access to transit and discouraging growth in undeveloped areas and environmentally sensitive and hazardous areas. The General Plan's growth forecast is from the SCAG 2012 RTP, which accounts for 11.35 million people in the county (1.39 million in unincorporated areas) and 3.85 million households in the county (405,500 in unincorporated areas) by 2035.

4.2.2.1 Mobility Element

The Mobility Element of the County General Plan (County of Los Angeles 2015a) provides an overview of transportation infrastructure and strategies for developing an efficient and multimodal transportation network. The Mobility Element addresses the requirements of the California Complete Streets Act of 2008, which requires the County General Plan to demonstrate how the County will provide for the routine accommodation of all users of a road or street, including pedestrians, bicyclists, users of public transit, motorists, children, seniors, and those in the disability community. The element assesses the challenges and constraints of the Los Angeles County transportation system and offers policy guidance to reach the County's long-term mobility goals. The County General Plan also establishes a program to prepare community pedestrian plans, with guidelines and standards to promote walkability and connectivity throughout the unincorporated areas. The County participates in establishing policies, promoting specific projects, and funding the strategies in the SCAG RTP and the Los Angeles County Metropolitan Transportation Authority (Metro) Long-Range Transportation Plan.

The Mobility Element includes policies and programs that consider all modes of travel, with the goal of making streets safer, accessible, and more convenient for people walking, bicycling, or taking transit. The following goals and policies are applicable to the Sidewalk Repair Program:

- **Goal M 1:** Street designs that incorporate the needs of all users.
    - **Policy M 1.1:** Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible.
- **Goal M 2:** Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths, and trails that promote active transportation and transit use.
    - **Policy M 2.1:** Provide transportation corridors/networks that accommodate pedestrians, equestrians, and bicyclists and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities whenever appropriate and feasible.
    - **Policy M 2.4:** Ensure a comfortable walking environment for pedestrians by implementing the following, whenever appropriate and feasible:
        - Designs for curb ramps that are pedestrian friendly and compliant with the Americans with Disabilities Act.

- Perpendicular curb ramps at locations where it is feasible.

Chapter 16 of the County General Plan (General Plan Implementation Programs) contains implementation measures for various programs that are presented in the County General Plan. Of most relevance to the Sidewalk Repair Program is M-2, Community Pedestrian Plans, which includes preparation of community pedestrian plans that consider the following:

- The adequacy of pedestrian routes, accommodations, and the need for improvements or additional infrastructure, given the current or future context of particular neighborhoods.
- Design guidelines for streets and walking paths in public and private developments.
- Connectivity of pedestrian paths to and from schools, public transportation, major employment centers, shopping centers, and government buildings in order to eliminate gaps in the transportation system.
- Special-needs populations, including seniors and people with disabilities.
- A framework for the development and implementation of community pedestrian plans in the unincorporated areas that considers safety, design, connectivity, and the needs of all users.
- Coordination with development of the Planning Areas Framework Program and the Transit-Oriented Development Program to ensure planning consistency and promote intermodal transportation connectivity and community livability.
- The identification of unincorporated communities with a substantial absence of, and need for, sidewalks.
- Construction of pedestrian improvements through the annual road construction program.
- The securing of grant program funding to construct pedestrian plan improvements.

4.2.3 SCAG Regional Comprehensive Plan

SCAG is the federally designated metropolitan planning organization for the six-county Southern California region (i.e., Los Angeles, Orange, Riverside, San Bernardino, Ventura, Imperial). SCAG develops regional growth management plans, with the goal of providing for the efficient movement of people, goods, and information; enhancing economic growth and international trade; and improving the quality of life for the Southern California region. The SCAG region is expected to add 7 million residents between 2008 and 2035.

The 2008 SCAG Regional Comprehensive Plan (RCP) (SCAG 2008) is an action plan for implementing short-term-strategies and long-term initiatives, along with guiding principles for a sustainable and livable region. Sustainably planning for land use and housing in Southern California maximizes the efficiency of existing and planned transportation networks, provides the necessary amount and mix of housing for the growing population, enables a diverse and growing economy, and protects important natural resources. The RCP focuses on specific planning and resource management areas, including land use and housing, open space and habitat, water, energy, air quality, solid waste, transportation, security and emergency preparedness, and the economy. The RCP's Growth Management chapter addresses issues related to growth and land use and enumerates guiding principles for development that supports the overall RCP goals.

4.2.4 SCAG Regional Transportation Plan and Sustainable Communities Strategy

The SCAG 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the most current long-range visioning plan, balances future mobility and housing needs with economic, environmental, and public health goals. The plan provides forecasts through 2040. Per the 2012–2016 RTP/SCS, Los Angeles County is expected to grow through 2040. Table 4.5-1 provides growth forecasts for population and employment. The 2016 RTP/SCS does not provide a growth forecast for households within the county.

Table 4.5-1. Growth Forecast for the County of Los Angeles

County Name	2015 Population	2040 Population	2015 Employment	2040 Employment
Los Angeles County	10,159,000	11,514,000	4,463,000	5,226,000

Source: SCAG, 2016, *Regional Transportation Plan/Sustainable Communities Strategy.*

The 2016 RTP/SCS includes an Active Transportation Plan that dedicates resources to maintain and repair thousands of miles of dilapidated sidewalks, includes sidewalk quality as one of its short-term strategies, and calls for approximately 10,500 miles of new and improved sidewalks through development projects or larger road construction and maintenance projects.

The RTP's Non-Motorized Transportation Report is a technical policy document that guides, supports, and encourages the development of county and city bicycle and pedestrian networks as well as non-motorized programs for the SCAG region. Particular emphasis is placed on bicycling and walking as commute options and improving safety for all forms of non-motorized transportation (City of Los Angeles 2016).

4.2.5 Metro Long-Range Transportation Plan (2009)

Metro's 2009 Long-Range Transportation Plan provides a 30-year vision for Los Angeles County's transportation system to 2040. The plan identifies public transportation and highway projects, funding forecasts over a 30-year timeframe, multimodal funding availability, sub-regional needs, and performance measures (City of Los Angeles 2016).

The 2009 Long-Range Transportation Plan promotes development of bicycle facilities as well as pedestrian improvements throughout Los Angeles County. Bicycle and pedestrian programs are critical components of a successful transit system because transit riders should be able to access buses and trains without having to drive a vehicle to and from transit stations. According to SCAG's 2000 Post-Census Travel Survey, nearly 12% of all trips in the SCAG region are bicycling and walking trips. According to the 2001 National Household Travel Survey, many trips in metropolitan areas are 3 miles or shorter. These trips are targets for bicycling and walking, if facilities are available and safe (Metro 2009).

Metro's Pedestrian Priority Improvement Program is designed to achieve a qualitative improvement in the pedestrian environment in Los Angeles County. The Pedestrian Priority Improvement Program acknowledges that non-motorized transport modes should connect to an efficient, aesthetically pleasing, and safe pedestrian system that enables a person to successfully complete a trip. Physically attractive features and amenities facilitate the flow of pedestrian movement and encourage people to walk. The primary challenge to improving the quality of the pedestrian environment is retrofitting the existing built form to make walking a more viable option for more people, more often. The approach focuses on development of public policy and adoption of appropriate regulatory standards, with targeted funding to develop safer, more connected and walkable pedestrian environments that promote non-motorized transport as a viable alternative to increase the share of trips made by residents of and visitors to Los Angeles County (Metro 2009).

4.2.6 2016 Air Quality Management Plan

The 2016 Air Quality Management Plan (AQMP) (South Coast Air Quality Management District [SCAQMD] 2017) is a regional blueprint for achieving federal air quality standards and healthful air. The SCAQMD is responsible for clean air in the South Coast Air Basin (SCAB or Basin), an area that includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Although air quality has improved dramatically over the years, the Basin still exceeds federal public health standards for both ozone and particulate matter and experiences some of the worst air pollution in the nation. The 2016 AQMP represents a thorough analysis of existing and potential regulatory control options; includes available, proven, and cost-effective strategies; and seeks to achieve multiple goals in partnership with other entities that promote reductions in GHGs and toxic risk. It also seeks efficiencies in energy use, transportation, and goods movement. The plan recognizes the critical importance of working with other agencies to develop funding and incentives that encourage an accelerated transition to cleaner vehicles and the modernization of buildings and industrial facilities with cleaner technologies in a manner that benefits not only air quality but also local businesses and the regional economy. The 2016 AQMP also includes transportation control measures developed by SCAG in the 2016 RTP/SCS. The 2016 AQMP includes the integrated strategies and measures needed to meet National Ambient Air Quality Standards (NAAQS) and demonstrates attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual standards regarding fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$).

4.3 Cumulative Impacts Analysis

The following impacts analysis considers whether the proposed Project would result in a new significant cumulative impact or make a considerable contribution to an already significant cumulative impact.

4.3.1 Aesthetics

The proposed Project would have the potential to result in a cumulatively considerable impact on aesthetics if, in combination with cumulative plans and programs within the greater Los Angeles region, it would result in substantial damage or degradation of a designated scenic vista or state scenic highway; substantial damage or degradation of recognized or valued views—including natural views of topography, mountains, oceans, or man-made visual features—in City-adopted land use plans; substantial damage or degradation of existing features or elements that contribute to the existing visual character or image of a neighborhood, community, or localized area through removal, alteration, or demolition of street trees; substantial damage to visual landscape, including but not limited to street trees, utility poles, or historic structures within public right-of-way; or a substantial loss of shading as a result of street tree retention, removal or replacement throughout the project buildout.

During the 30-year period of the proposed Project, cities and unincorporated areas in Los Angeles County are anticipated to grow, adding approximately 300,000 new housing units and 1 million new residents (County of Los Angeles 2014), and the SCAG region is expected to add another seven million residents between 2008 and 2035 (SCAG 2008). This would also result in commercial and industrial growth, leading to outward expansion of development as well as the densification of development in existing areas. This growth could adversely affect scenic vistas and specific scenic resources, alter visual character and quality in some neighborhoods and communities, and change the overall landscape of the cities and communities. Regional transportation projects that require the conversion of open space to development—when taken into consideration with the other infrastructure and development projects in the SCAG region and surrounding areas—would constitute a significant cumulative impact (SCAG 2015).

Past and present development in the City and the region have resulted in localized obstruction of scenic vistas and focal views, degradation of visual quality as open space has been converted to urban uses, the removal of street trees, and reductions in the citywide tree canopy throughout the region. However, visual improvements have also occurred, such as more infill on underutilized or vacant sites within the urban fabric; new, attractive development that replaces degraded buildings; and roadway and transit improvements that enhance the streetscapes in communities. In addition, implementation of regional transportation projects and infrastructure improvements have the potential to degrade the visual character or quality of the site and its surroundings where such improvements pass through areas where open space is the existing condition, which, when considered in combination with other infrastructure and development with the SCAG region and nearby areas, constitutes a significant cumulative impact on the visual character of the region. The combination of urban transportation facilities infrastructure and anticipated new growth and development would change the character of the region over time, thereby contributing to a cumulatively considerable change in the visual character or quality of the SCAG region (SCAG 2015).

The proposed Project would not affect scenic highways, or contribute to a cumulative loss of scenic vistas or focal views. Temporary construction impacts from sidewalk repairs could affect the character of the local neighborhoods where the repairs would occur. However, these effects would be short term (generally less than 30 days) and would improve visual conditions over the long term by replacing aging and damaged sidewalks with newer ones.

In areas where street tree removal would be necessary, the effects on the character and quality of the neighborhood would be more perceptible and prominent. Additionally, the proposed Project would result in the temporary loss of shading from the street tree removals. However, in most cases, implementation of a street tree replacement policy would offset any long-term aesthetic impact, with removed street trees replaced at a 2:1 ratio for the first 10 years, a 3:1 ratio for years 11 through 21, and a 2:1 ratio for the remaining 9 years of the Project. The proposed Project would result in a net neutral street tree canopy as the replacement street trees reach maturity at Year 30 of the Project. This means that at the end of the Project the City will have a greater ratio of street trees to urban canopy than it did before the Project started. Over the life of the Project, or the next 30 years, the City would have an increased number of street trees and would have a larger urban canopy size than at the start of the Project. The urban forest would be enhanced by removing potentially diseased, dead, or damaged street trees. This citywide benefit would not damage or degrade recognized or valued views in adopted City land use plans; rather, the biodiversity of the urban forest would be considered and maintained by ensuring species of street trees are diverse and compatible with the streetscape and community.

However, as discussed in Chapter 3.1, Aesthetics, a limited number of street trees have been designated Los Angeles Historic-Cultural Monuments (HCMs) by the City Council. Such trees contribute to the overall cultural history and uniqueness of the visual character of a neighborhood and the City.

In instances where the integrity of the cultural resource, like an HCM, cannot be maintained, there may be a potentially significant impact in the aesthetics or in the visual character due to the Project. Such unusual circumstances and environments include maintaining the aesthetic integrity of a known cultural resource that is a contributing factor in a Historical Preservation Overlay Zone, or within a High Sensitive Cultural Resources area, as defined in the Conservation Element of the Los Angeles General Plan, or a known archeological, paleontological, and tribal artifact or designation or an HCM Street Tree. All local, state, and federal standards would be complied with, where applicable; nonetheless, there still may be Project sites over the next 30 years where maintaining the look and details of a cultural resource may not be possible due to accessibility requirements or because following SOI Standards is infeasible. Moreover, like with HCMs, any construction activities that would significantly affect identified cultural resources are not included in the ministerial process proposed by the Project. Although few individual projects under Scenario 3 would result in a significant impact, the Project would nevertheless result in a cumulatively considerable contribution to a cumulatively significant aesthetic impact.

4.3.2 Air Quality

The proposed Project would have the potential to result in a cumulatively considerable impact on air quality if, in combination with cumulative plans and programs within the greater Los Angeles region, it would conflict with or obstruct implementation of the SCAQMD AQMP; generate air pollutant emissions during construction or operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD; or expose sensitive receptors to substantial toxic air contaminates (TAC) concentrations.

The cumulative plans and programs within the greater Los Angeles region would result in the production of significant regional or localized emissions. The regional growth that would occur over the 30-year Project implementation period would increase both mobile and stationary emission sources and contribute to an adverse cumulative air quality impact. The City acknowledges that implementation of the General Plan Framework would contribute to adverse cumulative impacts on air quality (City of Los Angeles 1995). According to the County of Los Angeles General Plan (County of Los Angeles 2014), the SCAB is designated nonattainment for O_3, PM_{10}, $PM_{2.5}$, and lead (Los Angeles County only) under the California and national AAQS, and nonattainment for NO_2 under the California AAQS. Construction of cumulative projects will further degrade the regional air quality. Furthermore, the implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to result in a significant cumulative impact related to violating an air quality standard or contributing substantially to an existing or projected air quality violation in the short-term from construction emissions (SCAG 2015). Similarly, while the 2016 RTP/SCS includes transportation projects and strategies to improve public health, it would result in a significant cumulative impact by exposing sensitive receptors to substantial pollutant concentrations that would harm public health outcomes due to placing sensitive receptors within 500 feet of freeways and high volume roadways.

Already-imposed mitigation measures from certified EIRs prepared for cumulative projects, as well as existing regulatory programs and plan policies and strategies, will assist in mitigating these cumulative impacts. However, even with implementation of mitigation measures and existing regulatory programs, construction and operational emissions from major development projects would still exceed SCAQMD significance thresholds (County of Los Angeles 2014). Therefore, emissions associated with projected growth and development would be considered a significant cumulative impact on air quality.

As stated in Chapter 3.2, Air Quality, the City is in nonattainment for both the 1-hour and 8-hour state standards for ozone, and it is in nonattainment (extreme) for the 1-hour national standard and pending nonattainment status for the 8-hour national standard for ozone. Additionally, the City is in nonattainment for both the 24-hour and annual mean state standards for PM_{10}, and the annual mean state standard and the 24-hour and annual mean federal standards for $PM_{2.5}$. The City is in attainment for all other criteria pollutants. The 2016 AQMP acknowledges that the most significant air quality challenge in the Basin is the reduction of NO_X emissions sufficient to meet the upcoming ozone standard deadlines.

The SCAQMD has developed strategies to reduce criteria pollutant emissions, as outlined in the AQMP, pursuant to federal Clean Air Act mandates. The proposed Project would comply with all regulatory requirements, discussed in Chapter 3.2, Air Quality, and would be required by law to comply with any relevant control measures adopted by the SCAQMD as part of the AQMP. The City recognizes the importance of reducing emissions and improving air quality and would adhere to these goals and objectives.

Construction activities would generate air pollutant emissions from sources such as off-road equipment exhaust, on-road vehicle trips to and from the project site, and off-gassing of VOC during crosswalk repaving. In addition to construction activities at repair sites, the continuation of operational activities under the Project would involve maintenance such as watering of newly planted street trees. As described in Chapter 3.2, regional emissions and localized concentrations of VOC, NO_2 as NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ were demonstrated to fall far below the SCAQMD-recommended localized thresholds. For instance, Table 4.5-2 represents the combined worst-case estimated daily emissions relative to the regional significance thresholds. Similarly, Table 4.5-3 represents the estimated daily emissions relative to the localized significance thresholds.

Table 4.5-2. Combined Worst-Case Estimated Daily Emissions Relative to the Regional Significance Thresholds

	Maximum Emissions (Pounds Per Day)					
Regional Analysis	**VOC**	**CO**	**NO_X**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Regional Emissions	36.6	225.5	46.2	0.3	3.7	2.8
Regional Significance Threshold	75	550	100	150	150	55
Exceed Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 4.5-3. Estimated Daily Emissions Relative to the Localized Significance Threshold

	Maximum Emissions (pounds per day)			
Localized Analysis	**CO**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Localized Emissions	36.7	9.0	0.7	0.7
Localized Significance Threshold	231	46	4	3
Exceed Localized Threshold?	**No**	**No**	**No**	**No**

The thresholds above are set by SCAQMD to account for an individual project's contribution to other projects and activities occurring throughout the SCAB region. Therefore, the analysis accounts for whether a project would result in a contribution to the cumulative impact within the context of the Basin-wide impacts.

The proposed Project would not contribute to cumulative TACs or expose sensitive receptors to TACs. Each individual construction repair site would only be active for a brief period of time (generally less than 30 days). Given the brief duration of activities at each individual construction repair site and the limited intensity of construction equipment use due to site constraints, the Project's contribution to carcinogenic risks to nearby sensitive receptors is miniscule.

For the reasons stated above, the proposed Project would not conflict with or obstruct implementation of the SCAQMD AQMP, generate air pollutant emissions during construction or operational activities of sufficient quantity to exceed the Air Quality Significance Thresholds established by the SCAQMD, or expose sensitive receptors to substantial TAC concentrations. Therefore, construction of the proposed Project would not result in a cumulatively considerable contribution to a cumulatively significant air quality impact.

4.3.3 Biological Resources

The proposed Project would have the potential to result in a cumulatively considerable impact on biological resources if, in combination with cumulative plans and programs within the greater Los Angeles region, it would result in the loss of individuals, or the reduction of existing habitat, of a state or federal listed endangered, threatened, rare, protected, or candidate species, or a Species of Special Concern or federally listed critical habitat; result in the loss of individuals or the reduction of existing habitat of a locally designated species or a reduction in a locally designated natural habitat or plant community; result in interference with habitat such that normal species behaviors are disturbed (e.g., from the introduction of noise, light) to a degree that may diminish the chances for long-term survival of a sensitive species; have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal) through direct removal, filling, hydrological interruption, or other means; interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; conflict with the provisions of an adopted local street tree preservation policy or ordinance; or conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Present and future regional growth involving the construction of transportation infrastructure occurring over the 30-year Project implementation period would have the potential to result in a loss of species and/or habitats and natural communities. While the City of Los Angeles Framework Plan (City of Los Angeles 2001) attempts to reduce biological effects through its policies regarding the use of open space and targeting growth within developed areas, the potential growth that may be pushed out to other areas could result in the loss of habitat for plants and animals (including some sensitive species). In this context, the Framework Plan is considered to generate significant cumulative impacts on biological resources. The cumulative effect of numerous small projects in natural open space will have a significant impact as the remaining habitat for plants and animals is fragmented and lost to piecemeal evaluation of potential project effects (City of Los Angeles 1995).

The County acknowledges that although any direct impacts on special-status species and the loss of sensitive habitats would be mitigated, due to the loss of common habitats and diminished resource availability, impacts on special-status species remain significant at the General Plan level, and cumulative impacts on special-status species would be cumulatively significant. Similarly, the County finds that avoidance or minimization of impacts on wildlife movement corridors and linkages may not always be feasible; therefore, the impediment of wildlife movement would be significant at the General Plan level and cumulatively significant (County of Los Angeles 2014).

Activities conducted under transportation projects included in the 2016 RTP/SCS (SCAG 2015) would include the conversion of natural landscapes containing sensitive biological resources into paved roads. This would result in increased access to other undeveloped areas from the extension of transportation infrastructure through rural areas. This increased access could indirectly increase manufacturing and institutional development as a result of increased transportation access within the area, resulting in further habitat fragmentation. The incremental impacts of all of the transportation projects and land use strategies included in the 2016 RTP/SCS on biological resources would be expected to result in a significant cumulative impact with regard to biological resources because these projects would contribute to an increase in habitat fragmentation and development upon native habitats. These impacts are considered to contribute to significant cumulative impacts related to state-sensitive plant communities, migratory corridors, nursery sites, and local policies and ordinances as a result of an incremental net loss of habitat and protected trees and vegetation (SCAG 2015).

Any future related development within the City would be subject to all required laws, permits, ordinances, and plans to reduce impacts on biological resources. Reasonably foreseeable future programs and projects would be required to implement biological avoidance and minimization measures when obtaining relevant permits, including implementation of best management practices (BMPs) during construction. Future development would most likely include site-specific mitigation and be expected to comply with all applicable regulations, such as the Migratory Bird Treaty Act (MBTA). Development projects causing impacts on wetlands and riparian habitats would be subject to mitigation and the permit requirements of the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife, and Regional Water Quality Control Board (RWQCB). In addition, the policies and implementation measures within the respective cumulative plans, which aim for sustainable development, would help to preserve, replace, restore, or compensate for the loss of biological resources. Although direct impacts on special-status species and the loss of sensitive habitats would generally be mitigated on a case-by-case basis, impacts on biological resources would nonetheless be considered cumulatively significant.

As explained in Chapter 3.3, Biological Resources, the proposed Project would be in a primarily urban landscape where there is little to no suitable habitat for any wildlife species, besides the canopy associated with street trees. No construction would occur in Section 404 regulated water bodies. Upon completion of construction activities associated with the proposed Project, minor maintenance activities, such as street tree watering, would occur. Although sensitive wildlife species would be affected through the removal of street trees and foraging habitat, such species are adapted to living in a heavily developed and disturbed urban setting. Construction noise is common throughout the Project area and unlikely to harm or harass such species.

Construction impacts such as increased noise may have a significant impact on sensitive and resident wildlife species that occur within the Project area; however, implementation of identified project design features (PDFs) (PDF-BIO-1 through PDF-BIO-6) would ensure that any impact associated with habitat interference would remain less than significant by providing detailed guidance on how to comply with the MBTA, replacing removed street trees promptly, avoiding any destruction of active nests, and complying with the California Fish and Game Code and other applicable requirements. Compliance with and implementation of the PDFs would ensure that the species' normal behavior and chances for long-term survival would not be adversely affected by construction activities.

The proposed Project would not reduce but rather increase habitat. With implementation of 2:1 and 3:1 street tree ratios, nesting habitat would increase and removed street trees would be replaced within 1 year. The replacement ratios would result in a net gain in the total number of street trees and a net neutral street tree canopy by Year 30 of the Project, which would provide nesting habitat for species protected under the MBTA. Therefore, impacts on biological resources would not result in cumulatively considerable contributions to cumulatively significant biological impacts.

4.3.4 Cultural Resources

The proposed Project would have the potential to result in a cumulatively considerable impact on cultural resources, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would result in: demolition or relocation of a significant historical resource such that its integrity and significance cannot be maintained; conversion, rehabilitation, or alteration of a significant historical resource that does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings; disturbance, damage, or degradation of an archaeological resource, or its setting, that is found to be important (see Section 3.4.3.3 for details on importance of setting); permanent loss of, or loss of access to, a paleontological resource of regional or statewide significance; or disturbance of human remains, including remains interred outside of formal cemeteries.

Historic, archaeological, and paleontological resources are important parts of the City's identity. These resources are nonrenewable and irreplaceable. Cumulative land use and transportation projects located in the Southern California region—including programs and policies implemented under the Los Angeles County General Plan Mobility Element that address streets and sidewalks, and sidewalk improvements under the 2016 RTP/SCS Active Transportation Plan–would have the potential to result in a cumulative impact associated with the loss of cultural resources. Due to the regional scale of the cumulative plans and programs in the Los Angeles region and the potentially large number of cultural resources that could be disturbed as a result of their implementation, a significant cumulative impact would result through the physical demolition, destruction, relocation, or alteration of a resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (County of Los Angeles 2014, SCAG 2015). These projects are regulated by federal, state, and local regulations, including Public Resources Code Section 5097, the Mills Act, State Health and Safety Code 18950–18962, and the SOI's Standards for Rehabilitation and Standards for the Treatment of Historic Properties, and they are required to comply with the regulations. City, County, and regional goals and policies also aim to preserve and protect significant cultural resources to the extent practicable. Even with regulations in place, individual historical resources could still be affected or degraded (e.g., from demolition, destruction, alteration, structural relocation) as a result of new private or public development or redevelopment and implementation of transportation projects and land use strategies under cumulative plans and projects (County of Los Angeles 2014, SCAG 2015). Therefore, cumulative destruction of significant historical resources from construction and development planned within the region would be considered a cumulatively significant impact.

Notification and inventory of archeological and paleontological resources, implementation of an unanticipated discovery plan, and compliance with Public Resources Code and the California Health and Safety Code mandatory processes that are required to be followed in the event of a discovery of any human remains would help mitigate potentially significant impacts, but they are expected to remain significant when considered cumulatively due to the large number of paleontological and archaeological resources within the greater Los Angeles region and the likelihood of yielding undiscovered human remains. Therefore, impacts on paleontological and archaeological resources and disturbance of human remains would be cumulatively significant from cumulative plans and projects (SCAG 2015).

As discussed in Chapter 3.4, the proposed Project could result in the demolition of sidewalks, ramps, curbs, traffic signs, gutters, or other similar sidewalk-related features that are of historical significance. Similarly, construction could result in impacts on archeological resources (e.g., uncover buried artifacts or features). Such resources include, but are not limited to, prehistoric stone tools, hearths, and midden soils; historic-period refuse deposits, privies, building foundations, basements, and structural materials; and historic-period infrastructure, such as water and electrical conveyance systems and utility vaults. Although most sidewalk replacements would be limited to the top 8 to 12 inches of soil, further excavation, between 36 and 76 inches, may be required for utility relocations and trenching; catch basin and storm drain construction may require depths of 4 to 15 feet.

In most cases, a project that follows the SOI's Standards for an affected historical resource would result in a less-than-significant impact on that historical resource, pursuant to CEQA Guidelines Section 15064.5. However, although uncommon, there are cases when the SOI's Standards cannot be followed or a substantial material change in the significance of a historical or archaeological resource occurs even after following SOI's standards. The proposed Project could result in the demolition of a character-defining feature associated with a historical sidewalk, including a ramp, curb, gutter, street sign, area of pavement, or utility pole. In addition, some sidewalk improvements could occur in or near undiscovered fossil resources (e.g., within Quaternary alluvium deposits, at depths of up to 3 feet; younger alluvium, at depths greater than 5 feet; and areas of older alluvium or paleontologically sensitive surface bedrock). Therefore, while the large majority of sidewalk repair sites would result in less-than-significant impacts on cultural resources owing to the shallow excavation depths and successful compliance with the SOI's standards for an affected historical resource, there would be the uncommon sidewalk repair sites implemented under the proposed Project that would result in significant impacts on cultural resources over the 30-year implementation period. Considering the existing significant cumulative impacts for cultural resources in the greater Los Angeles region, it would be reasonable to infer that however rare the Project would result in significant impacts on cultural resources, its contribution to the existing significant cumulative cultural resource impacts would be cumulatively considerable. Although few individual projects under Scenario 3 would result in a significant impact, the Project would nevertheless result in a cumulatively considerable contribution to a cumulatively significant impact.

Implementation of PDFs (PDF-CUL-1 through PDF-CUL-4) would require an assessment of historical significance, implementation of repairs and replacements in accordance with the SOI's Standards, preparation of an Archaeological Treatment Plan, and/or preparation of a Paleontological Management Treatment Plan, as necessary. Although these PDFs would reduce and minimize the cumulative contribution and few individual projects under Scenario 3 would result in a significant impact, the Project would nevertheless result in a cumulatively considerable contribution to a cumulatively significant impact.

4.3.5 Geology and Soils

The proposed Project would have the potential to result in a cumulatively considerable impact on geology and soils, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would: cause or accelerate geologic hazards, which would result in substantial damage to structures or infrastructure, or directly/indirectly cause substantial risk of injury resulting from rupture of a known earthquake fault, landslides, and seismic ground shaking or seismic-related ground failure, including liquefaction; destroy, permanently cover, or materially and adversely modify one or more distinct and prominent geologic or topographic features; constitute a geologic hazard to other properties by causing or accelerating instability from erosion; accelerate natural processes of wind and water erosion and sedimentation, resulting in sediment runoff or deposition that would not be contained or controlled on site; be located on unstable soil; or result in an on-site or off-site landslide, collapse, or lateral spreading.

As discussed in the LA County General Plan Draft EIR, most of Southern California, including the cumulative programs and projects in the greater Los Angeles region, is in an area of relatively high seismic activity, and buildout and development of the cumulative programs and projects in the County would expose of additional people and new infrastructure to the effects of earthquakes, seismically related ground failure, liquefaction, and seismically induced landslides. As the region grows, plan-and site-specific studies will be necessary to identify potential hazards and stipulate mitigation to reduce the impacts. Adequate studies, designs, and construction measures can be taken to reduce the potential impacts (County of Los Angeles 2014). Because of the site-specific nature of geological conditions (i.e., soils, geological features, seismic features, etc.), geological and soil impacts are typically assessed on a project-by-project basis rather than a cumulative basis. Future cumulative development in the surrounding area, in addition to the proposed Project, would be subject to local, state, and federal regulations pertaining to geology and soils, including California Building Code and Los Angeles County Building Code requirements (or City requirements, as appropriate). These regulations contain requirements for development in areas that are subject to Seismic Design Categories E and F. In addition, cumulative projects would be subject to the Alquist-Priolo Earthquake Fault Zone Act, which restricts development on active fault traces. Adherence to these regulations and standard engineering conditions would help reduce cumulative impacts related to geology and soils (County of Los Angeles 2014). Implementation of transportation projects and land use strategies included in the 2016 RTP/SCS within the SCAG region would contribute to cumulative significant impacts with regard to the potential to expose additional people and infrastructure to the effects of earthquakes, seismic related ground-failure, liquefaction, and seismically induced landslides due to: thousands of acres of land subject to severe peak ground acceleration, potential liquefaction, and potential earthquake-induced landslides within 500 feet of major SCAG projects; tens of thousands of acres subject to moderate or high soil erosion within 500 feet of major SCAG projects; and several miles being within the Alquist-Priolo Earthquake zone (SCAG 2015). In addition, expansive soils are present throughout the SCAG region, and larger transportation projects and regional land use strategies in particular may result in significant cumulative impacts where projects are located within areas of expansive soils. Even with the implementation of mitigation measures, these cumulative impacts would remain significant (SCAG 2015).

The proposed sidewalk improvements could be affected by strong seismic ground shaking or unstable soil conditions. The proposed Project would typically require relatively shallow excavation (e.g., between 8 and 12 inches). The installation of root barriers (if implemented) during street tree replacement activities could require an additional 18 inches. Sign relocation usually requires excavation of up to approximately 36 inches. The relocation of utilities could result in excavation and trenching to depths between 36 and 76 inches. Deeper excavation, to 30 feet, may be required where catch basins and storm drain reconstruction are necessary. Construction activities would be too shallow to cause significant geologic events (e.g., fault rupture, landslides, seismic ground shaking, liquefaction) or exacerbate geologic conditions. Geologic conditions in the area would remain unchanged as a result of the Project. However, landslide- and liquefaction-prone areas as well as areas with collapsible soils could expose workers to geologic hazards. Implementation of PDF-GEO-1 (shoring plan) would minimize this impact in areas where excavation would be greater than 5 feet deep, as required per the Los Angeles Bureau of Engineering Standard Specifications for Public Works Construction, or “Greenbook.”

Construction activities could exacerbate erosion conditions by exposing soil or adding water to the soil, either from irrigation or runoff from new impervious surfaces. 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 substantial soil erosion and sedimentation. Also, construction activities would occur only in areas where sidewalks currently exist, not in areas where erosion could destabilize nearby structures. Construction activities associated with the Project would not create a geologic hazard by causing or accelerating instability related to erosion. Therefore, for the reasons above, impacts related to geology and soils would not be cumulatively considerable.

4.3.6 Greenhouse Gases

The proposed Project would have the potential to result in a cumulatively considerable impact on GHG emissions, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs.

Climate change is a global phenomenon that is cumulative by nature because it is the result of combined worldwide contributions of GHGs to the atmosphere over many years (County of Los Angeles 2014). Past, present, and future development, including buildout of the cumulative land use and transportation plans, would generate GHGs in significant quantities. The Climate Action Plans of state, regional, and city governments would help minimize GHGs. In addition, implementation of the 2016 RTP/SCS would reduce GHG emissions from transportation and stationary sources compared with existing conditions. The 2016 RTP/SCS meets and exceeds SB 375 targets for reducing GHG emissions, which demonstrates that the Plan is able to do more than its share to reduce GHG emissions for light and medium duty vehicles and heavy trucks, resulting in a less-than-significant cumulative impact with respect to the SB 375 targets (SCAG 2015). However, additional measures would be necessary to reduce GHG emissions to levels that would meet the long-term GHG reduction goal under Executive Order S-03-05 (i.e., reduce GHG emissions to 80% of 1990 levels by 2050). Based on SCAQMD's 2020 efficiency target, this would equate to 1.3 metric tons of carbon dioxide equivalent per service population ($MTCO_2e$/SP) by 2050. (County of Los Angeles 2014.)

Although it is possible that individual projects may mitigate their respective GHG emissions, not all projects will be able to achieve adequate reductions. Furthermore, the cumulative effect of various projects and overall growth in the region, according to applicable plans, will result in exceedances of long-term goals. The California Air Resources Board is currently updating the scoping plan to identify additional measures for achieving long-term GHG reduction targets. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under Executive Order S-03-05. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology. Because no additional statewide measures are currently available, cumulative GHG emissions impacts remain significant (County of Los Angeles 2014). Additionally, while the 2016 RTP/SCS acknowledges all the responsible sectors are not in conflict with AB 32 and Executive Orders, in the event of a worst case scenario, such as if other responsible agency implementation activities do not achieve their respective GHG emission reduction goals to the appropriate level, the environmental analysis would result in a determination that there would be a potential for a significant cumulative impact (SCAG 2015).

Direct impacts associated with the proposed Project are measured exclusively as cumulative impacts; therefore, the analysis in Chapter 3.6, Greenhouse Gas Emissions, also serves as the analysis of the proposed Project's contribution to cumulative impacts. As discussed in Chapter 3.6, Greenhouse Gas Emissions, the construction emissions analyzed are considered part of total GHG emissions for the Project lifecycle, including GHG emissions during operational maintenance activities and changes in carbon sequestration throughout the 30-year repair program. Construction activities would result in GHG emissions from fuel combustion associated with heavy-duty construction equipment, construction workers' vehicle trips, material deliveries, and trips by haul, water, and concrete trucks.

These ongoing construction activities, operational maintenance activities, and changes in carbon sequestration would result in a maximum annual net cumulative increase in GHG emissions of 1,408.6 $MTCO_2e$ throughout the Project's lifetime. In the 2017 Climate Change Scoping Plan, CARB acknowledges that a project can generate GHG emissions above net zero without being considered cumulatively considerable (CARB 2017). The maximum annual increase in GHG emissions resulting from implementation of the Project represents less than half of the interim SCAQMD screening threshold that was determined to capture 90 percent of projects within the agency's jurisdiction. Although the City has not established a numeric threshold of its own as a lead agency, the Project's conformance with regional and local GHG emission reduction initiatives demonstrates that the Project would be consistent with applicable plans and policies adopted to meet the statewide reduction targets. The CEQA Guidelines advise that, "[p]ursuant to Sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances" (Governor's Office of Planning and Research 2017). The Project's conformance with local plans and policies has been sufficiently demonstrated above; therefore, the project's impact on GHG emissions would be less than cumulatively considerable.

4.3.7 Hazards and Hazardous Materials

The proposed Project would have the potential to result in a cumulatively considerable impact related to hazards and hazardous materials, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions through the routine transport, use, or disposal of hazardous materials or handling in such a way as to involve the release of hazardous materials into the environment; emit/handle/involve hazardous materials and/or waste within one-quarter mile of an existing or proposed school; be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment; or hinder or impair an adopted emergency response or evacuation plan or route.

In general, cumulative impacts related to hazards and hazardous materials are most often affiliated with commercial or industrial land uses, compared with residential uses. Implementation of projects and plans that do not substantially increase the potential for industrial activity within the City are not considered to generate cumulatively significant impacts within Los Angeles County (City of Los Angeles 1995). Hazardous material use or hazardous emissions are cumulatively significant when the combined activities of individual industrial or commercial businesses that use, transport, or dispose of hazardous materials result in hazardous conditions. Cumulative impacts may also occur when multiple development projects disrupt existing hazardous materials sites in adjacent areas. In addition, the transport of hazardous materials may increase as a direct result of increased hazardous materials usage within the Project area (County of Los Angeles 2014). Continued growth and development in the greater Los Angeles region, including the implementation of transportation improvements, and the anticipated increased mobility from implementation of the 2016 RTP/SCS may result in greater exposure of local populations to various hazards and may create a significant hazard to the public or the environment as a result of increased hazardous materials transport. While mitigation measures would help reduce impacts to the maximum extent practicable, cumulative impacts related to routine transport, use, or disposal of hazardous materials, upset or accident conditions involving the release of hazardous, and hazardous materials emissions in the vicinity of a school would remain significant (SCAG 2015).

The potential of exposure to hazards is equally high in urban and rural areas where former land uses may have contaminated soil or groundwater, which could be disturbed from the construction of new land uses and infrastructure. However, where such incidences occur, the need for remediation is limited to the horizontal and vertical extent of contamination. Such incidences would not necessarily be affected by other sites in surrounding areas. Any future development would be required to comply with applicable federal, state, and local regulations related to hazardous materials. Required compliance with these regulations would minimize contribution of cumulative impacts related to the hazardous materials sites, and impacts would not be cumulatively significant (SCAG 2015).

The construction activities associated with the proposed Project would involve the routine transport, use, and disposal of hazardous materials, such as solvents, paints, oils, and grease—materials that are typically used in construction projects. Such transport, use, and disposal would be in compliance with applicable regulations (e.g., the Resource Conservation and Recovery Act, Occupational Safety and Health Administration regulations, Department of Transportation regulations, the California Labor Code, and the California Code of Regulations). Moreover, the hazardous materials are generally used in small amounts. Any spills that may occur would be contained and cleaned up according to the Materials Safety Data Sheet/Globally Harmonized System in the appropriate manner. Such releases would be localized and would not result in additive effects from combined construction sites.

During Project excavation, contaminated groundwater and/or contaminated soil may occasionally be encountered, which could release hazardous materials into the environment. In most cases, excavation would be between 8 and 12 inches deep. Construction would be on existing sidewalks and curbs, which are not contaminated or would be remediated prior to initial construction. Although rare, in some cases, excavation could expose workers and nearby receptors to hazardous emissions. In even fewer cases, deeper excavations could expose contaminated groundwater. Implementation of PDF-HAZ-2 through PDF-HAZ 4 would minimize exposure to hazardous materials and require proper handling and oversight. Because of the low potential for impacts, adherence to existing state and local regulations, and implementation of contingency mitigation measures, the Project's contribution to hazardous materials cumulative impacts would be less than cumulatively considerable.

4.3.8 Hydrology and Water Quality

The proposed Project would have the potential to result in a cumulatively considerable impact on hydrology and water quality, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would: cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources; substantially reduce or increase the amount of surface water in a water body; result in a permanent adverse change to the movement of surface water, enough to produce a substantial change in the current or direction of the water flow; create pollution, contamination, or a nuisance, as defined in Section 13050 of the California Water Code or cause regulatory standards to be violated; result in the alteration of a stream or river so that a change in the existing drainage pattern would occur and result in erosion or siltation on site or off site; result in structures being placed within a 100-year flood hazard area; or cause runoff that would exceed the stormwater drainage capacity or degrade water quality.

Further urbanization in the greater Los Angeles region and implementation of transportation improvements and land use strategies would result in a continuing increase in stormwater runoff, water quality degradation, and the exposure of persons and property to floodplain hazards. Cumulative growth and development would generate additional pollutants from residential, commercial, industrial, and transportation facilities. The increase in impervious surface areas such as new sidewalks, would increase urban runoff, resulting in the transport of greater quantities of contaminants to receiving waters that may currently be impaired (SCAG 2015). Paved surfaces and drainage conduits can accelerate the velocity of runoff, concentrating peak flows in downstream areas faster than under natural conditions. In addition, the increase in impervious areas could decrease groundwater recharge, increase runoff rates and/or volumes, place structures within flood zones, and expose additional people and property to risks associated with dam inundation, seiche, tsunami, and/or mudflow. Population growth could contribute incrementally to depleted groundwater supplies due to substantial additional demands for potable water such that there would be a net deficit in aquifer volume or a lowering of local groundwater level (SCAG 2015). It is not anticipated that cumulative projects in Los Angeles

County would contribute incrementally by placing housing within a 100-year flood hazard area due to compliance with flood safety requirements and flood management plans (County of Los Angeles 2014, SCAG 2015); however, the placement of regional projects within a 100-year flood hazards area would impede or redirect flows when considered cumulatively (SCAG 2015).

The Los Angeles County General Plan Update EIR (County of Los Angeles 2014) notes that buildout in the county would involve soil disturbance, construction, and operation of developed land uses that could each generate pollutants affecting stormwater. Although specific impacts may not rise to significant runoff or pollutant levels, the cumulative effect would be significant. However, various regulatory requirements are in place to minimize these effects, including the Clean Water Act, compliance with which is administered by the Los Angeles RWQCB. Other requirements involve preparing and implementing stormwater pollution prevention plans pursuant to the Statewide General Construction Permit, complying with the Municipal Separate Storm Sewer Systems (MS4) Permit, improving flood control facilities and design requirements to raise structures above flood zones, and complying with recommendations in geotechnical reports to minimize mud flows (SCAG 2015).

Even with compliance with the above-listed water quality, drainage, and flood safety regulations and policies, impacts on hydrology and water quality would be cumulatively significant.

The proposed Project would not affect the City's ability to implement or enforce its goals or policies or otherwise be inconsistent with regulatory requirements related to the minimization of water quality impacts. The proposed sidewalk repairs would involve primarily improving existing impervious surfaces and would not introduce new impervious surfaces. Construction activities associated with the proposed Project would not result in a permanent adverse change in the movement of surface water because the amount of impervious surfaces is not anticipated to change compared with existing conditions and overall drainage patterns would be maintained. Although minor changes in surface flows may occur during construction when storm drain protection is installed, these changes are expected to affect stormwater flows into the storm drain system only temporarily and would not result in a permanent adverse change to the current or direction of flows. No direct groundwater withdrawal would occur, and the Project would not obstruct potential groundwater recharge.

The repair of existing sidewalks, removal and replacement of street trees, utility work, and sidewalk replacement work could lead to ground disturbance and polluted runoff. Soil disturbances from construction could allow silt to wash into storm drains and receiving waters, thereby making them turbid, which could further affect natural aquatic organisms. Construction would comply with the minimum construction site BMP requirements for erosion, sediment, non-stormwater management, and waste management. The BMPs would be implemented during construction activities to reduce the potential for chemical contaminants to affect water quality.

The temporary reduction in citywide street tree canopy from the replacement of mature street trees with younger and smaller street trees could alter street tree rainfall interception, which may temporarily increase surface runoff. However, over the 30-year Project horizon, there would be a net neutral citywide street tree canopy. The planted areas would be adequately watered during the establishment period, without erosion that would be detrimental to plantings. No increase in surface runoff volume was observed under the different street tree replacement scenarios that were modeled for water quality and hydrology.

Although some sidewalk repairs could be within 100- and 500-year floodplains, which are potentially subject to flooding during storm events, flooding conditions would not be expected to change compared with existing conditions. Construction activities would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing floodflows. The overall drainage pattern would remain unchanged compared with existing conditions. In addition, the City would comply with the minimum construction BMPs for construction sites under 1 acre and implement construction BMPs to manage stormwater runon and runoff from individual construction sites.

In conclusion, the proposed Project would not result in a cumulatively considerable contribution to significant cumulative impacts on hydrology and water quality because it would not introduce new impervious surfaces or pollutants, increase flooding hazards, or affect groundwater supplies; the Project would be consistent with related plans and programs. Existing regulations would minimize water quality impacts, including the Clean Water Act, NPDES regulations regarding nonpoint-source pollution, BMPs to reduce discharges of pollutants, and the RWQCB's L.A. Basin Plan to protect beneficial uses and achieve water quality objectives. Therefore, impacts on hydrology and water quality from the proposed Project would be less than cumulatively considerable.

4.3.9 Land Use and Planning

The proposed Project would have the potential to result in a cumulatively considerable impact on land use and planning, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would be consistent with adopted land use goals, objectives, or policies of applicable lands use plans or create incompatible land uses with the immediate surrounding land uses. The cumulative growth and development in the greater Los Angeles region is expected to be largely consistent with the plans that have been established to guide and regulate growth patterns and infrastructure improvements. Regional planning documents, such as SCAG's RCP and RTP/SCS, are often used during planning within the greater Los Angeles area. However, some strategies may not be consistent with the general plans of city and county areas when it comes to land use patterns and densities. Projects such as sidewalk improvements and construction of new sidewalks proposed under the 2016 Active Transportation Plan, encourage active transportation, improve connections to transit, and contribute to roadway improvements (SCAG 2015).

Implementation of the Project would generally be within the public right-of-way and would not change or affect the existing land use, including in adjacent and surrounding areas; it involved streamlined approval of repairs of existing sidewalks throughout the City. The Project would include the Revised Street Tree Retention, Removal and Replacement Policy, which would improve the urban street tree canopy and enhance and improve sidewalks, providing better accessibility of all pedestrians. Consistent with the applicable objectives and policies of the General Plan and Framework Element, street tree activities would help accommodate the needs of people with disabilities as well as the need for high-quality, safe pedestrian access on all sidewalks by ensuring that sidewalks would be in compliance with applicable accessibility requirements. Street tree activities would also be consistent with sustainability goals, objectives, and policies because biodiversity of the urban forest would be enhanced, and the maintenance of street trees would be improved.

The Project would also be consistent with the sustainability policies of the General Plan because stormwater BMPs (e.g., green infrastructures such as bioswales and permeable pavement), green infrastructure, and/or low-impact development BMPs would be implemented where possible. Implementation of the proposed Project would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project area. Therefore, the proposed Project would not result in a considerable contribution to a significant cumulative impact related to land use.

4.3.10 Noise

The proposed Project would have the potential to result in a cumulatively considerable impact on noise, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would exceed an interior noise level of 85 dBA Leq (8-hr) and result in an exterior noise level increase of 10 dBA above the loudest ambient sound level (hourly A-weighted Leq) during construction hours as measured or predicted at the closest occupied space façade of the closest sensitive use; result in ground-borne vibration caused by construction exceeding a velocity of 0.3 ips PPV at the building foundations of the nearest structure causing building damage; result in ground-borne vibration caused by construction exceeding 0.1 ips PPV at the nearest occupied space of a sensitive use causing human annoyance; or expose people residing or working in the project area to excessive noise levels from private airstrips or public airports.

Development of new residential, commercial, or industrial structures could increase both stationary and mobile sources of noise from heating, ventilation, and air-conditioning and other equipment as well as vehicles. The extension of new roadways and transit corridors could also expose sensitive receptors to new sources of elevated noise that are adjacent to these areas. Construction activities could also generate significant cumulative noise and vibration effects if in proximity to one another or in combination with operational or vehicular noise. Cumulative projects would be required to comply with the applicable land use compatibility classifications and noise ordinances. However, there may be situations where noise and vibration levels from individual and cumulative projects exceed applicable standards, thereby resulting in cumulatively significant noise impacts.

Construction of individual developments associated with the buildout of the County of Los Angeles General Plan would temporarily increase the ambient noise environment and would have the potential to affect noise sensitive land uses in the vicinity of an individual project. Similarly, significant noise impacts may occur from operation of heavy earthmoving equipment and truck haul that would occur with construction of individual development projects. Because construction activities associated with any individual development may occur near noise-sensitive receptors and, depending on the project type noise, disturbances may occur for prolonged periods of time, construction noise impacts associated with implementation of the proposed Project are considered significant. Additionally, vibration generated by construction equipment has the potential to be substantial, and exceed the FTA Criteria for human annoyance and structural damage, which would be significant. (County of Los Angeles 2014.)

Buildout of the County of Los Angeles General Plan would also result in substantial noise level increases on roadways throughout the County. Nearby noise-sensitive receptors would experience a substantial increase in noise over existing conditions and significance criteria. Implementation of Proposed General Plan Update policies would reduce impacts to the extent feasible. However, impacts related to noise land use compatibility are considered significant. (County of Los Angeles 2014.)

Implementation of the 2016 RTP/SCS (SCAG 2015) would result in significant cumulative impacts from the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Grading and construction activities would generate temporary increases in noise levels, and operational activities resulted from implementation of transportation projects and anticipated land use development would generate permanent increases in noise levels in excess of standards established in the local general plan or noise ordinance, constituting a significant impact. Implementation of the 2016 RTP/SCS, when taken into consideration with all other infrastructure and development project that may occur in the region between 2016 and 2040, would result in significant cumulative impacts from the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. Both construction and operation activities would expose people to excessive groundborne vibration or groundborne noise levels, constituting a significant impact. (SCAG 2015.)

Operational activities associated with the implementation of the 2016 RTP/SCS would result in significant cumulative impacts from the generation of substantial temporary or periodic increases, as well as permanent increases in ambient noise levels, when taken into consideration with all other transportation infrastructure and development projects that may occur in the region between 2016 and 2040, in the vicinity above existing levels due to the presence of noise-sensitive land uses located near these projects, constituting a significant impact. (SCAG 2015.)

As discussed in Chapter 3.10, the noise impact from construction activities would be significant if a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source. In most cases, the calculated interior sound level would not exceed the Project-specific interior threshold of 85 A-weighted decibels, equivalent noise level (8 hours), through the various phases of construction activities. In addition, construction would be short term in duration, and no hearing damage would occur. However, some individual sidewalk projects may not be able to maintain a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses from the construction noise source, which would result in significant impacts. Construction noise BMPs would be implemented, per PDF-NOI-2, to minimize noise impacts from construction activities.

Similarly, some construction activities could result in substantial vibration impacts. The impact would be less than significant for the vast majority of construction sites. However, the impact would be significant where the distance from the construction vibration source to the building foundation of the nearest structure is less than 8 feet or where the distance to the nearest occupied space of a sensitive use is less than 23 feet. Exceedances of the applicable construction noise thresholds would still occur even after imposition of the construction vibration BMPs in PDF-NOI-3.

While the project-specific impacts may be significant in certain situations, the noise and vibration impacts would be extremely localized to the small area where construction activities take place. Noise effects diminish substantially as distance between the source and receptors widens. Noise generated by a stationary noise source, or “point source,” decreases by approximately 6 dBA over hard surfaces (e.g., reflective surfaces, such as parking lots or smooth bodies of water) and 7.5 dBA over soft surfaces (e.g., absorptive surfaces, such as soft dirt, grass, or scattered bushes and trees) for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level is 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on. None of the sidewalk repair projects would occur simultaneously within the same area that would cumulatively affect the same receptors. Therefore, when combined with noise from other cumulative projects, impacts would be less than cumulatively considerable.

4.3.11 Public Services

The proposed Project would have the potential to result in a cumulatively considerable impact on public services, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would: result in the demand for police services at the time of the proposed Project build-out compared to the expected level of service available; result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities; or require the addition of a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain service.

Cumulative growth within the greater Los Angeles region would result in increased demand and a need for fire and police services to serve new development and populations (City of Los Angeles 1995, County of Los Angeles 2014). Many areas within the region already have inadequate public services for the existing populations and commercial businesses. Further growth, including implementation of the 2016 RTP/SCS, would exacerbate existing needs as well as the expanded needs of cumulative programs and plans (SCAG 2015). In order to maintain adequate service capacity, the construction or expansion of public service facilities would be required, which would have the potential to result in an adverse impact on the environment (County of Los Angeles 2014, SCAG 2015). Although the majority of cumulative projects would involve discretionary actions and therefore would be required to demonstrate compliance with CEQA prior to approval, they would incrementally increase the need for public services. These impacts would be largely mitigated through local municipal and school district developer fees to fund the development of new or expansion of existing public service facilities. (County of Los Angeles 2014). However, the incremental increases would have the potential to result in significant cumulative impacts.

Demand for additional public services is usually created when there is a net increase in population in an area as a result of a project. The proposed Project would not result in an increase in population because the construction crews employed to repair and maintain the sidewalks or remove and replace the street trees would not require relocated housing during construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population, and there is no evidence that ensuring the accessibility of the sidewalks would lead to increased population growth. No other element of the continuing construction activities of the proposed Project has the potential to increase the population, nor would it require the expansion of existing or construction of new fire, police, school, library, or park facilities. Impacts on public services would be less than cumulatively considerable.

4.3.12 Transportation/Traffic

The proposed Project would have the potential to result in a cumulatively considerable impact on transportation/traffic, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would result in temporary traffic constraints due to construction; result in the temporary loss of access due to construction; result in the temporary loss of bus stops or the rerouting of bus lines due to construction; conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)(2) by substantially inducing additional automobile travel due to operations; or negatively affect residential streets due to operations.

Past projects in Los Angeles County (cities and unincorporated areas) have converted undeveloped and agricultural land to urban uses resulting in residential and employment population increases and associated demand for expansions of roadway systems. The cumulative traffic impact of the Los

Angeles County General Plan buildout will be largely mitigated through a combination of regional programs that are the responsibility of other agencies such as cities and Caltrans. However, if these programs are not implemented by the agencies with the responsibility to do so, the cumulative transportation and traffic impacts would remain cumulatively significant. (County of Los Angeles 2014.)

The 2016 RTP/SCS, in addition to other projects from other regional plans (e.g., RTPs of adjacent jurisdictions), could result in additional impacts inside and outside the SCAG region. Therefore, when considered with other projects outside the region, the Plan would have the potential to conflict with established performance of the circulation system by increasing overall VMT, constituting a significant cumulative impact. Forecasted urban development and growth that would be accommodated by the transportation investments in the Plan and increased mobility provided by the Plan would contribute to the significant impacts. Therefore, when considered with other additional projects outside the region, the Plan would have the potential to conflict with established performance of the circulation system by increasing overall delays and congestion, constituting a significant cumulative impact. (SCAG 2015).

The transportation and land use strategies considered in the 2016 RTP/SCS and other RTPs in surrounding areas have the potential to conflict with emergency access, constituting a significant impact. While there are provisions in many other RTPs outside the SCAG region to offer connectivity in terms of goods and services so residents can enjoy a high quality of life complemented by easily accessible transportation options, the timing, location, and duration of construction activities from transportation projects—including grade crossings, arterials, interchanges, and auxiliary lanes outside the region—could result in delayed emergency vehicle response times or otherwise disrupt delivery of emergency response services. For example, closing off one or more lanes of a roadway would result in impaired emergency routes. The closure of these lanes could potentially cause traffic delays and ultimately prevent access to calls for service. Construction and operation of the transportation projects, and related development projects outside the SCAG region, would have the potential to conflict with emergency access plans, constituting a significant cumulative impact. (SCAG 2015.)

Construction activities associated with the proposed Project could involve temporary parking restrictions, lane closures, access restrictions, disruptions to traffic signals, temporary closures or relocations of bus stops, and disruptions to the flow of vehicles, pedestrians, or bicyclists. Full street closures may be required on small residential streets, but these are expected to be infrequent and would not exceed a few hours at a time. Areas of substantial traffic congestion would be anticipated to experience the effects of increased traffic from daily construction trips to a greater degree than areas with relatively low levels of congestion, such as residential streets. Construction trip generation is expected to be widely distributed across the city, and the effects would be localized.

Local access would be maintained, and traffic controllers would implement best practices from the WATCH manual, per PDF-TR-1, which serves as an industry standard for construction-related traffic control, both within the work site and on the nearby local street network. Local vehicular, bicycle, and pedestrian access would be maintained throughout construction, per PDF-TR-3 through PDF-TR-5. The construction activity would be spread across the entire city; multiple projects are not anticipated to occur within proximity of one another, thereby making effects additive.

Under most circumstances (Scenario 1), the highest level of daily construction trip generation is estimated to be 62 one-way trips at each site. The daily maximum could be up to 76 one-way trips under Scenario 2, which is expected to require only one crew per day. Citywide construction-related daily trip generation, with one crew at a Scenario 2 site, would total 758 trips. Trip generation would be geographically dispersed throughout the city; effects would not be concentrated in one area at a time. Construction workers' commute trips to and from the construction yard would occur during off-peak hours to the extent feasible. Truck trips would comply with this policy, including coordination in order to arrive and depart at off-peak commute times to the extent feasible, per PDF-TR-8.

During post-construction operations, trip generation would result from trucks used for watering street trees and inspection activities, which would occur 33 times per year for 3 years. The Project sites would be spread out across the entire city; as a result, the trip generation associated with operations at any single location would not be additive.

Because of the nominal number of daily trips, and the short-term nature of the construction at each site, impacts on transportation are not expected to result in a considerable contribution to significant cumulative impacts related to traffic constraints, loss of access, loss of bus stops, loss of access, or substantially inducing additional automobile travel, or negatively affect residential streets due to operation.

4.3.13 Tribal Cultural Resources

The proposed Project would have the potential to result in a cumulatively considerable impact on tribal cultural resources, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would cause a substantial adverse change in the significance of a tribal cultural resource. Tribal cultural resources (TCRs) in the region are protected by state and regional laws. Cumulative growth and development within the region, as well as implementation of the 2016 RTP/SCS strategies, have the potential to result in the loss or disturbance of historical and archaeological resources, including TCRs (County of Los Angeles 2014, SCAG 2015). Although these potential impacts are normally addressed on a project-specific basis through the formal consultation process, some projects are unable to fully avoid or fully mitigate potential impacts. Impacts related to the loss and/or disturbance of known or unknown archaeological sites (including TCRs) within the greater Los Angeles area, such that the significance of such resources would be materially impaired, are considered to be cumulatively significant (City of Los Angeles 1995, County of Los Angeles 2014, SCAG 2015).

TCRs may be found throughout the city of Los Angeles; it is difficult to document TCRs with precise locations. Construction activities associated with trenching and deeper excavations, as opposed to more surficial disturbances, have the potential to uncover or disturb TCRs. Even with the incorporation of PDF-CUL-1 through PDF-CUL-3 and PDF-CUL-5 to manage unforeseen circumstances, such as the unexpected discovery of TCRs, impacts could nonetheless still occur. Through the consultation process with area tribes, mutual agreement could not be reached as to whether a significant effect exists and/or any measures to mitigate or avoid a significant effect on TCRs. Therefore, the proposed Project would result in a cumulatively considerable contribution to a significant cumulative impact on TCRs.

4.3.14 Utilities and Service Systems

The proposed Project would have the potential to result in a cumulatively considerable impact on utilities and service systems, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would exceed the existing and planned water supply; be adequately served by the existing and planned water infrastructure; constrain or exceed the future planned drainage capacity as defined in the City of Los Angeles General Plan; exceed the existing sewer capacity; 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; or result in a need for an additional solid waste collection route, or recycling or disposal facility to adequately handle Project-generated waste.

Cumulative growth and development, as well as implementation of transportation infrastructure improvements, would result in additional demands on utilities and services, such as water supplies, wastewater treatment, and solid waste disposal. As the County and City of Los Angeles continue to grow, there will be a continued need for increased landfill capacities. A potential for cumulative impacts to solid waste management exists on a countywide level. Similarly, the Framework Plan EIR concluded that cumulative impacts would occur to the Joint Water Pollution Control Plant for wastewater flows. Significant cumulative impacts were not anticipated to water supplies from buildout of the General Plan. (City of Los Angeles 1995.)

Cumulative forecast water demands and wastewater treatment capacity within Los Angeles County are expected to be accommodated by existing available supplies and treatment capacities, and cumulative water demands for Los Angeles County are forecast to decline between 2013 and 2035. In addition, cumulative estimated solid waste generation to 2035 conditions and at post-2035 buildout are well within the residual capacity of landfills serving Los Angeles County. Therefore, impacts on utilities and services would be less than cumulatively significant (County of Los Angeles 2014).

The 2016 RTP/SCS would be expected to contribute to less-than-significant cumulative impacts incrementally with related projects in the SCAG region to contributing to exceeding wastewater treatment requirements. Wastewater treatment facilities throughout the SCAG region can accommodate 3,018.17 million gallons per day (MGD). The remaining wastewater treatment capacity in the SCAG region is estimated at 54 percent remaining.

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on contributing to new stormwater drainage systems. Significant increases to runoff and peak flow can overwhelm drainage systems and alter flood elevations in downstream locations. Increased runoff velocity can promote scouring of existing drainage facilities, reducing system reliability and safety. (SCAG 2015.)

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on having sufficient water supplies available to serve the project. The volume of water and water delivery infrastructure currently available within the SCAG region would not be sufficient to meet the future multiple dry year or average year water demand in 2040. As population increases and disperses throughout the SCAG region, the demand for municipal water would increase. Development attributed to land use strategies would also increase water demand. The 2016 RTP/SCS would contribute to cumulative significant impacts in the region in consideration of related projects in regard to water supply. Due to the uncertainties associated with water supply and management, this impact is considered cumulatively considerable. (SCAG 2015.)

The 2016 RTP/SCS would be expected to contribute incrementally with related projects in the SCAG region to significant cumulative impacts on having sufficient landfill capacity. Existing landfills are currently operating at 80 percent capacity across the SCAG region. Per capita generation of solid waste is decreasing across the SCAG region due to increased recycling and compliance with the requirements of AB 939 and other sustainable conservation measures. Additionally, transportation projects and development encouraged by land use strategies would be required to comply with AB 341, in which 75 percent of the waste stream be recycled by the year 2020. However, the potential to exceed capacity over the planning horizon remains significant. (SCAG 2015.)

During construction, water would be used primarily for pouring and mixing concrete as well as mitigating fugitive dust impacts associated with construction activities. No extension of water infrastructure would be required for any part of the Project. The total water consumption associated with construction activities over 30 years would be approximately 222 acre-feet (AF). Overall, the average water demand for construction would be 7.3 acre-feet per year (AFY). In years 26 through 30, representing the maximum water demand for construction activities, the average water demand would be 10.3 AFY, representing approximately 0.015% of the total projected 2040 water demand. This is also substantially lower than the estimated 123 AFY required for a 500-dwelling-unit that would be subject to a Water Supply Assessment. The 2015 Urban Water Management Plan (UWMP) prepared by Los Angeles Department of Water and Power 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, the demand for water from the Project would not result in a cumulatively considerable impact on water supplies.

Water consumption estimates for post-construction assume that each street tree planted would require 30 gallons of water for 33 weeks for the first 3 years. As a result, each street tree would require 2,970 gallons of water during the optimization period. The Project proposes to plant a total of 30,405 street trees over 30 years, which would result in approximately 90,302,850 gallons, or 277.1 AF. This corresponds to an average use of 9.2 AFY, with a maximum water use in years 16 through 20 (2034 through 2038) of 12.2 AFY. The maximum of 12.2 AF between 2034 and 2038 that would be required for replacement street tree watering would represent approximately 0.018% 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, water demand during operations would be less than cumulatively considerable.

Water used in concrete pouring would not require the use of sewer capacity; a dried mixture would be used to lay new sidewalk. In addition, construction workers would consume water and generate a nominal amount of unquantified wastewater. Because of the nominal contribution of continuing construction activities from the Project to overall citywide flows (particularly in the context of the amount of wastewater currently generated by the ongoing citywide sidewalk repairs), which would use 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 existing sewer capacity. Similarly, construction of the Project would not exceed the wastewater treatment requirements of the Los

Angeles RWQCB. Therefore, impacts on wastewater treatment facilities would be less than cumulatively considerable.

Sidewalk repair would result in ground surface during excavation, which 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. Although some projects may require repairs to catch basins or replacements, no new additive storm drain infrastructure would be required. Therefore, the Project would not result in a cumulatively considerable impact on storm drainage infrastructure.

Construction activities would result in the demolition of existing sidewalk facilities, creating a need to dispose of concrete and other construction debris. The City requires construction and demolition waste processing and recycling pursuant to the Construction and Demolition Waste Recycling Ordinance (Ordinance 181,519) rather than disposal in landfills. Compliance 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, would minimize the Project's contribution to cumulative impacts at landfills. However, the proposed Project may exceed existing capacity at City recycling facilities. 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 Solid Waste Integrated Resources Plan. As a result, impacts would be less than cumulatively considerable.

4.3.15 Energy

The proposed Project would have the potential to result in a cumulatively considerable impact related to energy, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would result in the wasteful, inefficient, or unnecessary consumption of energy.

Cumulative growth and development in the greater Los Angeles region would result in additional demand, resulting in increased consumption of electricity and natural gas. The anticipated power and natural gas demands for the buildout of the City of Los Angeles Framework Plan would be considered to be cumulatively significant in the context of future growth elsewhere in Los Angeles County (City of Los Angeles 1995). Cumulative electricity demands within Los Angeles County in 2035 would total about 15.1 billion kilowatt hours per year (15,100 gigawatt hours per year), which is within Southern California Edison's demand forecast for its service area. Cumulative natural gas demands in 2035 would total about 232 million therms per year (61.6 million cubic feet of natural gas per day), which is within the Southern California Gas Company's natural gas supply forecast. These cumulative impacts were considered to be less than significant (County of Los Angeles 2014).

Implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to increase the consumptive use of energy by residential land uses, constituting a significant cumulative impact. The cumulative residential energy consumption between 2015 and 2040 would be 6 percent less with the Plan than with no Plan. However, there would still be 11,028 trillion British thermal unit [BTU] commitment to residential energy consumption over the lifespan of the Plan, resulting in a significant cumulative impact. Furthermore, implementation of the transportation projects included in the 2016 RTP/SCS, when taken into consideration with other development and infrastructure projects within the SCAG region and surrounding areas, would have the potential to increase building energy consumption, constituting a significant cumulative impact. The total energy consumption between 2015 and 2040 with the proposed 2016 RTP/SCS is 19,559 trillion BTU. This is 4 percent less than the energy consumption expected in the same time frame without the Plan. However, there would still be a 19,559-trillion BTU commitment to total energy consumption over the lifespan of the Plan, resulting in a significant cumulative impact. (SCAG 2015.)

Construction activities under the Project would rely on diesel-powered generators to produce the electricity required to operate electrical equipment. Although the removal of street trees could indirectly increase electricity consumption because of the urban heat island effect, the Project would plant up to 30,405 street trees, resulting in a net neutral citywide street tree canopy beginning in year 30 of the Project and continuing beyond year 30, which would offset the temporary urban heat island effects. As described in Chapter 3.15, it is anticipated that the utilities would address demands within their respective service territories, which are under the oversight of the Public Utilities Commission. Furthermore, the Project would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity. In addition, the Project would not impede a local utility's ability to meet the Project's peak- and base-period demand for electricity and other forms of energy.

During construction, transportation fuel would be required and consumed at a rate of approximately 148,705 gallons per year during peak activity, or approximately 3.3 million gallons (418,456 BTUs) over the 30-year lifetime of the Project. Vehicles used for street tree watering and inspections during post-construction operations would result in the consumption of approximately 10,623 gallons (41,280 BTUs) of transportation fuel per year, or approximately 318,690 gallons over the 30-year lifetime of the Project. The City would use a fleet of fuel-efficient vehicles for all work that would be required under the Project, which would reduce the demand for transportation fuels. Therefore, the Project would not result in a wasteful, inefficient, or unnecessary usage of energy; result in a substantial increase in energy demand that would affect local or regional energy supplies; or require additional capacity or infrastructure to meet an increased demand. Therefore, the proposed Project would not result in cumulatively considerable contributions to impacts on energy supplies.

4.3.16 Wildfire

The proposed Project would have the potential to result in a cumulatively considerable impact related to wildfire, if, in combination with cumulative plans and programs within the greater Los Angeles region, it would: substantially impair an adopted emergency response plan or emergency evacuation plan; exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire; require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment; or expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Los Angeles County faces major wildland fire threats due to its hilly terrain, dry weather conditions, and the nature of its plant coverage. Although fires are a natural part of the wildland ecosystem, development in wildland areas increases the danger of wildfires to residents, property, and the environment. Cumulative growth and development within the Los Angeles region would increase the number of wildfire events and increase the exposure of people to risks associated with wildfires. Continued growth and development in Los Angeles County would significantly affect the Los Angeles County Fire Department operations. In an effort to reduce the threats to lives and property, the Los Angeles County Fire Department has instituted a variety of regulatory programs and standards for vegetation management, pre-fire management and planning, fuel modification, and brush clearance. In addition to these programs, the Los Angeles County Fire Department and the County Department of Public Works enforce fire and building codes related to development in Very High Fire Hazard Severity Zones (VHFHSZs). The Los Angeles Fire Department has access requirements for single-family residential uses built in VHFHSZs. The County General Plan policies and conditions of approval for future development projects, in addition to compliance with applicable regulations, would minimize proposed Project impacts related to wildland fires. Any future development would be required to comply with applicable federal, state, and local regulations related to wildland fires. Required compliance with these regulations would ensure impacts related to wildland fires would be less than cumulatively considerable. (County of Los Angeles 2014.)

Implementation of the transportation projects included in the 2016 RTP/SCS—when taken into consideration with related development and infrastructure projects within the SCAG region and surrounding areas, and anticipated growth and land use development patterns—would contribute to cumulative significant impacts with regard to the potential to expose people and structures to wildland fires. The 2016 RTP/SCS includes a set of regional land use strategies that are intended to guide future land development patterns to focus new growth in transit priority areas or existing infill sites, existing suburban town centers, and walkable mixed-use communities. While the specific impact of this pattern of development relative to wildland fires is unknown, it could result in cumulative significant impacts with regard to more people being exposed to the effects of effects of wildland fires. Therefore, the Plan would result in cumulative significant impacts with regard to the potential to expose additional people and structures to the effects of wildland fires. (SCAG 2015.)

The proposed Project would result in sidewalk repairs within urban or suburban areas. However, some repairs would occur in areas that are designated as VHFHSZs. The work would be performed on concrete sidewalks, curbs, gutters, ramps, and other existing built-environment infrastructure. The materials involved are not flammable, and work would not be performed near flammable materials that would exacerbate wildfire risks. Compliance with existing laws, such as those in the Los Angeles Municipal Code, Fire Code Section 57, et seq., as mentioned in PDF-WF-1 through PDF-WF-6, for construction sites on, adjacent to, or in the immediate vicinity of a VHFHSZ would further minimize potential risks. Therefore, the proposed Project would not result in cumulatively considerable contributions to wildfire impacts.

Chapter 5
Comparison of Alternatives

5.1 Introduction

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to a project or to the location of a project that could feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any significant environmental impacts. According to the State CEQA Guidelines, the EIR should compare merits of the alternatives and determine an environmentally superior alternative. The range of alternatives discussed in an EIR is governed by the "rule of reason," which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. State CEQA Guidelines Section 15126.6(f)(1) explains that the evaluation of project alternative feasibility can consider "site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site." The EIR is also not required to evaluate an alternative that: (1) has an effect that cannot be reasonably identified or that has remote or speculative implementation and (2) would not achieve the basic project objectives.

As set forth previously in Chapter 2, *Project Description,* the City of Los Angeles (City) has the following underlying purpose for the Sidewalk Repair Program (Project): to ensure compliance with the *Willits* Settlement and streamline review of sidewalk repair projects consistent with applicable accessibility standards. The following is a list of the Project objectives, including the fundamental Project objective, which is to:

- Ensure the continued and efficient compliance with the requirements of the *Willits* Settlement while amending the existing program for sidewalk and curb ramp improvements within the City, in accordance with the applicable accessibility requirements, including those required by the Americans with Disabilities Act.

The following additional project objectives have also been identified:

1. Retain existing street trees that are the cause of sidewalk barriers to the extent feasible, and provided the sidewalk improvements would not result in street tree mortality or compromise public safety.
2. If the removal of one or more street trees is required, ensure compliance with the City's replacement requirements adopted to ensure no net street tree canopy loss at the end of the Project implementation period.
3. Identify the criteria and process for ministerial approval of future sidewalk improvements and street tree removals and replacements, with the goal of avoiding the need to undertake individualized environmental review of every repair of every City sidewalk or of every street tree removal and replacement and the potential legal challenge to each such approval, thereby streamlining the *Willits* Settlement implementation and providing certainty to the City and the disability community.

5.2 CEQA Alternatives Considered

State CEQA Guidelines Section 15126.6(f) notes that the range of alternatives required in an EIR is governed by a rule of reason and must include only those alternatives that are necessary to permit a reasoned choice. The alternatives should avoid or substantially lessen the Project's significant effects. Furthermore, only the alternatives that the lead agency determines could feasibly attain most of the basic objectives of the Project should be analyzed in detail. Scoping comments received for this EIR also informed the identification and development of alternatives to the proposed Project. Based on these considerations, the following alternatives to the proposed Project have been identified by the City for consideration in this EIR.

5.2.1 No Project Alternative

State CEQA Guidelines Section 15126.6(e) requires that, among the project alternatives, an EIR include a "no project" alternative. State CEQA Guidelines Section 15126.6(e)(2) requires that the no project alternative analysis "discuss the existing conditions…as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and policies and consistent with the available infrastructure and community services."

Under the No Project Alternative, implementation of sidewalk repairs throughout the City would continue to be undertaken pursuant to the City's obligations under the *Willits* Settlement Agreement using existing ordinances and policies. In accordance with existing processes, a case-by-case review and approval of each sidewalk repair project funded as a result of the Settlement would occur. The City will continue to expend funds on sidewalk repairs during the Settlement's 30-year compliance period, for a total of $1.3 billion, and sidewalk repairs and street tree removals and replacements would continue per established practices at the time the Notice of Preparation and Initial Study were published in July 2017. The City's existing sidewalk improvement process involving repair and maintenance activities, as described in Section 2.1.2.2, would continue to occur to ensure continued compliance with applicable disability and accessibility laws, consistent with the terms of the Settlement. Sidewalk repairs and maintenance will be carried out in accordance with existing policies and procedures as described in Section 2.1.2.3, including the "fix and release" program established under Ordinance No. 184596 and pursuant to Sidewalks Standard Plan S-440-0. The Prioritization System, adopted by the City Council in January 2018, will be used to prioritize repair work under the No Project Alternative. As under existing conditions, constituents may submit requests for sidewalk repairs under the Access Request, Rebate, and Report a Sidewalk Problem.

Under the No Project Alternative, individual sidewalk repair projects will continue to be reviewed on a case-by-case basis for compliance with CEQA. A streamlined review process, including use of ministerial approvals for sidewalk improvements, will not be established. It is anticipated that a majority of the sidewalk repair projects will meet the definition of a Class 1 existing facility repair and maintenance project for purposes of the categorical exemption identified in State CEQA Guidelines Section 15301(c). Whether a particular sidewalk repair is exempt from CEQA would be determined at the time the repair project is proposed.

Removal and replacement of street trees under the No Project Alternative will continue to occur in accordance with the Street Tree Removal Permit and Tree Replacement Condition Policies adopted by the Board of Public Works (BPW) in June 2015, which requires a 2:1 replacement ratio; these policies will not be revised under the No Project Alternative. Accordingly, the Bureau of Street

Services (BSS) will continue with the current practice of reviewing the street tree removal permit applications for removal of up to two trees, followed by reviews and a decision being made on approval or denial of the permit application by a BPW commissioner. For removal of three or more street trees for a sidewalk repair project, a minimum 30-day notification period will continue to be required, after which BSS will review the street tree removal permit application and make a recommendation to BPW for approval or denial of the permit. After the preparation of a BPW board report for this project, a BPW public hearing will be conducted to consider the application and approve/deny the permit for removal of three or more trees. Existing street tree retention methods will continue, including implementation of City root-pruning standards that are applicable to tree species being considered for root pruning. Under the No Project Alternative, a revised Street Tree Retention, Removal, and Replacement Policy will not be established; as described above, street tree removal permit applications will continue to require discretionary approvals (from BSS for up to two trees and from BPW for three or more trees) subject to existing street tree replacement requirements (2:1 ratio).

5.2.2 Alternative 1. Ordinance to repair sidewalks and avoid removal of any street trees.

During the EIR scoping process, commenters suggested that the sidewalk repairs should avoid all street tree removals. Accordingly, an alternative was considered under which the proposed ordinance would prohibit the removal of any street trees to repair sidewalks. Under this alternative, the new proposed ordinance would allow for ministerial approval of sidewalk repairs only when root pruning is a viable option for correcting tree-related damage to sidewalks. This alternative would therefore prohibit the removal of any street trees as part of the Project, including as part of a discretionary approval process. The City would, however, under circumstances where a dead or dying tree poses a safety hazard or hazard to private property, as determined by a City arborist, continue removing and replanting trees to avoid such a hazard. Removing damaged, diseased, or dead trees is part of routine City activities that would continue.

Under this alternative, nevertheless, Settlement funding would be used to repair only those sidewalks that do not involve street tree removals. Any construction scenarios described in the Project description that involve street tree removal would not occur, including but not limited to street tree replacement and associated construction activities. Other activities related to the construction scenarios are expected to be the same (see Section 2.5.3.4). Based on the sidewalk repair activities that have occurred across the City to date, and the representative site plans for sidewalk repair and curb ramp installation work for compliance with accessibility standards (see Section 2.4.3.1), showing street tree removals, the prohibition of street tree removals under this alternative would reduce the square footage of sidewalks that can be repaired across the City compared to the proposed Project. Thus, while a ministerial approval process for sidewalk repair projects that do not require any street tree removals would be established under this alternative, thereby streamlining the process, the total amount of sidewalk repairs that would be completed under Alternative 1 would be less than under the proposed Project. Because there would be no street tree removals under this alternative, no street tree replacements would need to occur; therefore, under Alternative 1, no operations activities described under the proposed Project would occur, such as replacement street tree monitoring and watering. Under this alternative, no changes to the existing 2015 Board of Public Works Policy for the Sidewalk Repair Project would occur.

5.2.3 Alternative 2. Ordinance to exclude sidewalk repairs and street tree removals within 23 feet of the nearest occupied space façade of the closest sensitive receptor (residential or commercial use).

Under Alternative 2, the proposed new ordinance would revise the way sidewalk repair projects are reviewed and approved for only those projects that are more than 23 feet from the nearest occupied façade of the closest sensitive receptor (commercial or residential use); sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential) would continue to be evaluated on a case-by-case basis, as under existing conditions, for purposes of CEQA compliance and approval.

Under Alternative 2, sidewalk repair projects that are more than 23 feet from the nearest occupied façade of the closest sensitive receptor (commercial or residential use) would proceed under ministerial approvals as long as they fall within the specific parameters of the construction scenarios described in Section 2.5.3 and would not cause a substantial adverse change to significance of a known historic, known tribal cultural, known unique archaeological, or known unique paleontological resource, as those terms are defined by CEQA. Sidewalk repair construction sites that are more than 23 feet from the nearest occupied façade of the closest sensitive receptor (commercial or residential) but are outside the specific parameters for a ministerial approval would be subject to a discretionary approval process, relying on this EIR for a streamlined review under CEQA. This alternative avoids noise and vibration impacts on sensitive uses. All sidewalk repair projects under Alternative 2, whether approved ministerially or discretionarily in a streamlined manner, would be carried out in compliance with the *Willits* Settlement and be consistent with applicable accessibility requirements; would comply with the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program as described in Section 2.4.4; and would comply with the Project Design Features (PDFs) included in the proposed Project and described in Chapter 3, *Environmental Impact Analysis*.

5.2.4 Alternative 3. Ordinance will exclude sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources; such projects would proceed as discretionary projects under existing codes and policies.

Under Alternative 3, sidewalk repair projects that may result in significant adverse impacts on known historic, tribal cultural, unique archaeological, or unique paleontological resources, as these terms are defined by CEQA, would be ineligible for approval under the sidewalk repair program ordinance. Under this alternative, the City would continue to review and approve each such sidewalk repair project funded as a result of the Settlement on a case-by-case basis under existing codes and policies, and would require individual CEQA review and would not rely on this EIR for CEQA compliance. Approval of the Project construction sites within these parameters would proceed only on a case-by-case basis of discretionary approval consistent with existing practices, as opposed to a streamlined discretionary approval process as proposed under the Project. However, because the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program would still be adopted by the City under Alternative 3, all Project construction sites funded by the Settlement would continue, regardless of the particular approval process employed. Compliance with the PDFs included in the Project and described in Chapter 3, *Environmental Impact Analysis*, would not be required for these sidewalk repair projects; instead any project design features or mitigation measures identified during the site-specific, case-by-case CEQA review would need to be implemented.

5.3 Alternatives Rejected From Further Consideration

The City considered several other alternatives during the course of this EIR, including those that were suggested during scoping and public review. However, not all of the alternatives have been carried forward for full analysis in this EIR for various reasons as discussed below. Pursuant to State CEQA Guidelines §15126.6(c), an EIR should "identify any alternatives that were considered by the lead agency but rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." The screening process for identifying viable EIR alternatives included consideration of an alternative's ability to meet the Project objectives and reduce significant environmental impacts.

5.3.1 Alternative 4. The City will expend accelerate its annual funding commitment(s) in sidewalk repair funds pursuant to the *Willits* Settlement in 15 years rather than the Settlement's 30-year compliance period.

Alternative 4 would involve compliance with the Settlement in a 15-year time period rather than 30 years. For this alternative, funding needs to be allocated at twice the proposed annual amount than for the proposed Project, so that twice as many construction activities can occur over a 15-year period instead of the 30 years of the proposed Project. This alternative would increase the annual miles of repair work to 74 miles per year for the first 5 years, with increases thereafter based on varying financial commitments every 5 years. The approximate total construction assumptions would be modified as shown in the table below.

Table 5-1. Approximate Total Project Construction

Year	Estimated Sidewalk Repair (square feet)	Estimated Sidewalk Repair Per Year (sq. ft.)	Crew Teams Per Year	Crew Teams Per Week
1–5	10,428,595	2,085,719	642	13
6–10	13,859,375	2,771,875	853	17
11–15	18,431,255	3,686,251	1,134	23
TOTAL	42,341,710			

The street tree replacement ratio would also be modified to 2:1 for years 1 through 5, 3:1 for years 6 through 10, and 2:1 for years 11 through 15. The following table identifies the estimated maximum sidewalk repairs and street tree removal and replacements that would occur under this alternative in 5-year increments.

Table 5-2. Estimated Maximum Sidewalk Repair and Street Tree Removal under the Project

Year	Estimated Sidewalk Repair (square feet)	Estimated Street Tree Removal (trees)	Estimated Street Tree Replacement (trees)[1]
1–5	10,428,595	3,140	6,275
6–10	13,859,375	4,175	12,525
11–15	18,431,255	5,545	11,605
TOTAL	42,719,225	12,860	30,405

Source: BOE 2018.

[1] Based on street tree replacement of 2:1 for years 1 through 5, 3:1 for years 6 through 10, and 2:1 for years 11 through 15

No changes to the types of improvements, proposed construction activities, or construction scenarios for individual projects are proposed under this alternative. The average project site is still assumed to be 650 linear feet, with an average of one street tree removal with every repair site. The construction time period halved would mean that double the number of construction sites and construction crews would be working. Transportation, traffic, energy, greenhouse gases, and utilities like water would increase over the proposed Project because more work would be taking place in a shorter amount of time. The street tree replacement ratio for the 15-year alternative, however, would result in a street tree canopy loss at the end of Project implementation. As discussed in the biological resources section, the mature age of a street tree is found to be 15 years and, in a 15-year alternative, only the street trees planted during Year 1 would be matured. Therefore, there would be loss of street tree canopy at Year 15 even if all the sidewalk repair sites are completed. This 15-year alternative is not being considered for further analysis because it does not meet Project objective number 3.

5.3.2 Alternative 5. Ordinance to require use of only hand tools, for example, no jackhammering, no power tools, and no heavy equipment.

Under Alternative 5, the proposed new ordinance would revise the way sidewalk repair projects are reviewed and approved for only those projects that can be completed, in compliance with the *Willits* Settlement, using only hand tools and not requiring use of any of the heavy powered construction equipment described in Section 2.5.3.3.1, such as but not limited to jackhammers, loaders, compressors, and compactors. Any sidewalk repair projects that require the use of heavy construction equipment to be compliant with the *Willits* Settlement and applicable accessibility requirements would continue to be evaluated individually on a case-by-case basis, as under existing conditions, to determine whether further environmental review under CEQA is needed. This alternative was considered as a means to reduce noise impacts associated with the proposed Project.

Under Alternative 5, sidewalk repair projects that can be completed using only hand tools would proceed under ministerial approvals as long as they fall within the specific parameters of the construction scenarios described in Section 2.5.3 but without the use of the powered heavy construction equipment described in Section 2.5.3 (and thus using suitable replacement tools/equipment), and would not cause noise and vibration impacts within 23 feet of residential uses or within 10 feet of commercial uses. If sidewalk repair projects can be completed using only hand tools—like hammers, wheel barrows, shovels, ropes, hand saws, and buckets—then there would be no noise impact from heavy equipment like a jackhammer. The continuation of the ongoing activities would take longer with hand tools than with power tools and heavy equipment. Both construction scenarios would be over 30 days, which would lead to more air, transportation, and utilities impacts. Due to each repair site taking a longer time, less sidewalks would be repaired in the City. The Sidewalk Repair Program Revised Street Tree Retention, Removal and Replacement Policy would be implemented, and all other PDFs included in the proposed Project and described in Chapter 3, *Environmental Impact Analysis*, would be implemented.

Implementing Alternative 5 would not be efficient or effective at implementing the *Willits* Settlement. The use of hand tools only and restriction of power tools and use of heavy equipment would take an extraordinary amount of time compared to traditional construction techniques. This would slow the implementation of the program and would not achieve the desired objectives or outcomes. In some cases, it may not be possible to remove the existing concrete and street trees without the use of power equipment, such as jackhammers, backhoes, and wood chippers. Therefore, this alternative has been rejected from further consideration and no further analysis is warranted.

5.3.3 Alternative 6. Avoid sidewalk repairs and street tree removals that would last longer than 30 construction days or require excavation greater than 30 feet.

This alternative would not include sidewalk repairs and street tree removals that would last longer than 30 construction days or require excavation greater than 30 feet. Under the proposed Project, one of the specific parameters under which individual sidewalk repairs would proceed ministerially pursuant to the new ordinance is that the project would last no more than 30 non-consecutive construction days in duration and require excavation depth of no greater than 30 feet. If the individual project does not meet this parameter, it would be subject to discretionary approval by the City Engineer or designee. Thus, sidewalk repair projects that would last longer than 30 construction days or require excavation greater than 30 feet are already excluded from the proposed ordinance.

The City could still pursue these projects through the individual discretionary process. Avoiding any sidewalk repairs and street tree removals that would last longer than 30 construction days or require excavation greater than 30 feet altogether, where such repairs are necessary, would conflict with the *Willits* Settlement if not addressed. One of the primary Project objectives is to ensure the continued and efficient compliance with the requirements of the *Willits* Settlement to maintain accessibility. Therefore, for the reasons stated above, this alternative has been rejected from further consideration, and no additional analysis is warranted.

5.3.4 Alternative 7. Ordinance to obtain ROW acquisition of private property to retain all street trees by meandering sidewalks and to place a construction noise barrier.

This alternative would include provisions in the proposed ordinance to allow for private property right-of-way (ROW) acquisition in order to avoid removal of all street trees where the street trees are the cause of sidewalk damage. Through this alternative, the City would be able to acquire private property to construct a 5-foot sidewalk, in order to avoid the street tree roots that have protruded the existing sidewalks. The street trees that have damaged the sidewalks would not be removed; however, in order to provide accessibility, a new sidewalk would have to be permanently constructed, or the existing sidewalk would need to be permanently redesigned, through private property. Use of private property would need a long-term acquisition and may need to be maintained by the owner, depending on the agreement. If a street tree is not diseased, dying, or dead, it will be root pruned and will continue to grow under the pavement.

ROW acquisition of private property, in this alternative, would also allow for a placement of a noise barrier during construction. This would reduce the impact of noise and vibration on sensitive uses. The barrier would be placed adjacent to the sensitive land use, if the construction is taking place fewer than 23 feet from residences and fewer than 10 feet from commercial buildings.

While the proposed Project does not explicitly prohibit the acquisition of private property to widen the sidewalks or meander around existing street trees, there is no guarantee that property owners would be willing to sell ROW or allow the City to obtain additional ROW or build noise walls within private property. Therefore, it cannot be determined with any certainty that this alternative is feasible without the use of eminent domain. The eminent domain process would be prohibitively expensive compared to the alternative to remove or prune obstructing street trees. Additionally, it should be noted that the *Willits* Settlement does not include ROW acquisition as one of the covered activities.

One of the primary Project objectives is to ensure the continued and efficient compliance with the requirements of the *Willits* Settlement to maintain accessibility. An additional Project objective is to complete all required sidewalk repair segments without the need to acquire additional property as part of the City's ROW. Therefore, for the reasons stated above, this alternative has been rejected from further consideration, and no additional analysis is warranted.

5.3.5 Alternative 8. Ordinance to mandate/test use of alternative/green/recycled construction materials for sidewalk and curb ramp repairs, where applicable.

During the EIR scoping process, commenters suggested that the sidewalk repairs be performed using alternative/green/recycled construction materials. Accordingly, an alternative was considered under which the proposed ordinance would mandate the use of alternative/green/recycled construction materials for all sidewalk and curb ramp repairs undertaken. As discussed in Section 3.9, *Land Use and Planning*, each individual sidewalk repair project arising under the Project would include several features that would be compatible with City sustainability goals and policies and sustainable construction guidelines. These features would include stormwater best management practices (BMPs), safety protocols during construction, and green infrastructure design. A summary of the Project's consistency with the City's sustainability goals is provided in Tables 3.9-9 and 3.9-10.

The Project will implement best available technology and water conservation techniques for deep watering of newly planted street trees, and where feasible will install permeable surfaces and use cool surfaces. The pLAn strategies also include consideration of using low-emission concrete or other low-emissions materials. It should also be noted that the City is implementing an Alternative Materials pilot program to evaluate the effectiveness of alternatives to Portland Cement concrete in sidewalk repair, such as cementitious pavers and rubber materials and pavers. The City is continuing to evaluate the efficacy and cost-effectiveness of these alternative materials. However, at this time the feasibility and cost-effectiveness of using these materials in a widespread manner is unknown. The City will continue to evaluate each of the pilot sites to determine whether the use of alternative materials is feasible. Therefore, this alternative has been rejected from further consideration because no specific data are available on its viability and longevity for sidewalk repairs and no further analysis is warranted.

5.3.6 Alternative 9. Ordinance to include revision to the current BPW street tree policy for a higher than 2:1 street tree replacement to removal ratio.

This alternative would modify the proposed ordinance to require street tree replacement at a higher than 2:1 ratio for the replacement of removed street trees. An important component of the *Willits* Settlement sidewalk repairs is street tree root pruning as well as the removal and replacement of street trees. A 1:1 replacement of street trees would result in a net reduction in total street tree area and more replacement street trees would be required than street trees removed to result in a net balance of street tree canopy area. In June 2015, BPW adopted the Street Tree Removal Permit and Tree Replacement Condition Policies. The policies require all removed street trees to be replaced on a 2:1 basis. The street tree removal rate under the proposed Project is anticipated to escalate in association with the increasing extent of sidewalk repairs that similarly escalates through the program period.

To address the anticipated effect of the Project on the City street tree canopy, a numeric model was developed that would allow for examination of the effects of street tree removals and replacements under changing program variables, including street tree sizes removed, timing of street tree removals, and number and timing of replacement street tree planting (contained in Appendix B). The model was run for 26 total scenarios of street tree replanting as scaled against street tree removals, which explored the effects of altering parameters such as average replacement street tree size, street tree replacement ratios, front-end loading of street tree replacement, sensitivity testing of changing mortality rates, and application of variable replacement ratios.

Scenario 19 in the model shows the effect of street tree replacement multiplier with replacement with current street tree sizing practices (the calculated existing mean mature canopy diameter is 30.48 feet). Replacement at 2:1 would not surpass the cumulative loss over the 30-year period. The proposed Project includes a revised Street Tree Retention, Removal and Replacement Policy establishing a 2:1 street tree replacement to removal ratio requirement for the first 10 years (starting from July 2017), a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the 30-year program. Following this replacement ratio for the projected number of street trees removed would provide the City with net neutral street tree canopy by year 30.

Replacement at 5:2, 3:1, and 4:1 ratios would all exceed cumulative loss by year 30 (replacement at 4:1 would nearly double the change in canopy acres compared to 2:1 replacement). However, replacement at these higher ratios would result in additional costs to the City that would not garner much additional benefit. With replacement at the proposed ratios, no significant impacts would occur that would need to be mitigated or otherwise reduced with an alternative to replace street trees at a higher ratio. Additionally, one of the Project objectives is to ensure compliance with the City's replacement requirements as stipulated in the Project description. Therefore, this alternative has been rejected from further consideration and no additional analysis is warranted.

5.4 Comparison of Alternatives Analyzed

State CEQA Guidelines Section 15126.6(d) requires that "the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." Accordingly, this section provides a comparative discussion of potential impacts from the alternatives to the proposed Project carried forward for analysis in this EIR. Table 5-3 provides a summary of the impacts associated with each of the alternatives in relation to the impacts of the Project.

Table 5-3. Comparison of Impacts for Alternatives Carried Forward

Environmental Resource	Proposed Project	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Aesthetics	Significant	Significant +	Significant -	Significant =	Significant =
Air Quality	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Biological Resources	Less than Significant	Less than Significant +	Less than Significant -	Less than Significant =	Less than Significant =
Cultural Resources	Significant	Significant =	Significant =	Significant =	Less than Significant -
Energy	Less than Significant	Less than Significant +	Less than Significant -	Less than Significant =	Less than Significant =
Geology and Soils	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Greenhouse Gas Emissions	Less than Significant	Less than Significant +	Less than Significant -	Less Than Significant =	Less than Significant =
Hazards and Hazardous Materials	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Hydrology and Water Quality	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Land Use and Planning	Less than Significant	Less than Significant =	Less than Significant +	Less than Significant =	Less than Significant =

Environmental Resource	Proposed Project	No Project Alternative	Alternative 1	Alternative 2	Alternative 3
Noise	Significant	Significant =	Significant -	Less Than Significant -	Significant =
Public Services	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Transportation	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Tribal Cultural Resources	Significant	Significant =	Significant =	Significant =	Less than Significant -
Utilities and Service Systems	Less than Significant	Less than Significant =	Less than Significant -	Less than Significant =	Less than Significant =
Wildfire Hazards	Less than Significant	Less than Significant =	Less than Significant =	Less than Significant =	Less than Significant =
Relative Impact Score		**+4**	**-8**	**-1**	**-2**

Notes: The + (plus) and - (minus) indicate relative comparison of impacts to the proposed Project.
(+) = Alternative would increase impact when compared with the proposed Project.
(–) = Alternative would reduce impact when compared with the proposed Project.
(=) = Alternative would have similar impacts when compared with the proposed Project and would be considered neutral.

5.4.1 No Project Alternative

Under the No Project Alternative, implementation of sidewalk repairs throughout the City would continue to occur pursuant to the City's obligations under the *Willits* Settlement Agreement using existing ordinances and policies. As such, sidewalk repairs and street tree removals would still occur, albeit at a slower rate than under the proposed Project due to the need for case-by-case approval under existing policies. Accordingly, under the No Project Alternative, it is anticipated that slightly less sidewalk would be repaired than under the Project. Removal and replacement of street trees will continue to occur in accordance with the existing Street Tree Removal Permit and Tree Replacement Condition Policies adopted by BPW in June 2015, at a 2:1 ratio.

5.4.1.1 Aesthetics

The No Project Alternative would not contribute to a loss of scenic vistas or a state scenic highway, or loss of focal views including natural views of topography, mountains, oceans, or man-made visual features. The No Project Alternative would result in similar conditions during construction as the Project because sidewalk and curb ramp repairs along with street tree removal and replacement would still continue under the existing procedures and policies. Temporary construction impacts from sidewalk repairs could affect the character of the local neighborhoods where the repairs would occur; however, these effects would be short term (generally fewer than 30 days at any given location) and would improve visual conditions over the long term. However, the long-term effect would differ, as street tree replacement would continue to be at a 2:1 replacement to removal ratio. As demonstrated in Appendix B, this replacement would not result in a net gain or neutral canopy by the end of the Project. The impacts would remain less than significant, but the No Project Alternative would not achieve the same level of net aesthetic benefit as the Project with respect to the mature street tree canopy.

Similar to the proposed Project, the No Project Alternative would alter Historic Cultural Monument (HCM) street trees and would result in a significant impact in areas where the Secretary of the Interior's (SOI's) standards cannot feasibly be implemented. In addition, as under the proposed Project, individual projects under the No Project Alternative would result in a significant impact on aesthetic or visual character in instances where the integrity of a cultural resource cannot be maintained, including when the aesthetic integrity of a known cultural resource is a contributing factor to a Historical Preservation Overlay Zone; or within an area of high sensitivity with respect to cultural resources; or in an area with known archaeological, paleontological, or tribal artifacts; or in an area with a designated HCM street tree.

5.4.1.2 Air Quality

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). However, due to the case-by-case approvals resulting in a slightly decreased amount of sidewalk repair under this alternative, the amount of annual construction and operations activities and their associated air pollutant emissions would be slightly less under this alternative compared to the proposed Project. Therefore, the No Project Alternative, like the proposed Project, would not exceed regional or localized regional significance thresholds established by the South Coast Air Quality Management

District (SCAQMD). Construction would be consistent with the objectives and policies of the General Plan and General Plan Framework, as construction activities would result in accommodating the mobility needs of people with disabilities, especially those with mobility disabilities, and would make all sidewalks compliant with applicable accessibility requirements. Given the brief duration of activities at each individual construction site, the limited intensity of construction equipment use due to site constraints, and considering that operations activities would not introduce any new substantial stationary or mobile sources of toxic air contaminant (TAC) emissions in the City, this alternative would also not pose carcinogenic risks to nearby sensitive receptors. Therefore, similar to the proposed Project, the No Project Alternative would be consistent with applicable SCAQMD and Southern California Association of Governments (SCAG) policies and would not expose sensitive receptors to substantial TAC concentrations. Impacts would be less than significant.

5.4.1.3 Biological Resources

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Implementation of sidewalk repair projects under the No Project Alternative, while occurring at a slower rate, would not result in impacts on biological resources that are substantially different from those under the proposed Project.

The No Project Alternative would be implemented in a primarily urban landscape where there is little to no suitable habitat for any wildlife species, besides the canopy associated with street trees. No construction would occur in Section 404 regulated water bodies. Upon completion of construction activities, minor maintenance activities, such as street tree inspections and watering, would occur. Although sensitive wildlife species would be affected through the removal of trees and foraging habitat, such species are adapted to living in a heavily developed and disturbed urban setting. Construction noise is common throughout the City and unlikely to harm or harass such species. Construction impacts such as increased noise and light may have a significant impact on sensitive and resident wildlife species that occur within the sidewalk repair area; however, implementation of standard conditions would ensure that any impact associated with habitat interference would remain less than significant by providing detailed guidance on how to comply with the Migratory Bird Treaty Act (MBTA), replacing removed street trees promptly, avoiding any destruction of active nests, and complying with the California Fish and Game Code and other applicable requirements. Compliance with and implementation of the standard conditions would ensure that the species' normal behavior and chances for long-term survival would not be adversely affected by construction activities.

Like the proposed Project, the No Project Alternative would replace street trees that would be removed as part of the sidewalk repairs. However, the No Project Alternative would continue to replace street trees at 2:1 ratio in accordance with the existing policy and would not adopt or implement the new proposed street tree replacement policy that would implement replacement ratios of 2:1 for years 1 through 10, 3:1 for years 11 through 20, and 2:1 for years 21 through 30. Thus, while the No Project Alternative would eventually achieve a net neutral canopy, and would not result in significant impacts, this alternative would take a longer time to achieve net neutral and would not achieve the same level of benefit as the proposed Project.

5.4.1.4 Cultural Resources

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). As under the proposed Project, sites will be assessed for historical significance prior to the approval of any individual sidewalk repair and the existing Cultural Heritage Ordinance would still apply to HCM resources under the No Project Alternative. As discussed in Section 3.4, construction activities could result in the demolition of sidewalks, ramps, curbs, traffic signs, gutters, or other similar sidewalk-related features that are of historical significance. Similarly, construction could result in impacts on archaeological resources (e.g., uncover buried artifacts or features) and paleontological resources. Assessments would be required to determine historical significance, implementation of repairs and replacements in accordance with the SOI's standards, preparation of an Archaeological Treatment Plan, and/or preparation of a Paleontological Management Treatment Plan, as necessary. Although these assessments would reduce and minimize impacts, when the SOI's standards cannot be followed a substantial material change in the significance or integrity of a historical or archaeological resource occurs, even after following the SOI's standards, and significant impacts would result. Impacts associated with the disturbance of human remains would be less than significant because compliance with the existing laws and regulations for appropriate handling of any human remains that are encountered would occur.

5.4.1.5 Geology and Soils

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Construction activities would be too shallow to cause significant geologic events (e.g., fault rupture, landslides, seismic ground shaking, liquefaction) or exacerbate geologic conditions. Geologic conditions in the area would remain unchanged as a result of the Sidewalk Repair Program. Similar to the proposed Project, landslide- and liquefaction-prone areas as well as areas with collapsible soils could expose workers to geologic hazards under this alternative. Implementation of shoring plans would minimize this impact in areas where excavation would be greater than 5 feet deep, as required per the Los Angeles Bureau of Engineering (BOE) Standard Specifications for Public Works Construction, or "Greenbook." Implementation of erosion and sediment control BMPs would prevent substantial soil erosion and sedimentation. In addition, construction activities would occur only in areas where sidewalks currently exist, not in areas where erosion could destabilize nearby structures. Construction activities would not create a geologic hazard by causing or accelerating instability related to erosion. Impacts would be less than significant.

5.4.1.6 Greenhouse Gas Emissions

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). However, due to the case-by-case approvals resulting in a slightly decreased amount of sidewalk repair under this alternative, annual greenhouse gas (GHG) emissions from fuel combustion associated with heavy-duty construction equipment, vehicle trips, material deliveries, and trips by haul, water, and concrete trucks; and the number of vehicles used to conduct site assessments, inspections, and street tree watering would be slightly less under this alternative compared to the Project. Overall long-term carbon sequestration levels under the No Project Alternative would be slightly lower than those of the Project because the existing street tree removal and replacement policies would continue with the 2:1 replacement to removal ratio. Because no new street tree replacement to removal ratio would be approved (2:1 for 1 to 10 years; 3:1 for 11 through 21 years; 2:1 for 22 to 30 years), there would be fewer street trees planted in the City over 30 years. Fewer street trees in the absence of a new street tree ratio would result in less carbon dioxide and GHG absorption, which the leaves provide. However, similar to the Project, a net positive in carbon sequestration (because of removal of mature street trees and planting of saplings) would occur in future years. Impacts would be less than significant, but the No Project Alternative would not achieve the same level of benefit as the proposed Project.

5.4.1.7 Hazards and Hazardous Materials

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). The construction activities associated with the proposed Project would involve the routine transport, use, and disposal of hazardous materials, such as solvents, paints, oils, and grease—materials that are typically used in construction projects. Such transport, use, and disposal would be in compliance with applicable regulations (e.g., the Resource Conservation and Recovery Act, Occupational Safety and Health Administration regulations, Department of Transportation regulations, the California Labor Code, and the California Code of Regulations). Any hazardous materials used would generally be in small amounts and any spills that may occur would be contained and cleaned up according to the Material Safety Data Sheet/Globally Harmonized System in the appropriate manner. During Project excavation, contaminated groundwater and/or contaminated soil may occasionally be encountered, which could release hazardous materials into the environment, expose workers and nearby receptors to hazardous emissions, or expose contaminated groundwater. Similar to the proposed Project, implementation of existing regulations and BOE standards would minimize exposure to hazardous materials and require proper handling and oversight. Impacts would be less than significant.

5.4.1.8 Hydrology and Water Quality

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). The No Project Alternative would not affect the City’s ability to implement or enforce its goals or policies or otherwise be inconsistent with regulatory requirements related to the minimization of water quality impacts. The construction and operations activities throughout the City under this alternative would not affect hydrology and water quality differently than the Project because they would not introduce new impervious surfaces or pollutants, increase flooding hazards, or affect groundwater supplies, and they would be consistent with related plans and programs. Construction activities would improve existing sidewalk and not introduce new impervious surfaces; as such, they would not result in a permanent adverse change in the movement of surface water and overall drainage patterns would be maintained. Any changes to stormwater flows into the stormwater system would be temporary during construction only. No direct groundwater withdrawal would occur, and the alternative would not obstruct potential groundwater recharge. Construction would comply with the minimum construction site BMP requirements of the municipal separate sewer system (MS4) permit for erosion, sediment, non-stormwater management, and waste management, and the BMPs would be implemented during construction activities to reduce the potential for chemical contaminants to affect water quality.

The temporary reduction in street tree canopy from the replacement of mature street trees with younger and smaller street trees could alter street tree rainfall interception, which may temporarily increase surface runoff. The planted areas would be adequately watered during the establishment period, without erosion that would be detrimental to plantings.

Like under the Project, some sidewalk repairs could be within 100- and 500-year floodplains, which are potentially subject to flooding during storm events; however, flooding conditions would not be expected to change compared with existing conditions. Construction activities would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing floodflows. Impacts would be less than significant.

5.4.1.9 Land Use

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). The primary differences are related to the streamlining of approvals under the proposed ordinance. Like under the proposed Project, implementation of the No Project Alternative would generally be within the public ROW and would not change or affect the adjacent and surrounding land uses. Unlike the Project, the No Project Alternative would not include the Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, but rather the existing policy to replace removed street trees at a 2:1 ratio would continue to be followed. Consistent with the applicable objectives and policies of the General Plan and Framework Element, sidewalk replacement and street tree replacements would help accommodate the needs of people with disabilities as well as the need for high-quality, safe pedestrian access on all sidewalks by ensuring that sidewalks would be in compliance with applicable accessibility requirements. The No Project Alternative would be consistent with the applicable sidewalk, infrastructure, mobility, sustainability, and street tree policies identified in Mobility Plan 2035, an element of the General Plan and the Framework Element. Implementation of this alternative would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project area. Impacts would be less than significant.

5.4.1.10 Noise

The No Project Alternative would not be different than the proposed Project because sidewalk and curb ramp repairs along with street tree removal and replacement would still continue under the existing procedures and policies. The noise impacts of the No Project Alternative would be similar to those of the proposed Project, even with the sidewalk repairs occurring at a slower rate than under the Project.

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Implementation of sidewalk repair projects under the No Project Alternative would not result in noise impacts that are different from those under the proposed Project. Similar to the proposed Project, construction activities under this alternative would result in a significant noise impact if a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source. In most cases, the calculated interior sound level would not exceed the Project-specific interior threshold of 85 A-weighted decibels, equivalent noise level (8 hours), through the various phases of construction activities. In addition, construction would be short term in duration, and no hearing damage would occur. However, some individual sidewalk projects under this alternative may not be able to maintain a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses from the construction noise source, which would result in significant impacts. Construction noise BMPs would be implemented to minimize noise impacts from construction activities.

Similarly, some construction activities could result in substantial vibration impacts. The impact would be less than significant for the vast majority of construction sites. However, where the distance from the construction vibration source to the building foundation of the nearest structure is fewer than 8 feet or where the distance to the nearest occupied space of a sensitive use is fewer than 23 feet, temporary significant impacts would occur. Exceedances of the applicable construction noise thresholds would still occur even after implementation of the construction vibration BMPs. Impacts would be significant.

Similar to the proposed Project, the No Project Alternative would not result in any permanent change to noise levels; it would not expose people residing or working in the project site area to, or otherwise generate, excessive noise levels and this impact would be less than significant.

5.4.1.11 Public Services

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Demand for additional public services is usually created when there is a net increase in population in an area as a result of a project. The No Project Alternative would not result in an increase in population because the construction crews employed to repair and maintain the sidewalks or remove and replace the street trees would not require relocated housing during construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population and would not lead to increased population growth. The increased annual construction activities for sidewalk repairs and tree removal/replacement under the No Project Alternative have the potential to temporarily increase the demand on police services and affect their response times due to temporary lane and road closures, which may also delay emergency responders. However, the lane closures would be infrequent and limited to small portions of streets, and would not result in mobility conditions that would be substantially different from existing conditions on roadways.

Project construction would also comply with requirements and policies relating to fire safety practices, and projects would comply with the current edition of the Work Area Traffic Control Handbook (WATCH) manual. Therefore, there is no need for additional fire protection services apart from the existing level of service available within the City. Construction staging is also not expected to inhibit access to police or fire protection facilities. No other element of the continuing construction activities or operations (such as watering and inspecting the street trees) has the potential to increase the population, nor would it require the expansion of existing or construction of new fire, police, school, library, or park facilities. Impacts on public services would be less than significant.

5.4.1.12 Transportation

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Due to the case-by-case approvals of sidewalk repair that would occur under the No Project Alternative, it is anticipated that the total number of repair sites would be slightly less under this Alternative compared to the Project. However, like under the Project, the maximum estimated daily construction trip generation at any single repair site would remain at 76 daily trips (with up to approximately half of that total expected during peak hours) (see Section 3.13.3.6) due to the anticipated nature of construction activities per site under the No Project Alternative. Construction activities under this alternative would involve lane closures and parking restrictions and would generate worker commute trips, as well as construction material hauling trips, some of which would occur during peak traffic hours and affect roadway operations near repair sites. However, construction activities would be geographically widely distributed throughout the City, the project would generate a relatively low number of trips at any individual construction site, and the effects of lane closures and parking restrictions would be minimized through compliance with Los Angeles Municipal Code (LAMC) Section 62.61 and the WATCH manual, as well as through the use of flagpersons. Therefore, temporary traffic impacts would not be substantial during construction, which may last up to 30 days at any construction site.

The likely impacts on bus stops would be limited to the maximum 30-day construction period and would be coordinated with the appropriate transit providers to ensure that effects on bus riders would be minimized. In addition, due to the short-term duration of loss of access related to driveway obstructions, parking spaces, and disruptions to pedestrian travel and coordination of construction activities with affected property owners and occupants, impacts related to potential temporary loss of access would be less than significant. Activities under this alternative involve rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets and would not add motor vehicle capacity; as such, the No Project Alternative is not likely to lead to substantial or measurable increases in vehicle travel. This alternative, like the proposed Project, does not require further assessment for residential street impacts because the operational activities from the Project would not generate a net increase of 250 or more daily vehicle trips. Impacts would be less than significant.

5.4.1.13 Tribal Cultural Resources

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Tribal cultural resources (TCRs) may be found throughout the City of Los Angeles and it is difficult to document TCRs with precise locations. Construction activities associated with trenching and deeper excavations, as opposed to more surficial disturbances, have the potential to uncover or disturb TCRs. Even with standard conditions to manage unforeseen circumstances, such as the unexpected discovery of TCRs, impacts could nonetheless still occur and would be considered significant where the integrity and significance of TCRs cannot be maintained.

5.4.1.14 Utilities and Service Systems

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Implementation of sidewalk repair projects under the No Project Alternative would not result in impacts on utilities and service systems that are substantially different from those under the proposed Project with respect to being adequately served by existing and planned water infrastructure; not exceeding the future planned drainage capacity (as defined in the City General Plan) or the wastewater treatment requirements of the Los Angeles Regional Water Quality Control Board (RWQCB); and not conflicting with solid waste policies and objectives in the City Solid Waste Management Policy Plan, Framework Element, or Source Reduction and Recycling Element.

Considering that slightly less sidewalk would be repaired under the No Project Alternative, the total annual water demand, wastewater generation, and waste generation would be slightly less than under the proposed Project. Similar to the proposed Project, it is not anticipated that the demand for water under the No Project Alternative would exceed existing water supply, and the wastewater generated would remain within capacity of existing treatment facilities. Similar to the proposed Project, it is anticipated that the waste infrastructure that would be required for the No Project Alternative would be addressed and planned for in subsequent iterations of the relevant planning documents, such as the Solid Waste Integrated Resources Plan (SWIRP).

5.4.1.15 Energy

Under the No Project Alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering).

As under the Project, the removal of street trees under this alternative could indirectly increase electricity consumption because of the urban heat island effect. However, with the implementation of the existing street tree replacement policy at a 2:1 ratio under the No Project Alternative, the street tree canopy would be replenished over time and eventually result in a net neutral size. Thus, the replacement would offset the temporary urban heat island effects. It should be noted that it would take longer to reach net neutral size with a 2:1 replacement ratio compared to the proposed Project, which would include a new street tree replacement policy of 2:1 for 1 to 10 years, 3:1 for 11 to 21 years, and 2:1 for 22 to 30 years. Impacts related to electricity consumption would be less than significant, but the No Project Alternative would not achieve the same level of benefit as the proposed Project.

With the number of repair sites under the No Project Alternative being slightly less than under the proposed Project, the related use of heavy-duty construction equipment, worker trips to and from construction sites, material delivery and disposal trips, and loading demolition debris into trucks, all of which lead to transportation fuel consumption, would also be comparably less. The total consumption of transportation fuel under the No Project Alternative would be slightly less than the Project (which is at approximately 3.3 million gallons, or 418,456 British thermal units [BTUs] for construction and 318,690 gallons or approximately 41,280 BTUs for operations; Section 3.15.3.4). Similar to the proposed Project, the City would use a fleet of fuel-efficient vehicles for all work, which would reduce the demand for transportation fuels. Construction activities would rely on diesel-powered generators to produce the electricity required to operate electrical equipment. Similar to the proposed Project, it is anticipated that the utilities would address electricity demands within their respective service territories, which are under the oversight of the California Public Utilities Commission, and plan for utility demand through their annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. The No Project Alternative would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity, nor would it impede a local utility's ability to meet the peak- and base-period demand for electricity and other forms of energy. The No Project Alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy. There would be a less-than-significant impact related to electricity and transportation fuel consumption. Impacts would be less than significant.

5.4.1.16 Wildfire

Implementation of sidewalk repair projects under the No Project Alternative would not result in wildfire impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project. Some repairs would continue to occur in areas that are designated as Very High Fire Hazard Severity Zones. The work would be performed on concrete sidewalks, curbs, gutters, ramps, and other existing built-environment infrastructure. The materials involved are not flammable, and work would not be performed near flammable materials that would exacerbate wildfire risks. Compliance with existing laws, such as those in the LAMC, Fire Code Section 57, et seq., for construction sites on, adjacent to, or in the immediate vicinity of a Very High Fire Hazard Severity Zone would further minimize potential risks. Impacts would be less than significant.

5.4.2 Alternative 1. Ordinance to repair sidewalks and avoid removal of any street trees.

Under this alternative, the new proposed ordinance would allow for ministerial approval of sidewalk repairs only when root pruning is a viable option for addressing street tree-related sidewalk damage; it would prohibit the removal of any street trees as part of the Project. This would include prohibiting the removal of street trees as part of any discretionary sidewalk repair process carried out under the *Willits* Settlement. Any funding under the Sidewalk Repair Program would be used to repair only those sidewalks that do not involve street tree removals, although dead and dying street trees would continue to be removed by the City if determined by a City arborist to pose a threat to human health and safety or private property.

Any construction scenarios described in the Project description that involve street tree removal would not occur, including, but not limited to, street tree removal, street tree planting, and street tree planting cleanup; other activities related to the construction scenarios are expected to be the same (see Section 2.5.3.4). As noted in Section 5.2.3, the total amount of sidewalk repairs that would be completed under Alternative 1 would be less than under the proposed Project. Because there would be no street tree removals under this alternative, no street tree replacements would need to occur; therefore, under Alternative 1, no operations activities described under the proposed Project would occur, such as continued replacement street tree monitoring and watering with a hose that is attached to a water tank on a pick-up truck. Under this alternative, no changes related to the proposed new Street Tree Retention, Removal and Replacement Policy would occur.

5.4.2.1 Aesthetics

This alternative would not contribute to a loss of scenic vistas or a state scenic highway, or loss of focal views including natural views of topography, mountains, oceans, or man-made visual features. Alternative 1 would result in similar conditions during construction as the proposed Project because sidewalk and curb ramp repairs would continue; however, any street tree removal would not occur and, consequently, no street tree planting would be needed.

Temporary construction impacts from sidewalk repairs could affect the character of the local neighborhoods where the repairs would occur; however, these effects would be short term (generally fewer than 30 days at any given location) and would improve visual conditions with respect to sidewalks over the long term. The short-term impact would be less than the proposed Project because street trees would not be removed under this alternative. Because street trees would not be removed, no replacements would occur at an increased ratio, and thus the street tree canopy would be reduced compared to the proposed Project (which has 2:1 and 3:1 replacement ratios),

Because no street trees would be removed, this alternative would avoid aesthetic impacts on HCM street trees, but as under the proposed Project, individual projects under this alternative would result in a significant impact on aesthetic or visual character in instances where the integrity of a cultural resource cannot be maintained, including when the aesthetic integrity of a known cultural resource is a contributing factor to a Historical Preservation Overlay Zone; or within an area of high sensitivity with respect to cultural resources; or in an area with known archaeological, paleontological, or tribal artifacts.

5.4.2.2 Air Quality

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired and no street trees being removed and replaced under this alternative, the amount of annual construction activities and their associated air pollutant emissions would be less compared to the proposed Project. As such, Alternative 1 would not exceed regional or localized regional significance thresholds established by SCAQMD. Construction would be consistent with the objectives and policies of the General Plan and General Plan Framework, as construction activities would result in accommodating the mobility needs of people with disabilities, especially those with mobility disabilities, and would make sidewalks that do not require street tree removals compliant with applicable accessibility requirements. Given the brief duration of activities at each individual project site, the limited intensity of construction equipment use due to site constraints, and considering that there would be no operations activities, this alternative would also not pose carcinogenic risks to nearby sensitive receptors. Therefore, similar to the proposed Project, Alternative 1 would be consistent with applicable SCAQMD and SCAG policies and would not expose sensitive receptors to substantial TAC concentrations, and overall would have fewer air quality impacts than the Project. Impacts would be less than significant.

5.4.2.3 Biological Resources

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Alternative 1 would be implemented in a primarily urban landscape where there is little to no suitable habitat for any wildlife species, besides the canopy associated with street trees. No construction would occur in Section 404 regulated water bodies. With the avoidance of street tree removal, this alternative would have a reduced short-term impact relative to the proposed Project that is associated with the removal of nesting and foraging habitat provided by the street tree canopy. Because trees would not be removed, no replacements would occur at an increased ratio, and thus the street tree canopy over time would be reduced compared to the proposed Project (which has 2:1 and 3:1 replacement ratios). The prohibition of any street tree removals under this alternative would, over time, affect the City's street tree canopy negatively and would not result in the same benefit as the proposed Project.

Construction noise associated with sidewalk repairs would continue to occur, which is common throughout the City and unlikely to harm or harass sensitive species. Construction impacts such as increased noise may have a significant impact on sensitive and resident wildlife species that occur within the sidewalk repair area; however, implementation of standard conditions would ensure that any impact associated with habitat interference would remain less than significant, including by providing detailed guidance on how to avoid "take" of species protected by the MBTA, replacing removed street trees promptly, avoiding any destruction of active nests, and complying with the California Fish and Game Code and other applicable requirements. Compliance with and implementation of the standard conditions would ensure that the species' normal behavior and chances for long-term survival would not be adversely affected by construction activities.

Therefore, while Alternative 1 would not result in significant impacts, nor would it result in short-term loss of foraging and nesting habitat as it would not remove any street trees, this alternative would not achieve the same level of long-term biological benefit as the proposed Project.

5.4.2.4 Cultural Resources

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. As under the proposed Project, under PDF-CUL-1, sites will be assessed for historical significance prior to the approval of any individual sidewalk repair and the existing Cultural Heritage Ordinance would still apply to HCM resources under Alternative 1. As discussed in Section 3.4, construction activities could result in the demolition of sidewalks, ramps, curbs, traffic signs, gutters, or other similar sidewalk-related features that are of historical significance. Similarly, construction could result in impacts on archaeological resources (e.g., uncover buried artifacts or features) and paleontological resources. Implementation of PDFs (PDF-CUL-1 through PDF-CUL-4) would require an assessment of historical significance, implementation of repairs and replacements in accordance with the SOI's standards, preparation of an Archaeological Treatment Plan, and/or preparation of a Paleontological Management Treatment Plan, as necessary.

Although these assessments would reduce and minimize impacts, when the SOI's standards cannot be followed a substantial material change in the significance or integrity of a historical or archaeological resource occurs, even after following the SOI's standards, and significant impacts would result. Impacts associated with the disturbance of human remains would be less than significant because compliance with the existing laws and regulations for appropriate handling of any human remains that are encountered would occur.

5.4.2.5 Geology and Soils

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. Construction activities would be too shallow to cause significant geologic events (e.g., fault rupture, landslides, seismic ground shaking, liquefaction) or exacerbate geologic conditions. Geologic conditions in the area would remain unchanged as a result of the Sidewalk Repair Program. Similar to the proposed Project, landslide- and liquefaction-prone areas as well as areas with collapsible soils could expose workers to geologic hazards under this alternative. Implementation of shoring plans would minimize this impact in areas where excavation would be greater than 5 feet deep, as required per the Greenbook. Implementation of erosion and sediment control BMPs would prevent substantial soil erosion and sedimentation. In addition, construction activities would occur only in areas where sidewalks currently exist, not in areas where erosion could destabilize nearby structures. Construction activities would not create a geologic hazard by causing or accelerating instability related to erosion. Impacts would be less than significant.

5.4.2.6 Greenhouse Gas Emissions

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. Accordingly, the associated annual GHG emissions from fuel combustion associated with heavy-duty construction equipment, vehicle trips, material deliveries, and trips by haul, water, and concrete trucks; and the number of vehicles used to conduct site assessments, inspections, and street tree watering would be the less under this alternative compared to the Project.

Carbon sequestration under Alternative 1 would likely be greater in the short term due to no street trees being removed and all mature street trees being maintained; accordingly, the loss in carbon sequestered due to the replacement of full-grown street trees with saplings would not occur. However, the increase in the number of street trees in the street tree canopy that would occur under the Project that would ultimately result in a net positive gain in carbon sequestration in future years beyond the Project's horizon would not be realized under Alternative 1. In addition, the presence of diseased, dead, or damaged street trees throughout the City and the avoidance of any street tree removals under this alternative would, over time, affect the City's street tree canopy negatively and would not achieve the same benefit as the proposed Project. Fewer street trees in the absence of a new street tree ratio would result in less carbon being sequestered, which the leaves provide. Impacts would be less than significant but Alternative 1 would not achieve the same level of benefit as the proposed Project.

5.4.2.7 Hazards and Hazardous Materials

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. The construction activities associated with the proposed Project would involve the routine transport, use, and disposal of hazardous materials, such as solvents, paints, oils, and grease—materials that are typically used in construction projects. Such transport, use, and disposal would be in compliance with applicable regulations (e.g., the Resource Conservation and Recovery Act, Occupational Safety and Health Administration regulations, Department of Transportation regulations, the California Labor Code, and the California Code of Regulations). Any hazardous materials used would generally be in small amounts and any spills that may occur would be contained and cleaned up according to the Material Safety Data Sheet/Globally Harmonized System in the appropriate manner. During Project excavation, contaminated groundwater and/or contaminated soil may occasionally be encountered, which could release hazardous materials into the environment, expose workers and nearby receptors to hazardous emissions, or expose contaminated groundwater. Similar to the proposed Project, implementation of existing regulations and BOE standards would minimize exposure to hazardous materials and require proper handling and oversight. Impacts would be less than significant.

5.4.2.8 Hydrology and Water Quality

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. Alternative 1 would not affect the City's ability to implement or enforce its goals or policies or otherwise be inconsistent with regulatory requirements related to the minimization of water quality impacts.

The construction activities throughout the City under this alternative would not affect hydrology and water quality differently than the Project because they would not introduce new impervious surfaces or pollutants, increase flooding hazards, or affect groundwater supplies, and they would be consistent with related plans and programs. Construction activities would improve existing sidewalk and not introduce new impervious surfaces; as such, they would not result in a permanent adverse change in the movement of surface water and overall drainage patterns would be maintained. Any changes to stormwater flows into the stormwater system would be temporary during construction only. No direct groundwater withdrawal would occur, and the alternative would not obstruct potential groundwater recharge. Construction would comply with the minimum construction site BMP requirements for erosion, sediment, non-stormwater management, and waste management, and the BMPs would be implemented during construction activities to reduce the potential for chemical contaminants to affect water quality. However, this alternative would not result in the temporary reduction in street tree canopy that could alter street tree rainfall interception, thereby temporarily increasing surface runoff.

Like under the Project, some sidewalk repairs could be within 100- and 500-year floodplains, which are potentially subject to flooding during storm events; however, flooding conditions would not be expected to change compared with existing conditions. Construction activities would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing floodflows. Impacts would be less than significant.

5.4.2.9 Land Use

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. The primary differences are related to the streamlining of approvals under the proposed ordinance. Like under the proposed Project, implementation of Alternative 1 would generally be within the public ROW and would not change or affect the adjacent and surrounding land uses. Unlike the Project, Alternative 1 would not remove any street trees or include the Revised Street Tree Retention, Removal and Replacement Policy. Therefore, this alternative would not replace trees at a higher ratio, and hence would not realize the same benefit to the street tree canopy by year 30.

Consistent with the applicable objectives and policies of the General Plan and Framework Element, sidewalk repairs would help accommodate the needs of people with disabilities as well as the need for high-quality, safe pedestrian access on all sidewalks by ensuring that sidewalks repairs that do not require street tree removals would be in compliance with applicable accessibility requirements. However, with Alternative 1, not all sidewalks that may need to be repaired would receive repairs where street tree removal would be necessary in order to make such repairs. Where applicable, Alternative 1 would be consistent with the applicable sidewalk, infrastructure, mobility, and sustainability policies (minus established street tree policies) identified in Mobility Plan 2035, an element of the General Plan and the Framework Element. Therefore, while implementation of this alternative would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project area, it would not achieve the same level of benefit as the proposed Project. Impacts would be less than significant.

5.4.2.10 Noise

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project.

The noise impacts from Alternative 1 would not be substantially different from those of the proposed Project because sidewalk and curb ramp repairs would still occur. However, any construction noise associated with street tree removals and replacements would not occur, such as from equipment listed in Table 3.10-7 (flatbed truck, saw, wood-chipper, stump grinder, skid steer loader, mini excavator). Because the noise from this equipment is less than the noise from demolition and concrete removal, the noise impacts would be similar. Similar to the proposed Project, construction activities under this alternative would result in a significant noise impact if a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source. In most cases, the calculated interior sound level would not exceed the Project-specific interior threshold of 85 A-weighted decibels, equivalent noise level (8 hours), through the various phases of construction activities. In addition, construction would be short term in duration, and no hearing damage would occur. However, some individual sidewalk projects under this alternative may not be able to maintain a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses from the construction noise source, which would result in significant impacts. Construction noise BMPs would be implemented to minimize noise impacts from construction activities.

Similarly, some construction activities could result in substantial vibration impacts. The impact would be less than significant for the vast majority of construction sites. However, where the distance from the construction vibration source to the building foundation of the nearest structure is fewer than 8 feet or where the distance to the nearest occupied space of a sensitive use is fewer than 23 feet, temporary significant impacts would occur. Exceedances of the applicable construction noise thresholds would still occur even after implementation of the construction vibration BMPs. Impacts would be significant.

Similar to the proposed Project, Alternative 1 would not result in any permanent change to noise levels; it would not expose people residing or working in the project site area to, or otherwise generate, excessive noise levels and this impact would be less than significant.

5.4.2.11 Public Services

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. Demand for additional public services is usually created when there is a net increase in population in an area as a result of a project. Alternative 1 would not result in an increase in population because the construction crews employed to repair and maintain the sidewalks would not require relocated housing during construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population and would not lead to increased population growth. The increased annual construction activities for sidewalk repairs have the potential to temporarily increase the demand on police services and affect their response times due to temporary lane and road closures, which may also delay emergency responders. However, the lane closures would be infrequent and limited to small portions of streets, and would not result in mobility conditions that would be substantially different from existing conditions on roadways. Project construction would also comply with requirements and policies relating to fire safety practices, and projects would comply with the current edition of the WATCH manual. Therefore, there is no need for additional fire protection services apart from the existing level of service available within the City. Construction staging is also not expected to inhibit access to police or fire protection facilities. No other element of the continuing construction activities has the potential to increase the population, nor would it require the expansion of existing or construction of new fire, police, school, library, or park facilities. Impacts on public services would be less than significant.

5.4.2.12 Transportation

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. As noted in Table 2-5, there are no truck trips distinctly associated with street tree removal and planting activities. Consequently, similar to the proposed Project, the maximum estimated daily construction trip generation at any single repair site would remain at 76 daily trips (with up to approximately half of that total expected during peak hours) (see Section 3.13.3.6) due to the anticipated nature of construction activities per site under this alternative. Construction activities under this alternative would also involve lane closures and parking restrictions and would generate worker commute trips, as well as construction material hauling trips, some of which would occur during peak traffic hours and affect roadway operations near repair sites. However, construction activities would be geographically widely distributed throughout the City, the project would generate a relatively low number of trips at any individual construction site, and the effects of lane closures and parking restrictions would be minimized through compliance with LAMC Section 62.61 and the WATCH manual, as well as through the use of flagpersons. Therefore, temporary traffic impacts would not be substantial during construction, which may last up to 30 days at any construction site.

The likely impacts on bus stops would be limited to the maximum 30-day construction period and would be coordinated with the appropriate transit providers to ensure that effects on bus riders would be minimized. In addition, due to the short-term duration of loss of access related to driveway obstructions, parking spaces, and disruptions to pedestrian travel and coordination of construction activities with affected property owners and occupants, impacts related to potential temporary loss of access would be less than significant. Activities under this alternative involve rehabilitation, maintenance, safety, and repair projects designed to improve the condition of existing transportation assets and would not add motor vehicle capacity; as such, Alternative 1 is not likely to lead to substantial or measurable increases in vehicle travel. This alternative, like the proposed Project, does not require further assessment for residential street impacts because the operational activities from the Project would not generate a net increase of 250 or more daily vehicle trips. Impacts would be less than significant.

5.4.2.13 Tribal Cultural Resources

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities Citywide would be less compared to the proposed Project. TCRs may be found throughout the City of Los Angeles and it is difficult to document TCRs with precise locations. Construction activities associated with trenching and deeper excavations required for utility relocations, as opposed to more surficial disturbances, have the potential to uncover or disturb TCRs. Even with standard conditions to manage unforeseen circumstances, such as the unexpected discovery of TCRs, impacts could nonetheless still occur and would be considered significant where the integrity and significance of TCRs cannot be maintained.

5.4.2.14 Utilities and Service Systems

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Therefore, due to less sidewalk being repaired under this alternative, the amount of annual construction activities would be less compared to the proposed Project. Implementation of sidewalk repair projects under this alternative would result in impacts on utilities and service systems that are comparatively less than those under the proposed Project with respect to being adequately served by existing and planned water infrastructure; not exceeding the future planned drainage capacity (as defined in the City General Plan) or the wastewater treatment requirements of the Los Angeles RWQCB; and not conflicting with solid waste policies and objectives in the City Solid Waste Management Policy Plan, Framework Element, or Source Reduction and Recycling Element. Impacts would be less than significant.

Considering that less sidewalk would be repaired under this alternative, the total annual water demand, wastewater generation, and waste generation would be less than under the proposed Project. Similar to the proposed Project, it is not anticipated that the demand for water under Alternative 1 would exceed existing water supply, and the wastewater generated would remain within capacity of existing treatment facilities. Similar to the proposed Project, it is anticipated that the waste infrastructure that would be required for this alternative would be addressed and planned for in subsequent iterations of the relevant planning documents, such as the SWIRP.

5.4.2.15 Energy

Under Alternative 1, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project, no street tree removals or replacements would occur, and no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. With no street trees being removed, unlike the Project, this alternative would not indirectly increase electricity consumption because of the urban heat island effect that can be exacerbated due to street tree removals. However, the benefits from more street trees being planted under the proposed Project for each street tree removed (at 2:1 or 3:1 replacement ratio) that would result in ongoing mitigation of the existing urban heat island effect would not be realized under this alternative.

Due to less sidewalk being repaired under this alternative than under the proposed Project, the related use of heavy-duty construction equipment, worker trips to and from construction sites, material delivery and disposal trips, and loading demolition debris into trucks, all of which lead to transportation fuel consumption, would also be less. Similar to the proposed Project, the City would use a fleet of fuel-efficient vehicles for all work, which would reduce the demand for transportation fuels. Construction activities would rely on diesel-powered generators to produce the electricity required to operate electrical equipment. Similar to the proposed Project, it is anticipated that the utilities would address electricity demands within their respective service territories, which are under the oversight of the California Public Utilities Commission, and plan for utility demand through their annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. This alternative would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity, nor would it impede a local utility's ability to meet the peak- and base-period demand for electricity and other forms of energy. Alternative 1 would not result in the wasteful, inefficient, or unnecessary consumption of energy. There would be a less-than-significant impact related to electricity and transportation fuel consumption. Impacts would be less than significant.

5.4.2.16 Wildfire

Implementation of sidewalk repair projects under Alternative 1 would not result in wildfire impacts that would be different from those under the proposed Project. Under this alternative, while the nature of sidewalk repair construction activities would generally be similar to that of the proposed Project except that no street tree removals or replacements would occur, no operations activities described for the proposed Project would occur, as no street trees would be removed or replaced that would require monitoring or watering. Some repairs would continue to occur in areas that are designated as Very High Fire Hazard Severity Zones. The work would be performed on concrete sidewalks, curbs, gutters, ramps, and other existing built-environment infrastructure. The materials involved are not flammable, and work would not be performed near flammable materials that would exacerbate wildfire risks. Compliance with existing laws, such as those in the LAMC, Fire Code Section 57, et seq., for construction sites on, adjacent to, or in the immediate vicinity of a Very High Fire Hazard Severity Zone would further minimize potential risks. Impacts would be less than significant.

5.4.3 Alternative 2. Ordinance to exclude sidewalk repairs and street tree removals within 23 feet of the nearest occupied space façade of a sensitive use (residential or commercial).

Under Alternative 2, which is intended to lessen or avoid significant noise impacts as a result of sidewalk repair activities, the proposed new ordinance would revise the way sidewalk repair projects are reviewed and approved for only those projects that are more than 23 feet from the nearest occupied façade of the closest sensitive receptor (commercial or residential use); sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential) would continue to be evaluated individually on a case-by-case basis, as under existing conditions, to determine whether they can be exempt or require further environmental review under CEQA. No other changes related to the proposed new ordinance, the Street Tree Retention, Removal and Replacement Policy, or the mandatory PDFs are proposed; these would remain the same as under the proposed Project. Considering that there is more square footage of sidewalk to repair in the City than would be subject to ministerial approval under the Project (i.e., the ordinance provisions), it is anticipated that even with the occasional exclusion of specific sidewalk repair sites under this alternative, a comparable amount of sidewalk repairs would ultimately occur under this alternative each year, and cumulatively, because funds would be re-directed to those remaining sidewalk repair segments located at least 23 feet from the nearest occupied space façade of a sensitive use.

5.4.3.1 Aesthetics

Aesthetics impacts under Alternative 2 would be similar to those under the proposed Project, as exclusion of some projects (projects that would be within 23 feet of the nearest occupied façade of the closest sensitive receptor [commercial or residential use]) from the ordinance would not result in visual or aesthetics impacts Citywide that would be substantially different compared to the proposed Project. Similar to the proposed Project, Alternative 2 would not contribute to a loss of scenic vistas or a state scenic highway, or loss of focal views including natural views of topography, mountains, oceans, or man-made visual features. Temporary construction impacts from sidewalk repairs could affect the character of the local neighborhoods where the repairs would occur over 30 years of the program implementation period; however, these effects would be short term (generally fewer than 30 days at any given location) and would improve visual conditions over the long term.

In areas where street tree removal would be necessary at project locations that are at least 23 feet from the nearest occupied façade of the closest sensitive receptor (commercial or residential use), the effects on the character and quality of the neighborhood would be more perceptible and prominent. Temporary impacts on the City's urban forest and street tree canopy may occur because a new replacement street tree would require approximately 15 years to mature, on average (see Section 5.4.4.3, *Biological Resources*); however, in most cases, implementation of the revised street tree replacement policy would offset any long-term aesthetic impact, with removed street trees replaced at a 2:1 ratio for the first 10 years, a 3:1 ratio for years 11 through 21, and a 2:1 ratio for the remaining 9 years of Alternative 2 implementation. Similar to the proposed Project, over the long term or after 30 years, the City's overall visual landscape and the immediate surrounding area near an individual project would be improved, the City would not only be at net neutral for street tree canopy but there would be a net gain in tree canopy Citywide beginning in year 30, and shade would be reestablished to the level at the start of the implementation of Alternative 2. An alteration of HCM street trees for activities under Alternative 2 would be considered a significant impact in areas where the SOI's standards cannot feasibly be implemented. Similar to Scenario 3 projects, Alternative 2 would result in a significant impact on aesthetic or visual character in instances where the integrity of a cultural resource cannot be maintained, including when the aesthetic integrity of a known cultural resource is a contributing factor to a Historical Preservation Overlay Zone; or within an area of high sensitivity with respect to cultural resources; or in an area with known archaeological, paleontological, or tribal artifacts; or in an area with a designated HCM street tree. Impacts would be significant.

5.4.3.2 Air Quality

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2, would not result in air quality impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 2 would remain comparable to the Project, even with the exclusion of some projects, and, as under the Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Accordingly, similar to the proposed Project, Alternative 2 would not exceed regional or localized regional significance thresholds established by SCAQMD. Construction would be consistent with the objectives and policies of the General Plan and General Plan Framework, as construction activities would result in accommodating the mobility needs of people with disabilities, especially those with mobility disabilities, and would make all sidewalks compliant with applicable accessibility requirements. Given the brief duration of activities at each individual project site, the limited intensity of construction equipment use due to site constraints, and considering that operations activities would not introduce any new substantial stationary or mobile sources of TAC emissions in the City, this alternative would also not pose carcinogenic risks to nearby sensitive receptors. Therefore, similar to the proposed Project, Alternative 2 would be consistent with applicable SCAQMD and SCAG policies and would not expose sensitive receptors to substantial TAC concentrations. Impacts would be less than significant.

5.4.3.3 Biological Resources

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in biological resources impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Alternative 2 would be implemented in a primarily urban landscape where there is little to no suitable habitat for any wildlife species, besides the canopy associated with street trees. No construction would occur in Section 404 regulated water bodies. Upon completion of construction activities, minor maintenance activities, such as street tree inspections and watering, would occur. Although sensitive wildlife species would be affected through the removal of street trees and foraging habitat, such species are adapted to living in a heavily developed and disturbed urban setting. Construction noise is common throughout the City and unlikely to harm or harass such species. Construction impacts such as increased noise and light may have a significant impact on sensitive and resident wildlife species that occur within the sidewalk repair area; however, implementation of identified PDFs (PDF-BIO-1 through PDF-BIO-6) would ensure that any impact associated with habitat interference would remain less than significant by providing detailed guidance on how to comply with the MBTA, replacing removed street trees promptly, avoiding any destruction of active nests, and complying with the California Fish and Game Code and other applicable requirements. Compliance with and implementation of the PDFs would ensure that the species' normal behavior and chances for long-term survival would not be adversely affected by construction activities.

Like the proposed Project, Alternative 2 would not reduce, but would rather increase, habitat over time. With implementation of 2:1 and 3:1 street tree ratios over the 30-year implementation period, nesting habitat would increase and removed street trees would be replaced within 1 year. The replacement ratios would result in a net gain in the total number of street trees and acres of street tree canopy, which would provide additional nesting habitat for species protected under the MBTA. Impacts would be less than significant.

5.4.3.4 Cultural Resources

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in cultural resources impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). As under the proposed Project, under PDF-CUL-1, sites will be assessed for historical significance prior to the approval of any individual sidewalk repair and the existing Cultural Heritage Ordinance would still apply to HCM resources under Alternative 2. As discussed in Section 3.4, construction activities could result in the demolition of sidewalks, ramps, curbs, traffic signs, gutters, or other similar sidewalk-related features that are of historical significance. Similarly, construction could result in impacts on archaeological resources (e.g., uncover buried artifacts or features) and paleontological resources. Implementation of PDFs (PDF-CUL-1 through PDF-CUL-4) would require an assessment of historical significance, implementation of repairs and replacements in accordance with the SOI's standards, preparation of an Archaeological Treatment Plan, and/or preparation of a Paleontological Management Treatment Plan, as necessary. Although these PDFs would reduce and minimize impacts, when the SOI's standards cannot be followed a substantial material change in the significance or integrity of a historical or archaeological resource occurs, even after following the SOI's standards, and significant impacts would result. Impacts associated with the disturbance of human remains would be less than significant because compliance with the existing laws and regulations for appropriate handling of any human remains that are encountered would occur.

5.4.3.5 Geology and Soils

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in impacts on geology and soils that are different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Construction activities would be too shallow to cause significant geologic events (e.g., fault rupture, landslides, seismic ground shaking, liquefaction) or exacerbate geologic conditions. Geologic conditions in the area would remain unchanged as a result of the Sidewalk Repair Program. Similar to the proposed Project, landslide- and liquefaction-prone areas as well as areas with collapsible soils could expose workers to geologic hazards under this alternative. Implementation of PDF-GEO-1 (shoring plan) would minimize this impact in areas where excavation would be greater than 5 feet deep, as required per the Greenbook. Implementation of erosion and sediment control BMPs would prevent substantial soil erosion and sedimentation. In addition, construction activities would occur only in areas where sidewalks currently exist, not in areas where erosion could destabilize nearby structures. Construction activities would not create a geologic hazard by causing or accelerating instability related to erosion. Impacts would be less than significant.

5.4.3.6 Greenhouse Gas Emissions

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in GHG impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project and street trees would be removed/replaced at the same schedule as the Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 2 would remain comparable to those of the Project even with the exclusion of some projects, and would occur over 30 years, and as under the Project, with construction and operation occurring simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Thus, aggregate GHG emissions associated with all activities under the alternative (construction activities, operational maintenance activities, and changes in carbon sequestration over the 30-year period) would be similar to under the Project. Accordingly, similar to the proposed Project, annual GHG emissions under Alternative 2 would be below 3,000 metric tons of carbon dioxide equivalent. Impacts would be less than significant.

5.4.3.7 Hazards and Hazardous Materials

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in impacts related to hazards and hazardous materials that are different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). The construction activities associated with the proposed Project would involve the routine transport, use, and disposal of hazardous materials, such as solvents, paints, oils, and grease—materials that are typically used in construction projects. Such transport, use, and disposal would be in compliance with applicable regulations (e.g., the Resource Conservation and Recovery Act, Occupational Safety and Health Administration regulations, Department of Transportation regulations, the California Labor Code, and the California Code of Regulations). Any hazardous materials used would generally be in small amounts and any spills that may occur would be contained and cleaned up according to the Material Safety Data Sheet/Globally Harmonized System in the appropriate manner. During Project excavation, contaminated groundwater and/or contaminated soil may occasionally be encountered, which could release hazardous materials into the environment, expose workers and nearby receptors to hazardous emissions, or expose contaminated groundwater. Similar to the proposed Project, implementation of PDF-HAZ-2 through PDF-HAZ 4 would minimize exposure to hazardous materials and require proper handling and oversight (per state regulations and BOE standards). Impacts would be less than significant.

5.4.3.8 Hydrology and Water Quality

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in impacts on hydrology and water quality that are different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Alternative 2 would not affect the City's ability to implement or enforce its goals or policies or otherwise be inconsistent with regulatory requirements related to the minimization of water quality impacts. Construction activities would improve existing sidewalk and not introduce new impervious surfaces; as such, they would not result in a permanent adverse change in the movement of surface water and overall drainage patterns would be maintained. Any changes to stormwater flows into the stormwater system would be temporary during construction only. No direct groundwater withdrawal would occur, and the alternative would not obstruct potential groundwater recharge. Construction would comply with the minimum construction site BMP requirements of the MS4 permit for erosion, sediment, non-stormwater management, and waste management, and the BMPs would be implemented during construction activities to reduce the potential for chemical contaminants to affect water quality. The temporary reduction in street tree canopy from the replacement of mature street trees with younger and smaller street trees could alter street tree rainfall interception, which may temporarily increase surface runoff. However, similar to the Project, over the 30-year implementation period for this alternative, there will be a net gain in the canopy. The planted areas would be adequately watered during the establishment period, without erosion that would be detrimental to plantings.

Like under the Project, some sidewalk repairs could be within 100- and 500-year floodplains, which are potentially subject to flooding during storm events; however, flooding conditions would not be expected to change compared with existing conditions. Construction activities would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing floodflows. Impacts would be less than significant.

5.4.3.9 Land Use

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in impacts on land use that are different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Like under the proposed Project, implementation of projects under Alternative 2 would generally be within the public ROW and would not change or affect the adjacent and surrounding land uses. Similar to the Project, Alternative 2 would include the Revised Street Tree Retention, Removal and Replacement Policy, which would improve communities and enhance and improve sidewalks, providing better accessibility of all pedestrians. Consistent with the applicable objectives and policies of the General Plan and Framework Element, street tree activities under this alternative would help accommodate the needs of people with disabilities as well as the need for high-quality, safe pedestrian access on all sidewalks by ensuring that sidewalks would be in compliance with applicable accessibility requirements. Alternative 2 would be consistent with the applicable sidewalk, infrastructure, mobility, sustainability, and street tree policies identified in Mobility Plan 2035, an element of the General Plan and the Framework Element. Implementation of this alternative would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project area. Impacts would be less than significant.

5.4.3.10 Noise

Under this alternative, the nature of construction activities and operations of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). However, exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would avoid the significant noise impact and temporary significant vibration impact that would result under the proposed Project in instances where a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source, and where the distance from the construction vibration source to the building foundation of the nearest structure is fewer than 8 feet or where the distance to the nearest occupied space of a sensitive use is fewer than 23 feet. With the exclusion of projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use), the calculated interior sound level would not exceed the Project-specific interior threshold of 85 A-weighted decibels, equivalent noise level (8 hours), through the various phases of construction activities under Alternative 2. In addition, construction would be short term in duration, and no hearing damage would occur. Construction noise BMPs would be implemented, per PDF-NOI-2, to minimize noise impacts from construction activities. Similarly, vibration impacts from construction activities under Alternative 2 would be less than significant. Similar to the proposed Project, Alternative 2 would not result in any permanent change to noise levels; it would not expose people residing or working in the project site area to, or otherwise generate, excessive noise levels and this impact would be less than significant. Impacts would be less than significant.

5.4.3.11 Public Services

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in impacts on public services that are different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Demand for additional public services is usually created when there is a net increase in population in an area as a result of a project. Alternative 2 projects would not result in an increase in population because the construction crews employed to repair and maintain the sidewalks or remove and replace the street trees would not require relocated housing during construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population, and there is no evidence that ensuring the accessibility of the sidewalks under this alternative would lead to increased population growth. Construction activities for sidewalk repairs and street tree removal/replacement have the potential to temporarily increase the demand on police services and affect their response times due to temporary lane and road closures, which may also delay emergency responders. However, the lane closures would be infrequent and limited to small portions of streets, and would not result in mobility conditions that would be substantially different from existing conditions on roadways. Project construction would also comply with requirements and policies relating to fire safety practices, and PDF-TR-1 that includes compliance with the current edition of the WATCH manual. Therefore, there is no need for additional fire protection services apart from the existing level of service available within the City. Construction staging is also not expected to inhibit access to police or fire protection facilities. No other element of the continuing construction activities or operations (such as watering and inspecting the street trees) has the potential to increase the population, nor would it require the expansion of existing or construction of new fire, police, school, library, or park facilities. Impacts on public services would be less than significant.

5.4.3.12 Transportation

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in transportation impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering), and overall approximately the same amount of sidewalk repairs and street tree removal/replacement would occur as under the proposed Project. Accordingly, similar to the proposed Project, the maximum estimated daily construction trip generation at any single repair site would remain at 76 daily trips (with up to approximately half of that total expected during peak hours) and Citywide trips would be similar to those of the Project over the 30 years. As construction activities would be geographically widely distributed throughout the City, a relatively low number of trips would be generated at any individual construction site, and the effects of lane closures and parking restrictions would be minimized through compliance with LAMC Section 62.61 and the WATCH manual, as well as through the use of flagpersons, in-street construction impacts related to temporary traffic constraints would be less than significant. The temporary traffic impacts would not be substantial during construction, which may last up to 30 days at any construction site.

The likely impacts on bus stops would be limited to the maximum 30-day construction period and would be coordinated with the appropriate transit providers to ensure that effects on bus riders would be minimized. In addition, due to the short-term duration of loss of access related to driveway obstructions, parking spaces, and disruptions to pedestrian travel and coordination of construction activities with affected property owners and occupants, impacts related to potential temporary loss of access would be less than significant. Activities under this alternative involve rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets and would not add motor vehicle capacity; as such, Alternative 2 is not likely to lead to substantial or measurable increases in vehicle travel. This alternative, like the proposed Project, does not require further assessment for residential street impacts because the operational activities from the Project would not generate a net increase of 250 or more daily vehicle trips. Impacts would be less than significant.

5.4.3.13 Tribal Cultural Resources

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in TCR impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Construction activities associated with trenching and deeper excavations, as opposed to more surficial disturbances, have the potential to uncover or disturb TCRs. Impacts on TCRs would be less than significant under Scenarios 1 and 2 wherein it is unlikely that native fill will be involved during construction and utility relocation; similar to Scenario 3 projects under the proposed Project, Alternative 2 would result in a significant impact on TCRs where, after the assessment of TCRs in PDF-CUL-1 and despite the implementation under PDF-CUL-2 of the SOI's Standards for the Treatment of Historic Properties and PDF-CUL-3 of archaeological treatment plans, the integrity and significance of TCRs cannot be maintained. Impacts would be significant.

5.4.3.14 Utilities and Service Systems

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in utilities and service systems impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 2 would remain comparable to the Project, even with the exclusion of some projects. Accordingly, similar to the proposed Project, Alternative 2 would result in less-than-significant impacts with respect to water demand not exceeding the existing and planned water supply; being adequately served by existing and planned water and waste infrastructure; not exceeding the future planned drainage capacity (as defined in the City General Plan) or the wastewater treatment requirements of the Los Angeles RWQCB; and not conflicting with solid waste policies and objectives in the City Solid Waste Management Policy Plan, Framework Element, or Source Reduction and Recycling Element. Impacts would be less than significant.

5.4.3.15 Energy

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in energy impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering).

As under the Project, the removal of street trees under this alternative could indirectly increase electricity consumption because of the urban heat island effect. However, this alternative would plant up to 30,405 street trees, resulting in an overall net gain of 128 acres in the street tree canopy beginning in year 30 and continuing beyond year 30, which would offset the temporary urban heat island effects. Construction activities would rely on diesel-powered generators to produce the electricity required to operate electrical equipment. Similar to the proposed Project, it is anticipated that the utilities would address electricity demands within their respective service territories, which are under the oversight of the California Public Utilities Commission, and plan for utility demand through their annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. Alternative 2 would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity, nor would it impede a local utility's ability to meet the peak- and base-period demand for electricity and other forms of energy.

Similar to the Project, during construction under this alternative, transportation fuel would be required and consumed at a rate of approximately 148,705 gallons per year during peak activity, or approximately 3.3 million gallons (418,456 BTUs) over the 30-year lifetime of the alternative. Vehicles used for street tree watering and inspections during post-construction operations would result in the consumption of approximately 10,623 gallons of transportation fuel per year, or approximately 318,690 gallons over the 30-year period. The City would use a fleet of fuel-efficient vehicles for all work that would be required under this alternative, which would reduce the demand for transportation fuels. Therefore, Alternative 2 would not result in a wasteful, inefficient, or unnecessary usage of energy; result in a substantial increase in energy demand that would affect local or regional energy supplies; or require additional capacity or infrastructure to meet an increased demand. There would be a less-than-significant impact related to electricity and transportation fuel consumption. Impacts would be less than significant.

5.4.3.16 Wildfire

Exclusion of sidewalk repair projects that are within 23 feet of the nearest occupied façade of the closest sensitive receptor (commercial or residential use) from the ordinance proposed under Alternative 2 would not result in wildfire impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project; wildfire impacts would be similar to those under the proposed Project.

Some repairs would continue to occur in areas that are designated as Very High Fire Hazard Severity Zones. The work would be performed on concrete sidewalks, curbs, gutters, ramps, and other existing built-environment infrastructure. The materials involved are not flammable, and work would not be performed near flammable materials that would exacerbate wildfire risks. Compliance with existing laws, such as those in the LAMC, Fire Code Section 57, et seq., for construction sites on, adjacent to, or in the immediate vicinity of a Very High Fire Hazard Severity Zone would further minimize potential risks. Impacts would be less than significant.

5.4.4 Alternative 3. Ordinance will exclude sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources; such projects would proceed as discretionary projects under existing codes and policies.

Under Alternative 3, sidewalk repair projects that may result in significant adverse impacts on known historic, tribal cultural, unique archaeological, or unique paleontological resources, as these terms are defined by CEQA, would continue to be reviewed and approved on a case-by-case basis under existing codes and policies, and would require individual CEQA review and would not be able to rely on this EIR for CEQA compliance. Approval of sidewalk repair projects failing within these parameters would proceed only on a case-by-case basis of discretionary approval consistent with existing practices, as opposed to a streamlined discretionary approval process as proposed under the Project. These projects will, however, comply with the Revised 2015 Street Tree Removal Permit and Tree Replacement Condition Policies for any required street tree removals and replacements. Considering that there is more square footage of sidewalk to repair in the City than would be subject to ministerial approval under the Project (i.e., the ordinance provisions), it is anticipated that even with the occasional exclusion of specific sidewalk repair sites under this alternative, a comparable amount of sidewalk repairs would ultimately occur under this alternative each year, and cumulatively, because funds would be re-directed to those remaining sidewalk repair segments that lack potential to substantially and adversely affect known historic, tribal cultural, unique archaeological, or unique paleontological resources.

5.4.4.1 Aesthetics

Similar to the proposed Project, Alternative 3 would not contribute to a loss of scenic vistas or a state scenic highway, or loss of focal views including natural views of topography, mountains, oceans, or man-made visual features. Temporary construction impacts from sidewalk repairs could affect the character of the local neighborhoods where the repairs would occur over 30 years of the program implementation period; however, these effects would be short term (generally fewer than 30 days at any given location) and would improve visual conditions over the long term.

In areas where street tree removal would be necessary, the effects on the character and quality of the neighborhood would be more perceptible and prominent. Temporary impacts on the City's urban forest and street tree canopy may occur because a new replacement street tree would require approximately 15 years to mature, on average (see Section 5.4.5.3, *Biological Resources*); however, in most cases, implementation of the revised street tree replacement policy would offset any long-term aesthetic impact, with removed street trees replaced at a 2:1 ratio for the first 10 years, a 3:1 ratio for years 11 through 21, and a 2:1 ratio for the remaining 9 years of Alternative 3 implementation. Similar to the proposed Project, over the long term or after 30 years, the City's overall visual landscape and the immediate surrounding area near an individual project would be improved, the City would not only be at net neutral for street tree canopy but there would be a net gain in tree canopy Citywide beginning in year 30, and shade would be reestablished to the level at the start of the implementation of Alternative 3.

Because Alternative 3 would not include individual projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources, an alteration of HCM street trees would not result from activities under Alternative 3 with the potential for significant impacts in areas where the SOI's standards cannot feasibly be implemented. Unlike Scenario 3 under the proposed Project, Alternative 3 would not result in a significant impact on aesthetic or visual character, as it would exclude projects that have the potential for such impacts including in instances where the integrity of a cultural resource cannot be maintained, including when the aesthetic integrity of a known cultural resource is a contributing factor to a Historical Preservation Overlay Zone; or within an area of high sensitivity with respect to cultural resources; or in an area with known archaeological, paleontological, or tribal artifacts; or in an area with a designated HCM street tree. Impacts would be significant.

5.4.4.2 Air Quality

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on air quality that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 3 would be comparable to the Project, even with the exclusion of some projects, and as under the Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Accordingly, similar to the proposed Project, Alternative 3 would not exceed regional or localized regional significance thresholds established by SCAQMD. Construction would be consistent with the objectives and policies of the General Plan and General Plan Framework as construction activities would result in accommodating the mobility needs of people with disabilities, especially those with mobility disabilities, and would make all sidewalks compliant with applicable accessibility requirements. Given the brief duration of activities at each individual project site, the limited intensity of construction equipment use due to site constraints, and considering that operations activities would not introduce any new substantial stationary or mobile sources of TAC emissions in the City, this alternative would also not pose carcinogenic risks to nearby sensitive receptors. Therefore, similar to the proposed Project, Alternative 3 would be consistent with applicable SCAQMD and SCAG policies and would not expose sensitive receptors to substantial TAC concentrations. Impacts would be less than significant.

5.4.4.3 Biological Resources

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in biological resources impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project.

Alternative 3 would be implemented in a primarily urban landscape where there is little to no suitable habitat for any wildlife species, besides the canopy associated with street trees. No construction would occur in Section 404 regulated water bodies. Upon completion of construction activities, minor maintenance activities, such as street tree inspections and watering, would occur. Although sensitive wildlife species would be affected through the removal of street trees and foraging habitat, such species are adapted to living in a heavily developed and disturbed urban setting. Construction noise is common throughout the City and unlikely to harm or harass such species. Construction impacts such as increased noise and light may have a significant impact on sensitive and resident wildlife species that occur within the sidewalk repair area; however, implementation of identified PDFs (PDF-BIO-1 through PDF-BIO-6) would ensure that any impact associated with habitat interference would remain less than significant by providing detailed guidance on how to comply with the MBTA, replacing removed street trees promptly, avoiding any destruction of active nests, and complying with the California Fish and Game Code and other applicable requirements. Compliance with and implementation of the PDFs would ensure that the species' normal behavior and chances for long-term survival would not be adversely affected by construction activities.

Like the proposed Project, Alternative 3 would not reduce, but would rather increase, habitat over time. With implementation of 2:1 and 3:1 street tree ratios over the 30-year implementation period, nesting habitat would increase and removed street trees would be replaced within 1 year. The replacement ratios would result in a net gain in the total number of street trees and acres of street tree canopy, which would provide additional nesting habitat for species protected under the MBTA. Impacts would be less than significant.

5.4.4.4 Cultural Resources

Under this alternative, the nature of construction activities and operations of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). However, sidewalk repair projects that are located in areas where they have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources would be excluded from the ordinance proposed under Alternative 3. In accordance with PDF-CUL-1, sites will be assessed for historical significance prior to the approval of any individual sidewalk repair to determine whether a substantial adverse change would occur to the significance of a known historic, tribal cultural, unique archaeological, and/or unique paleontological resource. Under Alternative 3, projects that may cause a substantial adverse change to known historic, tribal cultural, unique archaeological, and/or unique paleontological resources will be excluded from the ordinance and, therefore, unlike the proposed Project, significant impacts on cultural resources would not occur under Alternative 3.

5.4.4.5 Geology and Soils

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on geology and soils that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project. Construction activities would be too shallow to cause significant geologic events (e.g., fault rupture, landslides, seismic ground shaking, liquefaction) or exacerbate geologic conditions. Geologic conditions in the area would remain unchanged as a result of the Sidewalk Repair Program. Similar to the proposed Project, landslide- and liquefaction-prone areas as well as areas with collapsible soils could expose workers to geologic hazards under this alternative. Implementation of PDF-GEO-1 (shoring plan) would minimize this impact in areas where excavation would be greater than 5 feet deep, as required per the Greenbook. Implementation of erosion and sediment control BMPs would prevent substantial soil erosion and sedimentation. In addition, construction activities would occur only in areas where sidewalks currently exist, not in areas where erosion could destabilize nearby structures. Construction activities would not create a geologic hazard by causing or accelerating instability related to erosion. Impacts would be less than significant.

5.4.4.6 Greenhouse Gas Emissions

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in GHG impacts that are different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project and street trees would be removed/replaced at the same schedule as the Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 3 would remain comparable to the Project even with the exclusion of some projects and would occur over 30 years and, as under the Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Thus, aggregate GHG emissions associated with all activities under the alternative (construction activities, operational maintenance activities, and changes in carbon sequestration over the 30-year period) would be similar to under the Project. Accordingly, similar to the proposed Project, annual GHG emissions under Alternative 3 would be below 3,000 metric tons of carbon dioxide equivalent. Impacts would be less than significant.

5.4.4.7 Hazards and Hazardous Materials

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on land use that are different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project. The construction activities associated with the proposed Project would involve the routine transport, use, and disposal of hazardous materials, such as solvents, paints, oils, and grease—materials that are typically used in construction projects. Such transport, use, and disposal would be in compliance with applicable regulations (e.g., the Resource Conservation and Recovery Act, Occupational Safety and Health Administration regulations, Department of Transportation regulations, the California Labor Code, and the California Code of Regulations). Any hazardous materials used would generally be in small amounts and any spills that may occur would be contained and cleaned up according to the Material Safety Data Sheet/Globally Harmonized System in the appropriate manner. During Project excavation, contaminated groundwater and/or contaminated soil may occasionally be encountered, which could release hazardous materials into the environment, expose workers and nearby receptors to hazardous emissions, or expose contaminated groundwater. Similar to the proposed Project, implementation of PDF-HAZ-2 through PDF-HAZ 4 would minimize exposure to hazardous materials and require proper handling and oversight (per state regulations and BOE standards). Impacts would be less than significant.

5.4.4.8 Hydrology and Water Quality

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on land use that are different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project. Alternative 3 would not affect the City's ability to implement or enforce its goals or policies or otherwise be inconsistent with regulatory requirements related to the minimization of water quality impacts. Construction activities would improve existing sidewalk and not introduce new impervious surfaces; as such, they would not result in a permanent adverse change in the movement of surface water and overall drainage patterns would be maintained. Any changes to stormwater flows into the stormwater system would be temporary during construction only. No direct groundwater withdrawal would occur, and the alternative would not obstruct potential groundwater recharge. Construction would comply with the minimum construction site BMP requirements of the MS4 permit for erosion, sediment, non-stormwater management, and waste management, and the BMPs would be implemented during construction activities to reduce the potential for chemical contaminants to affect water quality. The temporary reduction in street tree canopy from the replacement of mature street trees with younger and smaller street trees could alter street tree rainfall interception, which may temporarily increase surface runoff. However, similar to the Project, over the 30-year implementation period for this alternative, there will be a net gain in the canopy. The planted areas would be adequately watered during the establishment period, without erosion that would be detrimental to plantings.

Like under the Project, some sidewalk repairs could be within 100- and 500-year floodplains, which are potentially subject to flooding during storm events; however, flooding conditions would not be expected to change compared with existing conditions. Construction activities would not affect the overall flood zone or result in additional flooding because no new structures would be added to existing sidewalks that could redirect or exacerbate existing floodflows. Impacts would be less than significant.

5.4.4.9 Land Use

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on land use that are different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project. Like under the proposed Project, implementation of projects under Alternative 3 would generally be within the public ROW and would not change or affect the adjacent and surrounding land uses. Similar to the Project, Alternative 3 would include the Revised Street Tree Retention, Removal and Replacement Policy, which would improve communities and enhance and improve sidewalks, providing better accessibility of all pedestrians. Consistent with the applicable objectives and policies of the General Plan and Framework Element, street tree activities under this alternative would help accommodate the needs of people with disabilities as well as the need for high-quality, safe pedestrian access on all sidewalks by ensuring that sidewalks would be in compliance with applicable accessibility requirements. Alternative 3 would be consistent with the applicable sidewalk, infrastructure, mobility, sustainability, and street tree policies identified in Mobility Plan 2035, an element of the General Plan and the Framework Element. Implementation of this alternative would not conflict with existing land use plans, policies, or regulations of agencies with jurisdiction over the Project area. Impacts would be less than significant.

5.4.4.10 Noise

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in noise impacts that are different from those under the proposed

Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). Similar to the proposed Project, construction activities under this alternative would result in a significant noise impact if a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source. In most cases, the calculated interior sound level would not exceed the Project-specific interior threshold of 85 A-weighted decibels, equivalent noise level (8 hours), through the various phases of construction activities. In addition, construction would be short term in duration, and no hearing damage would occur. However, some individual sidewalk projects under this alternative may not be able to maintain a 10-foot distance for commercial sensitive uses or a 20-foot distance for residential sensitive uses from the construction noise source, which would result in significant impacts. Construction noise BMPs would be implemented, per PDF-NOI-2, to minimize noise impacts from construction activities.

Similarly, some Alternative 3 construction activities could result in substantial vibration impacts. The impact would be less than significant for the vast majority of construction sites. However, where the distance from the construction vibration source to the building foundation of the nearest structure is fewer than 8 feet or where the distance to the nearest occupied space of a sensitive use is fewer than 23 feet, temporary significant impacts would occur. Exceedances of the applicable construction noise thresholds would still occur even after implementation of the construction vibration BMPs in PDF-NOI-3. Impacts would be significant.

Similar to the proposed Project, Alternative 3 would not result in any permanent change to noise levels; it would not expose people residing or working in the project site area to, or otherwise generate, excessive noise levels and this impact would be less than significant.

5.4.4.11 Public Services

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in impacts on public services that are different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project. Demand for additional public services is usually created when there is a net increase in population in an area as a result of a project. Alternative 3 projects would not result in an increase in population because the construction crews employed to repair and maintain the sidewalks or remove and replace the street trees would not require relocated housing during construction. The sidewalks being repaired are existing sidewalks that are already serving the existing population, and there is no evidence that ensuring the accessibility of the sidewalks under this alternative would lead to increased population growth. Construction activities for sidewalk repairs and street tree removal/replacement have the potential to temporarily increase the demand on police services and affect their response times due to temporary lane and road closures, which may also delay emergency responders. However, the lane closures would be infrequent and limited to small portions of streets, and would not result in mobility conditions that would be substantially different from existing conditions on roadways. Project construction would also comply with requirements and policies relating to fire safety practices, and PDF-TR-1 that includes compliance with the current edition of the WATCH manual. Therefore, there is no need for additional fire protection services apart from the existing level of service available within the City.

Construction staging is also not expected to inhibit access to police or fire protection facilities. No other element of the continuing construction activities or operations (such as watering and inspecting the street trees) has the potential to increase the population, nor would it require the expansion of existing or construction of new fire, police, school, library, or park facilities. Impacts on public services would be less than significant.

5.4.4.12 Transportation

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in transportation impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 3 would remain comparable to the Project, even with the exclusion of some projects. Accordingly, similar to the proposed Project, the maximum estimated daily construction trip generation at any single repair site would remain at 76 daily trips (with up to approximately half of that total expected during peak hours) and Citywide trips would be similar to those of the Project over the 30 years. As construction activities would be geographically widely distributed throughout the City, a relatively low number of trips would be generated at any individual construction site, and the effects of lane closures and parking restrictions would be minimized through compliance with LAMC Section 62.61 and the WATCH manual, as well as through the use of flagpersons, in-street construction impacts related to temporary traffic constraints would be less than significant. The temporary traffic impacts would not be substantial during construction, which may last up to 30 days at any construction site.

The likely impacts on bus stops would be limited to the maximum 30-day construction period and would be coordinated with the appropriate transit providers to ensure that effects on bus riders would be minimized. In addition, due to the short-term duration of loss of access related to driveway obstructions, parking spaces, and disruptions to pedestrian travel and coordination of construction activities with affected property owners and occupants, impacts related to potential temporary loss of access would be less than significant. Activities under this alternative involve rehabilitation, maintenance, replacement, safety, and repair projects designed to improve the condition of existing transportation assets and would not add motor vehicle capacity; as such, Alternative 3 is not likely to lead to substantial or measurable increases in vehicle travel. This alternative, like the proposed Project, does not require further assessment for residential street impacts because the operational activities from the Project would not generate a net increase of 250 or more daily vehicle trips. Impacts would be less than significant.

5.4.4.13 Tribal Cultural Resources

Under this alternative, the nature of construction activities and operations of individual sidewalk repair projects remain unchanged from the proposed Project and, as under the proposed Project, construction and operation would occur simultaneously at various times and locations (i.e., sidewalk repair/street tree removal and replacement street tree watering). However, sidewalk repair projects that are located in areas where they have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources would be excluded from the ordinance proposed under Alternative 3, and thus significant impacts that would occur from Scenario 3 projects under the proposed Project would be avoided under Alternative 3. Therefore, the ordinance under Alternative 3 would apply to only those projects where the sidewalk improvement would not have the potential to result in a substantial adverse change to TCRs or can be avoided entirely. Similar to the proposed Project, impacts on TCRs would be less than significant under Scenarios 1 and 2 wherein it is unlikely that native fill will be involved during construction and utility relocation. Impacts would be less than significant.

5.4.4.14 Utilities and Service Systems

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in utilities and service systems impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project; the total amount of sidewalk repairs and street tree removal/replacements under Alternative 3 would remain comparable to the Project, even with the exclusion of some projects. Accordingly, similar to the proposed Project, Alternative 3 would result in less-than-significant impacts with respect to water demand not exceeding the existing and planned water supply; being adequately served by existing and planned water and waste infrastructure; not exceeding the future planned drainage capacity (as defined in the City General Plan) or the wastewater treatment requirements of the Los Angeles RWQCB; and not conflicting with solid waste policies and objectives in the City Solid Waste Management Policy Plan, Framework Element, or Source Reduction and Recycling Element. Impacts would be less than significant.

5.4.4.15 Energy

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in energy impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities and operations remain unchanged from the proposed Project.

As under the Project, the removal of street trees under this alternative could indirectly increase electricity consumption because of the urban heat island effect. However, this alternative would plant up to 30,405 street trees, resulting in an overall net gain of 128 acres in the street tree canopy beginning in year 30 and continuing beyond year 30, which would offset the temporary urban heat island effects. Construction activities would rely on diesel-powered generators to produce the electricity required to operate electrical equipment. Similar to the proposed Project, it is anticipated that the utilities would address electricity demands within their respective service territories, which are under the oversight of the California Public Utilities Commission, and plan for utility demand through their annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. Alternative 3 would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity, nor would it impede a local utility's ability to meet the peak- and base-period demand for electricity and other forms of energy.

Similar to the Project, during construction under this alternative, transportation fuel would be required and consumed at a rate of approximately 148,705 gallons per year during peak activity, or approximately 3.3 million gallons (418,456 BTUs) over the 30-year lifetime of the alternative. Vehicles used for street tree watering and inspections during post-construction operations would result in the consumption of approximately 10,623 gallons of transportation fuel per year, or approximately 318,690 gallons over the 30-year period. The City would use a fleet of fuel-efficient vehicles for all work that would be required under this alternative, which would reduce the demand for transportation fuels. Therefore, Alternative 3 would not result in a wasteful, inefficient, or unnecessary usage of energy; result in a substantial increase in energy demand that would affect local or regional energy supplies; or require additional capacity or infrastructure to meet an increased demand. There would be a less-than-significant impact related to electricity and transportation fuel consumption. Impacts would be less than significant.

5.4.4.16 Wildfire

Exclusion of sidewalk repair projects that have the potential to affect known historic, tribal cultural, unique archaeological, or unique paleontological resources from the ordinance proposed under Alternative 3 would not result in wildfire impacts that would be different from those under the proposed Project. Under this alternative, the nature of construction activities, operations, and location of individual sidewalk repair projects remain unchanged from the proposed Project; wildfire impacts would be similar to those under the proposed Project.

Some repairs would continue to occur in areas that are designated as Very High Fire Hazard Severity Zones. The work would be performed on concrete sidewalks, curbs, gutters, ramps, and other existing built-environment infrastructure. The materials involved are not flammable, and work would not be performed near flammable materials that would exacerbate wildfire risks. Compliance with existing laws, such as those in the LAMC, Fire Code Section 57, et seq., for construction sites on, adjacent to, or in the immediate vicinity of a Very High Fire Hazard Severity Zone would further minimize potential risks. Impacts would be less than significant.

5.5 Environmentally Superior Alternative

In addition to the discussion and comparison of impacts of a proposed project and its alternatives, Section 15126.6 of the State CEQA Guidelines requires that an "environmentally superior" alternative be identified and the reasons for such a selection be disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of adverse impacts. In this case, as detailed above and show in Table 5-3, Alternative 1, Ordinance to Repair Sidewalks and Avoid Removal of Any Street Trees, would result in the fewest impacts on the existing environment; however, it would not avoid the significant impacts related to noise and cultural resources that would occur under the Project, even with the implementation of the relevant PDFs. While Alternatives 2 and 3, respectively, reduce these potentially significant impacts of the proposed Project, they result in only slightly fewer impacts on the environment than the proposed Project (with a relative score of -1 and -2, respectively) and would not meet all the Project objectives.

Alternative 1 is the environmentally superior alternative due to the implementation of an ordinance that would streamline sidewalk repairs and avoid all street tree removals. Under this alternative, less sidewalk would be repaired than under the Project because not all sidewalks can be made compliant with accessibility requirements pursuant to the *Willits* Settlement without removal of street trees; in addition, because there would be no street tree removals or replacements, associated operations activities of new street tree monitoring and watering would not be required. Thus, overall construction activities would be reduced and no street trees would be removed under Alternative 1. Accordingly, impacts related to aesthetics, air quality, biological resources, GHG emissions, noise, public services, transportation, utilities, and energy would be less under

Alternative 1 than the proposed Project. Alternative 1 would not meet the Project objectives of ensuring continued and efficient compliance with the requirements of the *Willits* Settlement, in accordance with the applicable accessibility requirements, because some sidewalks will require street tree removals to achieve compliance with applicable accessibility requirements pursuant to the *Willits* Settlement.

Chapter 6
Other Environmental Considerations

This chapter evaluates the following environmental considerations under the California Environmental Quality Act (CEQA): effects not found to be significant, based on analysis contained in the Initial Study (see Appendix A of this draft environmental impact report (Draft EIR)); significant and unavoidable adverse environmental impacts; significant irreversible environmental changes; and growth-inducing impacts.

6.1 Effects Found Not to Be Significant

Section 15128 of the CEQA Guidelines (14 California Code of Regulations) states:

> An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of the project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of a Notice of Preparation/Initial Study.

In accordance with the requirements of CEQA, the City of Los Angeles (City) prepared a Notice of Preparation/Initial Study (NOP/IS), dated July 27, 2017, that identified the topics to be analyzed in the EIR. The NOP/IS is contained in Appendix A of this Draft EIR.

The City, as the CEQA lead agency, determined in the IS that the proposed Project (Project) would result in no impact for the following resource areas and, therefore, eliminated them from further analysis in the Draft EIR:

- Agriculture and Forestry Resources
- Mineral Resources
- Population and Housing
- Recreation

The analyses presented in Chapter 3 of this Draft EIR concluded that the Project would result in a less than significant impact, without any required mitigation, for the following resource areas:

- Aesthetics (Construction Scenarios 1 and 2 sites only; see Chapter 2 *Project Description*, for a discussion of the construction scenarios)
- Air Quality
- Biological Resources
- Cultural Resources (Construction Scenarios 1 and 2 sites only; see Chapter 2 *Project Description*, for a discussion of the construction scenarios)
- Energy
- Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources (Construction Scenarios 1 and 2 sites only; see Chapter 2, *Project Description*, for a discussion of the construction scenarios)
- Utilities and Service Systems
- Wildfire Hazards

6.2 Significant and Unavoidable Adverse Impacts

CEQA Guidelines Section 15126.2(c) states that the EIR must describe any significant impacts, including those that can be mitigated but not reduced to a less than significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons the project is being proposed, notwithstanding their effect, should be described.

The analyses presented in Chapter 3 of this Draft EIR concluded that the Project would result in significant and unavoidable adverse impacts, with no feasible mitigation, for the following resource areas:

- Aesthetics (Scenario 3 only) – Significant and unavoidable adverse impacts to aesthetics would occur in Scenario 3 construction projects where *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (SOI Standards) cannot be fully implemented and a historic resource is demolished, destroyed, or damaged in such a way that its integrity and importance is impacted.
- Cultural Resources (Scenario 3 only) - Significant and unavoidable adverse impacts to historical, archeological, and paleontological resources would occur in Scenario 3 construction projects where despite the implementation of SOI Standards, archaeological treatment plans (ATPs), and paleontological management treatment plans, the significance of the historical, archaeological, and/or paleontological resource cannot be maintained.
- Noise - Significant and unavoidable adverse impacts related to construction noise and construction vibration would occur in the limited instances where: a 10-foot distance for commercial sensitive receptors and a 20-foot distance for residential sensitive uses cannot be maintained from the construction noise source; an 8-foot distance cannot be maintained from the closest occupied space façade of the closest sensitive receptor; or a 23-foot distance cannot be maintained from the vibratory equipment to the nearest occupied space of a sensitive receptor.
- Tribal Cultural Resources (Scenario 3 only) - Significant and unavoidable adverse impacts to tribal cultural resources would occur in Scenario 3 construction projects where despite the

implementation of SOI Standards and ATPs, the significance of the tribal cultural resource cannot be maintained.

As discussed in Chapter 4, *Alternatives,* some or all of the significant impacts may not be reduced to less than significant while meeting all of the Project objectives. Also, Chapter 4, A*lternatives* discusses the feasibility of the alternatives that were suggested during the NOP public comment period and whether or not they meet the project objectives or reduced an impact to less than significant levels.

As discussed in Chapter 2, *Project Description,* the Project would continue ongoing sidewalk repair work in compliance with the *Willits* Settlement. Furthermore, through the proposed ordinance, most of the sidewalk repair and street tree removal and replacement work will be more efficient and streamlined. Finally, as set forth in Chapter 3, *Environmental Impact Analysis*, the extent to which significant impacts occur would be in rare instances under Scenario 3, in Aesthetics, Cultural, and Tribal Cultural resource areas. The impacts identified in the Noise resource area from certain construction activities of the Project are a significant impact to the environment.

6.3 Significant Irreversible Environmental Changes That Would Be Caused by the Project Should It Be Implemented

CEQA Guidelines Section 15126.2(d) indicates that uses of nonrenewable resources during the initial and continued phases of a project may be irreversible because a large commitment of such resources makes removal or nonuse thereafter unlikely. Irretrievable commitments of resources should be evaluated to ensure that such current consumption is justified.

Implementation of the Project would occur throughout the City at various places and times. The continuation of construction activities would include the irreversible commitment of natural resources, energy, and human resources. The continuation of ongoing maintenance and inspection of the repaired sidewalks and replacement trees would entail a further irreversible commitment of energy resources in the form of gasoline and electricity.

In summary, implementation of the Project would involve the following irreversible environmental changes:

- Use of the following essential public services: fire and police protection, solid waste, and utility and services systems, including water and wastewater.
- Consumption of transportation fuels during construction and operation and increase in consumption of electricity for cooling during temporary construction and operation as they will overlap for 30 years.
- Temporary and permanent commitment of water resources as a result of construction and operation.
- Utilization of various new raw materials such as sand and gravel for the creation of cement required for sidewalk repair.

Although the Project would require the commitment of nonrenewable resources, sidewalk repair under the Project would ensure the safety of the City and the mobility of all people within the City. Over the long term, the Project would also improve air quality and increase tree canopy throughout the City. Therefore, the significant irreversible changes have been deemed acceptable in light of the Project's overall benefits.

6.4 Growth-Inducing Impacts

According to CEQA Guidelines Section 15126.2(e), growth-inducing impacts of the Project must be discussed in the EIR. Growth-inducing impacts are those effects of the Project that might foster economic or population growth or the construction of new housing, either directly or indirectly, in the surrounding environment. According to CEQA, increases in the population may affect capacity of existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

As stated in Chapter 2, *Project Description*, the broad purpose of the Project is to ensure that the City's sidewalk and curb ramps are compliant with applicable accessibility requirements. All proposed repairs would comply with applicable accessibility requirements. Additionally, the Project may include the removal and replacement of street trees as well as utility relocations.

The Project would not include development of new housing or other population-generating uses that would directly induce population growth or attract a substantial number or workers. In addition, it would not affect the capacity of existing community service facilities, thereby requiring the construction of new facilities, which could cause significant environmental effects. The Project would include the continuation of repairs to existing sidewalks, removal, and replacement of existing street trees, and utility relocations. The Project would not induce new residential development or result in population growth in the service area.

The population within the City has been growing and is projected to keep growing regardless of whether the Project is implemented. The Project would continue the repair and upgrade sidewalks and curb ramps throughout the City and contains no elements, such as new housing or new roadways that would induce growth. Therefore, there would be no growth-inducing impacts, and no mitigation is required.

Chapter 7
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Chapter 1

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Chapter 5 – Comparison of Alternatives

None.

Chapter 6 – Other Environmental Considerations

None.

Chapter 7 – Persons Consulted

None.

Chapter 8 – List of Preparers

None.