CHAPTER 3: ENVIRONMENTAL SETTING AND IMPACTS

3.1 INTRODUCTION

Based on the Initial Study and issues raised during the Notice of Preparation (NOP) review, the following environmental issues related to potentially significant impacts from the proposed Sylmar Ground Return System Replacement Project (Project) are addressed in this section of the Draft Environmental Impact Report (EIR).

- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Cultural and Paleontological Resources
- Noise
- Traffic and Transportation
- Marine Resources

3.1.1 Methods of Analysis

The impact analysis for each of the resource areas is structured as follows:

Existing Conditions

The *Existing Conditions* section consists of the *Environmental Setting* and *Regulatory Framework* subsections. The *Environmental Setting* subsection describes the existing environmental conditions or baseline conditions in the area affected by construction and operation of the proposed Project. The baseline conditions are used for comparison to establish the type and extent of the potential environmental impacts. The environmental setting is described within the Project vicinity and in a regional context, as appropriate, with a focus on the particular environmental impacts being discussed. The *Regulatory Framework* section presents applicable regulations, plans, goals, policies, and standards associated with each topic.

Methodology and Threshold of Significance

The *Methodology and Threshold of Significance* section describes the context and approach for the environmental impact analyses. The thresholds describe the criteria used to determine which impacts would be potentially significant. Significance thresholds are based on criteria identified in Appendix G of the California Environmental Quality Act (CEQA) Guidelines and/or other federal, State, or local standards that have been established relative to particular environmental resource areas.

Impacts

The *Impacts* section evaluates how construction and operation of the proposed Project would change existing conditions, potentially resulting in significant impacts on the environment, including direct or reasonably foreseeable indirect effects.

Cumulative Impacts

The *Cumulative Impacts* section describes effects that may be individually limited but cumulatively considerable when measured along with other approved, proposed, or reasonably foreseeable future projects.

Mitigation Measures and Level of Significance After Mitigation

The *Mitigation Measures and Level of Significance After Mitigation* section identifies actions to eliminate or reduce potentially significant impacts of the proposed Project and whether impacts would remain

significant even after the application of those proposed mitigation measures. In determining additional Project-specific mitigation measures, existing regulations and other public agency requirements and best management practices (BMPs) are already taken under consideration. Any impacts that cannot be eliminated or reduced to a level of less than significant are considered unavoidable significant impacts of the proposed Project.

3.1.2 Effects Found Not To Be Significant

Based on the Initial Study analysis for the proposed Project, certain environmental impacts were determined not to be significant. Environmental issues that were determined to have no impact or a less than significant impact during the Project's scoping period do not require further analysis under CEQA (Section 15128 of the CEQA Guidelines). Reasoning for why these impacts were found not to be significant is provided below, and more detailed discussions may be found in the Initial Study included in Appendix A of this Draft EIR.

Aesthetics

The underground portion of the proposed Project's alignment would traverse through urbanized areas within street rights-of-way (ROW). Project-related construction activities, such as the use of equipment and vehicles associated with trench excavation and cable installation, would result in short-term visual disruptions of aesthetic resources within the San Vicente Scenic Corridor Specific Plan and the Brentwood-Pacific Palisades Community Plan areas. However, since such activities would be temporary, and given the proposed electrode system is a linear facility, construction activities would not occur at any one location for an extended period of time. Therefore, impacts to aesthetic resources from construction of the Project would be less than significant. Construction of the Project would not impact above ground scenic resources, including mature trees, rock outcroppings, or historic buildings, because land-side construction activities would occur solely within existing roadway ROWs or within the existing Kenter Canyon Terminal Tower facility. In addition, there are no designated State scenic highways in the vicinity of the proposed Project; Pacific Coast Highway (PCH) is eligible for designation as a State scenic highway in the vicinity of the Project, but it is not officially designated.

Operation of the Project would not affect aesthetic resources. The underground and submarine portions of the electrode system would not be visible, similar to the existing condition; therefore, no impact to aesthetic resources relative to the Project would occur.

Agricultural and Forestry Resources

The proposed Project area is not designated as, nor is any land located close to the Project designated as, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No agricultural lands would be converted to a non-agricultural use and no portion of the Project is subject to a Williamson Act contract; therefore no impact would occur and no further study is required.

The Project area does not support native tree cover or timber resources, and is not considered forest land, timberland, or a timberland production zone. The Project would not convert forest land to non-forest use, nor would it conflict with existing zoning for, or cause rezoning of, forest land.

Hazards and Hazardous Materials

During construction of the proposed Project, quantities of fuel used to operate construction vehicles and equipment would be stored safely, and substantial quantities would not be stored along the alignment or in staging areas. Potentially contaminated soils and paving materials from construction excavation would be transported and disposed of by qualified personnel in accordance with all applicable State and federal codes and regulations. All existing cables that would be removed would be recycled or disposed of appropriately. There are no hazardous materials sites that would be encountered during Project

construction. No airport is located in the vicinity of the Project and thus the Project would not create a hazard related to flight operations. There is no risk of wildland fires within close proximity of the Project, and thus no people or structures would be exposed to a significant loss, injury or death involving wildland fires. Operation of the proposed Project would not require the use, storage or disposal of hazardous substances.

A potentially significant impact during Project construction could exist with an adopted emergency response plan or a local, State, or federal agency's emergency evacuation plan due to roadway traffic lane reductions and restrictions during Project construction. Further analysis and discussion regarding emergency response routes and traffic is presented in Section 3.6.

Geology and Soils

According to the Department of Conservation California Geological Survey, the Project site is located within the area identified as the Alquist-Priolo Earthquake Zone. As with most of Southern California, the proposed Project is located in a seismically active area and therefore would be subject to ground shaking and potential damage during an earthquake. However, the Project is the replacement of an existing electrode system; no habitable structures are proposed to be constructed. All underground cables and vaults would be placed below ground. Submarine cables would be buried and the electrode array would be placed on the ocean floor. The proposed Project would be constructed to meet all applicable electrical code and seismic safety standards, and all trenched areas would be backfilled to meet proper shear strength requirements. Construction of all underground conduits would be in existing paved streets or previously disturbed areas, and as such, no substantial erosion or loss of topsoil would result. Therefore, seismic hazards, erosion or loss of topsoil, and effects from unstable soils (landslides, lateral spreading, subsidence, liquefaction, expansive soils or collapse) would be less than significant with incorporation of geotechnical measures into Project design plans and specifications, and implementation of BMP-1 Stormwater Pollution Prevention Plan. The proposed Project would not involve the construction or use of septic tanks or alternative wastewater disposal systems; therefore, there would be no associated impact.

Hydrology and Water Quality

The underground portion of the proposed Project does not overlie a groundwater basin. The Project may require dewatering activities; however, dewatering would not be expected to involve water quantities that would substantially deplete groundwater supplies (there are no significant supplies in the area) or interfere with groundwater recharge, due to the short duration of trenching activities at each location along the alignment. Therefore, a less than significant impact to groundwater supplies or groundwater recharge would result during Project construction. No water supplies would be required during Project operation. Accordingly, operation-related impacts would have no impact on groundwater. The underground portions of the alignment would be installed under existing drainage channels. Therefore, there would be no impact on flooding, drainage patterns or erosion in these watercourses; no water bodies would be altered by the Project. Following installation of the underground cables and vaults, all trenches would be backfilled and re-graded to restore original drainage patterns. As such, construction of the underground portion of the alignment would not permanently change runoff characteristics or alter drainage patterns, or result in substantial erosion, siltation, or flooding. Also, since any necessary dewatering would occur at site-specific locations during the construction process, water discharges are not expected to involve substantial water quantities that would exceed the existing or planned capacity of the local stormwater drainage system.

Portions of the alignment traverse areas within a 100-year flood hazard area; however, construction and operation of the proposed Project would not involve the construction of any habitable structures nor would it modify the characteristics of a floodplain. The only new structures proposed to be constructed would be underground vaults, which would not impede or redirect flood flows. The Project is not located within the vicinity of any levees or dams, nor does it involve the development of levees, dams, or water

storage facilities. The Project would not be impacted by seiches, tsunamis, or mudflows. While the Project would have a less than significant impact for freshwater and groundwater in regards to water quality standards and waste discharge requirements, potentially significant impacts would occur for marine waters, which are addressed in more detail in Section 3.7.

Land Use and Planning

The Project would not cause the physical division of an established community or neighborhood. No permanent physical barriers between existing land uses are proposed; therefore, impacts would be less than significant. No changes to existing land use plans or zoning ordinances are proposed. The Project would not conflict with adopted land use plans, policies, or regulations. The Project does not fall within the boundaries of an adopted Habitat Conservation Plan or Natural Community Conservation Plan; thus, there would be no impact.

Mineral Resources

The MRZ-2 classification includes those areas where adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence. Based on the map of Areas Containing Significant Mineral Deposits prepared by the City of Los Angeles, the proposed Project, as well as the immediate surrounding area, is not identified as important (MRZ-2) mineral resource areas. Therefore, proposed Project construction and operational activities would not result in the loss of availability of a known mineral resource, and no impact would occur. Furthermore, since the area along the proposed Project alignment is currently developed, the extraction of mineral resources is already precluded.

Population and Housing

The proposed Project is a replacement of components of an existing electrode system. No habitable structures would be constructed, and no housing or persons would be displaced by Project construction or operation, and thus, construction of replacement housing elsewhere would not be necessary. As such, the Project is neither growth-inducing nor growth-accommodating, and there would be no impact on population and housing.

Public Services

Since the proposed Project contains no habitable structures and is not considered growth inducing, there is no need for additional fire services, additional fire protection facilities, or changes in services ratios beyond which currently exist. The final placement of the underground alignment within existing city streets would be designed to avoid any existing underground utilities. Inventory of underground utility locations and coordination with utility providers would be conducted during final design. Therefore, impacts to existing utilities would be less than significant.

Recreation

The proposed Project does not involve the construction of recreational facilities, nor would it require the construction or expansion of such facilities. It is not anticipated that recreational resources in the vicinity of the Project would be significantly impacted. Temporary disturbances, such as increased noise and traffic could occur; recreational users may temporarily seek out similar opportunities at other nearby recreational areas during short-term construction activities. However, it is not anticipated that Project construction would cause substantial physical deterioration of other recreational resources in the Project area. Project operation would have no effect on recreational resources. Therefore, impacts to recreational resources would be less than significant.

Utilities and Service Systems

As the proposed Project is the upgrade of an existing electrode system, there would be no increase in wastewater treatment demand. As such, the Project would not require connections to an existing sewer system, and there would be no exceedance of wastewater treatment requirements, and no additional wastewater treatment beyond existing conditions would be required. Site dewatering would be in compliance with a National Pollutant Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (RWQCB). No new or expanded water supply entitlements would be necessary as limited quantities of water would be utilized during Project construction; no water would be needed during Project operation. The proposed Project would not permanently alter drainage patterns or require new or expanded storm water drainage facilities. Solid waste generation would be minimized, where feasible, by recycling and re-use of construction materials. The cables removed from the existing electrode alignment would be transported to the LADWP Investment Recovery Facility located in Sun Valley for recycling. The Project would not affect the operations or capacity for any given landfill facility. LADWP would comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. As the proposed Project would be an unmanned electrode system, operation of the proposed Project would not generate any waste. Therefore, all impacts to utilities and service systems would be less than significant.

3.1.3 CEQA Requirements for Cumulative Impacts

According to Section 15355 of the CEQA Guidelines, cumulative impacts refer to:

> "Two or more individual effects which, when considered together are considerable or which compound or increase other environmental effects. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

Cumulative Projects

Table 3.1-1 provides a list of potential future projects that could produce related impacts by being located in the same geographic area as the proposed Project. On the land-side, this generally included the area bounded by Interstate 405, Interstate 10, and the Santa Monica Mountains. Within the ocean, it included the area within one mile of the proposed Project. Figure 3.1-1 illustrates the Project location. Past projects are considered in the cumulative analysis as part of the existing environmental setting. Present and reasonably foreseeable future projects considered for this analysis are those projects that are not yet fully implemented but are currently under construction or whose future implementation can be realistically predicted. It should be noted that not all the projects listed may be constructed for various reasons, such as permitting issues or lack of funding. Also, not all projects would result in cumulatively considerable impacts for all technical issues addressed in the EIR.

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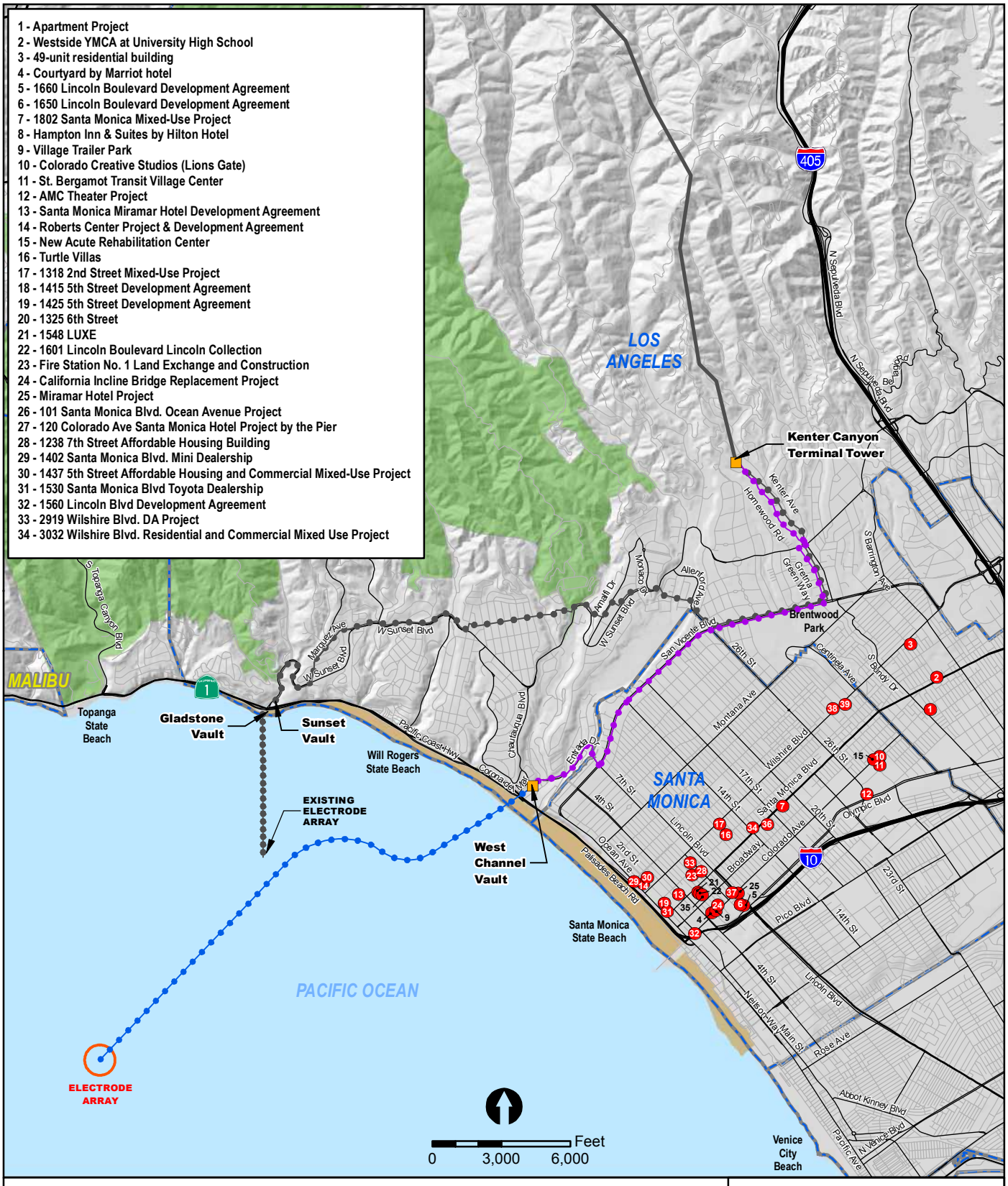

CUMULATIVE PROJECTS

SYLMAR GROUND RETURN SYSTEM REPLACEMENT PROJECT

POWER ENGINEERS

LA DWP

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TABLE 3.1-1 CUMULATIVE PROJECTS

ID	PROJECT NAME	PROJECT DESCRIPTION	LOCATION	USE	SIZE	STATUS
CITY OF LOS ANGELES						
1	Apartment Project	34-unit apartments with affordable housing units	12000 W. Idaho Avenue	Apartments	53.7 thousand square feet (KSF)	N/A
2	Westside YMCA at University High School	Demo of existing project site parking and school facilities and construction of a joint-use YMCA facility and parking structure on 1.7-acres on University High School High School campus.	Westgate and Ohio Avenue	School/recreation	62.5 KSF	NOD July 2012 Under construction
3	49-unit residential building	Demo of 4 existing structures and construction of new 49-unit residential building	1217 S Westgate Avenue	Apartments	N/A	Environmental Assessment
CITY OF SANTA MONICA						
4	Courtyard by Marriot hotel	6-story, 131-hotel room hotel with 80-subterranean parking, 80 on-site parking	1554 5th Street	Commercial	78.8 KSF	Final EIR May 2013
5	1660 Lincoln Boulevard Development Agreement	6-story, 82-apartment units with 81 parking spaces	1660 Lincoln Boulevard	Apartments	1.5 KSF	Under analysis
6	1650 Lincoln Boulevard Development Agreement	6-story, 90-apartment units with 84 parking spaces	1650 Lincoln Boulevard	Apartments	1.5 KSF	Community meeting was held Jan 2012
7	1802 Santa Monica Mixed-Use Project	3-story, 26-residential units and ground floor commercial with 130 parking spaces	1802 Santa Monica Boulevard	Mixed-use	15.1 KSF	NOP January 2013, EIR under preparation
8	Hampton Inn & Suites by Hilton Hotel	6-story, 138-hotel room hotel with 80-100 subterranean parking	501 Colorado Ave.	Commercial	78.8 KSF	Draft EIR review period end Jan. 2013
9	Village Trailer Park	3 new buildings of: 377-residential units, creative office and neighborhood commercial space; 10 mobile home spaces would be retained.	2930 Colorado Ave.	Mixed-use	344 KSF	Approved
10	Colorado Creative Studios (Lions Gate)	4-story, creative office and retail with max 640 parking spaces	2834 Colorado Ave.	Mixed-use	191.9 KSF	ARB TBD
11	St. Bergamot Transit Village Center	Demo of existing uses and construction of 5 mixed-use buildings to include 325-residential units, creative office space, neighborhood commercial, subterranean parking, recreational open space, 2 new streets and one street extension	1681 26th Street	Commercial Mixed-use	767 KSF	Draft EIR review period end March 2012

ID	PROJECT NAME	PROJECT DESCRIPTION	LOCATION	USE	SIZE	STATUS
12	AMC Theater Project	Demo of existing 325-space parking structure; development of 12-auditorium movie theater; retail tenant space; restaurant/lounge space	1318 4th Street	Commercial	83 KSF	Project on hold
13	Santa Monica Miramar Hotel Development Agreement	Redevelop existing hotel; retail space, condominiums; affordable housing component	1133 Ocean Avenue/ 101 Wilshire Boulevard	Commercial Mixed-use	556 KSF	EIR scoping meeting TBD
14	Roberts Center Project and Development Agreement	231-unit residential, creative arts, and neighborhood commercial	2849 Colorado Avenue	Commercial Mixed-use	300 KSF	Final EIR published May 2013
15	New Acute Rehabilitation Center	Replacement of one-story facility with a proposed 3-story, 55-bed rehab facility	1131 Arizona Avenue	Healthcare	N/A	Project on hold
16	Turtle Villas	13-unit residential	1211 12th Street	Apartments	24 KSF	Applicant working on design
17	1318 2nd Street Mixed-Use Project	4-story, 56-unit residential, ground floor commercial, 66 parking spaces	1318 2nd Street	Commercial Mixed-Use	6.8 KSF N/A	Approved June 2013
18	1415 5th Street Development Agreement	8-story, 60-unit residential, with 11,000 square foot communal area	1415 5th Street	Commercial Mixed-use	3.6 KSF N/A	Community Meeting August 2013
19	1425 5th Street Development Agreement	8-story, 100-unit residential, commercial, and subterranean parking	1425 5th Street	Commercial Mixed-use	3.6 KSF N/A	N/A
20	1325 6th Street	7-story, 100-unit residential, commercial, and subterranean parking	1325 6th Street	Commercial Mixed-use	2.4 KSF N/A	Project on hold
21	1548 LUXE	4-unit addition to a 50-unit mixed-use building	1548 6th Street	Mixed-use	N/A	City Council Hearing June 2012
22	1601 Lincoln Boulevard Lincoln Collection	5-story, 100-unit residential, ground floor commercial, and subterranean parking	1601 Lincoln Boulevard	Commercial Mixed-use	78 KSF	N/A
23	Fire Station No. 1 Land Exchange and Construction	Land exchange of privately-owned property and City-owned property and construction of new Fire Station No. 1 for Santa Monica Fire Department	1337-1345 7th Street	Fire Station	N/A	MND review period end Sept. 2012
24	California Incline Bridge Replacement Project	Demolition of existing California Incline and construction of new incline to meet current seismic standards	CA Incline extending between Ocean and California Avenue at the top of the Palisades Bluffs to PCH	Transportation	Approx 750 feet long	NOD July 2012. Construction estimated for Summer 2014-Winter 2016 (Tentative)

ID	PROJECT NAME	PROJECT DESCRIPTION	LOCATION	USE	SIZE	STATUS
25	Miramar Hotel Project	Redevelopment of the project site that currently operates as a hotel to provide a new mixed-use luxury hotel with food and beverage facilities, open space, spa, meeting facilities, and retail space along Wilshire Blvd., as well as residential units on the upper floors of the buildings.	1133 Ocean Avenue; 1127 2nd Street	Hotel Mixed-use Commercial	567 KSF	NOP May 2013
26	101 Santa Monica Blvd. Ocean Avenue Project	New mixed-use 125-room hotel, cultural, retail and residential development; rehabilitation of 2 designated City Landmark structures	101 Santa Monica Boulevard	Hotel Mixed use Residential Commercial	339 KSF	Public Hearing August 2013
27	120 Colorado Ave Santa Monica Hotel Project by the Pier	Redevelopment of existing Wyndham Hotel with new 211-room hotel, condos, restaurant, and retail space	120 Colorado	Hotel Mixed use Residential Commercial	170 KSF	Community Meeting September 2013
28	1238 7th Street Affordable Housing Building	5-story, 49-unit Affordable Housing	1238 7th Street	Residential	21 KSF	N/A
29	1402 Santa Monica Blvd. Mini Dealership	New 2-story Mini Dealership	1402 Santa Monica Boulevard	Commercial	33 KSF	Public Hearing August 2013
30	1437 5th Street Affordable Housing and Commercial Mixed-Use Project	6-story, 50-unit residential with commercial space	1437 5th Street	Mixed use Residential Commercial	26 KSF	N/A
31	1530 Santa Monica Blvd Toyota Dealership	New 2-story Toyota Dealership	1530 Santa Monica Boulevard	Commercial	44 KSF	Community meeting March 2013
32	1560 Lincoln Blvd Development Agreement	New 5-story mixed-use building with 10 residential units and ground floor commercial space	1560 Lincoln Boulevard	Mixed use Residential Commercial	103 KSF	Community Meeting August 2013
33	2919 Wilshire Blvd. DA Project	5-story mixed-use building with 83-units and ground floor retail	2919 Wilshire Boulevard	Mixed use Residential Commercial	60 KSF	N/A
34	3032 Wilshire Blvd. Residential and Commercial Mixed Use Project	5-story mixed-use building with 94-units and commercial space	3032 Wilshire Boulevard	Mixed use Residential Commercial	81 KSF	N/A

Source: City of Santa Monica 2013; CEQAnet 2013; LA City Planning 2013; PCH Partners 2013.

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3.2 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

The purpose of this section is to assess the air quality and greenhouse gas (GHG) emission impacts of the proposed Project.

3.2.1 Existing Conditions

Environmental Setting

Air quality is defined by ambient air concentrations of specific pollutants determined by the United States Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. Seven major pollutants of concern, called "criteria pollutants," are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter less than or equal to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). Areas that violate a federal air quality standard in relation to these pollutants are designated as nonattainment areas.

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Emission considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million [ppm] by volume).

Pollutant emissions typically refer to the amount of pollutants or pollutant precursors introduced into the atmosphere by a source or group of sources. Pollutant emissions contribute to the ambient air concentrations of criteria pollutants, either by directly affecting the pollutant concentrations measured in the ambient air or by interacting in the atmosphere to form criteria pollutants. Primary pollutants, such as CO, SO_2, Pb, and some particulates, are emitted directly into the atmosphere from emission sources.

Secondary pollutants, such as O_3, NO_2, and some particulates, are formed through atmospheric chemical reactions that are influenced by meteorology, ultraviolet light, and other atmospheric processes. PM_{10} and $PM_{2.5}$ are generated as primary pollutants by various mechanical processes (for example, abrasion, erosion, mixing, or atomization) or combustion processes. However, PM_{10} and $PM_{2.5}$ can also be formed as secondary pollutants through chemical reactions or by gaseous pollutants condensing into fine aerosols. In general, emissions that are considered "precursors" to secondary pollutants in the atmosphere (such as reactive organic gases [ROG] and oxides of nitrogen [NOx], which are considered precursors for O_3), are the pollutants for which emissions are evaluated to control the level of the secondary pollutant in the ambient air.

Existing air quality at a given location can be described by the concentrations of various pollutants in the atmosphere. Pollutants are defined as two general types: (1) "criteria" pollutants and (2) toxic compounds. Criteria pollutants have national and/or state ambient air quality standards. The USEPA establishes the National Ambient Air Quality Standards (NAAQS), while the California Air Resources Board (CARB) establishes the state standards, termed the California Ambient Air Quality Standards (CAAQS). The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year, except the annual standards, which may never be exceeded. The CAAQS represent maximum acceptable pollutant concentrations that are not to be equaled or exceeded.

Toxic Air Contaminants

Toxic air contaminants (TACs) are substances with the potential to be emitted into the ambient air that have been determined to present some level of acute or chronic health risk (cancer or non-cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion.

Greenhouse Gas Emissions

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Scientific evidence indicates a trend of increasing global temperature over the past century, which a number of scientists attribute to an increase in GHG emissions from human activities. The climate change associated with this global warming is predicted to produce negative economic and social consequences across the globe.

Recent observed changes due to global warming include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges according to the Intergovernmental Panel on Climate Change (IPCC). Generally accepted predictions of long-term environmental impacts due to global warming include sea level rise; changing weather patterns, with increases in the severity of storms and droughts; changes to local and regional ecosystems, including the potential loss of species; and a significant reduction in winter snow pack.

The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential. The global warming potential is the ability of a gas or aerosol to trap heat in the atmosphere. The global warming potential rating system is standardized to CO_2, which has a value of one. For example, based on the latest IPCC report, CH_4 has a global warming potential of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its global warming potential and adding the results together to produce a single, combined emission rate representing all GHGs. On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders. Most recently, Executive Order 13423 Strengthening Federal Environmental, Energy, and Transportation Management (January 24, 2007) was enacted.

Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020. With the Governor's signing of AB 32, the Health and Safety Code (Section 38501, Subdivision (a)) now states the following: "Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

The potential effects of proposed GHG emissions are by nature global and have cumulative impacts. GHG emissions from individual sources are not large enough to have an appreciable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts.

As a power utility, the majority of LADWP's GHG emissions result from power generation. As with the proposed project, other GHG emissions are a result of vehicle and equipment use for construction and operation of LADWP facilities. To reduce department-wide GHG emissions, LADWP has instituted various programs including: providing rebates to encourage use of energy efficient equipment, use of electric fleet vehicles, retrofitting City-owned facilities for increased energy efficiency, and promoting the installation of solar and other renewable power.

Regional Climate

Meteorological data from the Western Regional Climate Center (WRCC 2013) are available for Santa Monica, California, for the period from 1937 through present. Data from this location are representative of conditions at the Project site. The Santa Monica monitoring station measured temperature, precipitation, heating degree days, and cooling degree days. Monthly average temperatures and precipitation for Santa Monica are summarized in Table 3.2-1.

TABLE 3.2-1 MONTHLY AVERAGE TEMPERATURES AND PRECIPITATION – SANTA MONICA METEOROLOGICAL STATION

MONTH	TEMPERATURE, °F		PRECIPITATION (INCHES)
	MINIMUM	MAXIMUM	
January	49.2	64.1	2.69
February	49.9	63.7	3.01
March	50.9	63.4	2.03
April	52.9	64.5	0.73
May	55.6	65.4	0.17
June	58.4	68.1	0.03
July	61.2	71.0	0.02
August	62.2	72.1	0.08
September	61.4	72.1	0.15
October	58.2	70.4	0.33
November	53.6	68.0	1.36
December	49.7	64.8	2.04
Annual	55.3	67.3	12.62

Source: WRCC 2013.

SCAQMD operates a series of ambient air quality monitoring stations throughout the South Coast Air Basin (SCAB). The closest monitoring site to the Project is located in Los Angeles on Westchester Avenue. The closest monitoring site to the Project that measures PM2.5 is located in downtown Los Angeles. Table 3.2-2 provides a summary of background air quality representative of the project area.

TABLE 3.2-2 REPRESENTATIVE AIR QUALITY DATA FOR THE PROJECT AREA (2008-2012)[1]

AIR QUALITY INDICATOR	2008	2009	2010	2011	2012
OZONE (O_3)					
Peak 1-hour value (ppm)	0.086	0.077	0.089	0.078	0.106
Days above state standard (0.09 ppm)	0	0	0	0	1
Peak 8-hour value (ppm)	0.075	0.070	0.070	0.067	0.075
Days above state standard (0.070 ppm)	1	0	0	0	1
Days above federal standard (0.075 ppm)(2,4)	0	0	0	0	0
PM_{10}					
Peak 24-hour value (μg/m3)	50	52	37	41	31
Days above state standard (50 μg/m3)	0	1	0	0	0
Days above federal standard (150 μg/m3)	0	0	0	0	0
Annual Average value (μg/m3))	25.6	25.6	20.6	21.7	19.8
$PM_{2.5}$					
Peak 24-hour value (μg/m3) (3)	78.3	61.6	48.6	69.2	58.7
Days above federal standard (35 μg/m3)	10	7	5	7	4
Annual Average value (μg/m3))	16.2	15.6	12.6	13.3	12.7
CO					
Peak 8-hour value (ppm)	2.53	1.99	2.19	2.08	1.99
Days above state standard (9.0 ppm)	0	0	0	0	0
Days above federal standard (9 ppm)	0	0	0	0	0
NO_2					
Peak 24-hour value (ppm)	0.094	0.077	0.076	0.098	0.062
Days above state standard (0.18 ppm)	0	0	0	0	0
Days above federal standard (0.100 ppm) [5]	0	0	0	0	0
Annual Average value (ppm)	0.014	0.016	0.012	0.013	NA
SO_2					
Peak 24-hour value (ppm)	0.004	0.006	0.004	0.002	0.002
Days above state standard (0.04 ppm)	0	NA	0	0	NA

Notes: [1] Data from the Los Angeles - Westchester monitoring station.
[2] The federal O_3 standard was revised downward in 2008 to 0.075 ppm.
[3] The federal $PM_{2.5}$ 24-hour standard was revised downward in 2007 to 35 $\mu g/m^3$, and the annual standard was revised downward in 2012 to 12 $\mu g/m^3$.
[4] The federal 8-hour ozone standard was previously defined as 0.08 ppm (1 significant digit). Measurements were rounded up or down to determine compliance with the standard; therefore a measurement of 0.084 ppm is rounded to 0.08 ppm. The 8-hour ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to the standard.
[5] The federal 1-hour NO_2 standard is defined by the 3-year average of the annual 98th percentile of the maximum daily 1-hour concentrations.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; NA = data not available
Source: CARB, 2013.

Compliance with Air Quality Standards

CARB designates portions of the State where federal or State ambient air quality standards are not met as nonattainment areas. Table 3.2-3, South Coast Air Basin Attainment Classification for Criteria Pollutants, summarizes the air quality attainment status for the SCAB. Where a pollutant exceeds standards, the Federal Clean Air Act (CAA) and the California Clean Air Act (CCAA) require air quality management plans that demonstrate how the standards will be achieved. These plans provide the basis for the implementing agencies to develop regulations governing air quality and to develop mobile and stationary source standards.

TABLE 3.2-3 SOUTH COAST AIR BASIN ATTAINMENT CLASSIFICATION FOR CRITERIA POLLUTANTS

POLLUTANT	CAAQS ATTAINMENT CLASSIFICATION	NAAQS ATTAINMENT CLASSIFICATION
Ozone	Nonattainment	Extreme nonattainment
Carbon monoxide	Attainment	Maintenance
Nitrogen dioxide	Attainment	Nonattainment
Sulfur dioxide	Attainment	Attainment
Particulate matter less than 10 microns in diameter	Nonattainment	Serious nonattainment
Particulate matter less than 2.5 microns in diameter	Nonattainment	Nonattainment
Lead	Attainment	Nonattainment (Los Angeles County)
Sulfates	Attainment	Not applicable
Hydrogen sulfide	Unclassified	Not applicable
Vinyl chloride	Unclassified	Not applicable

Regulatory Framework

Federal Regulations

The Federal CAA and its subsequent amendments establish air quality regulations and the NAAQS, and delegate the enforcement of these standards to the states. In California, CARB is responsible for enforcing both the federal and State air pollution standards. CARB has in turn delegated the responsibility of regulating stationary emission sources to regional air agencies. In the SCAB, the South Coast Air Quality Management District (SCAQMD) has this responsibility. The national and state ambient air quality standards are shown in Table 3.2-4.

TABLE 3.2-4 NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS	NATIONAL STANDARDS [A]	
			PRIMARY [B,C]	SECONDARY [B,D]
Ozone (O_3)	8-hour	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Same as primary
	1-hour	0.09 ppm (180 µg/m^3)	—	—
Carbon monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	—
Nitrogen dioxide (NO_2)	Annual	0.030 ppm (56 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary
	1-hour	0.18 ppm (338 µg/m^3)	0.100 ppm (188 µg/m^3)	Same as primary
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1,300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	—
PM_{10}	Annual	20 µg/m^3	—	—
	24-hour	50 µg/m^3	150 µg/m^3	Same as primary
$PM_{2.5}$	Annual	12 µg/m^3	12.0 µg/m^3	15 µg/m^3
	24-hour	—	35 µg/m^3	Same as primary
Lead (Pb)	Rolling 3-month period	—	0.15 µg/m^3	Same as primary
	Calendar Quarter	—	1.5 µg/m^3	Same as primary
	30-day average	1.5 µg/m^3	—	—
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	—	—

Notes:
[a] Standards other than the 1-hour ozone, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages are not to be exceeded more than once a year. The 8-hour ozone national standard has replaced the 1-hour ozone national standard.
[b] Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parentheses.
[c] Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the USEPA.
[d] Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
Source: CARB 2013.

The 1977 CAA Amendments required each state to develop and maintain a State Implementation Plan (SIP) for each criteria pollutant that exceeds the NAAQS. The SIP serves as a tool to develop strategies to reduce emissions of pollutants that cause exceedances of the NAAQS and to achieve compliance with the NAAQS. The SIP outlines federally enforceable rules, regulations, and programs designed to reduce emissions and bring the area into attainment of the NAAQS. In 1990, The CAA was amended to strengthen regulation of both stationary and mobile sources of criteria pollutants, and also to implement regulations to control emissions of hazardous air pollutants and ozone-depleting substances.

USEPA GHG Findings: On April 17, 2009, the USEPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

> **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases - carbon dioxide (CO_2), methane (CH_4), nitrous oxide

(N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) - in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

The endangerment findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the USEPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by USEPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

State Regulations

CARB has oversight over air quality in the state of California. Regulation of individual stationary sources has been delegated to local air pollution control agencies. CARB is responsible for developing programs designed to reduce emissions from non-stationary sources, including motor vehicles and off-road equipment.

CARB and the California Office of Environmental Health Hazard Assessment (OEHHA) are also responsible for developing regulations governing TACs. TACs include air pollutants that can cause serious illnesses or increased mortality, even in relatively low concentrations. CARB and the OEHHA identify specific air pollutants as TACs, develop health thresholds for exposure to TACs, and develop guidelines for conducting health risk assessments for sources of TAC emissions.

In relation to GHGs, AB 32, signed into law in 2006, required that by January 1, 2008, CARB determine what the statewide GHG emissions level was in 1990, and approve a statewide GHG emissions limit that is equivalent to that level, to be achieved by 2020. CARB adopted its Climate Change Scoping Plan in December 2008, and re-approved it on August 24, 2011. The Plan provides estimates of the 1990 GHG emissions level and indicates how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions. CARB has estimated that the 1990 GHG emissions level was 427 million metric tons net CO_2e (CARB 2008). CARB estimates that a reduction of 173 million metric tons net CO_2e emissions below business-as-usual would be required by 2020 to meet the 1990 levels (CARB 2008). This amounts to a 15-percent reduction from today's levels, and a 30-percent reduction from projected business-as-usual levels in 2020 (CARB 2008).

Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the Governor's Office of Planning and Research (OPR) to develop draft CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by July 1, 2009, and directed the Resources Agency to certify and adopt the CEQA guidelines by January 1, 2010.

The OPR published a technical advisory on CEQA and Climate Change on June 19, 2008. The guidance did not include a suggested threshold but stated that the OPR has asked CARB to "recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of greenhouse gas emissions throughout the state." The OPR does recommend that CEQA analyses include the following components:

- Identify greenhouse gas emissions
- Determine significance
- Mitigate impacts as necessary

In April 2009, OPR published its proposed revisions to CEQA to address GHG emissions. The amendments to CEQA indicate the following:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the quantitative and qualitative models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, the OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix F of the CEQA Guidelines.
- The OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. The OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- EIRs must specifically consider a project's energy use and energy efficiency potential.

On July 3, 2009, the California Natural Resources Agency published a proposed amendment of regulations based on the OPR's proposed revisions to CEQA to address GHG emissions. On that date, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Having reviewed and considered all comments received, the Natural Resources Agency revised the CEQA regulation. The new regulations became effective on March 18, 2010.

Local Regulations

The air districts in California are responsible for regulating stationary sources within their jurisdictions and for preparing air quality plans required under the CAA and the CCAA. The SCAQMD is the local agency responsible for planning, implementing, and enforcing state and federal ambient air quality standards within the SCAB, which includes Los Angeles, Orange, portions of Riverside, and portions of San Bernardino Counties. The SCAQMD has developed its Air Quality Management Plan (AQMP), which provides a summary of the measures and regulations that have been or will be implemented to govern air quality in the SCAB and meet the ambient air quality standards. The AQMP includes strategies for meeting the 8-hour O_3 standard and the particulate standards, and it includes a maintenance plan for the CO standard.

Emission limitations are imposed upon sources of air pollutants operating in the SCAB by the SCAQMD's Rules and Regulations and statewide by CARB. Operation of emission sources during the construction of the proposed Project will not interfere with progress toward attainment of the federal and State standards, provided they are compliant with applicable regulations. The following SCAQMD rules apply to the proposed Project:

- SCAQMD Rule 401 – Visible Emissions: This rule prohibits any activity that will create air contaminant emissions darker than No. 1 on the Ringelmann Chart for more than an aggregate of three minutes in any consecutive 60-minute period.
- SCAQMD Rule 402 – Nuisance: This rule prohibits the discharge of such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or injury or damage to property.
- SCAQMD Rule 403 – Fugitive Dust: This rule sets forth the requirements to include fugitive dust control measures for all construction activities. Rule 403 also requires a fugitive dust control plan to be implemented and requires implementation of Best Available Control Measures to reduce emissions of fugitive dust.

In accordance with the City of Los Angeles General Plan's Air Quality Element (City of Los Angeles 1992), the project must also (a) minimize particulate emissions from construction sites, and (b) minimize particulate emissions from unpaved roads and parking lots which are associated with vehicular traffic.

3.2.2 Methodology and Threshold of Significance

The SCAQMD has adopted significance thresholds in its SCAQMD CEQA Air Quality Handbook (SCAQMD 1993). These thresholds are arranged in three parts starting with the broadest and narrowing to the most specific. The general thresholds are derived from Appendix G of the CEQA Guidelines, and indicate that a project could have potentially significant impacts if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
c) Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors); or
d) Expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates.

The second level of significance set forth in the SCAQMD's significance thresholds presents quantitative emissions thresholds by which to evaluate whether a project's impacts could have a significant impact on air quality. The quantitative emission thresholds are included in Table 3.2-5, Air Quality Significance Thresholds.

TABLE 3.2-5 SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

POLLUTANT	CONSTRUCTION	OPERATION
CRITERIA POLLUTANTS MASS DAILY THRESHOLDS		
NO_x	100 lbs/day	55 lbs/day
ROG	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
TAC, AHM, AND ODOR THRESHOLDS		
Toxic Air Contaminants (TACs)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden ≥ 0.5 (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

POLLUTANT	CONSTRUCTION	OPERATION
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO_2e for industrial facilities	
AMBIENT AIR QUALITY FOR CRITERIA POLLUTANTS		
NO_2	SCAB is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 (state) and 0.0534 (federal)	
PM_{10} 24-hour average annual average	 10.4 μg/m3 construction and 2.5 μg/m3 operation 1.0 μg/m3	
$PM_{2.5}$ 24-hour average	 10.4 μg/m3 construction and 2.5 μg/m3 operation	
SO_2 1-hour average 24-hour average	 0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	 25 μg/m3 (state)	
CO 1-hour average 8-hour average	SCAB is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 0.0 (state/federal)	
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 μg/m3 (state) 0.15 μg/m3 (federal) 1.5 μg/m3 (federal)	

Notes:
μg/m^3 = microgram per cubic meter; pphm = parts per hundred million; mg/m^3 = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; AHM = Acutely Hazardous Material
Source: SCAQMD 1993, http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

To further evaluate the potential for significant impacts associated with the construction phase of the proposed project, the SCAQMD's *Final Localized Significance Threshold Methodology* was used (SCAQMD 2008a). The Localized Significance Threshold (LST) Methodology provides a look-up table for construction and operational emissions based on the emission rate, location, and distance from receptors, and provides a methodology for air dispersion modeling to evaluate whether construction or operation could cause an exceedance of an ambient air quality standard. The LST lookup tables are applicable only to sources that are five acres or less in size. The LST Methodology only applies to impacts to NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations.

According to the LST Methodology, the proposed Project is located in Source Receptor Area Zone 2, the Northwest Coastal Los Angeles Zone. The LSTs for the Northwest Coastal Los Angeles are shown in Table 3.2-6, based on the distance to the nearest receptor.

TABLE 3.2-6 LOCALIZED SIGNIFICANCE THRESHOLDS, LBS/DAY

DISTANCE TO NEAREST RECEPTOR, METERS[1]	POLLUTANT					
	NO_X	CO	PM_{10} – CONSTRUCTION	PM_{10} – OPERATION	$PM_{2.5}$ – COSTRUCTION	$PM_{2.5}$ - OPERATION
1 ACRE						
25	103	562	4	1	3	1

DISTANCE TO NEAREST RECEPTOR, METERS[1]	POLLUTANT					
	NO_X	CO	PM_{10} – CONSTRUCTION	PM_{10} – OPERATION	$PM_{2.5}$ – COSTRUCTION	$PM_{2.5}$ - OPERATION
50	104	833	12	3	4	1
100	121	1233	27	7	8	2
200	156	2367	57	14	18	5
500	245	7724	146	36	77	19
2 ACRES						
25	147	827	6	2	4	1
50	143	1213	19	5	5	2
100	156	1695	34	9	10	3
200	186	2961	64	16	21	6
500	262	8446	154	37	82	20
5 ACRES						
25	221	1531	13	3	6	2
50	212	1985	40	10	8	2
100	226	2762	55	13	14	4
200	250	4383	84	21	29	7
500	312	10666	174	42	95	23

Notes:
[1]25 meters = 82 feet; 50 meters = 164 feet; 100 meters = 328 feet; 200 meters = 656 feet; 500 meters = 1,640 feet
Source: SCAQMD 2009.

For the purpose of evaluating potential impacts, it was assumed the active site would be one acre or less, and the closest receptor would be within 25 meters (82 feet) from construction activities.

Project-related GHG emissions are considered to be significant if they:

a) May have, either directly or indirectly, a significant impact on the environment.
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG.

SCAQMD's threshold of significance for GHG for industrial projects is 10,000 metric tons CO2e emissions per year (adopted December 5, 2008; includes construction emissions amortized over 30 years and added to annual operational GHG emissions).

The impacts associated with the proposed Project were evaluated based on these significance criteria.

3.2.3 Best Management Practices

As part of the Project, the following BMPs would minimize the environmental impacts associated with the proposed Project for air quality.

BMP-2 Fugitive Dust Control Plan

Construction of the Project would be subject to SCAQMD Rule 403, Fugitive Dust. In compliance with this rule, a dust control supervisor shall be identified for the Project and shall supervise implementation of

the SCAQMD-approved dust control plan. The plan will itemize measures related to vehicle trackout, stabilizing soils, water application, and maintenance of soil moisture content.

3.2.4 Impacts

a) The Project would not conflict with or obstruct implementation of the applicable air quality plan.

The Project would comply with applicable federal, State, and local laws. The most recent air quality management plan adopted by the SCAQMD for the SCAB is the 2012 AQMP (SCAQMD 2012). The control strategies proposed in the 2012 AQMP focus on emissions of $PM_{2.5}$ and ozone precursors, and identify precursor emissions as the key source of $PM_{2.5}$ in the atmosphere, as opposed to directly emitted $PM_{2.5}$.

The proposed Project would not conflict with or obstruct implementation of the AQMP, as it would be in compliance with applicable rules and regulations adopted by the SCAQMD for the purpose of attaining and maintaining the air quality standards. The AQMP anticipates construction activities in its emissions budget and assumes that projects would comply with requirements for construction equipment and control of fugitive dust emissions, thereby reducing emissions of $PM_{2.5}$ and ozone precursors to the extent feasible. By virtue of its compliance with applicable rules and regulations, the proposed Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

For operations, the Project would comply with applicable federal, State, and local laws. Operation and maintenance emissions would include only minor use of off-road equipment and on-road vehicles, essentially the same as under existing conditions. The AQMP anticipates off-road equipment and vehicle emissions in its emissions budget and assumes that projects would comply with requirements for equipment and motor vehicles. By virtue of its compliance with applicable rules and regulations, the proposed Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

b) The Project would violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Emissions during Project construction activities would result from the operation of heavy equipment (dozers, dump trucks, backhoes, etc.), drilling equipment for directional drilling activities, vehicles (including truck traffic and worker vehicles), marine vessels involved in the offshore portion of installation of the cable, and from fugitive dust generated by construction activities. Emissions from heavy equipment used in construction for the Project were estimated based on emission factors for the SCAB from CARB's OFFROAD Model (CARB 2007), as published on the SCAQMD's website. Emission factors for 2016 represent the average fleet emissions throughout the SCAB and were considered representative of construction equipment that would be in use during construction of the Project. Emissions from worker travel and truck traffic were calculated using the CARB's EMFAC2011 Model (CARB 2011) for on-road vehicles. Truck emissions include emissions associated with transport of the individual box components of the marine electrode array that will be transported from their point of manufacture in the City of Fontana to the Port of Los Angeles. Emissions of fugitive dust were estimated based on SCAQMD and USEPA emission factors.

Marine vessels that would assist in construction of the offshore portion of the Project would come from the Port of Los Angeles. Emissions from marine vessels that will be used in the offshore portion of the construction were calculated based on information provided in the Port of Los Angeles' 2011 Air Emissions Inventory (POLA 2012) and CARB's *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California* (CARB 2012). It was assumed that the vessels that would assist in the construction of the offshore portion would be ocean tugs, which, according to the Port of Los Angeles

Air Emissions Inventory, include vessels that are home-ported in the San Pedro Bay Harbor area but also can operate outside of the harbor depending on work assignments.

Table 2-4 in Chapter 2 presents the equipment, truck, and workforce assumptions used in the emission calculations. The information in this table is based on the estimated construction schedule and equipment requirements for the Project.

Table 3.2-7 presents the estimated maximum daily construction emissions based on worst-case, peak day emission estimates for the construction activity. The maximum emission estimates are based on the assumption that conduit and vault installation in three separate locations, horizontal dry boring, and marine cable installation would occur simultaneously. This assumption results in the highest estimate of simultaneous daily construction emissions.

As described in BMP-2, construction of the Project would be subject to SCAQMD Rule 403, Fugitive Dust, which is applicable to any activity capable of generating fugitive dust, including construction. Compliance with BMP-2 and Rule 403 requires implementation of best available control measures (BACM) to minimize fugitive dust emissions (Tables 1, 2, and 3 of the Rule). In compliance with this rule, a dust control supervisor shall be identified for the Project and shall supervise implementation of the SCAQMD-approved dust control plan. The plan will itemize measures related to vehicle trackout, stabilizing soils, water application, and maintenance of soil moisture content. Implementation of these BMPs during construction would reduce fugitive dust by 61 percent based on the CalEEMod Model default control efficiency that takes into account watering three times daily. These measures were included in the calculation of PM_{10} and $PM_{2.5}$ emissions.

TABLE 3.2-7 ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS

SOURCE	ROG LBS/DAY	CO LBS/DAY	NO_X LBS/DAY	SO_X LBS/DAY	PM_{10} LBS/DAY	$PM_{2.5}$ LBS/DAY
UNDERGROUND SEGMENT CONSTRUCTION- UNDERGROUND CABLE AND VAULT INSTALLATION						
Heavy Construction Equipment	8.21	43.08	65.21	0.10	3.32	3.32
Construction Trucks	0.27	1.14	4.53	0.01	0.45	0.17
Worker Vehicles	1.48	26.22	2.21	0.02	0.55	0.25
Fugitive Dust					8.79	1.94
Total Daily Emissions	9.95	70.43	71.96	0.14	13.11	5.68
SCAQMD Regional Significance Threshold	*75*	*550*	*100*	*150*	*150*	*55*
Above Threshold?	No	No	No	No	No	No
UNDERGROUND SEGMENT CONSTRUCTION HORIZONTAL DRY BORING						
Heavy Construction Equipment	3.07	17.01	20.01	0.03	1.26	1.26
Construction Trucks	0.12	0.52	1.86	0.00	0.18	0.07
Worker Vehicles	0.30	5.24	0.44	0.00	0.11	0.05
Fugitive Dust					2.41	0.35
Total Daily Emissions	3.48	22.77	22.32	0.04	3.96	1.73
SCAQMD Regional Significance Threshold	*75*	*550*	*100*	*150*	*150*	*55*
Above Threshold?	No	No	No	No	No	No

SOURCE	ROG LBS/DAY	CO LBS/DAY	NO_X LBS/DAY	SO_X LBS/DAY	PM_{10} LBS/DAY	$PM_{2.5}$ LBS/DAY
MARINE SEGMENT CONSTRUCTION - MARINE CABLE INSTALLATION						
Heavy Construction Equipment	1.96	7.44	16.96	0.03	0.57	0.57
Construction Trucks	0.12	0.54	1.95	0.01	0.22	0.09
Worker Vehicles	0.98	17.48	1.48	0.01	0.37	0.17
Marine Vessels	17.29	46.49	159.49	0.17	8.53	7.68
Total Daily Emissions	20.36	71.95	179.87	0.22	9.69	8.51
SCAQMD Regional Significance Threshold	*75*	*550*	*100*	*150*	*150*	*55*
Above Threshold?	No	No	Yes	No	No	No
MAXIMUM SIMULTANEOUS EMISSIONS						
Maximum Total Daily Emissions	33.79	165.16	274.15	0.40	26.76	15.93
SCAQMD Regional Significance Threshold	75	550	100	150	150	55
Above Threshold?	No	No	Yes	No	No	No
Maximum Daily Emissions at Single Site[a]	8.21	43.08	65.21	0.10	12.11	5.26
Localized Significance Threshold	N/A	562	103	N/A	4	3
Above Threshold?	N/A	No	No	N/A	Yes	Yes

Based on SCAQMD guidance, because the LSTs evaluate potential impacts from on-site activities to off-site receptors, only on-site emissions (i.e., heavy equipment and fugitive dust) are compared with the LST. Furthermore, because the construction activities would occur at different locations, the maximum activity at any one site was compared with the LST.

As shown in Table 3.2-7, maximum daily emissions would be above the regional significance thresholds for NOx. Maximum daily emissions would also be above the LSTs for PM10, and PM2.5. Impacts associated with construction activities would therefore result in temporary, but nonetheless significant, impacts on air quality.

c) The Project would result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).

As discussed above, and shown previously in Table 3.2-7, maximum daily construction emissions would exceed the regional significance thresholds for NOx, and maximum daily emissions would also exceed the LSTs for PM_{10} and $PM_{2.5}$. These emissions would therefore result in a cumulatively considerable, but temporary, impact on ambient air quality during construction activities.

d) The Project would not expose sensitive receptors to substantial pollutant concentrations including air toxics such as diesel particulates.

To evaluate whether the project has the potential to expose sensitive receptors to substantial pollutant concentrations during construction, it was necessary to first identify sensitive receptors along the transmission route and then to evaluate the potential for emissions associated with construction to affect these sensitive receptors. The underground segment of the Project would be located below existing streets, extending for approximately five miles from the existing Kenter Canyon Terminal Tower to a proposed new vault on West Channel Drive, east of Will Rogers State Beach. Approximately 9.0 linear

miles of residential land use and 0.4 linear mile of commercial land use front the proposed Project along both sides of each street.

Other uses occurring along the alignment include four schools/daycare facilities (Kenter Canyon Elementary School, Brentwood Science Magnet, Montana Preschool, and Canyon Charter Elementary School) and three recreational areas (Brentwood Country Club, San Vicente Median, and Will Rogers State Beach).

Construction activities would result in emissions of diesel particulate matter from heavy construction equipment used on site and truck traffic to and from the site, as well as minor amounts of TAC emissions from worker motor vehicles (such as benzene, 1,3-butadiene, toluene, and xylenes). The main TAC associated with the Project is diesel particulate matter from truck traffic along the haul routes and the operation of heavy equipment at construction sites. Health effects attributable to exposure to diesel particulate matter are effects based on chronic (i.e., long-term) exposure to emissions. Health effects are generally evaluated based on a lifetime (70 years) of exposure.

The general duration per mile for construction would be two to three months. Thus the longest period that individuals would be exposed to emissions from construction activities in any one location would likely be less than two to three months, which is 0.24 to 0.35 percent of the 70-year lifetime exposure scenario used to evaluate adverse impacts from exposure to diesel particulate matter. Because the Project construction activity would move along the line, and would not be conducted in any one location for an extended period of time, Project construction would not expose individual receptors to substantial concentrations of diesel particulate. Due to the temporary, short-term nature of the construction activities and due to the movement of construction equipment and vehicles along the transmission route, impacts would be less than significant.

e) The Project would not create odors affecting a substantial number of people.

Construction of the Project would involve the use of heavy equipment, including diesel-powered equipment, which would generate fumes and may create nuisance odors. However, these construction-related odor impacts would be confined to the immediate vicinity of the equipment and would be temporary and would rapidly dissipate after work ceased. As discussed under d) above, sensitive land uses including residential areas, schools, and recreational areas were identified along the alignment. As construction activities would be within existing streets which accommodate vehicles including diesel-powered trucks, odors along the construction route would not be appreciably different from existing conditions. Odor impacts during Project construction would be less than significant.

Air Pollutant Emissions During Project Operation

Under existing conditions, maintenance workers periodically commute to and from the Project site to conduct inspection, test, and maintenance activities. Air pollutant emissions related to equipment and vehicle use during Project operations will be similar with the Project as under existing conditions. No new workers are anticipated to be required, and no substantial increase in the frequency of maintenance activities is anticipated. Therefore, impacts on air quality during Project operation would be less than significant.

Global Climate Change

According to the California Energy Commission (CEC 2006), CO_2 (fossil fuel combustion CO_2 and non-fossil fuel combustion CO_2) accounts for approximately 84 percent of statewide GHG emissions, with methane accounting for approximately six percent and nitrous oxide accounting for another seven percent. Other pollutants account for approximately three percent of GHG emissions in California. The transportation sector is the single largest category of California's GHG emissions, accounting for 41

percent of emissions statewide. In 2010, California produced 452 million metric tons of total CO_2 emissions.

The main source of GHG emissions associated with the Project would be combustion of fossil fuels during construction activities. Emissions of GHG have been calculated using the same approach as emissions for overall construction discussed above. Estimated emissions of GHG related to construction of the Project are summarized in Table 3.2-8. Emission calculations are provided in Appendix D of this Draft EIR.

The SCAQMD recommends that construction emissions be amortized over a 30-year period to account for the Project's contribution to overall GHG emissions. If amortized over a 30-year period, construction would contribute 223 metric tons per year of CO_2 emissions.

SCAQMD's threshold of significance for GHG for industrial projects is 10,000 metric tons CO_2 emissions per year. GHG emissions related to Project operations would be inconsequential. Therefore, the annual CO_2e emissions from the Project are less than the SCAQMD's significance threshold, and impacts to global climate change would be less than significant.

TABLE 3.2-8 ESTIMATED ANNUAL GHG EMISSIONS FROM CONSTRUCTION

SOURCE	CO_2 METRIC TONS (TOTAL)	CH_4 METRIC TONS (TOTAL)	N_2O METRIC TONS (TOTAL)
Kenter Canyon Terminal Tower Construction	198.26	0.01	0.08
Underground Cable and Vault Installation	4816.16	0.20	1.73
Horizontal Dry Boring	144.21	0.01	0.04
Marine Segment Construction – Directional Drilling	188.14	0.01	0.05
Marine Segment Construction – Marine Cable Installation	93.98	0.01	0.01
Electrode Array Installation	581.87	0.03	0.21
Total	6022.61	0.26	2.12
Total CO_2e Construction-related Emissions (metric tons)	6,686		
Amortized Construction-related Emissions (metric tons)	223		

3.2.5 Cumulative Impacts

As discussed above, and shown previously in Table 3.2-7, maximum daily construction emissions would exceed the regional significance thresholds for NOx, and maximum daily emissions would also exceed the LSTs for PM_{10} and $PM_{2.5}$. These emissions would therefore result in a cumulatively considerable, but temporary, impact on ambient air quality during construction activities.

3.2.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

As discussed above, maximum daily air pollutant emissions would be above the regional significance thresholds for NOx, and above the LSTs for PM_{10} and $PM_{2.5}$. To reduce air quality impacts to the extent possible, the following air emission control mitigation measures shall be implemented.

AIR-1 Equipment Maintenance - All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

AIR-2 Equipment Operation – LADWP shall turn off equipment when not in use for an excess of five minutes except for equipment that requires idling to maintain performance.

AIR-3 Generator Use - To the extent possible, power will be obtained from power poles (the electrical grid) rather than the use of large generators on site.

AIR-4 Catalytic Converters and Particulate Traps - All construction vehicles with gas combustible engines shall have a catalytic converter, and all construction vehicles and equipment with diesel combustible engines shall have a particulate trap.

Level of Significance After Mitigation

Implementation of mitigation measures AIR-1 through AIR-4 would reduce air pollutant emissions during Project construction. However, NOx emissions reductions that can be achieved with these measures are not quantifiable and are not anticipated to reduce emissions below levels of significance. Use of heavy construction equipment, marine vessels, and vehicles is required in order to implement the Project. Therefore, maximum daily NOx emissions associated with construction for the Project would remain significant and unavoidable.

Emissions of PM_{10} and $PM_{2.5}$ would be reduced through the BMPs for fugitive dust reduction as required under SCAQMD Rule 403. However, as shown in Table 3.2-7 (which incorporates reductions related to Rule 403), localized emissions would remain above the LSTs, and, therefore would remain significant and unavoidable.

3.3 BIOLOGICAL RESOURCES

The Biological Resources Technical Study is included as Appendix E to this Draft EIR. This section includes potential impacts to terrestrial biological resources only. For a discussion of impacts to marine biological resources, please refer to Section 3.7 below.

3.3.1 Existing Conditions

Environmental Setting

The proposed Project alignment traverses an urban environment consisting of buildings, paved surfaces, and other human-made structures. The alignment is within paved roadways that provide no suitable habitat for sensitive species. Areas adjacent to portions of the northern Project area that begin at Kenter Canyon Terminal Tower on Homewood Road and continue south contains some large trees, including coast live oak trees. Areas adjacent to portions of the alignment that would be installed on San Vicente Boulevard contain large coral trees in the median, which are generally unsuitable for nesting birds. Areas adjacent to a small segment of the alignment, on West Channel Road, between East Channel Road/Ocean Avenue and Mesa Road, contains several large ornamental trees, mainly eucalyptus, which can be utilized by birds for nesting, even in an urbanized setting.

Habitat Types

Two habitat types were identified within the Project area during the field surveys, including Coast Live Oak Woodland-Ornamental, and Developed.

Developed

The entirety of the Project alignment is within the Developed habitat type, which includes residences, commercial and industrial development, paved surfaces, golf courses, and other human-made elements.

Coast Live Oak Woodland-Ornamental

A small portion of Coast Live Oak Woodland-Ornamental was observed near the Kenter Canyon Tower on Homewood Road. This particular area is dominated by coast live oak (*Quercus agrifolia*) and a host of non-native trees and shrubs such as oleander (*Nerium oleander*), eucalyptus (*Eucalyptus* spp.), and pines (*Pinus* spp.). It was not possible to determine if the woodland existed and the non-native species were planted among them or if the entire area was planted at the same time.

Sensitive Species

Tables 3.3-1 and 3.3-2 provide lists of the sensitive plant and wildlife species, respectively, compiled during the database search and literature review. These tables also describe the regulatory agency status, habitat requirements, and potential to occur within the Project area for each species. The following discussion highlights the special-status species with a potential to occur in the Project area.

Special-Status Plant Species

The Project would be constructed within paved roadways and would not directly impact native habitat; therefore, it is determined that no sensitive plant species would be directly affected by the proposed Project (refer to Table 3.3-1).

TABLE 3.3-1 SPECIAL-STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR WITHIN THE PROJECT AREA

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS[1]	GENERAL HABITAT DESCRIPTION	PLANT HABIT, FLOWERING PERIOD	POTENTIAL FOR OCCURRENCE[2]
Braunton's milk-vetch (*Astragalus brauntonii)*	FE: Endangered CA: None CNPS: 1B.1	Typically occurs in fire-afflicted areas in dry, open chaparral below 2,100 feet in elevation.	March–May	One historical record is within 0.5 mile of the Project area is presumed extirpated from the area. This species is considered absent from the Project area.
Coastal dunes milk-vetch *(Astragalus tener var. titi)*	FE: Endangered CA: Endangered CNPS: 1B.1	Occurs in moist sandy depressions near the coast, in coastal bluffs, and dunes at elevations between sea level and 65 feet above mean sea level.	March–May	Last known record is from 1930 and it is considered extirpated from the Project area. In addition, the record is over 0.5 mile from the Project area. This species is considered absent from the Project area.
Parish's Brittlescale (Atriplex parishii)	Fed: None CA: None CNPS: 1B.1	This annual herb occurs in alkaline or clay soils in flats or grasslands.	June–October	In the vicinity of the Project area, Parish's brittlescale has been historically reported from Santa Monica. No suitable habitat for this species is present on the Project site.

COMMON NAME SCIENTIFIC NAME	SENSITIVITY STATUS[1]	GENERAL HABITAT DESCRIPTION	PLANT HABIT, FLOWERING PERIOD	POTENTIAL FOR OCCURRENCE[2]
round-leaved filaree (*California macrophylla)*	Fed: None CA: None CNPS: 1B.1	Cismontane woodlands and valley and foothill grasslands in clay soils. 49 to 3,937 feet.	March–May	No suitable habitat within the Project area. This species is considered absent from the Project area.
slender mariposa lily (*Calochortus clavatus* var. *Gracilis)*	Fed: None CA: None CNPS: 1B.2	Chaparral, coastal scrub Shaded foothill canyons; often on grassy slopes within other habitat. 1,200 - 3,330 feet.	March–June	No suitable habitat within the Project area. No records within two miles of the Project area. This species is considered absent from the Project area.
southern tarplant (*Centromadia* [*Hemizonia*] *parryi* ssp. *Australis)*	Fed: None CA: None CNPS: 1B.1	Marshes and swamps (margins), valley and foothill grassland. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-1,401 feet.	May–November	No suitable habitat within the Project area. All records within CNDDB are presumed extant and over 0.5 mile from Project area. This species is considered absent from the Project area.
San Fernando Valley Spineflower (*Chorizanthe parryi* var. *Fernandina)*	Fed: FC CA: SE CNPS: 1B.1	Coastal scrub; sandy soils. 490 - 4,000 feet.	April–July	No suitable habitat within the Project area. This species is considered absent from the Project area.
Santa Monica dudleya (*Dudleya cymosa* ssp. *Ovatifolia)*	Fed: None CA: None CNPS: 1B.2	Chaparral, coastal scrub In canyons on sedimentary conglomerates; primarily N-facing slopes. 210-500 meters.	March-June	No suitable habitat within the Project area. This species is considered absent from the Project area.
many-stemmed dudleya (*Dudleya multicaulis)*	Fed: None CA: None CNPS: 1B.2	Coastal scrub, chaparral, and valley and foothill grassland; usually on clay soils or grassy slopes. 45 - 2,590 feet.	April–July	No suitable habitat within the Project area. This species is considered absent from the Project area.

[1]Sensitivity Status Key

Federal status
FE = listed as Endangered under the federal ESA
FT = listed as Threatened under the federal ESA
FC = candidate for listing

State status
SE = listed as Endangered under the CESA
ST = listed as Threatened under the CESA
SR = listed as Rare under the California Native Plant Protection Act

CNPS: California Native Plant Society Lists:
1B: Considered rare, threatened, or endangered in California and elsewhere.
2: Plants rare, threatened, or endangered in California, but more common elsewhere
Decimal notations: .1 - Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California

[2]Species Potential for Occurrence
Absent – no suitable habitat
Low Potential–low potential to occur because suitable habitat is of marginal quality
Moderate Potential–has moderate potential to occur because suitable habitat was expected to be present but the species was not found during focused plant surveys
High Potential–has high potential to occur because suitable habitat was expected to be present, and species is known to occur within the vicinity but was not found during focused plant surveys
Present–detected during surveys or recorded in previous surveys

Special-Status Wildlife Species

The Project would be constructed within paved roadways and would not directly impact native habitat, however, there is a potential for several species to forage within the Project area (refer to Table 3.3-2).

Birds

Cooper's Hawk (Accipiter cooperi)

Cooper's hawk is a California Department of Fish and Wildlife (CDFW) Watch List species. Breeding populations of this former California Species of Special Concern have increased in recent years as they have expanded into urban areas. In coastal regions of Southern California, this species is more common in winter than in summer. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores (*Platanus* sp.) and willows (*Salix* spp.). Cooper's hawks prey on small birds and rodents that live in woodland, scrub, and chaparral vegetation types. This species is relatively tolerant of man-altered landscapes; however, threats to this species include the loss of appropriate woodlands for breeding and foraging; collisions with man-made objects; and possibly pesticides. Suitable foraging and nesting habitat for this species is present in ornamental trees along portions of the Project area. Additionally, Cooper's hawk was observed along the Project alignment during 2011 biological surveys.

White-tailed Kite (Elanus leucurus)

White-tailed kite is a California Fully Protected species. Kites nest primarily in oaks (*Quercus* sp.), willows, and sycamores, and forage in grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees. This species is an uncommon to locally fairly common resident in coastal Southern California, and a rare visitor and local nester on the western edge of the deserts. Many populations in North America have declined in the 1980s and 1990s, including those in Southern California. There is a potential for foraging habitat for this species; however, there is no suitable habitat for nesting within the Project area.

American Peregrine Falcon (Falco peregrinus anatum)

American peregrine falcon is a California Fully Protected species that, due to recent population gains, was delisted from the federal list of endangered species by the United States Fish and Wildlife Service (USFWS), and the California Fish and Game Commission voted for its removal on December 12, 2008, from the CDFW's list of endangered species. As a recently delisted species, the peregrine falcon will continue to be periodically monitored until 2015. Peregrine falcons prey almost exclusively on birds and use a variety of habitats, particularly wetlands and coastal areas. This falcon is a rare summer resident in Southern California, although it is more common during migration and the winter season. For nesting, this falcon prefers inaccessible areas such as those provided by cliffs, high building ledges, bridges, or other such structures. American peregrine falcon has potential to occur for foraging but is not expected to nest within the Project area.

Western Snowy Plover (Charadrius alexandrinus nivosus)

Western snowy plover is a federally listed Threatened species and a California Species of Special Concern. The USFWS states that "The Pacific coast population of the western snowy plover is defined as those individuals that nest adjacent to or near tidal waters, and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays, and estuaries." In California, this subspecies nests primarily on dune-backed beaches, barrier beaches, and salt-evaporation ponds; on the coast, it forages on beaches, tide flats, salt flats, and salt ponds. The Pacific coast populations of the western snowy plover breed from southern Washington south through Baja California, Mexico.

On September 29, 2005, the USFWS published a final critical habitat for the western snowy plover. This final rule designated 12,145 acres along the coasts of Washington, Oregon, and California. Within California, critical habitat was designated in San Diego, Orange, Los Angeles, Ventura, Santa Barbara, San Luis Obispo, Monterey, Santa Cruz, San Mateo, Marin, Mendocino, Humboldt, and Del Norte

Counties. This includes the portion of Will Rogers State Beach within the Project alignment. The portion of the Project alignment that would be installed via directional drilling beneath Will Rogers State Beach would cross under designated critical habitat for the western snowy plover. The snowy plover has potential to occur in the Project alignment.

Osprey (Pandion haliaetus)

Osprey is a CDFW Watch List species and a former California Species of Special Concern. Numbers of this raptor in California have increased in recent decades. This species occurs near large bodies of water including rivers, lakes, reservoirs, bays, estuaries, and surf zones. Along the coast, ospreys occur most commonly through the fall and winter, although a few birds remain throughout the summer. This species nests on platforms of sticks at the top of large snags, dead-topped trees, cliffs, or man-made structures. Potentially suitable foraging habitat for this species is present in the Project alignment. Therefore, osprey has potential to occur in this alignment for foraging but is not expected to nest within the Project vicinity.

Merlin (Falco columbarius)

Merlin is a CDFW Watch List species. A former California Species of Special Concern, the numbers of this raptor in California have increased in recent decades. This species is a rare to uncommon migrant and winter visitor to California. It prefers vast open space areas such as estuaries, grasslands, and deserts where it hunts small flocking birds such as sandpipers, larks, sparrows, and pipits. This raptor is an uncommon fall transient and rare winter visitor throughout most of Southern California. The Project alignment is outside the breeding range of this species; however, suitable foraging habitat occurs within the Project area. Therefore, merlin has potential to occur for foraging, but is not expected to nest on within the Project vicinity.

Prairie Falcon (Falco mexicanus)

Prairie falcon is a CDFW Watch List species. Preferred foraging habitats include grassland and scrub vegetation types. Prairie falcons nest almost exclusively on cliffs. It is an uncommon year-round resident in the interior of Southern California. The prairie falcon is an increasingly scarce winter resident and very rare summer resident along the Southern California coast. Suitable foraging habitat for this species is present; therefore, prairie falcon has the potential to occur for foraging but is not expected to nest within the Project area.

Mammals

Spotted Bat (Euderma maculatum)

Spotted bat is a California Species of Special Concern. This species forages in a wide variety of habitats, including subalpine meadows, forest openings, pinyon-juniper woodlands, juniper, sagebrush, along the rims of cliffs, riparian habitat wetlands, meadows, and agricultural fields. Roosting habitat includes buildings, cliffs, caves, and trees. Spotted bats feed primarily on moths. This species is currently distributed across western North America from Mexico to southern British Columbia. Within the vicinity of the Project area, this species was reported from Malibu Creek State Park near rocky pool and Century Lake. Suitable foraging and roosting habitat for this species is present; therefore, spotted bat has potential to occur in the vicinity of the Project route.

Western Mastiff Bat (Eumops perotis californicus)

Western mastiff bat is a CDFW Species of Special Concern, and Western Bat Working Group High Priority species. It occurs throughout southern California, along the coast from Monterey County south, and along the California Central Valley. It occurs in open semi-arid to arid habitats such as conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub,

and urban areas. Roosting generally occurs in crevices in cliff faces, high buildings, trees, and tunnels, preferably with an opportunity to drop off vertically for flight. This species is non-migratory and will move between different roosts either alone or with a colony of other bats. Breeding will generally occur from early March, with birth occurring through September. This species is nocturnal and catches and consumes insects while in flight. Individuals may travel up to 15 miles from their roosts to foraging grounds. The species was reported 0.5 mile from the Project area. Suitable foraging and roosting habitat is present; therefore, western mastiff bat has potential to occur in the vicinity of the Project route.

Western Red Bat (Lasiurus blossevillii)

Western red bat (*Lasiurus blossivillii*) is a CDFW Species of Special Concern and Western Bat Working Group High Priority species. Its range extends throughout North, Central, and South America, and it migrates south in the winter for hibernation. Western red bat is closely associated with riparian habitats, particularly those containing willows (*Salix* spp.), cottonwoods (*Populus* spp.) and sycamores (*Platanus racemosa*). Western red bats roost in trees from sea level to the mountains with preferred roost sites protected from above, open below, and located above dark ground cover. This species feeds on a variety of insects in grasslands, shrublands, open woodlands, forests, and agricultural areas. Mating occurs in late summer or early fall, but females do not become pregnant until spring. In California, the western red bat occurs from Shasta County to the Mexican border, west of the deserts and the Cascade and Sierra Nevada crests. Within the vicinity of the Project area, this species was reported from Stunt Ranch, approximately 4.5 miles north-northeast of Malibu Beach. Suitable foraging and roosting habitat is present; therefore, western red bat has potential to occur in the vicinity of the Project route.

TABLE 3.3-2 SENSITIVE WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT AREA

SPECIES/NATURAL COMMUNITIES	SPECIAL STATUS	HABITAT CHARACTERISTICS	POTENTIAL TO OCCUR IN STUDY AREA
Reptiles			
San Diego Coast Horned Lizard (*Phrynosoma coronatum blainvillii*)	SSC	Found in a wide variety of communities, from grasslands and shrublands to woodlands. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native harvester ants or other insects; and the availability of both sunny basking spots and dense cover for refuge. May not eat the introduced Argentine ant.	No habitat within the Project area, therefore the species is considered to be absent from Project area.
California mountain kingsnake (San Diego population (*Lampropeltis zonata [pulchr])*	CA: SSC	Coniferous forest, oak-pine woodland, riparian woodland, chaparral, and coastal sage scrub from sea level to higher elevations in the mountains. The California mountain kingsnake prefers well-lit wooded areas with rotting logs, talus, and/or rock outcroppings.	No habitat within the Project area, therefore this species is considered absent from Project area.
Birds			
Merlin (nonbreeding/ wintering) (*Falco columbarius)*	CA: WL	Prefers estuaries, grasslands, and deserts where it hunts small flocking birds such as sandpipers, larks, sparrows, and pipits. This raptor is an uncommon fall transient and rare winter visitor throughout most of Southern California.	Potential for foraging only. Nesting does not occur within the Project alignment.

SPECIES/NATURAL COMMUNITIES	SPECIAL STATUS	HABITAT CHARACTERISTICS	POTENTIAL TO OCCUR IN STUDY AREA
Prairie falcon (nesting) (*Falco mexicanus)*	CA: WL	Preferred foraging habitats include grassland and scrub vegetation types. Prairie falcons nest almost exclusively on cliffs.	Potential for foraging only. Nesting does not occur within the Project alignment.
Bank Swallow (*Riparia riparia)*	CA: Threatened	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Absent from Project Area. This species is considered extirpated from the area.
Osprey *(Pandion haliaetus)*	CA: WL	This large, distinctive hawk is highly adapted to a diet consisting almost entirely of fish. One of the most widespread bird species in the world, it was formerly a common and widespread breeder in Southern California, but no longer breeds regularly in California anywhere south of the northern San Francisco Bay.	Moderate potential within the study area for foraging habitat. Nesting does not occur within the Project alignment.
White-tailed Kite (*Elanus leucurus*)	CA: FP	Found widely across California west of the Sierra Nevada and deserts, from north of the San Francisco Bay south into northern Baja California, Mexico. Nests are flimsy, often not lasting to the next breeding season, and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice.	Moderate within study area for foraging habitat. Nesting does not occur within the Project alignment.
Cooper's Hawk (*Accipiter cooperii*)	CA: WL	This medium sized hawk specializing in hunting small birds in closed quarters. It winters widely and fairly commonly in California as birds breeding to the north move in. In Southern California, Cooper's hawks breed primarily in woodland habitats, especially riparian zones, but also oak woodland, walnut woodland, gum trees, and occasionally in dense, abandoned or otherwise undisturbed orchards.	Moderate within Project Area for foraging and low as breeder. Species was observed along the Project alignment in 2011.
American Peregrine Falcon (*Falco peregrinus anatum*)	CA: FP	This subspecies breeds in small numbers through much of the non-desert portions of California. Nesting was historically limited to tall cliffs and similar inaccessible situations although some individuals have used artificial structures in urban areas. Most foraging occurs in areas of accessible shore and open water with high densities of prey species. Within Southern California the species remains generally rare.	No records within the immediate vicinity. Moderate within Project area for foraging. Nesting does not occur within the Project alignment.

SPECIES/NATURAL COMMUNITIES	SPECIAL STATUS	HABITAT CHARACTERISTICS	POTENTIAL TO OCCUR IN STUDY AREA
Western Snowy Plover (*Charadrius alexandrinus nivosus*)	FE: FT CA: SSC	The coastal population of western snowy plover breeds along the Pacific coast from southern Washington to southern Baja California on sparsely vegetated beaches backed by dunes, dredged spoils, flats of salt evaporation ponds, and river bars. During winter months it withdraws from the northerly parts of its range southwards.	The portion of the Project alignment that would be installed via directional drilling beneath Will Rogers State Beach would cross under designated critical habitat for the western snowy plover. Therefore the snowy plover has potential to occur in the Project alignment.
Loggerhead Shrike (*Lanius ludovicianus*)	CA: SSC	Forages in open country of many types (including non-intensive agricultural areas) and nests in small trees and large shrubs, often at the edges of such open areas. Like most birds of prey, loggerhead shrikes generally occur at low densities. The species is widely distributed in Southern California, with some seasonal movements evident.	Unlikely within Project area due to lack of open space. Absent within the Project alignment.
Coastal California Gnatcatcher (*Polioptila californica californica*)	FE: FT CA: SSC	This species is a year-round resident of coastal sage scrub of several subtypes. This subspecies is found from the Mexican border north to southern and eastern Los Angeles County north to the San Jose Hills, with several small populations known north to the Moorpark area of Ventura County. Its range also extends into southwestern San Bernardino County and western Riverside County.	The closest record is within the vicinity of Culver City (CDFW 2013a). Suitable habitat is absent from Project alignment. Foraging and poor quality nesting habitat present within surrounding area. Not expected to occur within the Project vicinity.
Mammals			
spotted bat *(Euderma maculatum)*	CA: SSC	This species forages in a wide variety of habitats, including subalpine meadows, forest openings, pinyon-juniper woodlands, juniper, sagebrush, along the rims of cliffs, riparian habitat wetlands, meadows, and agricultural fields. Roosting habitat includes buildings, cliffs, caves, and trees.	Previous bat surveys along Project alignment did not detect any species of bat. However, there is suitable foraging and roosting habitat for this species; therefore, spotted bat has potential to occur in the vicinity of the Project alignment.
Western red bat *(Lasiurus blossevillii)*	CA: SSC	Riparian habitats, particularly those containing willows (*Salix* spp.), cottonwoods (*Populus* spp.) and sycamores (*Platanus racemosa*). Western red bats roost in trees from sea level to the mountains with preferred roost sites protected from above, open below, and located above dark ground cover.	Suitable foraging and roosting habitat is present; therefore, western red bat has potential to occur in the vicinity of the Project alignment.

SPECIES/NATURAL COMMUNITIES	SPECIAL STATUS	HABITAT CHARACTERISTICS	POTENTIAL TO OCCUR IN STUDY AREA
Pallid Bat (*Antrozous pallidus pacificus*)	CA: SSC	This bat species is widely distributed in the southwestern United States and northern Mexico. They are locally common across most of California except in the far northwest and in higher portions of the Sierra Nevada. Habitats utilized include a wide variety of grasslands, shrublands, woodlands, and forests, including mixed conifer forest. They appear to be most common in open, dry, rocky lowlands. Roosts are in caves, mines, as well as crevices in rocks, buildings and trees. This is a colonial species that forages low over open ground, often picking up beetles and other species of prey off the ground.	Previous bat surveys along Project alignment did not detect any species of bat; density of urban development precludes this species. Suitable foraging and day roosting habitat is absent from the Project area.
Western Mastiff Bat (*Eumops perotis californicus*)	CA: SSC	Primarily a cliff-dwelling species, where maternity colonies of 30 to several hundred (typically fewer than 100) roost generally under exfoliating rock slabs (e.g., granite, sandstone or columnar basalt). It has also been found in similarly crevices in large boulders and buildings. Roosts are generally high above the ground, usually allowing a clear vertical drop of at least 9.8 feet below the entrance for flight. Forages in broad open areas. Generally, this bat is found in a variety of habitats, from dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas.	Previous surveys along the Project alignment did not detect any species of bat. The species was reported 0.5 mile from the Project area. Suitable foraging and roosting habitat is present; therefore, western red bat has potential to occur in the vicinity of the Project alignment.
San Diego desert woodrat (*Neotoma lepida intermedia)*	CA: SSC	This subspecies occupies arid areas with sparse vegetation, especially those comprised of cactus and other thorny plants. The San Diego subspecies is restricted to the Pacific slope in a range that stretches from San Luis Obispo south to northwestern Baja California, Mexico.	Due to the urban location of the Project area and lack of suitable habitat this species is not expected to occur.

Listing Status:
U.S. Fish and Wildlife Service (USFWS)
FE = listed as Endangered under the Federal ESA
FT = listed as Threatened under the Federal ESA
FS= listed as Sensitive under the Federal ESA
FPE= proposed listing under the Federal ESA
BCC = Bird of Conservation Concern
Delisted = formerly listed as threatened or endangered under the federal Endangered Species Act

California Department of Fish and Wildlife (CDFW)
SE = listed as Endangered under the CESA
ST = listed as Threatened under the CESA
SR=listed as Rare under the CESA
SC= listed as Species of Concern
FP = listed as Fully Protected under CDFW/CDFG Code

Western Bat Working Group (WBWG)
H = listed as High Priority
Other
CA Fur-bearing Mammal = Listed under California Fur-bearing Mammal Statute § 4000 – 4012

Occurrence Code:
Absent – no suitable habitat
Low Potential–low potential to occur because suitable habitat is of marginal quality
Moderate Potential–has moderate potential to occur because suitable habitat was expected to be present but the species was not found during surveys
High Potential–has high potential to occur because suitable habitat was expected to be present, and species is known to occur within the vicinity but was not found during surveys
Present–detected during surveys or recorded in previous surveys

Wildlife Movement

The underground portion of the Project alignment is located in a highly urbanized area of Los Angeles and Santa Monica. The Project would not overlap a documented regional wildlife corridor. Patches of habitat in this urban landscape are not linked together with similar habitat but rather occur mostly isolated. Therefore, wildlife movement is not expected to occur along the Project alignment.

Regulatory Framework

The Project must comply with various federal, State, and local laws. While some laws and policies provide constraints, others provide intent and direction for certain actions to occur. The following is a general overview of such guidance, which gives intent or direction for the proposed Project relevant to biological resources.

Federal

Endangered Species Act of 1973; 16 United States Code (U.S.C.) § 1531 et seq.; 50 Code of Federal Regulations (CFR) Parts 17 and 222

The Endangered Species Act (ESA) includes provisions for protection and management of species that are federally listed as threatened or endangered or proposed for such listing, and of designated critical habitat for these species. The administering agency for the above authority for non-marine species is the USFWS.

Migratory Bird Treaty Act: 16 U.S.C. § 703-711; 50 CFR Subchapter B

The Migratory Bird Treaty Act (MBTA) includes provisions for protection of migratory birds, including basic prohibitions against any taking not authorized by federal regulation. The administering agency for the above authority is the USFWS. The law contains no requirement to prove intent to violate any of its provisions. Wording in the MBTA makes it clear that most actions that result in "taking" or possession (permanent or temporary) of a protected species can be a violation of the act. The word "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (including nests, eggs, and feathers)."

Clean Water Act (33 U.S.C. § 1251 et seq.)

The Clean Water Act (CWA) is the principal federal statute protecting navigable waters and adjoining shorelines from pollution. The Clean Water Act is administered by the USEPA and the United States Army Corps of Engineers (USACE). The USACE is responsible for regulating the discharge of fill material into waters of the United States. Waters of the United States include lakes, rivers, streams and their tributaries, as well as wetlands. Since its enactment, the CWA prohibits the discharge of pollutants into waters of the United States without a permit. Section 404 of the CWA provides that whenever any person dredges or places any fill material from or into waters of the United States including, without limitation, wetlands, streams, and bays (e.g., while undertaking road construction, bridge construction, or streambed alteration), a permit is required from USACE. Through field reconnaissance surveys and analyses of National Wetlands Inventory (NWI) and watershed data, it is unlikely that there are any jurisdictional waters of the United States within the Project route. It is anticipated that USACE would not have jurisdiction over any waters and/or aquatic features occurring within the Project alignment.

State

California Endangered Species Act of 1984, California Fish and Wildlife Code § 2050-2098

The California Endangered Species Act (CESA) includes provisions for the protection and management of species listed by the state as endangered or threatened, or designated as candidates for such listings.

CESA includes a requirement for consultation "to ensure that any action authorized by a state lead agency is not likely to jeopardize the continued existence of any endangered or threatened species… or result in the destruction or adverse modification of habitat essential to the continued existence of the species" (§ 2090). Plants of California declared to be endangered, threatened, or rare are listed at 14 California Code of Regulations (CCR) §670.2. Animals of California declared to be endangered, threatened, or rare are listed at 14 CCR §670.5. The administering agency for the above authority is CDFW (formerly California Department of Fish and Game [CDFG]).

California Fish and Wildlife Code Section 3503, 3511, 4700, 5050, and 5515

These California Fish and Wildlife Codes (CFWC) list bird (primarily raptor), mammal, amphibian, and reptile species that are classified as fully protected in California. Fully protected species are prohibited from being taken or possessed except under specific permit requirements. These Codes also prohibit the take, possession, or needless destruction of the nests or eggs of any bird, including birds of prey or their nests or eggs, except as otherwise provided by the code or any regulation made pursuant thereto.

Porter-Cologne Water Quality Control Act of 1969 (California Water Code Section 13000 et seq.)

The Porter-Cologne Water Quality Control Act provides state coordination with the Clean Water Act, which is described above. It provides a mechanism by which the RWQCBs certify federally issued CWA permits to ensure the compatibility of federal and State water quality guidelines. The act provides for the development and periodic review of water quality control plans (basin plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters. Basin plans are primarily implemented by using the NPDES to regulate waste discharges to ensure that water quality objectives are met. Waste discharges may include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact waters of the State relative to the implementation of Section 401 of the CWA.

Local Ordinances

California State Senate Concurrent Resolution 17 and several city and county ordinances regulate effects on native oak and riparian trees and woodlands, as well as designated landmark or heritage trees. These local ordinances generally require permits for any activities that directly remove covered trees of specific size and species, or indirectly affect them by work under or adjacent to their canopy driplines. The ordinances typically have specific quantitative mitigation ratios for replacement of trees affected by projects.

The City of Los Angeles Oak Tree Protection Ordinance (153478) requires a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of oak trees measuring at least four inches in diameter that are four and one-half feet above ground level. The ordinance specifically prohibits the destruction of Valley oak (*Quercus lobata*) and California live oak (*Quercus agrifolia*) and any tree of the oak genus indigenous to California which measures eight inches or more in diameter, four and one-half feet above the ground. It excludes scrub oaks (*Quercus berberidifolia*) and nursery grown oaks. The Department of Public Works, as the primary enforcement agency, has the authority to authorize relocation or removal under certain circumstances, such as public endangerment.

The City of Santa Monica Community Forest Management Plan mandates that measures be implemented for the protection of existing City trees during construction activities. The mandate requires any utility that will be within the Tree Protection Zone (TPZ) or have a negative impact on the tree's root adjacent to the Project; a plan should be submitted to the Community Forest Operations on how the tree will be protected. The TPZ needs to encompass the canopy plus an additional radial distance of 10 feet beyond the dripline. In the event root pruning is required to accommodate grade changes or the installation of hardscape features, the root pruning procedures shall be directed by Community Forest Operations staff.

3.3.2 Methodology and Threshold of Significance

An impact assessment was conducted to define the various levels of potential Project-related impacts to terrestrial biological resources. Impacts to wildlife related to the Project would result from actions that directly or indirectly disturb or harm wildlife or alter wildlife habitats. Three areas are the focus of this analysis: habitat change, habitat fragmentation, and disturbance. Alteration may occur through direct habitat loss via surface disturbance or indirectly through the reduction in habitat quality such as increased noise levels or the presence of anthropogenic structures. Both the direct and indirect impacts of the installation of the underground cable are associated with ground disturbances. The proposed Project is expected to create short-term construction-related impacts from the installation of the underground cable.

Impact significance thresholds are based on criteria identified in Appendix G of the CEQA Guidelines (CCR, Title 14, Division 6, Chapter 3, Sections 1500-15387). A biological resources impact is considered significant if implementation of the proposed Project would do any of the following:

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 CDFW or the USFWS.
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 CDFW or USFWS.
c) Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, and coastal areas) or any State-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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.
g) 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; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

Biological resource impacts can be direct, indirect, or cumulative. Direct impacts occur when biological resources are altered, disturbed, or destroyed during or after Project implementation. Indirect impacts that could affect biological resources include elevated noise and dust levels, increased human activity, decreased water quality, and the introduction of invasive wildlife (e.g., domestic cats and dogs) and plants. Cumulative impacts occur when biological resources are either directly or indirectly impacted to a minor extent as a result of a specific project, but the project-related impacts are part of a larger pattern of similar minor impacts. The overall result of these multiple minor impacts from separate projects may be considered a cumulatively considerable impact to biological resources.

Biological resources impacts may also be classified as temporary or permanent. Temporary impacts can be direct or indirect and are considered short-term and recoverable. Examples include elevated noise levels and increased levels of dust during construction. Permanent impacts can be direct or indirect and are not considered recoverable. Examples include the removal of vegetation from areas that will have permanent structures placed on them, or landscaping an area with non-native plant species.

3.3.3 Best Management Practices

As part of the Project, implementing the following BMPs would minimize the environmental impacts to biological resources resulting from the proposed Project.

BMP-1 Stormwater Pollution Prevention Plan

In compliance with requirements of the NPDES permit, a Storm Water Pollution Prevention Plan (SWPPP) would be developed and prepared for the Project to ensure that protection of water quality and soil resources is consistent with County and State regulations. The plan would identify site surface water runoff patterns and include measures that prevent excessive and unnatural soil deposition and erosion throughout and downslope of the Project site and Project-related construction areas, and would also include measures for non-storm water discharge and waste management. The SWPPP would cover all activities associated with the construction of the Project, including clearing, grading, and other ground disturbance such as stockpiling or excavation erosion control. The plan would prevent off-site migration of contaminated storm water, changes in pre-Project storm hydrographs, or increased soil erosion.

BMP-2 Fugitive Dust Control Plan

Construction of the Project would be subject to SCAQMD Rule 403, Fugitive Dust. In compliance with this rule, a dust control supervisor shall be identified for the Project and shall supervise implementation of the SCAQMD-approved dust control plan. The plan will itemize measures related to vehicle trackout, stabilizing soils, water application, and maintenance of soil moisture content.

BMP-3 Hazardous Materials

As required by the Clean Air Act, Section 401 of the Clean Water Act, the Toxic Substance Control Act, and the Hazardous Materials Transportation Act, all vehicles and equipment must be in proper working condition to ensure that there is no potential for fugitive emissions or accidental release of motor oil, fuel, antifreeze, hydraulic fluid, grease, or other hazardous materials. Equipment must be checked for leaks prior to operation and repaired as necessary. Refueling of equipment must take place on existing paved roads, where possible, and not within or adjacent to drainages. Hazardous spills must be cleaned up immediately. Contaminated soil would be disposed of at an approved off-site landfill, and spills reported to the permitting agencies. Service/maintenance vehicles should carry appropriate equipment and materials to isolate and remediate leaks or spills, and an on-site spill containment kit for fueling, maintenance, and construction will be available.

3.3.4 Impacts

a) The Project would not 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 CDFW or the USFWS.

Special-status plants*:* There is no potential for special-status plants or their habitat to occur within the Project area; therefore, no adverse effects will occur. It is also expected that there would be no indirect significant adverse impacts to sensitive plant species. BMPs would be implemented to control wind and water soil erosion, and such erosion would not be expected to deposit in amounts sufficient to affect existing adjacent vegetation. Watering for dust control and street sweeping would be contained by existing curbs and not alter natural growth cycles of adjacent vegetation.

Special-status wildlife: No impacts to terrestrial wildlife would occur during Project operations because all facilities would be located underground and future maintenance activities would be relatively minimal and similar to existing activities in the area. However, there is a potential for temporary indirect impacts to birds during Project construction. Several raptor species, including Cooper's hawk, may nest along the

Project alignment. The season and timing of construction activities could potentially disrupt/disturb or negatively impact or influence breeding efforts and success and nesting, largely due to the high potential for flushing birds off of nests due to construction noise or presence of people and/or vehicles or equipment nearby. If birds are currently nesting and feel threatened by the presence of construction, this may cause them to abandon their nests, leaving the eggs or young behind. Nesting birds, their active nests, eggs, and chicks are protected under the MBTA. Construction related actions that result in the take of birds, eggs, chicks, or nests would be a violation of the MBTA. Disturbances from construction could result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding seasons. Potential construction-related indirect impacts to special-status species would be potentially significant. Mitigation Measure BIO-1 would be required to reduce impacts.

Suitable foraging, but not nesting, habitat for white-tailed kite, osprey, prairie falcon, American peregrine falcon occurs within the Project alignment. Nesting individuals, as opposed to foraging individuals, of these species are protected. Therefore, there would be less than significant impacts to these special-status bird species.

The portion of the Project alignment that would be installed via directional drilling beneath Will Rogers State Beach would cross under designated critical habitat for the western snowy plover. Installation by directional drilling would proceed from the West Channel Vault southwest along West Channel Road, under PCH, and under Will Rogers State Beach, where the critical habitat is located. However, because this installation is anticipated to be over 20 feet below the surface at the beach, direct impacts to the critical habitat would be avoided. Potential construction-related indirect impacts to the western snowy plover could be potentially significant; therefore, Mitigation Measure BIO-1 would be required to reduce impacts.

Suitable foraging and roosting habitat for spotted bat, western red bat, and western mastiff bat is present within the vicinity of the Project route; however, construction and operation of the proposed Project would not result in direct loss of habitat for these species. Based on the species' range and availability of habitat for these species in the vicinity of the Project route, and because the Project would not result in direct loss of associated habitat, impacts would be less than significant to these species of special concern.

b) The Project would not 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 CDFW or USFWS.

The landside portion of the proposed Project alignment is located almost entirely within existing paved roadways and would not, therefore, adversely affect any riparian habitat or sensitive natural communities identified by local, State, or federal agencies. The only exception to this relates to the critical habitat established for western snowy plover at Will Rogers State Beach. However, as discussed above, the electrode cables would be installed over 20 feet below the beach surface via directional drilling, which would commence within West Channel Road approximately 850 feet northeast of the beach. Therefore, no impact to snowy plover habitat would occur.

c) The Project would not have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marshes, vernal pools, and coastal areas) or any State-protected jurisdictional areas not subject to regulation under Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

The portion of the proposed Project that would be constructed and operated on land, as addressed in this section, is not expected to directly affect any potential jurisdictional waters or wetland habitat because the

surface disturbance within the Project alignment occurs entirely with existing paved roadways (refer to the Project's *Marine Resources Assessment* regarding an analysis of impacts to ocean areas subject to Section 404 of the CWA).

d) The Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The proposed Project would have no significant impact on regional or local wildlife movement. The Project site is not located within documented important migration routes for any terrestrial wildlife species, and most of the animals expected to move across the Project area are considered common in California. The existing dense urban environment and high level of human activity associated with the Project area already hinder wildlife movement across the Project alignment. Wildlife species that may potentially move through the area are acclimated to the existing human use. Potential construction activities that would create dust or noise within and adjacent to the Project alignment are not expected to impact wildlife movement. During Project operation, all facilities would be located underground within existing roadways and would not, therefore, interfere with wildlife movement.

e) The Project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Any impacts to City of Los Angeles-protected trees (i.e., *Quercus* spp. other than scrub oak, southern California black walnut, western sycamore, and California bay) would be subject to the City of Los Angeles Municipal Code (Chapter IV, Article 6, Section 46.00). Any impacts to the City of Santa Monica's street or public trees would be subject to the Tree Code. Since construction activities would occur entirely within existing roadways, it is not anticipated that trees would be affected. However, because trenching is required for the installation of the conduit and vaults, there is the potential for excavation within the dripline of some trees, which may create a significant impact. Therefore, implementation of Mitigation Measure BIO-2 would be required.

f) The Project would not conflict with the provisions of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or State habitat conservation plan.

As discussed above, the landside portion of the proposed Project alignment is located almost entirely within existing paved roadways and would not, therefore, conflict with any adopted habitat conservation plan or natural community plan. As mentioned previously, the only exception to this relates to the critical habitat established for western snowy plover at Will Rogers State Beach. However, as discussed above, the electrode cables would be installed over 20 feet below the beach surface via directional drilling, which would commence within West Channel Road approximately 850 feet northeast of the beach. Therefore, no conflicts with a habitat conservation plan would occur.

3.3.5 Cumulative Impacts

The proposed Project is located within a densely developed urban setting consisting of highly disturbed land. Several non-listed wildlife species such as raptors and bats potentially use the Project area for foraging; however, the Project would not result in loss of existing wildlife habitat. Therefore, the proposed Project would not result in a significant adverse cumulative impact. The construction activity would create temporary disturbances that are within baseline conditions present within the Project area. The proposed Project would not reduce or contribute to a trend of reducing acreage of native habitat, critical habitat, or open space. Further, the proposed Project would not directly impact or contribute to a cumulative trend of direct impact to a sensitive or protected plant or wildlife species, water resource, or natural community or open space. The potential indirect impacts of the proposed Project would be less

than significant with the proposed mitigation measures. There would be no cumulative indirect impact to sensitive biological resources.

3.3.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

The proposed Project construction activities would occur entirely within existing paved roadways and are not anticipated to result in any significant direct impacts to any sensitive habitat or species. The Project site consists of roadways that are heavily used by vehicles and people. In addition, the Project is adjacent to other urban features that establish a high degree of baseline disturbance. These all contribute to existing high levels of vibration, noise, dust, and vehicle-caused groundborne vibration. Nonetheless, certain impacts to wildlife and tree species have been identified related to the Project construction phase. These impacts are addressed with the mitigation measures below.

BIO-1: If construction activities occur during the breeding season (February 1 to August 31), preconstruction surveys for nesting birds shall be conducted in segments of the Project alignment identified to contain suitable nesting areas. These include the segment on Homewood Road between the Kenter Canyon Terminal Tower and the intersection of Homewood Road and Kenter Avenue and the segment on West Channel Road between East Channel Road/Ocean Avenue and Mesa Road.

If nesting raptors or native passerines are found, the active nest shall be protected until nesting activity has ended to ensure compliance with State Fish and Wildlife Code and MBTA. This may be accomplished by establishing an appropriate buffer zone, which in the highly urbanized setting of the Project will be at the discretion of the Project biologist in consultation with the CDFW and USFWS.

BIO-2: The Proposed Project shall avoid protected trees within the City of Los Angeles and the City of Santa Monica to the greatest extent practicable. If this impact cannot be avoided, the Project shall adhere to the applicable Tree Ordinance(s) and create an inventory of the individual protected trees to be impacted. No protected trees shall be cut, trimmed, pruned, injured, relocated, or removed, and no protected root zones shall be encroached upon, without prior authorization and/or a permit from the governing jurisdiction.

Level of Significance After Mitigation

With the implementation of Mitigation Measures BIO-1 and BIO-2, impacts to terrestrial biological resources would be less than significant.

3.4 CULTURAL AND PALEONTOLOGICAL RESOURCES

The purpose of this section is to assess the potential for impacts of proposed Project on cultural and paleontological resources. The Cultural Resources Technical Report analyzed potential traffic impacts at study roadway segments along the proposed Project. The complete Cultural Resources Technical Report is included in Appendix F of this Draft EIR.

3.4.1 Existing Conditions

Environmental Setting

Cultural Resources

Prehistoric

Several chronologies are generally used to describe the sequence of the later prehistoric periods of Southern California. William Wallace developed the first comprehensive California chronologies and defines four periods for the southern coastal region.

Horizon I: Early Man or Paleo-Indian Period (11,000 B.C. to 7,500 A.D.). The precise start of the Paleo-Indian Period is still a topic of considerable debate. At inland archaeological sites, the surviving material culture of this period is primarily lithic, consisting of large, extremely well made stone projectile points and tools such as scrapers and choppers. Encampments were probably temporary, located near major kills or important resource areas.

Horizon II: Milling Stone Assemblages (7,500 B.C. to 1,000 A.D.). The Milling Stone Period was named for the abundant milling stone tools associated with sites of this period. These tools, the mano and metate, were used to process small, hard seeds from plants associated with shrub-scrub vegetation communities. An annual round of seasonal migrations was likely practiced, with movements coinciding with ripening vegetal resources and the periods of maximum availability of various animal resources. Along the coast, shell midden sites are common. Some formal burials, occasionally with associated grave goods, are also evident. Warren suggests that as milling stones are common and projectile points are comparatively rare, hunting was less important than the gathering of vegetable resources. More recent studies suggest that a diversity of subsistence activities, including hunting of various game animals, were practiced during this period.

Horizon III: Intermediate Cultures (1,000 B.C. to 750 A.D.). The Intermediate Period is identified by a mixed strategy of plant exploitation, terrestrial hunting, and maritime subsistence strategies. Chipped stone tools, such as projectile points, generally decrease in size, but increase in number. Abundant bone and shell remains have been recovered from sites dating to these time periods. In coastal areas, the introduction of the circular shell fishhook and the growing abundance of fish remains in sites over the course of the period suggest a substantial increase in fishing activity during the Intermediate Period. It is also during this time period that mortar and pestle use intensified dramatically. The mano and metate continued to be in use on a reduced scale, but the greatly intensified use of the mortar and pestle signaled a shift away from a subsistence strategy based on seed resources to that of the acorn. It is probably during this time period that the acorn became the food staple of the majority of the indigenous tribes in Southern California. This subsistence strategy continued until European contact. Material culture became more diverse and elaborate, and included steatite containers, perforated stones, bone tools, ornamental items, and asphalt adhesive.

Horizon IV: Late Prehistoric Cultures (750 A.D. to 1769 A.D.). During the Late Prehistoric Period, exploitation of many food resources, particularly marine resources among coastal groups, continued to intensify. The material culture in the Late Prehistoric Horizon increased in complexity in terms of the abundance and diversity of artifacts being produced. The recovery and identification of a number of small projectile points during this period suggests a greater utilization of the bow and arrow, which was likely introduced near the end of the Intermediate Period. Shell beads, ornaments, and other elements of material culture continue to be ornate, varied, and widely distributed; the latter evidence suggests elaborate trade networks. Warren's scheme divides the late prehistoric period into several regional traditions. Western Riverside County, Orange County, and the Los Angeles Basin area are considered part of the "Shoshonean" tradition, which may be related to a possible incursion of Takic speakers into these areas during this period. In the few centuries prior to European contact, the archaeological record reveals substantial increases in the indigenous population. Some village sites may have contained as many as 1,500 individuals. Apparently, many of these village sites were occupied throughout the year rather than seasonally. This shift in settlement strategy was likely influenced by improved food procurement and storage technology, which enabled population growth and may have helped stimulate changes in sociopolitical organization.

Ethnography

The Project study area includes lands that were occupied by two ethnographically known groups of Native Americans. The *Gabrielino* (north of the Los Angeles Basin, the *Fernandeño*) were present in the

bulk of the Project area, while the *Chumash* were located to the north and west. The name "Gabrielino" identifies those people who were under the control of the Spanish Mission San Gabriel (the Fernandeño were associated with Mission San Fernando). The native term *Tongva* refers to the Gabrielino and is preferred by many of the Native Americans in the area today. The Western Tongva occupied, among other areas, the southern San Fernando Valley.

The name "Chumash" is derived from a Native American word, but was originally applicable only to a small group of people living on Santa Cruz Island. The use of the word is now applied to the distinct group of societies that occupied the coastal and immediate inland regions from northwestern Los Angeles County to north of Santa Barbara. The Chumash subgroup that resided nearest the current study area is known as the Ventureño Chumash (those Chumash groups associated with Mission San Buenaventura).

Aside from the fairly level Oxnard Plain, the Ventureño Chumash territory was mountainous and stretched from the headwaters of the Ventura and Santa Clara Rivers and Mt. Piños in the north to Malibu Canyon to the east. The village of *Humaliwo,* on the coast at the mouth of Malibu Creek, was the historic seat of the area's paramount chief who presided over the area of the eastern Santa Monica Mountains. The traditional western boundary was placed just east of the headwaters of the Santa Ynez and Cuyama Rivers. To the south was the Pacific Ocean. The Ventureño Chumash were in contact with the Gabrielino, especially the western Tongva described above, and some overlap of the two groups occurred within a border zone south and east of the Santa Monica Mountains.

Large, permanent settlements, most near permanent sources of water in the Santa Monica Mountains, contained residences, storehouses, dancing and game areas, and cemeteries. Most also had sweat and menstrual lodges. Archaeological remains include shell, shell beads, and evidence of their manufacture, plant and animal remains, and lithic manufacture and maintenance areas. Additional smaller sites include ovens used to roast yucca and other foods, rockshelters, quarries, bedrock mortar sites for the processing of fleshy foods such as acorns, and rock art sites.

Gabrielino/Tongva

The Gabrielino/Tongva arrived in the Los Angeles Basin around 500 B.C. as part of the so called Shoshonean (Takic speaking) Wedge from the Great Basin region and gradually displaced the indigenous Hokan speakers. Large, permanent villages were established in the fertile lowlands along rivers and streams and in sheltered areas along the coast. Eventually, Gabrielino territory encompassed the greater Los Angeles Basin; coastal regions from Topanga Canyon in the north to Aliso Creek in the south; and the islands of San Clemente, San Nicholas, and Santa Catalina. The population may have numbered as many as 5,000 individuals at its peak in the pre-contact period (prior to 1769).

The subsistence economy of the Gabrielino was one of hunting and gathering. The surrounding environment was rich and varied, and the natives were able to exploit mountains, foothills, valleys, deserts, and coasts. As with most native Californians, acorns were the staple food (by the Intermediate Horizon), and were supplemented by the roots, leaves, seeds, and fruit of a wide variety of flora (e.g., cactus, yucca, sage, agave). Fresh and saltwater fish, shellfish, birds, insects, as well as large and small mammals were exploited.

A wide variety of tools and implements were employed by the Gabrielino to gather, collect, and process food resources. The most important hunting tool was the bow and arrow. Traps, nets, blinds, throwing sticks, and slings were also employed. Fish were an important resource, and nets, traps, spears, harpoons, hooks, and poisons were utilized to catch them. Ocean-going plank canoes and tule balsa canoes were used for fishing and for travel by those groups residing near the ocean. The processing of food resources was accomplished in a variety of ways: nuts were cracked with hammer stone and anvil; acorns were ground with mortar and pestle; seeds and berries with mano and metate. Yucca, an important resource in many areas, was eaten by the natives (as well as being exploited for its fibers). Strainers, leaching baskets

and bowls, knives, bone saws, and wooden drying racks were also employed. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels.

Gabrielino houses were circular, domed structures of willow poles thatched with tule. They were actually quite large and could, in some cases, hold fifty individuals. Other structures served as sweathouses, menstrual huts, and ceremonial enclosures.

The mainland Gabrielino practiced cremation of the dead with cremation usually occurring about three days after death. Most possessions of the deceased were burned, though some were kept to be burned at the annual mourning ceremony, an eight-day event in the fall of the year.

History

Three historical periods are generally recognized in California: the Spanish exploration and settlement of California during the eighteenth and nineteenth centuries, the brief tenure of Mexico, and the subsequent American takeover and annexation of California.

Juan Rodriguez Cabrillo sailed along the California coast in 1542 and, according to available records, stopping only at San Diego and the Channel Islands, was the first European to come into contact with the Gabrielino. King Carlos III saw other European empires as threats to Spain's claim on Alta California. He ordered Visitador-General José de Gávez to organize soldiers and missionaries from Mexico to colonize the distant territory. On May 13, 1769, Commander Don Gaspar de Portolá, Sergent José Francisco de Ortega, and Fray Junípero Serra, the Franciscan missionary, departed from Velicatá Baja California with soldiers and supplies for San Diego, where they founded California's first mission San Diego de Alcalá.

Under Spain's missionization policy, California Indians were to be "reduced" into settled and stable communities where they would become good subjects of the King and children of God. The missions were, therefore, not solely religious institutions, but rather instruments designed to result in a total change in culture in a brief period of time. Local Indian populations were forced to live and work at the missions, giving up many of their traditional life-ways and territories for new European practices and beliefs. The Mission San Gabriel was founded in 1771, and by 1778, mass conversions of Native American villages began. The Gabrielino suffered major population reduction because of disease in densely settled missions. The effects of mission influence upon the local native populations were devastating. The reorganization of their culture alienated them from their traditional subsistence patterns and social customs. European diseases, against which the natives had no immunities, reached epidemic proportions, and Gabrieliño populations were decimated. Although most Gabrieliño submitted to the Spanish and were incorporated into the mission system, some refused to give up their traditional existence and escaped into the interior regions of the state.

Mexico won its independence from Spain in 1821. Wanting to limit the power of the Catholic Church, the new government pursued dual policies of secularization and emancipation of native groups. Native American emancipation was passed in 1833, but land was not returned to the Native Americans. In1835, the missions were confiscated by the Mexican government and the land was granted to citizens for use as grazing land. Many Native Americans continued to work on ranchos and farms after being released from the Missions.

The Mexican-American War ended on February 2, 1848, with the signing of the Treaty of Guadalupe Hidalgo. The treaty established California as a United States possession and provided for the retention of private lands held by the conquered Mexicans. However, since the burden of proof of ownership resided with the Hispanic landowners, many of the land grants were not approved, and the division of many of the larger ranchos occurred. The end of the Mexican War of 1846-1848, the discovery of gold in California in 1849, and the establishment of California as a state on September 9, 1850, all contributed to a steady influx of non-Hispanic settlers into the area.

Los Angeles County

The County of Los Angeles was established on February 18, 1850, several months before the state was admitted to the Union. The city and the county are geographically, culturally, and economically interwoven. Los Angeles is the heart of Southern California, beginning as a 'large village' at the turn of the twentieth century. The mild Mediterranean climate and abundance of recreational areas drew people from around the country. Although the cattle industry had failed by the late 1860s, the rancho lands continued to grow crops and raise dairy cattle. By the mid-twentieth century, the Los Angeles area was leading the country in agricultural productivity. By 1870, Los Angeles had grown to a population of just over 5,000. By the turn of the century, the city had grown to over 100,000.

Discovered by Edward Doheny in 1892, oil was drilled at a furious rate and soon Los Angeles became one of the world's major petroleum fields. Industrialization thrived in the first half of the century. In 1911, representatives from the Standard Oil Company surveyed and purchased 840 acres of cheap undeveloped land adjacent to the seashore for their next oil refinery. The refinery opened for business on November 27, 1911.

World War II changed the face of Los Angeles, as the aircraft and aerospace industry became a major contributor to the economy. The federal government funded plant expansion as well as research and development. Los Angeles became a center of the military-industrial complex. Servicemen and their families became a large element of the post-war population surge, and the construction industry peaked in the decade following the war. Commercial and industrial facilities and the local infrastructure grew rapidly to support the expanding population. At that time, the population density around the metropolitan area varied greatly, as low as one person per square mile in mountainous areas and as high as 50,000 per square mile near downtown Los Angeles.

Paleontological Resources

The entire study area is located within the Los Angeles Basin, which is bounded on the north by the Transverse Ranges Geomorphic Province of California. The natural topography of the Los Angeles Basin area is valley lowland intersected by rolling hills and surrounded by mountain ranges. Elevations range from 0 to 160 feet above mean sea level (AMSL). The basin is traversed by several major fault systems, which divide the basin into four blocks,: the northwestern block, the southwestern block, the central block, and the northeastern block. The Project is located within the southwestern block, which is bounded on the east by the onshore segment of the Newport-Inglewood fault zone. The southwestern block includes anticlinal and synclinal structural features within the basement rocks that are overlain by younger sedimentary rocks and alluvium.

Alluvium, colluvium, and slope-wash deposits of late Pleistocene and Holocene are found within drainage features, including valleys and streams. The alluvial deposits grade indiscernibly with colluvium and slope-wash deposits flanking the lower slopes next to the valleys. Generally, the alluvial deposits within the Project area are Pleistocene fluvial or fan deposits and Holocene fluvial deposits in the active San Gabriel River flood plain.

The two geologic formations that underlie the Project area include Younger Quaternary Alluvium (Qa) and Quaternary Older Alluvium (Qoa):

Younger Quaternary Alluvium (Qa)

These sediments are less than 11,000 years old. Although they are too young to contain the remains of extinct animals, they overlie the older deposits. Younger Quaternary Alluvium has a minor to zero sensitivity rating for paleontological resources.

Quaternary Older Alluvium (Qoa)

Deposited during the middle to late Pleistocene, between 781,000 to 11,000 years ago, these old alluvial fans were emplaced at the mouths of canyons in the Santa Monica Mountains. These sediments include slightly to moderately lithified silts, sands and gravels with moderately to well developed paleosoils. Quaternary Older Alluvium has a high sensitivity rating for paleontological resources.

Regulatory Framework

Cultural Resources

Under CEQA, a project is considered to have a significant effect on cultural resources if it causes a substantial adverse change in the significance of a historical resource or unique archaeological resource or impacts Native American human remains.

Historical Resources

According to CEQA, lead agencies are required to identify historical resources that may be affected by a proposed project. A historical resource is a cultural resource that is eligible for listing in the California Register of Historical Resources (CRHR) (Public Resource Code [PRC] §5024.1, Title 14 CCR, Section 4852). For a resource to be eligible for the CRHR, it must satisfy one or more of the following criteria:

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California or the United States.
- It is associated with the lives of persons important to the nation or California's past.
- It 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.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the state or the nation.

Generally, a resource must retain integrity, which is defined as the authenticity of a historical resource's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance. California Office of Historic Preservation (OHP) guidance specifies that integrity is a quality that applies to historical resources in seven ways: location, design, setting, materials, workmanship, feeling, and association. Generally, resources must be fifty years old or older (except for rare cases of structures of exceptional significance).

Unique Archaeological Resources

Under CEQA, the lead agency must also determine whether a proposed project will have a significant effect on unique archaeological resources. PRC 21083.2(g) states:

> ...a 'unique archaeological resource' means 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 it meets any of the following criteria:
>
> - Contains information needed to answer important scientific research questions and that there is demonstrable public interest in that information.
> - Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> - Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource does not meet these criteria and does not need to be given further consideration other than simple recording unless it happens to qualify as a historical resource.

Paleontological Resources

Under CEQA Guidelines, a project must be evaluated for its potential to cause a significant impact to paleontological resources, which are included with cultural resources.

The Society of Vertebrate Paleontology (SVP) has established its own "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontological Resources." These guidelines are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. The guidelines are accepted by most agencies as the standard for the assessment of impacts to paleontological resources.

3.4.2 Methodology and Threshold of Significance

Cultural Resources

A literature review of records on file was conducted at the South Central Coastal Information Center (SCCIC) at the California State University, Fullerton, a unit of the California Historical Resource Information System (CHRIS), for the Project area on June 16, 2010. The review consisted of an examination of the United States Geological Survey (USGS) San Fernando, Oat Mountain, Canoga Park, Van Nuys, Beverly Hills, and Topanga, California 7.5-minute quadrangles, and their Mylar overlays in order to evaluate the project area for any sites recorded or cultural resources studies conducted within the Project alignment and its one-mile radius. In addition, California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the CRHR, the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory (HRI) were reviewed. A summary of the Native American scoping activities is located in Chapter 6 of this Draft EIR.

On January 7, 2011, BonTerra Consulting Archaeologist Patrick Maxon, RPA conducted a windshield survey of the underground alignment to assess the potential for existing cultural resources. As noted previously, the portion of the proposed Project located on land would be installed underground within existing paved roads.

A shipwreck database was compiled using newspaper clippings and other sources to determine if any wrecks were present in the area of the proposed marine segment. Although the locational data is approximate and of limited accuracy, a single shipwreck was plotted within 250 feet of the existing electrode. The actual location of the shipwreck could vary from the plotted point by up to one mile.

Paleontological Resources

A paleontological assessment was requested of Dr. Sam McLeod of the Natural History Museum of Los Angeles County (LACM) for the current study. A response was received on August 2, 2010 (included in Appendix F to this Draft EIR). The Dibblee Geological Foundation (1991 and 1992) geological quadrangles that cover the Project site were acquired and analyzed for the Project site and ROW.

Thresholds of Significance

The general thresholds are derived from Appendix G of the State CEQA Guidelines. The Project could have potentially significant impacts if it would:

Cultural Resources

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
c) Disturb any human remains, including those interred outside of formal cemeteries.

Paleontological Resources

a) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

A substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired or diminished. Furthermore, it is recommended by CEQA that cultural resources be preserved *in situ* whenever possible through avoidance of the resource. Whenever a historical resource or unique archaeological resource (PRC § 21083.2) cannot be avoided by project activities, effects must be addressed and mitigated as outlined in CEQA guidelines 15126.4.

As defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important.

3.4.3 Best Management Practices

As part of the Project, the following applicable BMPs would minimize the environmental impacts associated with the proposed Project for cultural resources.

BMP-5 Human Remains

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified within 24 hours of the discovery. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within two working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are or believed to be Native American, s/he shall notify the Native American Heritage Commission (NAHC) in Sacramento within 48 hours. In accordance with California Public Resources Code, Section 5097.98, the NAHC must immediately notify those persons it believes to be the most likely descended from the deceased Native American. The descendants shall complete their inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

BMP-6 Archaeological Resources

Should archaeological resources be found during ground disturbing activities for the project, all grading activities shall cease in the immediate area of the discovered resource. A project archaeologist shall be retained to first determine whether an archaeological resource uncovered during construction is a “unique archaeological resource” pursuant to Section 21083.2(g) of the PRC or a “historical resource” pursuant to Section 15064.5(a) of the CEQA Guidelines (CCR, Title 14). If the archaeological resource is determined to be a “unique archaeological resource” or a “historical resource,” the archaeologist shall recommend disposition of the site and formulate a mitigation plan in consultation with LADWP that satisfies the requirements of Section 21083.2 of the PRC and Section 15064.5 of the CEQA Guidelines.

If the archaeologist determines that the archaeological resource is not a “unique archaeological resource” or “historical resource,” the site will be recorded and the site form submitted to the CHRIS at the SCCIC. The archaeologist shall prepare a report of the results of any study prepared as part of a testing or mitigation plan, following accepted professional practice and guidelines of the OHP. Copies of the report shall be submitted by LADWP to the CHRIS at the SCCIC.

3.4.4 Impacts

Cultural Resources

a) The Project would not cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

No historic resources have been previously recorded within the proposed Project underground alignment. In addition, because the underground alignment would be installed within existing roads, no impacts to historic resources are anticipated; therefore, no mitigation is necessary for terrestrial historical resources.

The record search conducted for the Project indicated that no marine cultural resources are located within the vicinity of the proposed marine alignment. One shipwreck is plotted within 250 feet of the existing line. Although this would be outside the area of disturbance associated with the proposed Project marine segment alignment, the shipwreck could be disturbed from activities related to the removal of the existing marine cable. Therefore, Mitigation Measure CR-1 is required.

b) The Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

No surface evidence of the resources was identified during the reconnaissance survey because the entire corridor is paved. However, as stated above, although the Project area is developed, some areas along the proposed Project route may yield currently undiscovered archaeological artifacts or resources. Ground disturbance caused by construction activities could also result in damage to or destruction of remnant archaeological resources. Implementation of BMP-6 as part of the proposed Project ensures that physical impacts to unique archaeological resources would be less than significant.

c) The Project would not disturb any human remains, including those interred outside of formal cemeteries.

There is no indication that human remains are present within the Project site. Native American tribes were given an opportunity to reveal the existence of any known remains. The background research conducted failed to identify any potential for remains, and none were located as a result of field reconnaissance.

Physical impacts to human remains discovered during excavation would be reduced to a less than significant level by implementing BMP-5.

Paleontological Resources

a) The Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

A paleontological resources records search was completed for the Project site and indicated that no known fossil localities have been previously recorded within the study area boundaries, but fossil localities have been found nearby from sedimentary deposits that are similar to those that occur in the study area. Of the two different geologic formations that occur within the Project area, only one is paleontologically sensitive: Older Quaternary Alluvium, which is traversed by the Project alignment. This sensitive formation occurs at various locations and depths within the Project area. Grading into this formation could potentially impact sensitive paleontological resources. The implementation of mitigation measures PR-1 through PR-5 is required.

3.4.5 Cumulative Impacts

Cultural Resources

Due to the limited scope of the Project, it would potentially make only a small contribution to the cumulative quantitative loss of cultural resources in the Project vicinity. Furthermore, any impacts created by the project would be mitigated. The National Historic Preservation Act (NHPA) and CEQA Guidelines provide specific guidance on how cultural resources should be managed in regard to proposed projects in California. Therefore, it is assumed that all projects that could potentially affect cultural resources in the Project area would be required to have some level of cultural resource documentation, evaluation, impact assessment, and, if necessary, mitigation.

Paleontological Resources

As discussed above, ground disturbance associated with the Project could expose paleontological resources, since there are areas of moderate sensitivity for paleontological resources within the Project alignment. Therefore, implementation of Mitigation Measures PR-1 to PR-5 would be required to reduce potential impacts. Ground-disturbing activities associated with construction and maintenance of other projects in the proposed Project vicinity could also expose and damage paleontological resources. Therefore, it is assumed that all projects that could potentially affect paleontological resources in the Project area would be required to have some level of resource documentation, evaluation, impact assessment, and, if necessary, mitigation.

3.4.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

CR-1: Prior to the removal of the existing marine electrode cable, a qualified marine archaeologist shall be retained to assess the potential impact to the known shipwreck identified in the vicinity of the cable. If the archaeologist determines the resource is not in close proximity to the removal activities, then no further action would be required. If the shipwreck is located in close proximity, and the removal of the cable would likely impact the resource, then that portion of the marine cable will not be removed or a plan shall be developed by a qualified marine archaeologist. The plan, if required, shall include:

1) A plan for stabilization of the site;
2) Methods of recovery of data and artifacts (if necessary);
3) Treatment of the recovered marine artifacts through curation; and
4) Documentation of the site after cable removal.

PR-1: Based on the location of sensitive underlying geologic formations, a qualified paleontologist shall be retained to design and implement a Paleontological Monitoring and Treatment Plan (PMTP). The qualified paleontologist shall attend relevant pre-construction meetings to consult with grading and excavation contractors concerning excavation schedules, paleontological field techniques, and safety issues. The PMTP shall identify construction impact areas where high sensitivity paleontological resources may be encountered and the depths at which those resources are likely to occur. The PMTP shall outline a coordination strategy for monitoring, detail significance criteria used to determine data potential of resources, and describe methods of recovery, preparation, analysis, and final curation of specimens.

PR-2: A paleontological monitor shall be retained on a full-time basis to monitor Project-related excavations into native soils in areas underlain by formations of high sensitivity for paleontological resources. The areas deemed to have potential for presence of paleontological resources that shall be monitored during construction-related excavation include:

- San Vicente Boulevard between Gretna Green and Entrada Drive
- Entrada Drive between San Vicente Boulevard and Kingman Avenue

PR-3: Before the initiation of ground-disturbing activities, all construction personnel shall be trained regarding the recognition of possible subsurface paleontological resources and protection of all paleontological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of paleontological resources.

PR-4: When fossils are discovered, the qualified paleontologist (or paleontological monitor) shall recover them. In the instance of an extended salvage period, the paleontologist shall work with the construction manager to temporarily direct, divert, or halt earthwork to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains as determined by a qualified paleontologist, it may be necessary to collect bulk samples (up to 6,000 pounds) of sedimentary rock matrix.

PR-5: Fossil remains collected during monitoring and salvage shall be cleaned, repaired, sorted, and cataloged as part of the mitigation program. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in a federally accredited repository for both vertebrate and invertebrate fossils, such as the Los Angeles County Museum or the Museum of Paleontology at the University of California, Berkeley. A final summary report shall be completed that outlines the results of the mitigation program. This report shall include discussions of the methods used, stratigraphic section(s) exposed, fossils collected, and significance of recovered fossils.

Level of Significance After Mitigation

The aforementioned mitigation measures would reduce impacts to less than significant.

3.5 NOISE

This section describes potential noise and vibration impacts to the land environment only. For a detailed discussion of marine impacts, including potential marine noise impacts, please refer to Section 3.7 below.

3.5.1 Existing Conditions

Background

Sound is technically described in terms of the loudness (amplitude) and frequency (pitch) of the sound. 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. Figure 3.5-1 provides examples of A-weighted noise levels from common sounds.

Noise Exposure and Community Noise

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 energy average 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 L_{eq} is expressed in units of dBA.

Effects of Noise on People

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.

Noise Attenuation

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3.0 dBA. A change of at least 5.0 dBA would be noticeable and may evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would likely cause a community response.

Noise levels decrease as the distance from the noise source to the receiver increases. Noise generated by a stationary noise source, or "point source," will decrease by approximately 6.0 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, as the noise travels over hard surfaces, the noise level would be 83 dBA at a distance of 100 feet from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise generated by a mobile source will decrease by approximately 3.0 dBA over hard surfaces and 4.8 dBA over soft surfaces for each doubling of the distance.

Generally, noise is most audible when traveling by direct line-of-sight. Line-of-sight is an unobstructed visual path between the noise source and the noise receptor. Barriers, such as walls, berms, or buildings that break the line-of-sight between the source and the receiver greatly reduce 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 entirely break the line-of-sight from the source to the receiver, its effectiveness as a noise barrier is greatly reduced.

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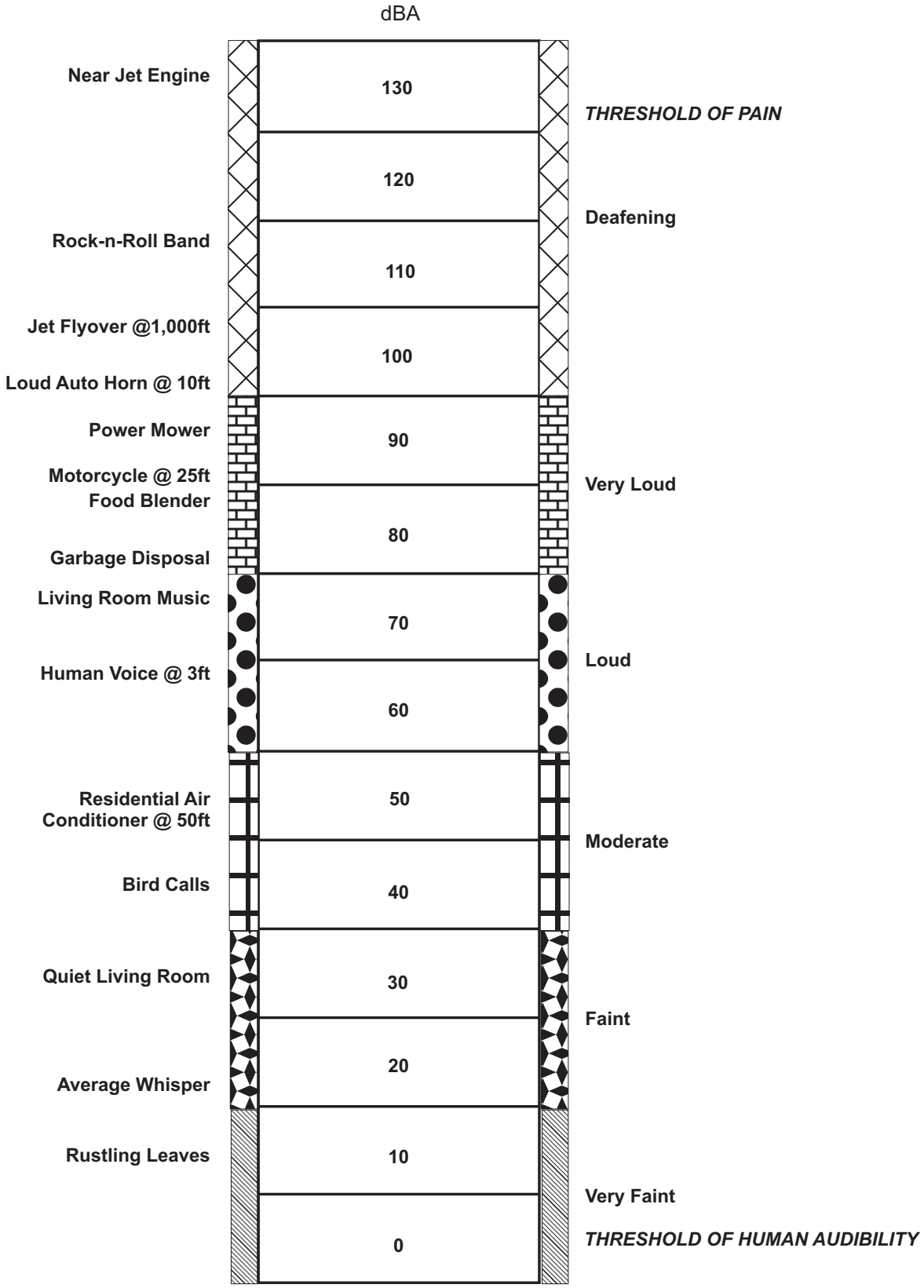

A-WEIGHTED DECIBEL SCALE

SOURCE: Cowan, James P., *Handbook of Environmental Acoustics.*

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Fundamentals of Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Vibration can be a serious concern, causing buildings to shake and rumbling sounds to be heard. In contrast to noise, vibration is not a common environmental problem. 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 certain construction activities, such as blasting, pile driving, and heavy earth-moving equipment.

There are several different methods 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. 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 decibel notation acts to compress the range of numbers required to describe vibration. Vibration is a function of the distance of the receiver from the vibration source (i.e., construction equipment). Vibration dissipates rapidly with distance (e.g., the vibration level at 15 feet is approximately half the vibration level at 10 feet).

Effects of Vibration on People

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).

Perceptible Vibration Changes

In contrast to noise, groundborne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 RMS or lower, well below the threshold of perception for humans, which is around 65 RMS. 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, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, vibration from traffic is rarely perceptible.

Regulatory Framework

Federal

The Federal 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, USEPA administrators determined that subjective issues such as noise would be better addressed at more 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 USEPA rulings in prior years remain in place. No federal noise regulations are directly applicable to the proposed Project.

Although the proposed 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 ground-borne vibration levels of 0.2 inch per second without experiencing structural damage. Buildings

extremely susceptible to vibration damage (e.g., historic buildings) can be exposed to ground-borne vibration levels of 0.12 inch per second without experiencing structural damage.

State

The State of California has adopted noise standards in areas of regulation not preempted by the federal government. State standards regulate noise levels of motor vehicles, sound transmission through buildings, occupational noise control, and noise insulation. State regulations governing noise levels generated by individual motor vehicles and occupational noise control are not applicable to planning efforts nor are these areas typically subject to CEQA analysis. There are no vibration regulations mandated by the State that are applicable to the proposed Project.

Local

The proposed alignment would traverse through the Cities of Los Angeles and Santa Monica. Noise regulations established for these cities are discussed below.

City of Los Angeles: The City of Los Angeles has established policies and regulations concerning the generation and control of noise. Section 41.40 (Noise Due to Construction, Excavation Work – When Prohibited) of the Los Angeles Municipal Code (LAMC) indicates that no construction or repair work shall be performed between the hours of 9:00 p.m. and 7:00 a.m. on weekdays, since such activities would generate loud noises and disturb persons occupying sleeping quarters in any adjacent dwelling, hotel, apartment or other place of residence. No person, other than an individual home owner engaged in the repair or construction of his/her single-family dwelling, shall perform any construction or repair work of any kind or perform such work within 500 feet of land so occupied before 8:00 a.m. or after 6:00 p.m. on any Saturday or on a federal holiday, nor at any time on any Sunday. Under certain conditions, the City of Los Angeles may grant a waiver to allow limited construction activities to occur outside of the limits described above.

Section 112.05 (Maximum Noise Level of Powered Equipment or Powered Hand Tools) of the LAMC also specifies the maximum noise level of powered equipment or powered hand tools. Any powered equipment or hand tool that produces a maximum noise level exceeding 75 dBA at a distance of 50 feet is prohibited. However, this noise limitation does not apply where compliance is technically infeasible. Technically infeasible means the above noise limitation cannot be met despite the use of mufflers, shields, sound barriers and/or any other noise reduction device or techniques during the operation of equipment.

City of Santa Monica: Santa Monica Municipal Code (SMCC) §4.12.030 states that the installation, maintenance, repair or replacement of public utilities or public infrastructure conducted by the City of Santa Monica or a public utility company, or their agents and employees, while conducting duties associated with their employment are exempt from the noise ordinance, subject to the restrictions for allowable construction times. SMCC§4.12.110 restricts such construction activity to between 7:00 a.m. and 6:00 p.m. Monday through Friday, 9:00 a.m. and 5:00 p.m. on Saturday, and does not allow construction activity on Sundays or major national holidays.

Environmental Setting

Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise- and vibration-sensitive. Sensitive receptors occurring along the proposed alignment include four schools/daycare facilities (Kenter Canyon Elementary School, Brentwood Science Magnet, Montana Preschool, and Canyon Charter Elementary School), and one designated park (Will Rogers State Beach). The Brentwood Country Club Golf Course is also adjacent to portions of the proposed Project alignment. While not designated as park, the median along San Vicente Boulevard within the Project limits is used for recreational purposes

(walking and biking). In addition, residences are located adjacent to the proposed alignment throughout the corridor. The above sensitive receptors represent land uses with the potential to be impacted by noise generated from construction activities associated with the proposed Project. Additional receptors may be located along or further from the proposed alignment and would be equally or less affected by noise and vibration than the above sensitive receptors.

The existing noise environment along the proposed alignment is primarily characterized by vehicular traffic on local roadways. To a lesser extent, occasional aircraft flyovers and other typical urban noise sources (i.e., landscape maintenance, sirens, horns, and activation of car alarms) contribute to the existing noise environment. Ambient noise measurements were taken at a representative sample of receptors along the proposed alignment using a SoundPro DL Sound Level Meter on June 11, 2013. These readings were used to establish existing ambient noise conditions and to provide a baseline for evaluating construction noise impacts. Noise monitoring locations are shown in Figure 3.5-2. As shown in Table 3.5-1, typical 15-minute daytime existing ambient sound levels range between 47.8 and 68.5 dBA L_{eq}. There are no substantial existing sources of vibration along the proposed alignment.

TABLE 3.5-1 AMBIENT NOISE MEASUREMENTS

SITE	LOCATION	LAND USE	DISTANCE FROM ALIGNMENT (FEET)	MEASURED VALUES (Leq, dBA)
1	130 West Channel Road	Residences	Adjacent	65.3
2	421 Entrada Drive	Canyon Charter Elementary School	Adjacent	65.0
3	222 7th Street	Residences	Adjacent	62.5
4	1420 San Vincente Boulevard	Residence	Adjacent	64.9
5	201 21st Place	Montana Preschool	Adjacent	63.1
6	365 South Anita Avenue	Brentwood Country Club Golf Course	Adjacent	68.5
7	400 Gretna Green Way	Residence	Adjacent	54.4
8	270 Homewood Road	Residence	Adjacent	53.3
9	645 North Kenter Avenue	Kenter Canyon Elementary School	300	47.8

Source: Terry A. Hayes Associates 2013.

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KEY MAP

LEGEND:

Marine Alignment

Underground Alignment

Noise Monitoring Locations

1. Multi-Family Residences on W. Channel Road
2. Canyon Charter Elementary School
3. Multi-Family Residences on 7th Street
4. Single-Family Residence on San Vicente Blvd
5. Montana Preschool
6. Brentwood Country Club Golf Course
7. Single-Family Residences on Gretna Green Way
8. Single-Family Residences on Homewood Road
9. Kenter Canyon Elementary School

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3.5.2 Methodology and Threshold of Significance

The following discussion describes the methodology used to assess noise impacts and defines the thresholds of significance.

No noise is expected to be generated by the operation of the proposed Project. Therefore, the noise and vibration analysis considers construction sources only. Noise levels associated with typical equipment were obtained from the Federal Highway Administration Roadway Construction Noise Model. This model predicts noise from construction operations based on a compilation of empirical data and the application of acoustical propagation formulas. Maximum equipment noise levels were adjusted based on anticipated percent of use. Example noise levels at various distances from the Project site were estimated by (1) making a distance adjustment to the construction source sound level and (2) logarithmically adding the adjusted construction noise source level to the ambient noise level. The methodology used for this analysis can be viewed in Sections 2.1.3.5 (Adding, Subtracting, and Averaging Sound Levels) and 2.1.4 (Sound Propagation) of the California Department of Transportation (Caltrans) Technical Noise Supplement (November 2009). Vibration levels generated by construction equipment were estimated using example vibration levels and propagation formulas provided by the FTA in the Transit Noise and Vibration Impact Assessment (May 2006) guidance. The methodology used for the analysis can be viewed in Section 12.2 (Construction Vibration Assessment) of the FTA guidance.

The general thresholds, derived from Appendix G of the State CEQA Guidelines, indicate that a project could have potentially significant impacts if it would:

a) Result in 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.
b) Result in the exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.
c) Result in the substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
d) Result in the substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would expose people residing or working in the project area to excessive noise levels.
f) For a project within the vicinity of a private airstrip, the project would expose people residing or working in the project area to excessive noise levels.

Noise

According to the L.A. CEQA Thresholds Guide (2006), a project may 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 L_{eq} 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 L_{eq} or more at a noise sensitive use; or
- Construction activities would exceed the ambient noise level by 5 dBA L_{eq} at a noise sensitive use between the hours of 9:00 p.m. and 7:00 a.m. Monday through Friday, before 8:00 am or after 6:00 p.m. on Saturday, or anytime on Sunday.

Construction activity would last for more than 10 days in a three month period. Therefore, a significant impact would occur within the City of Los Angeles when construction-related noise levels exceed

existing ambient exterior noise levels by more than 5 dBA Leq. As previously discussed within Regulatory Framework, the City of Santa Monica exempts construction activity from the SMCC Noise Ordinance when associated with installation, maintenance, repair or replacement of public infrastructure conducted by a public utility company subject to the restrictions for allowable construction times. Project construction activity would not occur outside the allowable hours stated in the SMCC of between 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. and 5:00 p.m. on Saturday. Because the proposed Project would be exempt from the SMCC Noise Ordinance, the City of Los Angeles threshold, as described above, has been used to assess impacts in the City of Santa Monica as well as the City of Los Angeles. This ensures that impacts are consistently identified and mitigated, when applicable, for the entire extent of the proposed Project.

Vibration

There are no federal, state, or local vibration regulations or guidelines directly applicable to the proposed construction activity. Although the proposed Project is not a transportation project, the FTA *Transit Noise and Vibration Impact Assessment* (May 2006) guidance includes relevant criteria for assessing vibration impacts from construction activity. Due to the short term nature of construction activity along the proposed alignment, the impact analysis focuses on potential building damage. According to the FTA guidance, a project may have a significant vibration impact if construction activities expose buildings to vibration levels that exceed the thresholds shown in Table 3.5-2.

TABLE 3.5-2 VIBRATION IMPACT CRITERIA

BUILDING CATEGORY		PPV (INCHES/SECOND)
I.	Reinforced-concrete, steel or timber (no plaster)	0.5
II.	Engineered concrete and masonry (no plaster)	0.3
III.	Non-engineered timber and masonry	0.2
IV.	Buildings extremely susceptible to vibration damage	0.12

Source: FTA 2006.

3.5.3 Best Management Practices

There are no applicable BMPs associated with the proposed Project for noise.

3.5.4 Impacts

a) The Project would result in exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

The proposed Project includes construction activity related to underground conduit and vault installation. The construction process would involve saw-cutting, pavement breaking, excavations and trenching. Multiple work crews would each work on an approximately 40-foot to 70-foot trench segment each day with up to three crews working simultaneously along the alignment in different locations. It is anticipated that construction activity would move fairly rapidly along the alignment, and receptors would be exposed to increased noise levels for a short duration.

Construction noise levels would fluctuate depending on the construction phase; equipment type and duration of use; distance between the noise source and receptor; and presence or absence of barriers. Construction activities would typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during construction are listed in Table 3.5-3. At 50 feet, a compactor typically generates a maximum noise level of 83.2 dBA and a back

hoe typically generates a maximum noise level of 77.6 dBA. The following analysis uses a compactor to represent maximum noise levels and back hoe to represent typical noise levels.

TABLE 3.5-3 NOISE LEVEL RANGES OF TYPICAL CONSTRUCTION EQUIPMENT

EQUIPMENT	SOUND LEVEL RANGE AT 15 FEET (dBA)	SOUND LEVEL RANGE AT 50 FEET (dBA)
Back Hoe	84.0	77.6
Crane	91.0	80.6
Compactor	93.7	83.2
Generator	91.1	80.6
Dump Truck	86.9	76.5
Directional Drill	89.6	79.1
Hydraulic Bore Machine	92.5	82.0

Source: Federal Highway Administration, Roadway Construction Noise Model, Version 1.1.

Table 3.5-4 shows projected maximum construction noise levels (e.g., compactor) associated with trenching along the alignment at different distances from the source. The majority of the alignment includes sensitive receptors along the roadway that would be adjacent to construction activity. Monitored noise levels at these land uses along the alignment ranged from 53.2 to 68.5 dBA L_{eq}, and construction noise levels could reach 93.7 dBA at 15 feet for short periods adjacent to the alignment. Instantaneous incremental increases in noise levels would range from approximately 25 to 41 dBA adjacent to the alignment and would exceed the 5-dBA significance threshold. More typically, general construction activity (e.g., equipment like a front loader) would generate less noise than the worst-case scenario presented above but would still exceed the ambient noise level by more than 5 dBA at sensitive receptors along the alignment. In addition, Kenter Canyon Elementary School is located approximately 300 feet from the alignment and it is anticipated that maximum instantaneous construction noise levels would be approximately 67.6 dBA; this would exceed the 47.8 dBA L_{eq} monitored noise level by 19.8 dBA L_{eq}.

TABLE 3.5-4 CONSTRUCTION NOISE LEVELS – UNMITIGATED

DISTANCE FROM CONSTRUCTION ACTIVITY (FEET)	MAXIMUM CONSTRUCTION NOISE LEVEL (dBA, Leq)	TYPICAL CONSTRUCTION NOISE LEVEL (dBA, Leq)	PIPE JACKING NOISE LEVEL (dBA, LEQ)	DIRECTIONAL DRILLING NOISE LEVEL (dBA, Leq)
15	93.7	88.1	92.5	89.5
50	83.2	77.6	82.0	79.0
100	77.2	71.6	76.0	73.0
200	71.2	65.6	70.0	67.0
400	65.1	59.5	63.9	60.9

Source: Federal Highway Administration, Roadway Construction Noise Model, Version 1.1 and Terry A. Hayes Associates Inc. 2013.

Pipe jacking would be used at two locations along West Channel Road between Rustic and Mesa Roads and directional drilling also would occur on West Channel Road. Based on the Federal Highway Administration Roadway Construction Noise Model, the maximum noise level is 82 dBA at 50 feet for a horizontal boring hydraulic jack and a similar 79 dBA for a directional drill, as shown in Table 3.5-4. However, since equipment used on construction sites often operates at less than full power, an acoustical usage factor is applied. The acoustical usage factor is a percentage of time that a particular piece of equipment is anticipated to be in full power operation during a typical construction day. The acoustical usage factor for a hydraulic jack is 25 percent, and the noise level for the hydraulic jack is typically 80 dBA at 50 feet.. The monitored existing noise level near the pipe jacking locations was 65.0 dBA L_{eq}. Residences located adjacent to the pipe jacking locations would experience noise levels of approximately 92.5 dBA at 15 feet, which would exceed the 5-dBA significance threshold.

Noise levels would diminish with distance from the alignment due to the natural attenuation of sound waves over distance and barriers between the source and receptor. For example, the first row of houses is

typically assumed to provide a 3-dBA reduction, with another 1.5-dBA reduction for each additional row of houses. Nonetheless, construction activity would incrementally increase noise levels by more than 5 dBA at multiple land uses along the alignment. Therefore, without mitigation, the proposed Project would result in a temporary significant noise impact related to construction activity, and Mitigation Measures NOI-1 through NOI-6 would be required.

The majority of vehicle noise generated on roadways is related to the generation of sound pressure waves as vehicles pass by the stationary receiver. Vehicles traveling at faster speeds generate larger sound pressure waves and more noise. Lane closures would reduce vehicle speeds and idling noise would not exceed the noise that would have been generated by vehicles traveling at regular speed. Therefore, the proposed Project would result in a less-than-significant noise impact from lane closures in relation to existing traffic.

Following installation of the cables, there would be no operational source of noise other than regular maintenance and testing, which would typically occur twice per year during daytime hours and would typically not involve the use of heavy equipment. Therefore, the proposed Project would not create new sources of noise, and no operational impact would occur.

b) The Project would not result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

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. Equipment used during construction would include compactors and other mobile equipment similar to small bulldozers. The construction process would not use a vibratory roller for compaction. A compactor typically generates a vibration level of 0.089 inch per second PPV at 50 feet. Likewise, soil drilling and boring apparatus typically generates a vibration level of 0.089 inch per second PPV at 50 feet. Table 3.5-5 presents typical vibration levels associated with this equipment from 10 to 150 feet. As discussed above, vibration is a function of the distance of the receiver from the vibration source (i.e., construction equipment). Vibration dissipates rapidly with distance (e.g., the vibration level at 15 feet is approximately half the vibration level at 10 feet).

TABLE 3.5-5 VIBRATION VELOCITIES FOR A COMPACTOR

DISTANCE FROM EQUIPMENT (FEET)	PEAK PARTICLE VELOCITY (INCHES PER SECOND)
10	0.352
15	0.191
20	0.124
25	0.089
50	0.031
75	0.017
100	0.011
125	0.008
150	0.006

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, May 2006.

At 15 feet, it is anticipated that vibration levels associated with trenching activity would be 0.191 inch per second PPV, which would be less than the 0.2 inch per second PPV significance threshold for non-engineered timber and masonry buildings (e.g., residences). Similarly, it is anticipated that at 21 feet, vibration levels would be 0.116 inch per second PPV, which would be less than the 0.12 inch per second PPV significance thresholds for buildings extremely susceptible to vibration damage (e.g., older structures). It is not anticipated that structures would be located within 21 feet of construction activity. Therefore, Project construction would not result in the generation of excessive groundborne vibration or groundborne noise levels.

Following installation of the cables, there would be no operational source of vibration other than regular maintenance and testing. Maintenance and testing activities would not utilize heavy-duty equipment and would not generate perceptible vibration. Therefore, the proposed Project would not create new sources of vibration, and no operational impact would occur.

c) The Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Long-term operation of the proposed Project would not include any above-ground operations, with the exception of periodic maintenance and testing. As discussed above, periodic maintenance operations for the land component would typically occur twice per year during daytime hours and would typically not involve the use of heavy equipment. Therefore, no impacts would occur related to a permanent operational activity.

d) The Project would result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

As described above, land uses near the proposed Project alignment would experience increased noise levels associated with construction. Construction noise impacts would be temporary in nature, but would exceed existing ambient exterior noise levels by 5 dBA or more at multiple locations as construction proceeds along the alignment. Therefore, without mitigation, the proposed Project would result in a significant noise impact related to temporary and periodic construction activity, and Mitigation Measures NOI-1 through NOI-6 are required.

e) The Project would not expose people residing or working in the Project area to excessive noise levels related to a public airport or public use airport.

The proposed Project alignment is located approximately three miles north of the Santa Monica Airport. The Project involves no occupied facilities and thus would not have the potential to expose people to excessive noise sources generated by flight operations at the airport. No impacts would occur.

f) The Project would not expose people residing or working in the Project area to excessive noise levels related to a private airstrip.

The proposed Project area is not within the vicinity of a private airstrip. No impacts would occur.

3.5.5 Cumulative Impacts

A majority of the cumulative projects would be approximately 0.25 mile or further from the proposed Project. There are a few projects that would be located in close proximity of alignment. Although projects may have overlapping construction periods, construction activity associated with the proposed Project would not be concentrated in one location, but would occur along various segments of the alignment. Therefore, noise and vibration generated from construction of the proposed Project would occur for a short time near related projects. Due to the transient and temporary nature of project-related construction and the varied timing of anticipated construction activity, significant cumulative noise impacts are not anticipated.

3.5.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

NOI-l: LADWP shall use construction equipment that is properly maintained and equipped with mufflers and other suitable noise attenuation devices.

NOI-2: LADWP shall turn off equipment when not in use for an excess of five minutes except for equipment that requires idling to maintain performance.

NOI-3: LADWP shall appoint a public liaison for project construction that will be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison shall determine the cause of the concern (e.g., starting too early, bad muffler) and implement measures to address the concern.

NOI-4: LADWP shall notify neighborhoods surrounding the construction in advance of the location and dates of construction hours and activities.

NOI-5: LADWP shall limit truck routes to major arterial roads within non-residential areas, as feasible.

NOI-6: LADWP shall coordinate with the site administrators for schools adjacent to the alignment to discuss construction activities that generate high noise levels. Coordination between the site administrator and LADWP shall continue on an as-needed basis to mitigate potential disruption of classroom activities.

Level of Significance After Mitigation

Mitigation Measures NOI-1 through NOI-6 are designed to mitigate the short-term construction impacts identified in a) and d) above. These mitigation measures would reduce construction noise levels at sensitive receptors. Mitigation Measure NOI-1 would reduce construction noise levels by approximately 3 dBA. Mitigation Measures NOI-2 through NOI-6, although difficult to quantify, would also reduce and/or control construction noise levels. Temporary noise barriers were considered for placement along the alignment. However, such barriers were determined to be infeasible for multiple reasons, including safety at intersections and cost effectiveness given the transient and short-term nature of the proposed construction activity in any one location.

Mitigated construction noise levels could reach 90.7 dBA for short periods adjacent to the alignment. Monitored noise levels ranged from 53.2 to 68.5 dBA L_{eq}, and this incremental increase would exceed the 5-dBA significance threshold. In addition, it is anticipated that mitigated construction noise levels would be approximately 64.6 dBA L_{eq} at Kenter Canyon Elementary School. This would exceed the 47.8 dBA L_{eq} monitored noise level by 16.8 dBA L_{eq}. Mitigated construction noise levels would exceed the 5-dBA significance threshold, and the proposed Project would result in a significant and unavoidable construction noise impact related to a) and d) above.

3.6 TRAFFIC AND TRANSPORTATION

The purpose of this section is to assess the impacts of proposed Project on the surrounding traffic and transportation system. The Traffic Technical Study (KOA Corporation, October 2013) analyzed potential traffic impacts at study roadway segments along the proposed Project alignment. The complete Traffic Study is included in Appendix G of this Draft EIR.

3.6.1 Existing Conditions

Regulatory Framework

Federal

Code of Federal Regulations (CFR), Title 49, Subtitle B

The CFR provides guidelines for regulations pertaining to interstate and intrastate transport (including hazardous materials program procedures) and provides safety measures for motor carriers and motor vehicles that operate on public highways.

State

California Vehicle Code (CVC)

The CVC includes regulation pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.

Local

Local jurisdictions have adopted policies and guidelines for approval of the Project and construction-period work plans.

City of Los Angeles Mayor's Directive #2 (2005)

Within the City of Los Angeles, the City of Los Angeles Mayor's Directive No. 2 formalizes the prohibition on rush hour construction by any City department or agency on major roads from 6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m. This includes both actual construction on city streets as well as the staging of equipment and materials. However, Directive No. 2 also contains exemptions to the rush hour prohibition for major public works projects that include traffic mitigation plans.

City of Santa Monica

Construction activities in the City of Santa Monica are permitted during the weekday from 7:00 a.m. to 6:00 p.m. and Saturday from 9:00 a.m. to 5:00 p.m. For equipment such as jackhammers, pile drivers, and pavement breakers, construction work hours are from 10:00 a.m. to 3:00 p.m. The City does allow construction outside of these normal permitted hours with the approval of an afterhours construction permit.

Level of Service Values

Measurements for the assessment of traffic operations are based on a ratio of average daily volume on a roadway segment or at an intersection versus the volume that is calculated to be the design capacity (volume to capacity, or V/C ratio). The efficiency of traffic operations at a location is measured in terms of Level of Service (LOS) related to V/C ratios. LOS measures average operating conditions during an hour; it is based on a V/C ratio or delay. LOS ranges from A to F, with A representing excellent (free-flow) conditions, and F representing extreme congestion. The delay on a street segment corresponds to a LOS value, which describes the segment operations. Roadway segments with vehicular volumes that are at or near capacity experience greater congestion and longer vehicle delays. Table 3.6-1 describes the general roadway operations for each LOS value, as defined within the 2000 *Highway Capacity Manual* (published by the Transportation Research Board).

Generally, the minimum acceptable LOS for any intersection or roadway segment in an urbanized area is LOS D. The affected study area jurisdictions all consider LOS D the minimum acceptable LOS. Therefore, LOS D serves as the minimum acceptable standard for the Project study area.

TABLE 3.6-1 DEFINITIONS OF LEVEL OF SERVICE FOR ROADWAY SEGMENTS

LEVEL OF SERVICE	FLOW CONDITIONS	VOLUME TO CAPACITY RATIO
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the arterial classification. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.	0.00-0.60
B	LOS B represents reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the arterial classification. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.	0.61-0.70

LEVEL OF SERVICE	FLOW CONDITIONS	VOLUME TO CAPACITY RATIO
C	LOS C represents stable operations; however, ability to maneuver and change lanes in mid-block locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average speeds of about 50 percent of the average free-flow speed for the arterial classification. Motorists will experience appreciable tension while driving.	0.71-0.80
D	LOS D borders on a range in which small increases in flow may cause a substantial increase in delay and hence decreases in arterial speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these factors. Average travel speeds are about 40 percent of free-flow speed.	0.81-0.90
E	LOS E is characterized by significant delays and average travel speeds of one-third the free-flow speed of less. Such operations are caused by some combination of adverse progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.	0.91-1.00
F	LOS F characterizes arterial flow at extremely low speeds below one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays and extensive queuing. Adverse progression is frequently a contributor to this condition.	Over 1.00

Environmental Setting

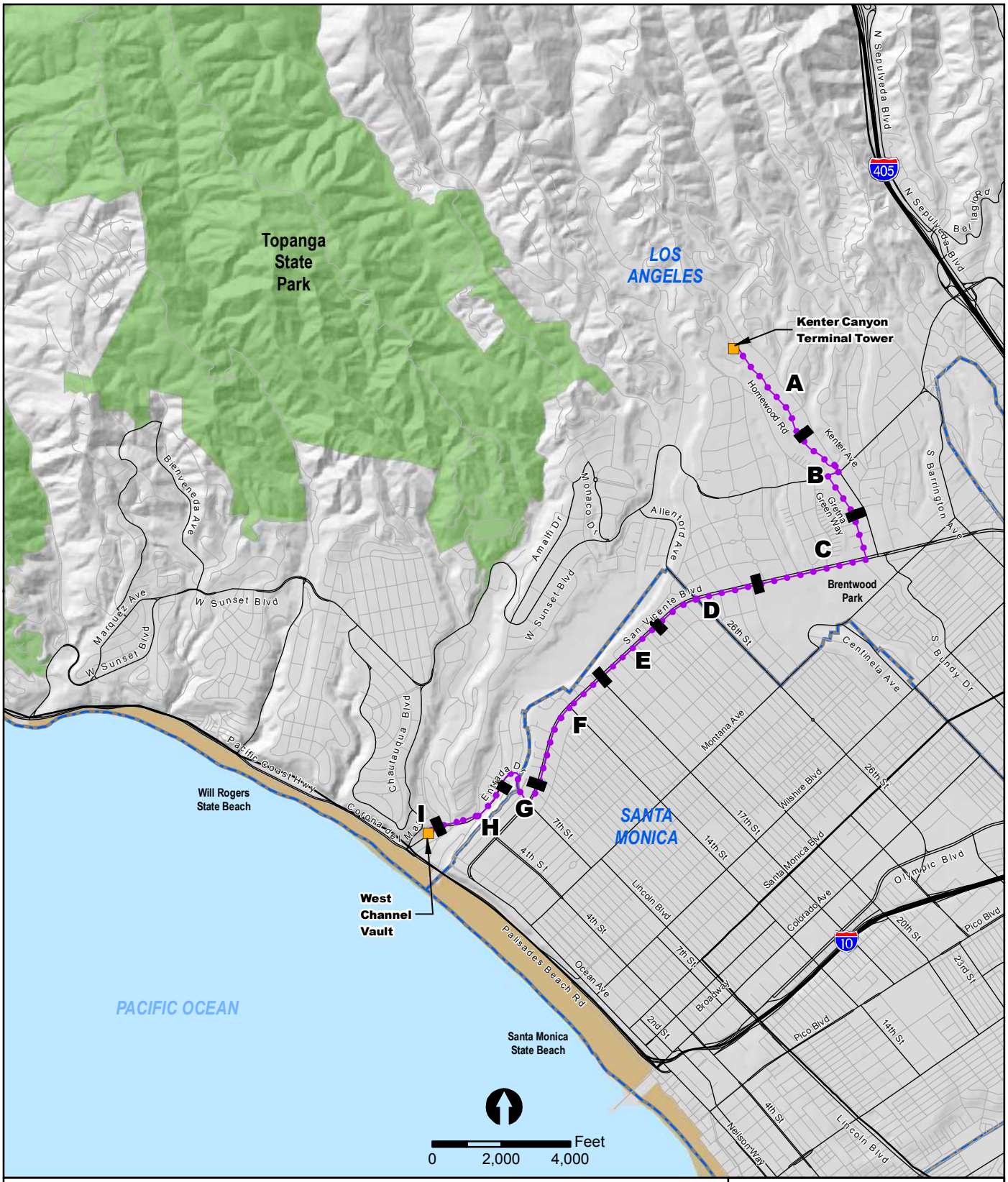
Roadway Network Characteristics

Table 3.6-2 identifies and describes the major roadways within the Project study area, including number of lanes, parking, and speed limit. Figure 3.6-1 provides a map of the roadway segments.

TABLE 3.6-2 ROADWAY CHARACTERISTICS FOR THE PROPOSED PROJECT

LOCATION ID	ROAD-WAY	LOCATION	# OF LANES	MEDIAN	PARKING	SPEED LIMIT (MPH)
A	Homewood Rd.	South of Elkins Rd.	2	Striped	Permitted	No Posting
B		South of Bonhill Rd.	2	Striped	Permitted	No Posting
C	Gretna Green Way	South of Shetland Ln.	2	Not Striped	Permitted	No Posting
D	San Vicente Blvd.	West of Bristol Ave.	4	Raised	Permitted	35
E		East of 21st Pl.	4	Raised	Permitted	35
F		East of 17th St.	4	Raised	Permitted	35
G		East of Lincoln Blvd.	3/4	Raised	Permitted	35
H	Entrada Dr.	West of Stassi Ln.	2	Striped	NB/SB: No Parking Any Time	25/30
I	West Channel Rd.	West of Short St.	3	TWLT	NB/SB: 1 hr, 8am-8pm	No Posting

Source: KOA 2013. (NB- Northbound; SB- Southbound; TWLT- Two-way left-turn lane).



Traffic

Traffic Volume Segment

Proposed Project

Proposed Alignment

PROPOSED PROJECT TRAFFIC SEGMENTS

SYLMAR GROUND RETURN
SYSTEM REPLACEMENT PROJECT

POWER ENGINEERS

LA DWP

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Transit Services

Transit services within the Project area are provided by the Los Angeles County Metropolitan Transportation Authority (Metro) and Santa Monica Big Blue Bus (Table 3.6-3).

TABLE 3.6-3 PROJECT AREA TRANSIT SERVICES

AGENCY	LINE	FROM	TO	VIA	PEAK FREQUENCY
Metro	2	Pacific Palisades	Downtown Los Angeles	Sunset Blvd.	6 to 10 Minutes
Metro	302	Pacific Palisades	Downtown Los Angeles	Sunset Blvd.	8 to 25 Minutes
Metro Express	534	Malibu	Culver City	Pacific Coast Highway / I-10 Freeway	12 to 30 Minutes
Santa Monica Big Blue Bus	BBB4	Santa Monica	West Los Angeles	Sawtelle Blvd. / San Vicente Blvd. / 4th Street	15 to 30 Minutes
Santa Monica Big Blue Bus	BBB9	Pacific Palisades	Santa Monica	Sunset Blvd. / Chautauqua Blvd. / 6th Court	7 to 30 Minutes

Source: KOA 2013.

Bicycle Network

The bicycle network within the Project area includes bike facilities that fall within the following three categories:

- Class I – is designated as a bicycle path that allows for two-way, off-street bicycle use.
- Class II – is designated as a bicycle lane where a portion of the roadway is striped, signed, and marked for the exclusive use of cyclists.
- Class III – is designated as a bicycle route where the roadway facilities are shared by motorists and cyclists.

San Vicente Boulevard provides striped bike lanes along the length of the roadway included in the proposed Project alignment.

Study Roadway Segment Operations Analysis

Existing (2013) Conditions

Average Daily Traffic (ADT) volumes were collected at multiple points for public roadways that are part of the proposed Project route. Traffic count locations were chosen based on the analyzed roadway corridors and their characteristics. Traffic counts utilized for base volumes at the study roadway segments on arterials and local roadways were conducted on Thursday, June 6, 2013, and Tuesday, June 18, 2013.

Table 3.6-4 provides the applied capacity limit, the existing number of travel lanes, daily traffic volumes, and associated LOS values for the nine analyzed roadway segments on the proposed Project route for daily LOS.

TABLE 3.6-4 EXISTING CONDITIONS – DAILY LOS

SEGMENT			EXISTING CONDITIONS				
			CAPACITY	# OF LANES	EXISTING		
					VOLUME	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	5,000	2	764	0.153	A
B	Homewood Rd.	south of Bonhill Rd.	5,000	2	1,034	0.207	A

SEGMENT			EXISTING CONDITIONS				
			CAPACITY	# OF LANES	EXISTING		
					VOLUME	V/C	LOS
C	Gretna Green Way	south of Shetland Ln.	5,000	2	2,061	0.412	A
D	San Vicente Blvd.	west of Bristol Ave.	30,000	4	34,221	1.141	F
E	San Vicente Blvd.	east of 21st Pl.	30,000	4	25,401	0.847	D
F	San Vicente Blvd.	east of 17th St.	30,000	4	22,524	0.751	C
G	San Vicente Blvd.	east of Lincoln Blvd.	22,500	3	20,201	0.898	D
H	Entrada Drive	west of Stassi Ln.	15,000	2	14,334	0.956	E
I	West Channel Rd.	west of Short St.	22,500	3	17,450	0.776	C

Source: KOA 2013

The daily level of service for two analyzed roadway segments is currently at poor values of E (nearing capacity) or F (at/exceeding capacity) based on the existing volumes and number of travel lanes of the roadway. These two roadway segments are as follows:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operates at LOS F
- Segment H (Entrada Drive, west of Stassi Lane) – Operates at LOS E

The existing roadway peak-hour level of service values are summarized in Table 3.6-5.

TABLE 3.6-5 EXISTING CONDITIONS – PEAK-HOUR LOS

SEGMENT			# OF LANES	CAPACITY	AM PEAK HOUR			PM PEAK HOUR		
					VOLUMES	V/C	LOS	VOLUMES	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	2	900	262	0.291	A	24	0.027	A
B	Homewood Rd.	south of Bonhill Rd.	2	900	150	0.167	A	58	0.064	A
C	Gretna Green Way	south of Shetland Ln.	2	900	141	0.157	A	176	0.196	A
D	San Vicente Blvd.	west of Bristol Ave.	4	2,500	2,601	1.040	F	2,398	0.959	E
E	San Vicente Blvd.	east of 21st Pl.	4	2,500	1,809	0.724	C	1,903	0.761	C
F	San Vicente Blvd.	east of 17th St.	4	2,500	1,505	0.602	B	1,776	0.710	C
G	San Vicente Blvd.	east of Lincoln Blvd.	3	1,575	1,454	0.923	E	1,658	1.053	F
H	Entrada Drive	west of Stassi Ln.	2	1,050	1,108	1.055	F	953	0.908	E
I	West Channel Rd.	west of Short St.	3	1,575	1,239	0.787	C	1,333	0.846	D

Source: KOA 2013

During the a.m. and p.m. peak hours, three roadway segments would operate at poor levels of service of E or F. Operations at the following analyzed roadway segments would operate at LOS E or F:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operates at LOS F during the a.m. peak hour and LOS E during the p.m. peak hour
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operates at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour
- Segment H (Entrada Drive, west of Stassi Lane) – Operates at LOS F during the a.m. and LOS E in the p.m. peak hour

Projected Future (2017) Conditions

As well as existing conditions, projected future conditions were utilized in the analysis of Project impacts. The future conditions analysis year was defined as the year 2017, because it would represent the latest year of Project construction, and therefore the analyzed volumes would have the highest amount of annual growth applied. In order to acknowledge regional traffic growth that would affect operations at the study roadway segments during this period, a traffic growth rate was applied along with applicable area/cumulative projects within the study area. Existing traffic volumes were factored upward by a 0.28 percent annual growth rate in order to increase year-2013 volumes to future baseline year-2017 conditions. The growth rate was based on the 2010 Los Angeles County Congestion Management Program (CMP). These rates are determined by regional statistical areas (RSA), with the study area segments being located in RSA 16 (Santa Monica, Bel Air, Palisades, and Marina Del Rey).

Area projects in the City of Los Angeles (in the communities of Brentwood, Pacific Palisades, and West Los Angeles) and the City of Santa Monica were reviewed to determine relevant projects for analysis as part of the future without Project conditions.

Table 3.6-6 provides the applied capacity limit, the existing number of travel lanes, daily traffic volumes, and associated LOS values for the nine analyzed roadway segments on the proposed Project route for daily traffic.

TABLE 3.6-6 FUTURE WITHOUT-PROJECT CONDITIONS – DAILY LOS

SEGMENT			FUTURE CONDITIONS							
			CAPACITY	# OF LANES	AMBIENT GROWTH	AREA PROJECTS VOLUMES	EXISTING VOLUMES	FUTURE		
								VOLUME	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	5,000	2	1.12%	0	764	773	0.155	A
B	Homewood Rd.	south of Bonhill Rd.	5,000	2	1.12%	0	1,034	1,046	0.209	A
C	Gretna Green Way	south of Shetland Ln.	5,000	2	1.12%	0	2,061	2,084	0.417	A
D	San Vicente Blvd.	west of Bristol Ave.	30,000	4	1.12%	272	34,221	34,876	1.163	F
E	San Vicente Blvd.	east of 21st Place	30,000	4	1.12%	0	25,401	25,685	0.856	D
F	San Vicente Blvd.	east of 17th St.	30,000	4	1.12%	0	22,524	22,776	0.759	C

SEGMENT			FUTURE CONDITIONS							
			CAPACITY	# OF LANES	AMBIENT GROWTH	AREA PROJECTS VOLUMES	EXISTING VOLUMES	FUTURE		
								VOLUME	V/C	LOS
G	San Vicente Blvd.	east of Lincoln Blvd.	22,500	3	1.12%	0	20,201	20,427	0.908	E
H	Entrada Dr.	west of Stassi Ln.	15,000	2	1.12%	356	14,334	14,851	0.990	E
I	West Channel Rd.	west of Short St.	22,500	3	1.12%	356	17,450	18,001	0.800	D

Source: KOA 2013

The daily level of service for three analyzed roadway segments would worsen to or within poor LOS values of E or F, with ambient traffic growth through the year 2017 and the addition of trips generated by area projects:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen to LOS E
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen within LOS E

Table 3.6-7 provides the future (2017) Without-Project construction peak hour conditions analysis for the proposed Project.

TABLE 3.6-7 FUTURE WITHOUT-PROJECT CONDITIONS – PEAK HOUR LOS

SEGMENT			# OF LANES	CAPACITY	AM PEAK HOUR			PM PEAK HOUR		
					VOLUMES	V/C	LOS	VOLUMES	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	2	900	265	0.294	A	24	0.027	A
B	Homewood Rd.	south of Bonhill Rd.	2	900	152	0.169	A	59	0.065	A
C	Gretna Green Way	south of Shetland Lane	2	900	143	0.158	A	178	0.198	A
D	San Vicente Blvd.	west of Bristol Avenue	4	2,500	2,643	1.057	F	2,456	0.982	E
E	San Vicente Blvd.	east of 21st Place	4	2,500	1,829	0.732	C	1,924	0.770	C
F	San Vicente Blvd.	east of 17th St.	4	2,500	1,522	0.609	B	1,796	0.718	C
G	San Vicente Blvd.	east of Lincoln Blvd.	3	1,575	1,470	0.934	E	1,677	1.064	F

SEGMENT			# OF LANES	CAPACITY	AM PEAK HOUR			PM PEAK HOUR		
					VOLUMES	V/C	LOS	VOLUMES	V/C	LOS
H	Entrada Drive	west of Stassi	2	1,050	1,137	1.083	F	994	0.946	E
I	West Channel	west of Short St.	3	1,575	1,270	0.806	D	1,378	0.875	D

Source: KOA 2013

The peak-hour level of service for three analyzed roadway segments would worsen within poor LOS values of E or F with ambient traffic growth through the year 2017 and the addition of trips generated by area projects:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F in the a.m. peak hour and would worsen within LOS E in the p.m. peak hour
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen within LOS E in the a.m. peak hour and within LOS F in the p.m. peak hour
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen within LOS F in the a.m. peak hour and within LOS E in the p.m. peak hour

3.6.2 Methodology and Threshold of Significance

Methodology

Traffic and Level of Service

The existing plus Project scenario analyzed Project construction effects on roadway capacity without future-period traffic growth but with the anticipated lane closures necessary during construction. The existing roadway segment counts were conducted in year 2013, and the analyzed volumes were not reduced from the year-2013 counts in order to provide a conservative analysis of existing conditions. The future with Project conditions scenario analyzes the future roadway conditions under year 2017 conditions with the anticipated lane closures necessary during construction.

The construction of the Project will constrict roadway capacity in affected segments; therefore, the discussion was concentrated on the capacity that can be provided during construction. The construction assumptions indicate that the establishment of typical work areas would generally necessitate the closure of one travel lane, with potential restrictions on parking where necessary. However, vault installation would necessitate the closure of two travel lanes during the two to three days of the five day vault installation period.

The impact analysis was based on roadway flow during construction and the application of V/C calculations. Of particular concern were study locations that would worsen in operations to or within LOS values of E or F. These two values represent poor operating conditions, and significant impacts were defined by worsening of operations within or to these values. The project would not have the typical incremental impact of a development project or other trip-generating activity where incremental impact thresholds could be applied, since there would be no increased traffic or continued lane closures after completion of construction.

For the purposes of impact determination, it is assumed that in order to complete the replacement of the electrode on schedule and to minimize the duration of construction in any one segment of the alignment, LADWP would seek a waiver from the City of Los Angeles Mayor's Directive No. 2 restricting in-road construction activities during peak hours. If the variance is obtained, typical construction hours in the City of Los Angeles would be Monday through Friday from 7:00 a.m. to 5:00 p.m., and Saturday from 8:00 a.m. to 6:00 p.m. Since such waivers will be sought, this assumption provides the most conservative

approach to traffic impact analysis because it would create the highest level of impact during peak periods of traffic. The City of Santa Monica limits construction hours on weekdays to 7:00 a.m. to 6:00 p.m. and on Saturdays to 9:00 a.m. to 5:00 p.m.; these construction hours would be adhered to in the City of Santa Monica.

Final construction closure plans will need to be reviewed and approved by City of Los Angeles and the City of Santa Monica, dependent on the location of each Project roadway segment. Encroachment permits will be required by all local jurisdictions that lie within the Project study area for the construction activities associated with the Project.

Truck and Vehicle Trips

The generation of employee vehicle trips as part of daily commutes to and from the construction work areas and/or laydown and parking sites, and construction hauling/delivery trips was not defined for this analysis. These are expected to be minimal for the type of construction work required for the proposed Project.

Construction related truck trips would mainly be associated with the delivery of the marine electrode components. The approximately 88 individual box components of the marine electrodes would be manufactured at an existing onshore facility in the City of Fontana. Each box would be transported as an oversized load during overnight hours from the source of manufacture via truck to the Port of Los Angeles. From the Port, the pieces would be put on a barge for delivery to the marine electrode array site.

Each delivery would necessitate an oversize truck movement; however, the truck movements associated with the delivery of these boxes would take place infrequently as the pieces are manufactured. Oversize load permits would need to be obtained from Caltrans (for movements on area freeways), and with the City of Los Angeles (for movements on roadways to/from and within the Port area). Additional permits may be necessary at the point of origin of these movements within the City of Fontana.

Thresholds of Significance

The general thresholds, derived from Appendix G of the State CEQA Guidelines, indicate that a project could have potentially significant impacts if it would:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
e) Result in inadequate emergency access or impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Traffic impacts are identified if a proposed development will result in a significant change in traffic conditions of the roadway segment. A significant impact is typically identified if project-related traffic will cause service levels to deteriorate to below an acceptable LOS. Impacts can also be significant if a

facility is already operating below the acceptable LOS and project traffic will cause a further decline below a threshold. Where a roadway segment was forecasted to operate at LOS E (nearing capacity) or LOS F (at or over capacity), and Project construction activities would cause or worsen this condition, it was considered significant since it implies that major congestion could be created by Project construction if not mitigated.

The significant traffic impact thresholds of the City of Los Angeles and the City of Santa Monica are provided in the Traffic Report, located in Appendix G of this Draft EIR. These guidelines are developed for the purpose of determining how trips generated by proposed development projects would incrementally impact roadway facilities. As mentioned above, the number of construction trips generated by employees and truck delivery/hauling trips would to be negligible for purposes of impact analysis. Instead, the temporary reductions in travel lanes that would be caused by construction of the proposed Project would cause changes in volume-to-capacity ratios and LOS values that are not related to development-based guidelines.

3.6.3 Best Management Practices

The following BMPs would apply to Project construction in order to provide safe movement of traffic within the areas of reduced capacity once construction activities are underway:

BMP-8 Traffic Control Plan

Prior to construction, construction traffic control plans will be prepared for review and approval by the LADOT and the City of Santa Monica. The plan will include, at a minimum, signage within the proposed Project corridor in advance of the start of construction, warning of potential delays once construction starts. The plan should include signage to alert motorists to temporary or limited access points to adjacent properties; appropriate barricades for road closures; construction speed limit signage along the haul route; and parking restrictions during construction. LADWP shall notify neighborhoods surrounding the construction in advance of the location and dates of construction hours and activities.

BMP-9 Detour Plan

Detour plans will be developed, including identification of wayfinding signage locations, to encourage traffic diversions for through traffic to multiple parallel routes to San Vicente Boulevard.

BMP-10 Traffic Specifications

Traffic will be controlled during construction by adhering to the guidelines contained in Standard Specifications for Public Works Construction and Caltrans' Traffic Manual, Chapter 5, "Manual of Traffic Controls for Construction and Maintenance Work Zones" and applicable City requirements.

3.6.4 Impacts

a) The Project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

b) The Project would conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

The discussion below references both questions a) and b) from above.

Construction Road Segment Analysis

The daily LOS for the existing conditions plus Project are summarized in Table 3.6-8, and the a.m. peak and p.m. peak period LOS for the existing conditions plus Project are summarized in Table 3.6-9.

TABLE 3.6-8 CONSTRUCTION ROAD SEGMENT ANALYSIS – EXISTING PLUS PROJECT DAILY LOS

SEGMENT			EXISTING WITH PROJECT CONDITIONS				
			CAPACITY	# OF LANES	VOLUME	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	1,250	1	764	0.611	B
B	Homewood Rd.	south of Bonhill Rd.	1,250	1	1,034	0.827	D
C	Gretna Green Way	south of Shetland Ln.	1,250	1	2,061	1.649	F
D	San Vicente Blvd.	west of Bristol Ave.	22,500	3	34,221	1.521	F
E	San Vicente Blvd.	east of 21st Pl.	22,500	3	25,401	1.129	F
F	San Vicente Blvd.	east of 17th St.	22,500	3	22,524	1.001	F
G	San Vicente Blvd.	east of Lincoln Blvd.	15,000	2	20,201	1.347	F
H	Entrada Dr.	west of Stassi Ln.	3,750	1	14,334	3.822	F
I	West Channel Rd.	west of Short St.	15,000	2	17,450	1.163	F

Source: KOA 2013.

The daily LOS for seven analyzed roadway segments would worsen to or within poor LOS values of E or F, for existing plus Project construction conditions:

- Segment C (Gretna Green Way, south of Shetland Lane) – Operations would worsen to LOS F
- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F
- Segment E (San Vicente Boulevard, east of 21st Place) – Operations would worsen to LOS F
- Segment E (San Vicente Boulevard, east of 17th Street) – Operations would worsen to LOS F
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen to LOS F
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen to LOS F
- Segment I (West Channel Road, west of Short Street) – Operations would worsen to LOS F

TABLE 3.6-9 CONSTRUCTION ROAD SEGMENT ANALYSIS – EXISTING PLUS PROJECT PEAK HOUR LOS

SEGMENT			AM PEAK HOUR					PM PEAK HOUR				
			# OF LANES	CAPACITY	VOLUMES	V/C	LOS	# OF LANES	CAPACITY	VOLUMES	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	1	450	262	0.582	A	1	450	24	0.053	A
B	Homewood Rd.	south of Bonhill Rd.	1	450	150	0.333	A	1	450	58	0.129	A
C	Gretna Green Way	south of Shetland Ln.	1	450	141	0.313	A	1	450	176	0.391	A
D	San Vicente Blvd.	west of Bristol Ave.	3	1,575	2,601	1.651	F	3	1,575	2,398	1.523	F
E	San Vicente Blvd.	east of 21st Place	3	1,575	1,809	1.149	F	3	1,575	1,903	1.208	F
F	San Vicente Blvd.	east of 17th St.	3	1,575	1,505	0.956	E	3	1,575	1,776	1.128	F
G	San Vicente Blvd.	east of Lincoln Blvd.	2	1,050	1,454	1.385	F	2	1,050	1,658	1.579	F
H	Entrada Drive	west of Stassi Ln.	1	525	1,108	2.110	F	1	525	953	1.815	F
I	West Channel Rd.	west of Short St.	2	1,050	1,239	1.180	F	2	1,050	1,333	1.270	F

Source: KOA 2013

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The peak-hour LOS of service for six analyzed roadway segments would worsen to or within poor LOS values of E or F, for existing plus Project construction conditions:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F in the a.m. peak hour and would worsen to LOS F in the p.m. peak hour
- Segment E (San Vicente Boulevard, east of 21st Place) – Operations would worsen to LOS F in the a.m. and p.m. peak hours
- Segment F (San Vicente Boulevard, east of 17th Street) – Operations would worsen to LOS E in the a.m. peak hour and LOS F in the p.m. peak hour
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen to LOS F in the a.m. peak hour and within LOS F in the p.m. peak hour
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen within LOS F in the a.m. peak hour and to LOS F in the p.m. peak hour
- Segment I (West Channel Road, west of Short Street) – Operations would worsen to LOS F in the a.m. and p.m. peak hours

The daily LOS for the future conditions plus Project are summarized in Table 3.6-10, and the a.m. peak and p.m. peak period LOS for the future conditions plus Project are summarized in Table 3.6-11.

TABLE 3.6-10 CONSTRUCTION ROAD SEGMENT ANALYSIS – FUTURE PLUS PROJECT DAILY LOS

SEGMENT			FUTURE WITH PROJECT CONDITIONS				
			CAPACITY	# OF LANES	VOLUME	V/C	LOS
A	Homewood Rd.	south of Elkins Rd.	1,250	1	773	0.618	B
B	Homewood Rd.	south of Bonhill Rd.	1,250	1	1,046	0.836	D
C	Gretna Green Way	south of Shetland Ln.	1,250	1	2,084	1.667	F
D	San Vicente Blvd.	west of Bristol Ave.	22,500	3	34,876	1.550	F
E	San Vicente Blvd.	east of 21st Pl.	22,500	3	25,685	1.142	F
F	San Vicente Blvd.	east of 17th St.	22,500	3	22,776	1.012	F
G	San Vicente Blvd.	east of Lincoln Blvd.	15,000	2	20,427	1.362	F
H	Entrada Drive	west of Stassi Ln.	3,750	1	14,851	3.960	F
I	West Channel Rd.	west of Short St.	15,000	2	18,001	1.200	F

Source: KOA 2013

The daily LOS for seven analyzed roadway segments would worsen to or within poor LOS values of E or F, for future plus Project construction conditions:

- Segment C (Gretna Green Way, south of Shetland Lane) – Operations would worsen to LOS F
- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F
- Segment E (San Vicente Boulevard, east of 21st Place) – Operations would worsen to LOS F
- Segment F (San Vicente Boulevard, east of 17th Street) – Operations would worsen to LOS F
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen to LOS F
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen to LOS F
- Segment I (West Channel Road, west of Short Street) – Operations would worsen to LOS F

TABLE 3.6-11 CONSTRUCTION ROAD SEGMENT ANALYSIS – FUTURE PLUS PROJECT PEAK HOUR LOS

SEGMENT			AM PEAK HOUR					PM PEAK HOUR				
			# OF LANES	CAPACITY	VOLUMES	V/C	LOS	# OF LANES	CAPACITY	VOLUMES	V/C	LOS
A	Homewood Rd	south of Elkins Rd	1	450	265	0.589	A	1	450	24	0.054	A
B	Homewood Rd	south of Bonhill Rd	1	450	152	0.337	A	1	450	59	0.130	A
C	Gretna Green Way	south of Shetland Ln.	1	450	143	0.317	A	1	450	178	0.395	A
D	San Vicente Blvd.	west of Bristol Ave.	3	1,575	2,643	1.678	F	3	1,575	2,456	1.559	F
E	San Vicente Blvd.	east of 21st Pl.	3	1,575	1,829	1.161	F	3	1,575	1,924	1.222	F
F	San Vicente Blvd.	east of 17th St.	3	1,575	1,522	0.966	E	3	1,575	1,796	1.140	F
G	San Vicente Blvd.	east of Lincoln Blvd.	2	1,050	1,470	1.400	F	2	1,050	1,677	1.597	F
H	Entrada Drive	west of Stassi Ln.	1	525	1,137	2.166	F	1	525	994	1.893	F
I	West Channel Rd	west of Short St.	2	1,050	1,270	1.209	F	2	1,050	1,378	1.312	F

Source: KOA 2013.

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The peak-hour LOS for six analyzed roadway segments would worsen to or within poor LOS values of E or F, for future plus Project construction conditions:

- Segment D (San Vicente Boulevard, west of Bristol Avenue) – Operations would worsen within LOS F in the a.m. peak hour and would worsen to LOS F in the p.m. peak hour
- Segment E (San Vicente Boulevard, east of 21st Place) – Operations would worsen to LOS F in the a.m. and p.m. peak hours
- Segment F (San Vicente Boulevard, east of 17th Street) – Operations would worsen to LOS E in the a.m. peak hour and to LOS F in the p.m. peak hour
- Segment G (San Vicente Boulevard, east of Lincoln Boulevard) – Operations would worsen to LOS F in the a.m. peak hour and worsen within LOS F in the p.m. peak hour
- Segment H (Entrada Drive, west of Stassi Lane) – Operations would worsen within LOS F in the a.m. peak hour and to LOS F in the p.m. peak hours
- Segment I (West Channel Road, west of Short Street) – Operations would worsen to LOS F in the a.m. and p.m. peak hours

Capacity would be constricted, in some form, along each Project roadway segment during construction, with some sections worsen to or within LOS E and F. BMP-8, Traffic Control Plan, BMP-9, Detour Plan, and BMP-10, Traffic Specifications, would be implemented to minimize construction effects on traffic flow. Even with the implementation of the BMPs listed above, impacts to traffic would be significant.

At the conclusion of Project construction, all associated roadway facilities would be restored to their normal operating conditions. Pre-Project conditions would be restored. The Project does not require personnel to operate the system on a daily basis. Routine maintenance testing may be required, as with any utility infrastructure, but during typical operations there would not be any roadway closures or any new trips generated. Significant impacts would therefore not be created during the operational phase of the Project.

c) The Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

The Project would not impact air traffic patterns since the Project consists of construction activities associated with underground cables and vaults; no impact would occur.

d) The Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The construction of the Project would be designed to not increase hazards and create incompatible uses. The construction traffic control plans (BMP-9) would be designed with standard safety measures and would provide for safe passage or detouring, as necessary, of vehicles, transit services, bicyclists, and pedestrians. Intersection control measures (BMP-10) would be established through these plans to adequately control traffic, and construction zone maximum traffic speeds would be established. Therefore, impacts would be less than significant.

e) The Project would not result in inadequate emergency access or impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles or with the physical implementation of an adopted emergency response or evacuation plan. The loss of a lane and the resulting increase in congestion could lengthen the

response time required for emergency or evacuation vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone. However, BMP-8, Traffic Control Plan, BMP-9, Detour Plan, and BMP-10, Traffic Specifications, would be implemented to minimize construction effects on traffic flow. The construction work zones would be established within finite areas, and the balance of the corridor would remain open and unrestricted by construction. LADWP will notify public safety departments of the City of Los Angeles and the City of Santa Monica before construction begins within the project corridor, so that alternate access routes could be used as needed. Therefore, impacts would be less than significant.

f) The Project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Potential Transit Line Impacts

The design of traffic plans would be performed in consultation with local transit agencies to minimize impacts to passenger loading areas and to minimize travel times on scheduled transit routes. All affected transit agencies (such as Metro, LADOT, and the City of Santa Monica) shall be contacted to provide for any required modifications or temporary relocation of bus stops.

One area public bus transit line would be affected by construction within the proposed Project corridor. The Santa Monica Big Blue Bus Line 4 operates as a local bus route that provides services within the communities of West Los Angeles and Santa Monica. Within the study area, this line travels from the Westside Pavilion to the Santa Monica Civic Center through the Project area via San Vicente Boulevard, Carlyle Avenue, and 4th Street. Service on San Vicente Boulevard within the Project route is limited to eastbound service to the east of 26th Street. This service operates at an approximate frequency of 30 minutes during weekday peak periods. Provision of temporary stops and access for riders, where necessary based on construction closures, shall be included in traffic control plans.

Bus stops for Line 4 may need to be temporarily moved forward or back during the course of construction. With constricted roadway width during construction, bus stops may need to be accommodated within travel lanes. Stop closure signs would be provided by the transit operator, with proper noticing by LADWP before construction work areas are established. With the implementation of the above mentioned BMPs and pre-planning to facilitate use of transit and accommodating passage of transit vehicles through the work zones, the impact to transit would be less than significant.

Potential Bicycle Facility Impacts

Striped bicycle lanes present within the San Vicente Boulevard corridor would need to be considered during the construction planning process. If the lanes cannot be provided during the construction period, advance-warning detour signs (BMP-9) for bicyclists would be provided, to route bicyclists onto parallel local roadways. As construction activities are completed within each segment and work area barriers are removed, the routes would be restored and detours would be removed.

Potential Pedestrian Network Impacts

Sidewalks will not likely be affected by the construction work areas and should remain open in most areas during the Project construction activities. Where sidewalks must be closed due to the establishment of construction work areas or logistical needs such as laydown area access or truck movement routes, pedestrian detour signs (BMP-9) would be provided at the next safe crossing points – existing intersection or mid-block crosswalk – to route pedestrians to an open sidewalk route.

3.6.5 Cumulative Impacts

Trips that would be generated by the cumulative projects were defined by environmental documentation maintained by the City of Los Angeles as part of the Los Angeles Department of Transportation (LADOT) clearinghouse function and by development project updated provided on the City of Santa Monica Planning Department website.

Where only project intensity information was provided by the local jurisdiction, trip generation was calculated through the application of rates defined by *Trip Generation (9th edition)*, published by the Institute of Transportation Engineers. Trip distribution to the study area was defined by the distance of each area project from the proposed Project corridor, as well as regional travel routes. Projects at a high distance from the Project corridor had minimal volumes applied to the analysis.

Based on the application of ambient growth rates and trips generated by area projects, area future baseline conditions for the study roadway segments were computed. Therefore, the traffic impact analysis discussed above is inherently cumulative in its nature. However, impacts related to Project construction activities would be temporary in nature, and there would be no long-term impacts related to Project operations.

3.6.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

Based on the assumption that variances to the Mayors Directive No. 2 within the City of Los Angeles on peak-period construction and approval from the City of Santa Monica for afterhours construction would also be sought and granted in order to reduce overall construction duration to meet the necessary project schedule, no mitigation is feasible that could reduce potential impacts to less than significant.

Level of Significance After Mitigation

The identified BMPs would not eliminate the temporary significant impacts identified during project construction. However, localized impacts would be removed as construction progresses along the corridor, and all impacts would be eliminated when all corridor construction activities are completed.

Daily LOS impacts cannot be avoided during the construction period. Where feasible, temporarily re-opening construction work areas to vehicular traffic during peak travel times from 6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m. could avoid peak-hour impacts. However, in order to reduce overall construction duration to meet the necessary project schedule, variances to the Mayors Directive No. 2 within the City of Los Angeles on peak-period construction would be sought. Therefore, avoidance of peak period construction does not represent a feasible mitigation measure. If the variances and approval for after hours construction are not granted, then significant impacts during peak-hours would be avoided but significant Daily LOS impacts would remain.

Specific work zone extents would be established by LADWP as Project construction progresses along the Project corridor. Not all of the significant impacts would occur at the same time, and once segments are completed and work zones are removed and established in other areas, the designed roadway capacity in a given segment would be restored. There would be no long-term impacts to traffic after Project construction is complete.

Because there are no feasible mitigation measures to reduce the temporary impacts to traffic related to Project construction, these impacts would be significant and unavoidable.

3.7 MARINE RESOURCES

3.7.1 Existing Conditions

Environmental Setting

Santa Monica Bay is a large, open-water embayment of the Pacific Ocean that is bordered on the north by rocky headlands at Point Dume and on the south by the headlands on the Palos Verdes Peninsula. Santa Monica Bay extends seaward a distance of approximately 11 miles from the Santa Monica shoreline. Water depths within the Bay range up to approximately 300 feet along the nearshore continental shelf that extends from the shoreline to an offshore distance of approximately four miles. As the continental shelf ends, becoming the continental slope and eventually the Santa Monica Basin, water depths within the Bay increase to over 2,500 feet.

Nearshore habitats within the marine Project area range from sandy beach and rocky intertidal areas along the shoreline to soft bottom habitat interspersed with seagrass beds and small rocky reefs in the nearshore subtidal zone. Further offshore, soft bottom and open ocean habitats predominate, with only a small percentage of rocky reef. Kelp forest habitat within Santa Monica Bay is primarily located in the shallow subtidal zone around Malibu and Palos Verdes. Large kelp beds are not found within the proposed Project alignment, although small kelp stands may be present.

The pelagic habitat, which is the largest habitat within the Bay, is a highly productive offshore region of open ocean that supports nearly all of the Bay's marine life. The vast majority of the phytoplankton, which is the basis for the Bay's marine food web, is primarily grown in the pelagic habitat. As a result of the Bay's diverse bathymetry, abundant nutrients, and wide range of habitats, it is considered to be a highly productive biological environment used by both migratory and resident species of marine mammals, fish, birds, and invertebrates.

Sensitive Species

Santa Monica Bay is home to sensitive and special status marine species ranging from marine mammals and sea turtles to marine birds, mollusks, and bony and cartilaginous fishes. Although some of these species may only rarely enter Santa Monica Bay, others spend a significant portion of their lives within the Bay's diverse marine habitats.

Marine Mammals

Over 40 different species of marine mammals are known to occur within the Southern California Bight (from Point Conception to the U.S.-Mexican border), including cetaceans (whales, dolphins, and porpoise), pinnipeds (seals and sea lions), and sea otters. Of these, five cetacean species that may be expected to occur within the nearshore waters of the Project area are listed as federally endangered under the ESA. These include the blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), sei whale (*Balaenoptera borealis*), and sperm whale (*Physeter macrocephalus*).

Seven cetacean species are commonly observed in nearshore waters in significant numbers and are likely to occur in the Project area either seasonally or on a year-round basis. These species include bottlenose dolphin, short-beaked common dolphin, Risso's dolphin, Dall's porpoise, Pacific white-sided dolphin, long-beaked common dolphin, and gray whale. Each of the dolphin and porpoise species live in the region year-round, while a significant portion of the gray whale population migrates through the area from December through April. Blue whales, fin whales, humpback whales, killer whales, and northern right whale dolphins have the possibility of entering the Project area. Blue whales and fin whales are typically observed further offshore than the Project area, but are known to feed close to shore during times when krill or bait fish are abundant. Similarly, killer whales are occasionally observed in this area during winter months as they hunt gray whale calves during the gray whale migration to and from Mexican breeding

grounds. Northern right whale dolphins and humpback whales are also periodically observed in nearshore waters but generally prefer to frequent deeper offshore locations. Other cetacean species are less likely to occur within the Project area due to their limited population size in Southern California, their preference for deeper offshore waters, or because Santa Monica Bay is considered to be outside of their existing range.

Three species of pinnipeds are abundant in nearshore waters of Southern California and are likely to occur in the Project area: harbor seals (*Phoca vitulina*), California sea lions (*Zalophus californianus*), and northern elephant seals (*Mirounga angustirostris*). One fissiped species, the southern sea otter (*Enhydra lutris*), is typically found in nearshore waters north of Point Conception. California sea lions, northern elephant seals, and harbor seals each maintain breeding colonies in the offshore Channel Islands.

Sea Turtles

Four of the five species of sea turtles that have been observed along the west coast of the United States have the potential to occur within the Project area. Olive Ridley (*Lepidochelys olivacea),* green (*Chelonia mydas*), and loggerhead (*Caretta Caretta*) sea turtles are listed as federally threatened species, while the leatherback sea turtle (*Dermochelys coriacea*) is listed as a federally endangered species. Each of these species have been observed along the coast of Southern California, however, there are no known nesting sites on the west coast of the United States for any of them.

Fish

Santa Monica Bay has a rich diversity of migratory and resident species of fish. Fish are generally divided into two major groups based on whether they have a bony skeleton (Class Osteichthyes) or an internal support structure comprised of cartilage (Class Chondrichthyes). The dominant pelagic bony fish species in Santa Monica Bay are:

- Pacific (Chub) mackerel (*Scomber japonicas*);
- Jack mackerel (*Trachurus symmetricus*);
- Northern anchovy (*Engraulis mordax*); and
- Pacific sardine (*Sardinops sagax caerulea*).

The dominant cartilaginous fish in Santa Monica Bay tend to be sharks. Sharks species found in the Bay and common to the region include:

- Basking sharks (*Cetorhinus maximus*);
- Blue sharks (*Prionace glauca*);
- Gray Smoothhound sharks (*Mustelus californicus*);
- Great white sharks (*Carcharodon carcharias*);
- Leopard sharks (*Triakis seimfasciata);*
- Mako sharks (*Isurus oxyrinchus*); and
- Thresher sharks (*Alopias vulpinus*).

The extensive soft-bottom habitat within Santa Monica Bay supports an abundant and diverse assemblage of over 100 species of demersal fish. Soft-bottom species derive much of their food from benthic infauna. Flatfish, rockfish, sculpins, combfishes, and eelpouts make up the majority of the soft-bottom fish found in the Bay. The number of fish species, abundance, and biomass generally increase with water depth. Nearshore areas usually support a high abundance of species such as flatfish, surfperch, and croakers. Middle and outer shelf species include numerous kinds of flatfish, sculpin, and rockfish.

Several species of fish are prohibited to target, catch, or possess according to CDFW regulations. These species include the giant black sea bass (*Stereolepis gigas*), white shark (*Carcharodon carcharias*),

steelhead (*Oncorhynchus mykiss*), broomtail grouper (*Mycteroperca xenarcha*), Garibaldi (*Hypsypops rubicundus*), silver salmon (*Oncorhynchus kisutch*), bronzespotted rockfish (*Sebastes gilli*), canary rockfish (*Sebastes pinniger*), yelloweye rockfish (*Sebastes ruberrimus*), and cowcod rockfish (*Sebastes levs).*

Two of these species (cowcod rockfish and steelhead) are also listed as species of concern by National Marine Fisheries Service (NMFS). Other species of concern that may occur in Santa Monica Bay include the basking shark (*Cetorhinus maximus*), and the bocaccio rockfish (*Sebastes paucispinis*).

Sea Birds

The Southern California Bight, including Santa Monica Bay, supports an abundant and diverse population of both resident and migratory seabirds, also referred to as marine birds. Most seabird species nest in colonies and rely on habitats within the Bay for nesting, foraging, and refuge.

Santa Monica Bay is located within the Pacific Flyway, a major north-south avian migratory route that extends from Alaska to South America. Every spring and fall, migratory birds travel some of all of the Flyway to follow food sources, head to breeding grounds or travel to overwintering sites. Each bird species tends to follow the same route with regard to both distance and timing. Therefore, distribution of seabird species within the Bay will likely exhibit both seasonal and spatial variation to some degree.

Special status seabirds that occur in Santa Monica Bay (i.e., are protected or were recently de-listed under state or federal ESAs) are presented in Table 3.7-1.

TABLE 3.7-1 SPECIAL STATUS SEABIRDS OF THE SOUTHERN CALIFORNIA BIGHT

COMMON NAME	SPECIES	STATUS
Bald eagle	*Haliaeetus leucocephalus*	Delisted in 2007
California brown pelican	*Pelecanus occidentalis californicus*	Delisted in 2009
California least tern	*Sterna antillarum browni*	Federally listed
Western snowy plover	*Charadrius alexandrinus nivosus*	Federally listed
Marbled murrelet	*Brachyramphus marmoratus*	State Endangered
Xantus's murrelet	*Synthliboramphus hypoleucus*	State Threatened
Ashy storm petrel	*Oceanodroma homchroa*	State Species of Special Concern
Black storm petrel	*Oceanodroma melania*	State Species of Special Concern
Rhinoceros auklet	*Cerorhinca monocerata*	State Species of Special Concern

Invertebrates

The abundance and distribution of infauna, animals residing within sediments of the seafloor, typically varies seasonally and inter-annually. In the Santa Monica Bay, the dominant infaunal organism is polychaete worms. Polychaete worms, for the most part, feed by ingesting sediments and digesting the attached bacteria; filter feed on bits of organic detritus in the water; or prey upon other infauna. Polychaetes play an important role in the marine benthos by reworking sediments, while serving as a food source for many demersal fish.

Santa Monica Bay has diverse and abundant assemblage of epibenthic invertebrates that reside on the seafloor. These species are larger than infauna and are generally less common. While single species tend to be dispersed spatially from each other, sand dollars and sea urchins tend to occur in dense, single-

species patches. Epibenthic invertebrates can be motile (mobile) or sessile (non-mobile). Motile epibenthic invertebrates include: sea stars, sea cucumbers, sand dollars, sea urchins, crabs, lobster, snails, octopus, shrimp and sea slugs. Sessile species often inhabit hard-bottom substrate and include mussels, rock scallops, barnacles, sponges, sea anemones, sea fans, feather duster worms, worm snails, and sea squirts.

Abalone are large marine snails historically found in rocky intertidal and subtidal areas, clinging to rocks and feeding off kelp and other algae. Abalone species used to constitute a highly valuable fishery in Southern California; however, their numbers have greatly dropped due to factors that include overharvesting, illegal harvesting, predation, disease, and El Niño events. Of the seven abalone species historically found in the Southern California Bight and Santa Monica Bay, four are federally listed as either endangered or as a species of concern, and one is no longer found south of Point Conception.

Water Quality

Santa Monica Bay is located adjacent to a highly urbanized area, with approximately 12 million people residing along the coastal corridor. Approximately 400 square miles of varied landscape drains into the Bay, including the highly urbanized and channelized Ballona Creek Watershed, and the less developed, Malibu Creek Watershed. The State Water Resources Control Board (SWRCB) has listed Santa Monica Bay as an impaired water body under Section 303(d) of the CWA.

Research suggests that there are multiple pollutants of immediate concern in Santa Monica Bay, including metals, organics, and bacterial contaminants. Sources and pathways of contaminants include industrial discharges, urban runoff into creeks and storm drains, municipal wastewater treatment plants (WWTPs), boating and shipping activities, dredging, and advection of pollutants from other areas. Approximately 645 million gallons of treated wastewater are discharged to Santa Monica Bay each day via seven major point-source facilities and more than 160 permitted smaller commercial and industrial facilities. As a result of the nearly 30 billion gallons of wastewater effluent that flows into Santa Monica Bay on a yearly basis, impacts to sediment quality are more apparent than those to water quality. The Santa Monica Bay Restoration Commission rated the water quality “good” overall in Santa Monica Bay, but sediment quality was given a rating of “poor,” at 59 percent of sites for sediment contaminants and at 21 percent of sites for sediment toxicity.

Historically, the pollutant pathway of most concern for Santa Monica Bay has been point source discharges from industrial outfalls and large wastewater treatment facilities, including the Hyperion WWTP and the Joint Water Pollution Control Plant. Over the past few decades pollutants discharged from these treatment facilities have been greatly reduced as secondary treatment has been implemented. Currently, non-point sources constitute a larger source of contaminants to Santa Monica Bay than point sources.

Currently, the primary pathway for pollutants entering the Bay is through non-point discharge from storm drainages throughout the surrounding watersheds. The primary pollutants of concern for Santa Monica Bay are nutrients, bacteria, trash and metals, along with historical pesticides. The Los Angeles Regional Water Quality Control Board has implemented nine total maximum daily loads (TMDLs) to address the pollutant issues in the Bay. These TMDLS are mainly being implemented through incorporation of controls into existing NPDES permits.

As part of the assessment of marine resources in the vicinity of the Sylmar Ground Return System (SGRS) conducted for the Draft EIR, existing water quality and chemistry characteristics were assessed in 2012 through collection and analyses of water samples throughout the Project area. Water samples were collected from one Reference Area location and from three sites within the area of the proposed electrode array. Water samples were analyzed for trace metals, total residual chlorine, and both volatile and semi-volatile halogenated organic compounds. Halogenated organic compounds and chlorine produced

oxidants (measured as total residual chlorine) were targeted for analysis based upon literature reviews that revealed the potential for halogenated and chlorinated compounds to form in the vicinity of subsea electrodes during electrode operation. Background levels of metals were targeted for analysis because they are a common sediment contaminant that can be re-suspended by construction activities and have the potential to cause toxicity to marine species. The results indicate that there were no detectable concentrations of residual chlorine or halogenated organic compounds (volatile and semi-volatile) in any of the samples collected. Concentrations of trace metals were detected across all samples; however, all trace metal concentrations were substantially below the most conservative water quality objectives for the protection of marine life listed in the California Ocean Plan.

Regulatory Framework

Applicable and/or relevant ordinances related to potential impacts on the marine portion of the Project are summarized in TABLE 3.

TABLE 3.7-2 SUMMARY OF RELEVANT BIOLOGICAL RESOURCE REGULATIONS

REGULATION	APPLICABILITY
FEDERAL	
Bald and Golden Eagle Protection Act	Protects bald and golden eagles by prohibiting "anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs."
Clean Water Act	Established the basic structure for regulating discharges of pollutants into the waters of the U.S. and established minimum water quality standards for surface waters. Enforcement of the CWA falls under the United States Environmental Protection Agency (USEPA) and United States Coast Guard (USCG) and is enforced in California through the SWRCB and Regional Water Quality Control Boards.
Coastal Zone Management Act	Administered by the National Oceanographic and Atmospheric Administration (NOAA) Office of Ocean and Coastal Resource Management, this Act provides for management of the nation's coastal resources and balances economic development with environmental conservation.
Endangered Species Act	The Endangered Species Act (ESA) of 1973 protects and conserves threatened and endangered species of plants and animals and their ecosystems.
Marine Mammal Protection Act	Prohibits the "take" of marine mammals in the U.S. It defines "take" to mean "to hunt harass, capture, or kill" any marine mammal or attempt to do so.
Migratory Bird Treaty Act	Prohibits the "take" of migratory birds, their eggs, feathers or nests without a permit. "Take" is defined to include "by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing or transporting any migratory bird, nest, egg, or part thereof."
STATE	
California Coastal Act of 1976	Designed to guide local and state decision-makers in the management of coastal and marine resources, includes protections for environmentally sensitive habitat, water quality, and wetlands, stating that "Marine resources shall be maintained, enhanced, and, where feasible, restored".
California ESA	The California Endangered Species Act (CESA) provides for the protection of all native endangered or threatened species of plants, and their habitats, within the State of California
California Fish and Game Code	The California Fish and Game Code places restrictions on the take of protected species, defines sport fishing and hunting regulations and seasons, defines refuge boundaries and addresses other licensure requirements for particular varieties of fish and game
California Ocean Plan of 2012	Provides for the "protection of the quality of the ocean waters for use and enjoyment by the people of the State" by setting forth provisions for the discharge of waste to ocean waters. Essentially, the California Ocean Plan

REGULATION	APPLICABILITY
	specifies water quality criteria for the protection of beneficial uses of ocean waters of California
Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties	Establishes beneficial uses, water quality objectives, and actions necessary to maintain beneficial uses and control point and non-point sources of pollution for water bodies.
Marine Life Protection Act of 1999	Directs the state of California to reevaluate and redesign California's network of Marine Protected Areas (MPAs) to more effectively protect the state's biological marine resources and to improve recreational, scientific, and educational opportunities provided by minimally disturbed marine ecosystems.
California Marine Managed Areas Improvement Act of 2000	Extends the California Department of Parks and Recreation (DPR) management jurisdiction into the marine environment and gives priority to MPAs adjacent to protected terrestrial lands.
LOCAL	
County of Los Angeles Local Coastal Plan	Allows the County of Los Angeles to directly apply the development, conservation, environmental, and public access protection goals of the Coastal Act to development within their jurisdictions.
The Santa Monica Bay Restoration Plan	Set of goals, objectives, and milestones to fulfill its mission to "improve water quality, conserve and rehabilitate natural resources, and protect the Bay's benefits and values."

3.7.2 Methodology and Threshold of Significance

Methodology

Marine resource impacts can be direct, indirect, or cumulative. Direct impacts may occur when marine resources are altered, disturbed, or destroyed during or after Project implementation. Examples include installation of pilings or other hard structures in marine sediment, encroaching into wetland buffers, diverting surface water flows, and the loss of individual species or their habitats during construction or over time. Indirect impacts that could affect biological resources include elevated noise levels, increased human activity, and degraded water or sediment quality. Cumulative impacts occur when resources are either directly or indirectly impacted to a minor extent as a result of a specific project, but the project-related impacts are part of a larger pattern of similar minor impacts. The overall result of these multiple minor impacts from separate projects is considered a cumulative impact to marine resources.

Resource impacts may also be classified as temporary or permanent. Temporary impacts can be direct or indirect and are considered short-term and recoverable. Examples in the marine environment include transient changes in water quality from sediment disturbance during construction. Permanent impacts can be direct or indirect and are not considered recoverable. Examples include the removal or change of habitat in areas that will have permanent structures placed on them.

Operation of the electrode has the potential to impact marine biota during construction and through the long-term production of electromagnetic fields (EMFs) and the generation of chlorine gas. A mathematical model was used to estimate the dispersed charge from the proposed electrode and the estimated volume of chlorine gas that the electrode may produce. In this model, the Duty Cycle (DC2) for the electrode design was based on a maximal operational limit of 50 hours per year with a duration of 160 minutes per event (approximately 19 DC2 events per year). Each DC2 event in the model consisted of 30 minutes of operation at 3,650 amps, a ten minute ramp down to 2,000 amps, and 120 minutes at 2,000 amps. Values from this model were used to assess the potential impacts to marine biota associated with operation of the proposed electrode.

Threshold of Significance

Marine Biological Resources

The following significance thresholds are based on the environmental checklist presented in Section IV (Biological Resources) of Appendix G of the CEQA Guidelines. They are used to describe the potential impacts of the proposed Project on the sensitive marine biological resources that may occur in the proposed Project area. The Project would have a significant impact on biological resources if it would:

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 CDFW or USFWS.
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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.

Marine Water Quality

The following significance thresholds are based on the environmental checklist presented in Appendix G of the CEQA Guidelines in Section IX (Hydrology and Water Quality). Only two of the CEQA Guidelines for Hydrology and Water Quality are applicable to the marine portion of the Project: a) and f).

They are used to determine the potential impacts of the proposed Project upon hydrology and water quality in the proposed Project area. A project would have a significant impact on hydrology and water quality if it would result in one or more of the following:

a) Violate any water quality standards or waste discharge requirements.
b) Otherwise substantially degrade water quality.

3.7.3 Best Management Practices

Several BMPs will be implemented throughout the course of this Project to minimize potential impacts to marine resources (including candidate, sensitive or special status species), habitats (including sensitive natural communities), movement of native fish (including migratory corridors), and water quality. The BMPs that have been identified for the Project are listed below.

BMP-11 Avoid Sensitive Marine Habitats

Perform a pre-construction survey of the proposed Project alignment to confirm baseline conditions and ensure that electrode array placement and cable routing avoids Habitat Areas of Particular Concern (HAPC), such as kelp forests and rocky reefs.

BMP-12 Minimize Disturbance to Benthic Habitat

Use cable installation methodologies that minimize disturbance and permanent habitat alteration of benthic habitat, to the extent practicable, including:

- Perform tunneling from the shoreline to 1,000 feet offshore to install cables in order to limit disturbance of the intertidal zone and rocky reefs in the near-shore environment.
- Use jet plowing or mechanical plowing to install the cables extending from 1,000 feet offshore to the electrode array to allow for a rapid restoration of soft bottom habitat.
- Bury cables to a depth of five feet, to the extent practicable, to limit potential for biological interaction during burrowing and foraging.

BMP-13 Minimize Generation of Electric Fields and Limit Production of Chlorine Gas

Incorporate Project design elements and operating procedures that minimize the generation of electric fields so that field strengths are less than the International Commission on Non-Ionizing Radiation Protection (ICNIRP) pre-standard of 1.25 volts per meter (V/m). Use electrode materials and design elements that limit the production of chlorine gas to the extent practicable.

3.7.4 Impacts

The following potential effects have been identified as applicable to the proposed Project:

1) Alteration of substrates and sediment transport and deposition;
2) Interference with animal movements and migrations, including fish (prey and predators) and invertebrate attraction to subsurface components of device, concentration of displaced fishing gear;
3) Alteration of habitats for benthic organisms;
4) Sound and vibration in water column during construction;
5) Generation of EMFs by the SGRS; and
6) Release into water column of toxic chemicals from paints, lubricants, antifouling coatings, as well as spills of petroleum products from service vessels.

The proposed Project would primarily result in temporary direct and indirect impacts that would extend throughout the duration of construction activities. Laying of cables by jet plowing and burial would result in temporary disturbance of the seafloor, which could directly impact slow-moving or non-motile benthic organisms. Suspension of sediments could indirectly impact nearby benthic, epibenthic, and water column species due to temporary reductions in water quality. Additionally, increased vessel operations and lowering of equipment through the water column could have the potential to temporarily impact swimming biota, as well as birds, that transit, forage, or reside in the region. These potential impacts are anticipated to be highly localized to the Project alignment and temporary, as they will only extend throughout the period of construction.

The proposed electrode array will result in the permanent conversion of approximately one acre of soft bottom habitat to hard substrate. The increase of hard bottom habitat could attract species that could forage on soft bottom species, potentially resulting in an indirect increase in predation levels. Operation of the electrode has the potential to impact marine biota through the production of EMFs and the generation of chlorine gas. These potential impacts, relative to the identified thresholds of significance, are discussed in detail below.

Marine Biological Resources

a) The project would have a substantial adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW of USFWS.

There are 42 candidate, sensitive or special-status species that have the potential to occur within the Project area. These species include five federally endangered cetaceans, seven other cetaceans protected by the Marine Mammal Protection Act, three pinnipeds, four sea turtles, ten fish, nine birds, and four abalone, as detailed in Section 3.5.2. The marine mammals, sea turtles, fish, and birds all are highly motile and capable of avoiding the majority of direct impacts of Project construction, as described below. The abalone species are less motile; however, they only have the potential to occur in hard bottom habitats, which would be avoided by the proposed electrode array configuration and cable route.

Potential Construction Impacts

Installation of the cables in the near-shore environment (i.e., within 1,000 feet of the shoreline) would be accomplished using directional drilling, avoiding impacts to the intertidal and shallow subtidal environment and associated biota. Within deeper portions of the Project area, cables would be installed using trenching and burial. Concrete electrode vaults would be lowered through the water column from a barge and set in place on the ocean floor. All construction is to occur in areas of soft bottom habitat. Both electrode and cable installation would result in impacts to non-motile or slow moving benthic species, including epifauna and infauna. However, these species do not include candidate, sensitive, or special-status species.

Construction activities could temporarily impede foraging by species that have the potential to occur in the Project area. However, these effects would only extend throughout the duration of construction within the Project area and are therefore not anticipated to result in adverse population-level impacts to candidate, sensitive, or special-status species. Moreover, the proposed Project would not have population-level impacts on any benthic species observed within the Project area since these species consist of common species found throughout Santa Monica Bay and the Southern California Bight as a whole.

Special-status species observed or that have the potential to occur within the Project area include highly motile species that can avoid construction activities, such as pinnipeds, cetaceans, sea turtles, and birds. Given the small footprint of the Project relative to Santa Monica Bay, the construction of the Project would not interfere substantially with the movement or foraging of any native or migratory marine or avian species. However, vessels could collide with marine mammals or sea turtles, resulting in a potential "take" of special-status species, which would be a significant impact.

Installation of the electrode vaults would result in a permanent loss of soft bottom habitat and replacement with hard bottom habitat. Additionally, the increase of hard bottom habitat could attract species that could forage on soft bottom species, potentially resulting in an indirect increase in predation levels. However, the hard substrate provided by the electrode vaults would provide habitat heterogeneity that would likely lead to an increase in species diversity on the soft-bottom substrate of Santa Monica Bay. The low profile nature of the vaults and the depth at which they will be placed (approximately 160 feet deep) would minimize any potential impacts on candidate, sensitive, or special-status species.

One of the difficulties in assessing noise impacts on marine species from underwater construction is the wide range of hearing capabilities among fish and marine mammal species. In order to standardize noise impacts on marine fauna, Nedwell et al. (1998) developed a scale based on a hearing threshold (ht) of sound perception on the dB scale for individual marine species. This species-specific scale dB_{ht} (species) accounts for the hearing threshold of individual species and allows for an assessment of potential impacts of a given level of noise on a species-specific basis. The dB_{ht} (species) scale is the only metric that quantifies the risk of behavioral effects across a wide range of species having varying hearing ability. It gives a species-specific noise level referenced to an animal's hearing ability and therefore a measure of the potential of the noise to cause an effect. The measure that is obtained represents the "loudness" of the sound for that animal. Based on the scale, avoidance reactions were considered mild at species-specific sound levels greater than 75 dB_{ht} (species), significant at levels greater than 90 dB_{ht} (species), and strong

at levels greater than 100 dB_{ht} (species). This model was validated for a variety of fish species and marine mammals by Nedwell et al. (2007).

The impacts related to construction noise have been considered based on the cable laying activities because, based on the nature of the construction activities for the marine portion of the SGRS, it is anticipated that the cable laying, which would involve the operation of vessels at the surface and a jet plow on the ocean floor, would create the highest levels of noise. The installation of the electrode array itself would also involve the operation of vessels at the surface, but the actual setting of the cylindrical boxes on the ocean floor is not anticipated to create substantial noise.

Generally, maximum sound pressure levels related to the installation or operation of cables are moderate to low, and there are no clear indications that noise impacts related to the installation and operation of subsea cables pose a high risk of harming marine fauna. Nedwell et al. (2003) measured the noise associated with cable laying construction at varying distances from trenching operations and compared noise levels in the field to the hearing thresholds of several fish and marine mammal species using the dB_{ht} (species) scale. They found that, with one exception, all of the noise measurements in the field associated with cable trenching were less than 70 dB_{ht} (species) for all species tested. Thus, based on the classification reaction outlined above, the sound associated with trenching during the cable-laying process was less than the level at which significant avoidance reactions would be expected (i.e., 90 dB_{ht} [species]).

Disturbance caused by noise generated from cable-laying operations (as well as noise associated with vessels and equipment) may displace fish within the water column from the vicinity of operations. However, because the cable laying activity for the SGRS would occur for a very brief period in any given location, this is seen as a localized and temporary effect, which in isolation would not represent a significant impact on marine biological resources.

Potential Operational Impacts

Potential impacts associated with operation of the proposed electrode involve the generation of electric and magnetic fields (the two components of the EMF) and chlorine gas. Mathematical models were prepared to estimate the dispersed charge from the proposed electrode and the estimated volume of chlorine gas that the electrode may produce. The values used to model the electric and magnetic fields, as well as chlorine production are considered to be conservative estimates. It is expected that the proposed Project would typically operate at 3,100 amps (as opposed to the maximal 3,650 amps in the model) and would generally be operational substantially less than 50 hours per year (as assumed in the model). In addition, the model for chlorine gas production was considered to be an overestimate that assumed a "huge selectivity for chlorine of 90 percent (i.e., 90 percent of the discharge product is chlorine and just 10 percent is oxygen)."

The electric field generated by the proposed electrode array is modeled to be 1.077 V/m at a position of 0.4 inch above the vault gravel surface. The model used a worst case scenario that assumed that only six of the eight electrode segments were functioning. Even using this scenario, the strength of the field is below the International Commission on ICNIRP pre-standard International Electrochemical Commission (IEC) 62344 threshold of 1.25 V/m. The strength of the field decreases exponentially with distance from the electrode array, and was modeled to be 0.056 V/m at a distance of 21 feet from the electrode vault surface (i.e., at a depth of 131 feet). At these levels, species with electrical sensory abilities, such as elasmobranchs, may be able to detect the field, since these species have been reported to detect electric fields as weak as one nanovolt per meter. While predicted strength of the electric field is within the detection limits of select marine species, the strength is below reported thresholds for harmful effects on fish, including electronarcosis and paralysis, which were detected at fields greater than 15 V/m. Based on the generation of an electric field below the IEC threshold during discrete, short-duration events

associated with operation of the proposed electrode at a maximum of 19 events per year, potential impacts to sensitive species are predicted to be less than significant.

LADWP has estimated that the maximum magnetic field produced by the SGRS on the surface of the ocean floor would be generated where the two four-cable bundles exit the trench at the electrode array and split into a total of eight individual cables that would lie on the surface of the ocean floor (not buried by sediment). Up to this point, the cables would be buried under sediment, and therefore, the magnetic field at the surface of the ocean floor would be substantially reduced. This location, approximately three miles offshore at a water depth of approximately 160 feet, would present the highest magnetic field strength to which marine organisms in the water column would potentially be exposed associated with the operation of the SGRS. LADWP estimates that each cable would produce 387.5 amps, resulting in a magnetic field of approximately 3,000 micro Teslas (µT) at a one-inch radius of the cable. The strength of the magnetic field would dissipate rapidly with distance from the cables and is calculated to be approximately 500 µT at a distance of six inches from the cable, 250 µT at one foot, 50 µT at five feet, and 25 µT at ten feet. To put these values in perspective, the earth's magnetic field in Southern California is approximately 50 µT.

Potential impacts to magneto-sensitive species from an altered magnetic field in the vicinity of a cable would depend upon how a species uses its magnetic sense. While it has been well established that some species can detect magnetic fields, the importance of the magnetic sense for orientation or navigation, is not well understood. The effects of magnetic fields from undersea power cables on marine species were recently reviewed by the U.S. Department of the Interior. The most sensitive organisms to magnetic fields include elasmobranch fishes (sharks and rays) and some teleost fishes (e.g., eels), which have sensitivities as low as a few µT. Other organisms that are sensitive to magnetic fields and may use them for navigation include sea turtles, salmonids, whales, and dolphins. While infrastructure-induced magnetic fields have been reported to be detectable by a number of marine species, there is no evidence in the literature that the levels anticipated to be produced by the proposed SGRS electrode would adversely affect the navigational capabilities or migration patterns of marine species that may inhabit or pass through the area. The magnetic field calculated by LADWP suggests that the greatest magnetic field produced by the electrode will be in the range of levels detected by marine biota cited in the literature, but will be limited to approximately a 10-foot radius of the undersea cables. The Duty Cycle for the electrode design was based on a maximal operational limit of 50 hours per year with a duration of 160 minutes per event (approximately 19 events per year). The SGRS would operate at the peak electrical current for only 30 minutes during each individual event. In addition, it is anticipated that the electrode would actually operate at only approximately 20 hours per year (approximately eight events per year). These short duration, infrequent events of relatively low magnetic field production are predicted to have a less than significant impact on marine biota.

In addition to electric and magnetic field production, operation of the proposed electrode system is anticipated to generate chlorine gas as a byproduct of the electrolysis process. Chlorine is an oxidizing biocide that is non-selective in terms of the organisms that it has the potential to affect. Free chlorine (chlorine gas dissolved in water) can be toxic to fish and aquatic organisms at concentrations greater than 0.01 milligrams per liter. However, its dangers are relatively short-lived because it reacts quickly with other substances in water, or it becomes rapidly diluted in the water or dissipates as a gas into the atmosphere.

Chlorine production from a marine electrode is based on the dispersed charge and may be significant for electrodes normally operated in continuous service (i.e., rated current kept constant for long periods, such as months). However, the SGRS electrode will be characterized by short cycles, normally very limited in time and number and, according to the model, chlorine release to the ocean is expected to be minimal. Based on the duty cycle of the proposed SGRS electrode (DC2, described above), it is estimated that over one DC2 cycle, the global chlorine gas release would be approximately 16.5 pounds per event dispersed

over the entire quarter-mile diameter electrode footprint. Based on the discrete, short-duration events associated with operation of the proposed electrode, combined with the relatively few events per year (anticipated maximum of 19) and the small amount of chlorine gas produced per event over a large geographical area, the chlorine concentration in the water column associated with the electrode is expected to be minimal. In addition, the chlorine that will be released to the water column is expected to be short-lived because it reacts quickly with other substances in water and is diluted and should, therefore, dissipate rapidly. Therefore, the potential impact on marine biota from chlorine produced by operation of the electrode is expected to be less than significant.

Operation of the proposed Project would not emit any sound; therefore, there would be no impacts from noise on candidate, sensitive, or special-statues species.

In summary, impacts from the Project on candidate, sensitive, and special-status species would be potentially significant in relation to potential collisions during Project construction. Implementation of mitigation measure MR-1 would be required.

b) The project would not have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.

Within Santa Monica Bay, sensitive natural marine communities include canopy kelp, rocky reefs, and seagrass, which are defined as HAPC within areas determined to be Essential Fish Habitat (EFH). The Magnuson-Stevens Fishery Conservation and Management Act defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Act requires Fishery Management Councils to describe and identify EFH in fishery management plans, which are then approved by NMFS. Santa Monica Bay, along with the entirety of the offshore waters of the West Coast to a depth of 3,500 feet and associated sea mounts, is considered to be EFH for Pacific Coast Groundfish.

Placement of the concrete electrode vaults on the seabed would be confined to areas with soft bottom habitat, and therefore would not adversely affect HAPC, including canopy kelp, rocky reefs, and seagrass. There is one small natural patch of reef and two artificial reefs within the Project. The proposed cable route and electrode placement has been located to circumvent these hard structures. Additionally, there are no anticipated Project operational impacts on the artificial reefs, rocky reefs, canopy kelp, or seagrass, since these habitat areas would be avoided.

The placement of the concrete electrode vaults would result in the loss of soft-bottom habitat that supports benthic infaunal, epifaunal, and demersal species, including Pacific Coast Groundfish. Cables connecting the electrode arrays within the electrode array area would be exposed, further altering the soft bottom habitat in this area. The concrete vaults would replace the soft bottom habitat with hard bottom structure, providing increased habitat heterogeneity. The concrete vaults would be analogous to the artificial reefs in Santa Monica Bay, since they would aggregate and support a more diverse assemblage of marine algae, invertebrates, and fish than soft-bottom habitat alone. Given the small area of the Project, the loss of soft bottom habitat resulting from the Project would not have a substantial adverse effect on the Pacific Coast Groundfish EFH in Santa Monica Bay or along the West Coast.

In summary, impacts from the Project to sensitive natural marine communities would be less than significant.

c) The project would not have a substantial adverse effect on federal 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?

The marine portion of the proposed Project would not be located in an area of federally protected wetlands.

d) The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

The SGRS structures would not substantially interfere with the movement of native or migratory species. The marine cables would be laid beneath the ocean floor at a depth of approximately five feet and therefore would not impact movement of native or resident species. Additionally, the concrete electrode vaults would be relatively low profile (approximately seven feet in height) and confined to a small area of Santa Monica Bay at a depth of approximately 160 feet. Fish and other migratory species could utilize more than 150 feet of the water column to traverse the area. Potential disturbance related to the movement of fish or wildlife species during construction of the proposed Project is expected to be minimal, as the entire marine construction process is only expected to last approximately nine months and any disturbances to movements of fish or wildlife species would be temporary.

As discussed above, the electric field generated by the proposed electrode array is modeled to be 1.077 V/m at a position of 0.4 inch above the vault gravel surface. The model used a worst case scenario that assumed that only six of the eight electrode segments were functioning. Even using this scenario, the strength of the field is below the pre-standard IEC 62344 of 1.25 V/m to protect biota. The strength of the field decreases exponentially with distance from the electrode array, and was modeled to be 0.056 V/m at a distance of 21 feet from the electrode vault surface (i.e., at a depth of 131 feet). At these levels, species with electrical sensory abilities, such as elasmobranchs, may be able to detect the field, since these species have been reported to detect electric fields as weak as one nanovolts per meter. While predicted strength of the electric field is within the detection limits of select marine species, the strength is below reported thresholds for clearly harmful effects on fish, including electronarcosis and paralysis, which were detected at fields greater than 15 V/m.

LADWP has estimated that the maximum magnetic field produced by the SGRS on the surface of the ocean floor would be generated where the two four-cable bundles exit the trench at the electrode array and split into a total of eight individual cables that would lie on the surface (not buried by sediment). Up to this point, the cables would be buried under sediment, and, therefore, the magnetic field at the surface of the ocean floor would be substantially reduced. This location, approximately three miles offshore at a water depth of approximately 160 feet, would present the highest magnetic field strength to which marine organisms in the water column would potentially be exposed associated with the operation of the SGRS. LADWP estimates that each cable would produce 387.5 amps, resulting in a magnetic field of approximately 3,000 µT at a one-inch radius cable. The strength of the magnetic field would dissipate rapidly with distance from the cables and is calculated to be approximately 500 µT at a distance of six inches from the cable, 250 µT at one foot from the electrode, 50 µT at five feet, and 25 µT at ten feet. To put these values in perspective, the earth's magnetic field in Southern California is approximately 50 µT.

Potential impacts to magneto-sensitive species from an altered magnetic field in the vicinity of a cable would depend upon how a species uses its magnetic sense. While it has been well established that some species can detect magnetic fields, the importance of the magnetic sense for orientation or navigation, is not well understood. The effects of magnetic fields from undersea power cables on marine species were recently reviewed by the U.S. Department of the Interior. The most sensitive organisms to magnetic fields include elasmobranch fishes (sharks and rays) and some teleost fishes (e.g., eels), which have sensitivities as low as a few µT. Other organisms that are sensitive to magnetic fields and may use them for navigation include sea turtles, salmonids, whales, and dolphins. While infrastructure-induced magnetic fields have been reported to be detectable by a number of marine species, there is no evidence in the literature that the levels anticipated to be produced by the proposed SGRS electrode would adversely affect the navigational

capabilities or migration patterns of marine species that may inhabit or pass through the area. The magnetic field calculated by LADWP suggests that the greatest magnetic field produced by the electrode will be in the range of levels detected by marine biota cited in the literature, but will be limited to approximately a ten-foot radius of the undersea cables. The Duty Cycle for the electrode design was based on a maximal operational limit of 50 hours per year with a duration of 160 minutes per event (approximately 19 events per year). The SGRS would operate at the peak electrical current for only 30 minutes during each individual event. In addition, it is anticipated that the electrode would actually operate at only approximately 20 hours per year (approximately eight events per year). These short duration, infrequent events of relatively low magnetic field production are predicted to have a less than significant impact on marine biota.

In summary, the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Impacts from the Project relative to these issues would be less than significant.

e) The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

In relation to the marine portion of the proposed Project, there would not be any conflicts with any local policies or ordinances protecting biological resources.

f) The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Santa Monica Bay Restoration Plan (BRP), which is administered by the Santa Monica Restoration Commission, is a National Estuary Program charged by the USEPA to develop and implement a Comprehensive Conservation Management Plan for Bay protection and management. The BRP includes goals, objectives, and milestones that are organized into three sections: (1) improve water quality, (2) conserve and rehabilitate natural resources, and (3) protect the Bay's benefits and values.

The proposed Project would not conflict with the goals, objectives, and milestones of the BRP or other adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state conservation plans. No impact would occur.

Marine Water Quality

a) The Project would not violate water quality standards or waste discharge requirements.

As defined in Section 13030 of the California Water Code, water quality inputs of concern include discharges that create pollution, contamination, or nuisance or that release toxic substances deleterious to humans, fish, bird, or plant life. The use of vessels during construction operations can increase the potential for localized accidental spills of hazardous chemicals, such as oil; however, this risk is no greater than ongoing recreational and commercial vessel operations within the region. Additionally, small spills would be unlikely to cause a significant adverse effect to water or sediment quality because wave action and current dynamics within Santa Monica Bay would disperse and dilute potential inputs, reducing concentrations below levels expected to have toxic effects on biota. Nonetheless, these impacts would be potentially significant. Implementation of mitigation measure MR-2 would be required.

Construction activities, including the placement of electrodes and laying of cables, also have the potential to result in the suspension of sediments within the Project area. An increase in sediment suspension would increase turbidity and contaminant concentrations within the water column. Increases in turbidity would

only last for the duration of immediate construction activities, reducing light penetration to the seafloor. Reductions in light penetration are most relevant to photosynthetic organisms, such as algae; however, observations of the habitat and biological community showed that the benthos along the cable route and at the electrode field proposed for the Project consists primarily of soft bottom habitat (99 percent) with very low levels of algal cover. Additionally, reduced light levels could also impact species that rely on visual cues for foraging, such as motile invertebrates, fish, and mammals.

It is anticipated that the cable trenching for the proposed Project will be accomplished with jet plows (or a similar process). Comprehensive reviews of this technology along with other underwater trenching systems have shown that jetting systems produce a low level of disturbance in marine sediments composed of sand and silt, as is found in the selected cable route for the proposed Project. Studies conducted in the North Atlantic suggest that during cable trenching, fine sediments disperse throughout the water column and background concentrations of total suspended solids are only raised by a few percent. The results indicated that dispersion of sediment was rapid, with concentrations dropping to less than one microgram per liter above background within a single flood or ebb wave current. This level of impact is well within the natural variability associated with waves, tidal action, and storm events experienced in Santa Monica Bay and substantially less than that associated with anthropogenic impacts from dredging or aggressive fishing practices. It is unlikely that construction activities would increase turbidity beyond levels commonly encountered during high wave events and storms; therefore, the impact of construction on turbidity would be both short term and within the natural level of variability.

Sediment resuspension also has the potential to increase the concentrations of contaminants in the water column; however, this potential impact is likely to be minimal since concentrations of contaminants of concern measured within the Project area as part of the Marine Resources Assessment for the Project were below the thresholds for likely toxicity. This was determined by comparing concentrations of chemicals in the sediment along the proposed route for the Project to Effects Range-Low (ER-L) and Effects Range-Median (ER-M) values. The effects range values are helpful in assessing the potential significance of elevated sediment-associated contaminants of concern. Briefly, these values were developed from a large data set where results of both benthic organism effects (e.g., toxicity tests and benthic assessments) and chemical concentrations were available for individual samples. To derive these guidelines, the chemical values for paired data demonstrating benthic impairment were sorted in ascending chemical concentration. The 10^{th} percentile of this rank order distribution was identified as the ER-L and the 50^{th} percentile as the ER-M. Contaminant concentrations in sediment less than the ER-M values are considered below the thresholds likely for toxicity.

Concentrations of all contaminants of concern measured within the proposed cable route and electrode location collected as part of the marine resource assessment for the Project were below ER-Ms (i.e., chemical concentration thresholds for likely toxicity based on prior laboratory studies). There were a limited number of contaminants, such as DDT, mercury, and total polychlorinated biphenyls (PCBs) that were found at concentrations above ER-Ls (i.e., chemical concentrations that may have some potential for biological effects based on prior laboratory studies); however, bioassay tests of the sediments collected within the Project area during this assessment did not show evidence of toxicity. These contaminants occurred at concentrations that are typically found in Santa Monica Bay. It has been estimated from large-scale regional studies that 90 percent of the surface sediments of the bay are contaminated, largely due to legacy inputs of pollutants. Therefore, resuspension due to construction activities associated with cable trenching or installation of the electrode would not be expected to result in an increase in the distribution of contaminants of concern above bay-wide background levels. Additionally, sediment suspension would not necessarily result in increased bioavailability of contaminants in the water column since contaminants are often bound to sediment particles that quickly settle following disturbance events and may not substantially increase contaminant concentrations in the overlying water.

Once the electrode system construction has been completed, the system would not generally result in resuspension of sediments that could impact water quality. Routine maintenance activities would not require excavation or disturbance of sediments. In the event that one or more of the cables required repair or replacement, excavation could result in sediment resuspension and potential short term impacts to water quality as previously discussed. Impacts on sediment and water quality during construction, operation and maintenance would be less than significant.

Operation of the proposed electrode is expected to generate chlorine gas as a byproduct of the electrolysis process. Chlorine is an oxidizing biocide that is non-selective in terms of the organisms that it has the potential to affect. Free chlorine (chlorine gas dissolved in water) can be toxic to fish and aquatic organisms at concentrations greater than 0.01 micrograms/liter (mg/L). However, its dangers are relatively short-lived because it reacts quickly with other substances in water or dissipates as a gas into the atmosphere.

In anticipation of the proposed Project, LADWP conducted an initial study that included modeling of the anticipated chlorine expected to be produced by the new electrode. The production of chlorine can be a problem for electrodes normally operated in continuous service (i.e., rated current kept constant for long periods, such as months). As the production of chlorine depends on the dispersed charge, this may lead to significant chlorine releases in the environment. However, in the case of the SGRS, the operation will be characterized by short cycles, normally very limited in time and number. Therefore chlorine release in the ocean will be minimal.

The California Ocean Plan has established an instantaneous maximum for total residual chlorine in ocean receiving waters of 60 micrograms per liter. It is unclear if the existing electrode or the new electrode proposed for this Project will produce chlorine in excess of that threshold. However, the SGRS electrode will be characterized by short cycles, normally very limited in time and number and, according to the operational model, chlorine release to the ocean is expected to be minimal. Based on the duty cycle of the proposed SGRS electrode (DC2, described above), it is estimated that over one DC2 cycle, the global chlorine gas release would be approximately 16.5 pounds per event dispersed over the entire quarter-mile diameter electrode footprint. Based on the discrete, short-duration events associated with operation of the proposed electrode, combined with the relatively few events per year (anticipated maximum of 19) and the small amount of chlorine gas produced per event over a large geographical area, the chlorine concentration in the water column associated with the electrode is expected to be minimal. Based on the design parameters of the model, the Project would have less than significant impact on water quality.

b) The Project would not otherwise substantially degrade water quality.

As discussed above, the Project would implement BMPs that would eliminate potential effects on water quality in the coastal zone (through directional boring) and limit production of chlorine gas by using the appropriate electrode materials and design elements. The Project would also adhere to all requirements of applicable permits throughout the Project to minimize water quality impacts; however, due to the potential of accidental spills and discharges, impacts to water quality would be potentially significant. Implementation of mitigation measure MR-2 would be required to reduce potential for accidental spills and discharges that could impact water.

3.7.5 Cumulative Impacts

The proposed Project would not result in a significant adverse cumulative impact to marine biological resources. The proposed Project would involve the replacement of an existing electrode system with a new electrode system, both of which are located in Santa Monica Bay. The undersea portion of the SGRS would extend from the shoreline to approximately three miles offshore in an area composed of soft-bottom habitat. Since the Project would be routed in areas that avoid rare or sensitive habitat, such as rocky reefs and kelp forests, it would not significantly reduce or contribute to a trend of reducing critical

marine habitat. Additionally, the Project would not directly impact or contribute to a cumulative trend of direct impact to a sensitive or protected species, water resource, or natural community. The potential impacts of the proposed Project would be less than significant with the proposed mitigation measures incorporated, and there would be no cumulative impact to sensitive biological resources. Thus, the proposed Project would not have impacts that are cumulatively considerable.

3.7.6 Mitigation Measures and Level of Significance After Mitigation

Mitigation Measures

MR-1: Implement standard marine mammal and sea turtle avoidance measures, including:

1) Requiring vessels involved in construction activities to maintain a steady course and speed.
2) Avoidance of the immediate areas with marine mammals or sea turtles whenever possible.
3) Requiring the presence of a biological monitor on vessels during construction activities.
4) Training construction and vessel crews to recognize and avoid marine mammals and sea turtles prior to initiation of Project construction activities.
5) Reporting of collisions with marine wildlife promptly to federal and state resource agencies.

MR-2: To reduce potential for accidental spills and discharges that could impact water and sediment quality during construction, the following are recommended:

1) Discharge of hazardous materials during construction activities shall be prohibited.
2) A comprehensive spill prevention plan shall be developed that documents management practices that vessels will enact to limit the potential for accidental spills.
3) An environmental protection plan shall be developed that addresses issues related to storage and handling of fuel, waste disposal, vessel operation, and field policies.
4) All debris and trash shall be disposed in appropriate trash containers on land or on construction barges by the end of each construction day.

Level of Significance After Mitigation

With the implementation of mitigation measure MR-1, which requires the implementation of marine mammal and sea turtle avoidance measures, the potential significant impacts to species identified as a candidate, sensitive, or special-status species would be reduced to less than significant. With implementation of mitigation measure MR-2, which would reduce the potential for accidental spills and discharges, the potentially significant impacts related to water quality and violations of water quality standards or waste discharge requirements would be reduced to less than significant. As such, the proposed Project, with implementation of mitigation measures, would have less than significant impacts on marine resources.