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VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER: 2003031001

Prepared for

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December 20, 2005

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B PUBLIC INVOLVEMENT
C AIR QUALITY
D BIOLOGICAL RESOURCES
E TRAFFIC IMPACT STUDY
F CULTURAL RESOURCES
G HAZARDOUS WASTE AND MATERIALS
H NOISE AND VIBRATION
I VISUAL AND AESTHETIC RESOURCES

ACRONYMS

AQA	Air Quality Analysis
AQMP	Air Quality Management Plan
ASTM	American Society for Testing Materials
ATSAC	Automated Traffic Surveillance and Control
BACM	best available control measure
BMP	Best Management Practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
BWC	Ballona Wetlands Conservancy
°C	degrees Celsius
CAAQS	California Ambient Air Quality Standards
CALCADB	Computer Assisted Level of Service Calculations and Database
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDOGGR	California Division of Oil, Gas, and Geothermal Resources
CDWR	California Department of Water Resources
CE	Commuter Express
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Information System
CFR	Code of Federal Regulations
CIS	Coastal Interceptor Sewer
CMA	Critical Movement Analysis
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNLM	Center for National Lands Management
CNPS	California Native Plant Society
CO	carbon monoxide
CWA	Clean Water Act
dBA	decibel, A-weighted
°F	degrees Fahrenheit
DDT	dichlorodiphenyltrichloroethane
DOD	Department of Defense
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency

EPB	Earth Pressure Balance
ERNS	Emergency Response Notification System
ESHA	Environmentally Sensitive Habitat Areas
FID	flame ionization detector
FINDS	Facility Index System
FUDS	Formerly Used Defense Sites
H_2S	hydrogen sulfide
LADOT	Los Angeles Department of Transportation
LAX	Los Angeles International Airport
LCP	Local Coastal Program
Leq	equivalent noise level
LORS	laws, ordinances, regulations, and standards
LOS	level of service
LUP	Land Use Plan
LUST	leaking underground storage tank
µg/kg	micrograms per kilogram
µg/l	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
MLTS	Material License Tracking System
MND	Mitigated Negative Declaration
mph	miles per hour
MSL	mean sea level
MTA	Metropolitan Transportation Authority
MTBE	methyl tertiary-butyl ether
NAAQS	National Ambient Air Quality Standards
NCDC	National Climatic Data Center
NDMA	N-nitrosodimethylamine
NFRAP	No Further Remedial Action is Planned
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NOS	North Outfall Sewer
NO_x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
O_3	ozone
ODI	Open Dump Inventory
OSHA	Occupational Safety and Health Administration
PADS	PCB Activity Database System
PAH	polynuclear aromatic hydrocarbon
Pb	lead
PCB	polychlorinated biphenyl

PCE	passenger car equivalent
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
ppm	parts per million
RAATS	RCRA Administration Action Tracking System
RCRA	Resource Conservation and Recovery Act
ROC	reactive organic compound
ROD	Record of Decision
ROM	rough-order-of-magnitude
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCC	State Coastal Conservancy
SIP	State Implementation Plan
SLC	State Lands Commission
SLM	sound level meter
SMBRP	Site Mitigation and Brownsfields Reuse Program
SO_2	sulfur dioxide
SPT	Standard Penetration Test
SWPPP	Stormwater Pollution Prevention Plan
TBM	Tunnel Boring Machine
TMDL	total maximum daily load
TOC	table of contents
TPH	total petroleum hydrocarbons
TRIS	Toxic Release Inventory System
TSCA	Toxic Substances Control Act
TSD	treatment, storage and disposal
UBC	Uniform Building Code
USACOE	United States Army Corps of Engineers
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
V/C	volume-to-capacity
VM Classes	Visual Modification Classes
VOC	volatile organic compound
vplph	vehicles per lane per hour
VPP	Venice Pumping Plant
WRA	Wetlands Research Association

1.0 INTRODUCTION

1.1 PURPOSE OF THE EIR

The purpose of an Environmental Impact Report (EIR), as defined in Section 15121(a) of the State Guidelines for the implementation of the California Environmental Quality Act (CEQA) California Code of Regulations (CCR), Title 14, Division 6, Chapter 3 "Guidelines" is as follows:

> *An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effect and describe reasonable alternatives to the project.*

This document assesses the significant environmental impacts, including unavoidable adverse impacts and cumulative impacts, likely to occur if the City of Los Angeles constructs and operates a new proposed 54-inch pipeline from the existing Venice Pumping Plant (VPP).

Consistent with CEQA Guidelines (Section 15180), this EIR is a project EIR. The intent of this EIR is to provide a comprehensive analysis of the potential impacts that may result from the implementation of the goals and objectives of the proposed Project. This EIR is intended to evaluate the project-related, secondary, and cumulative impacts of the proposed Project within the areas of the proposed alignment alternatives in as much detail as possible and to identify and resolve all reasonably anticipated impacts. Moreover, this EIR focuses on the impacts associated with the long-range implementation of the Project.

1.2 LEAD AGENCY AND DOCUMENT FORMAT

The City of Los Angeles is the lead agency, as defined by Section 21067 of CEQA, for this EIR and has supervised its preparation. The City of Los Angeles' City Council has primary responsibility for the adoption and implementation of the proposed Project and the certification of the Project's Final EIR. The overall format of the EIR contains those components required by CEQA, as summarized in Table 1.2-1. During the course of the EIR preparation, the City of Los Angeles' Department of Public Works contacted all affected agencies and organizations. Responses to the City's Notice of Preparation (NOP) are provided in Appendix A to this EIR.

Table 1.2-1 Required Contents of an EIR – CEQA Law and Guidelines

Required Analysis (in Number)	In Draft EIR
Table of Contents (Section 15122)	TOC
Summary (Section 15123)	1
Project Description (Section 15124)	2
Environmental Setting (Section 15125)	3 and 5
Environmental Impacts (Section 15126)	5
Significant Environmental Effects of Proposed Project [Section 15126(a)]	5
Unavoidable Significant Environmental Effects [Section 15126(b)]	5
Mitigation Measures Proposed to Minimize Significant Effects [Section 15126(c)]	5
Alternatives to the Proposed Project [Section 15126(d)]	4 and 6
Significant Irreversible Environmental Changes Resulting From Implementation of the Proposed Project [Section 15126(f)]	5
Growth Inducing Impacts of the Proposed Project [Section 15126(g)]	7
Effects Found Not to Be Significant (Section 15128)	5
References, Persons Contacted and Preparers of the Draft EIR (Section 15129)	9 and 10
Cumulative Impacts (Section 15130)	5 and 7

Technical studies were prepared for this EIR and are provided in the appendices. The reports for these studies are listed in Section 10.0: References and Persons Contacted, and are available for public review at the City of Los Angeles' Bureau of Engineering, Department of Public Works at 650 South Spring Street, Suite 574, Los Angeles, 90014-1920.

1.3 FOCUS OF THE EIR

The analysis contained in this EIR reflects the level of detail necessary at this time for the City to consider the proposed Project. Consistent with Section 15180 of the CEQA Guidelines, this is a "project" EIR for the construction and operation of the proposed new force main sewer. This EIR, prepared for the City of Los Angeles, Venice and Dockweiler Beach vicinity, focuses on the effects that may be expected with the approval of and the subsequent implementation of the new Force Main Sewer Project resulting in the following potential impacts: air quality, biological resources, circulation, traffic and transportation, cultural resources, geology, soils and seismicity, hazardous waste and materials, hydrology, water quality/stormwater runoff, land use plans, noise and vibration, public facilities and services, and visual and aesthetic resources.

The environmental issues listed above were identified in the Initial Study prepared by the City of Los Angeles (included in Appendix A). Fiscal issues and impacts are not addressed in this EIR, as fiscal impacts are not required to be addressed in an EIR under current applicable CEQA requirements.

1.4 INTENDED USE OF THIS EIR

Article 1, Section 15002 of CEQA states that the basic purpose of an EIR is to: 1) Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities, 2) identify the ways that environmental damage can be avoided or significantly reduced, 3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible, and 4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

In accordance with CEQA Guideline 15063(a), an Initial Study was conducted to determine if this project may have a significant effect on the environment. Although it was determined that this project will not have any long-term or lasting effects to the environment, it was determined that an EIR should be prepared for the purpose of describing impacts associated with the long-term construction schedule for the project.

1.5 REVIEWING AGENCIES

The following agencies will review this Project:

- Los Angeles County (various departments);
- California Coastal Commission (CCC);
- California Department of Fish and Game (CDFG);
- Department of Conservation;
- Department of Parks and Recreation;
- American Heritage Commission;

- State Lands Commission;
- California Department of Transportation (Caltrans), District 7;
- National Marine Fisheries Service;
- United States Fish and Wildlife Service (USFWS);
- Regional Water Quality Control Board (RWQCB), Region 4;
- South Coast Air Quality Management District (SCAQMD);
- United States Army Corps of Engineers (USACOE); and
- Others as determined.

1.6 PERMITS AND APPROVAL REQUIREMENTS

Table 1.6-1 identifies the names of agencies responsible to review and approve the project and the permits required:

Table 1.6-1 Permit Requirements

Agency	Permit/Requirement	Issues of Concern
Los Angeles County	▪ Geotechnical/Grading/Hauling Permits ▪ Dept. of Beaches and Harbors; Right-of-Entry Permit ▪ Right-of-Way (ROW)/Easements for construction and future maintenance and operations	▪ Impacts from dewatering, tunneling ▪ Staging areas and additional easement
RWQCB	▪ National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Pollution Prevention Plan (SWPPP) Permit ▪ 401C Section Certification	Water Quality and placement of discharges associated with dewatering activities. No permit required for discharges to sewer. General Permit saves time with RWQCB.
USACOE	Section 10 or Section 404 Permit required if excavated material discharged to waters and construction permit.	▪ Location, placement and depth of pipeline ▪ Obstruction of navigation or other channel activities ▪ Channel safety ▪ Impacts to wildlife ▪ Dredging/filling activities
CDFG	1600 et seq. (Streambed Alteration)	Impacts to fish habitat
CCC	Coastal Development Permit	▪ Obstruction of recreation and beachfront facilities ▪ Impacts to animal species and habitat ▪ Impacts to parking and traffic
California State Lands Commission	Possible lease requirement	Verification of jurisdiction
National Marine Fisheries Service	Consultation notification	Impacts to aquatic and marine life
California Department of Conservation, Division of Oil, Gas and Geothermal Resources	A construction notification form should be submitted to the Division prior to any activity.	Project is inside administrative bounds of the Playa Del Rey Oil Field containing numerous plugged and abandoned oil wells
State of California Department of Health Services	Project Review for compliance with Title 22, Section 64630 (Conducted through County Environmental Services Division)	Separation of water and sewer mains
USFWS	Notification	Impacts to habitat (i.e., least tern)

Source: URS Corporation

1.7 RELATED PROJECTS

Sections 15126 and 15130 of the CEQA Guidelines provide that EIRs consider the significant environmental effects of a proposed project, as well as "cumulative impacts." Cumulative impacts refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts [CEQA Guidelines Section 15130(b)(1)(A)].

Table 1.7-1 provides a list of related projects in the City and County of Los Angeles within an approximate 2-mile radius of the project site. The list includes 15 projects of various land uses, including residential, retail, general commercial, and mixed uses.

Table 1.7-1 Related Projects

Project No.	Jurisdiction	Location	Type of Project	Current Status
1	County of Los Angeles	Bora Bora Way	120 D.U.s; Net decrease of 271 slips; Demolish 4 KSF offices	10/18/2000 (approval date)
2	County of Los Angeles	Tahiti Way	Remodel existing apartments (no increase in D.U.s)	10/18/2000 (approval date)
3	County of Los Angeles	Marquesas Way	Net increase of 282 D.U.s; 354 senior apartments; Net decrease of 3.6 KSF retail; Net decr. of 237 slips	12/6/2000 (approval date)
4	County of Los Angeles	Panay Way	68 D.U.s; 60 Congregate Care units	6/13/1996 (approval date)
5	County of Los Angeles	Panay Way	Net increase of 250 D.U.s; 47 senior apartments; Net decrease of 41 slips; Demolish 4.4 KSF restaurant	12/6/2000 (approval date)
6	County of Los Angeles	Panay Way	99 D.U.s; Net increase of 4.94 KSF Yatch Club; 2.3 KSF Office; Transfer of 97 D.U.s from DZ1 to DZ4	10/2/2000 (approval date)
7	County of Los Angeles	Palawan Way/ Beach Ave	450 s.f. net retail increase	6/25/2003 (approval date)
8	County of Los Angeles	Palawan Way/ Beach Ave	Net increase of 115 D.U.s	12/10/2003 (approval date)
9	County of Los Angeles	Admiralty Way	Library expansion – 2,454 S.F.	3/5/1997 (approval date)
10	County of Los Angeles	Mindanao Way	4.7 KSF retail increase	To Be Announced (TBA)
11	County of Los Angeles	Via Marina	11.4 KSF net retail increase, 288 restaurant seats, 1.3 KSF reduction in office	6/16/2004 (approval date)
12	County of Los Angeles	Marina Del Rey Tide Gates	Tide Gate Rehabilitation	11/2005 – Design Completed
13	County of Los Angeles	Hotel at Via Marina	TBA	TBA
14	City of Los Angeles	Grand Canal	Gates at Washington Street	11/2005
15	City of Los Angeles	Grand Canal	Between Driftwood Street and Hurricane Street Temporary VPP bypass pipeline for sluice gate replacement in VPP	11/10/2005 MND

Sources: City of Los Angeles Planning Department; County of Los Angeles Department of Regional Planning, Bureau of Engineering and Los Angeles County Department of Public Works.

1.8 AREAS OF PUBLIC CONCERN OR KNOWN CONTROVERSY

The preparation of this EIR has included, to date, one public meeting. A community scoping meeting was held on May 31, 2005, at the Westchester Community Center. The scoping meeting participants were introduced to the EIR process and the proposed Project and were invited to provide information and/or comments regarding potential impacts to the environment resulting from construction of the proposed Project.

The primary issues and areas of concern identified by the public for the project, which are addressed in this EIR, are:

- Noise impacts created during project construction;
- Limited on-street parking availability during construction;
- Aesthetic and visual impacts during construction;
- Air quality impacts during construction;
- Possible impacts to the Least Tern and other wildlife during and after construction;
- Potential impacts to recreational facilities and public events on the beachfront;
- Staging and operation of construction equipment on existing bike paths, walking trails and bridges;
- Impacts to water quality in both the Marina Del Rey Channel and Ballona Creek Channel;
- Impacts to traffic circulation and emergency access during construction;
- Impacts to residential access to and from housing during construction; and
- Impacts to structural foundations resulting from construction-related activities.

1.9 EIR PARTICIPANTS AND PUBLIC REVIEW

The analysis in this EIR has been prepared in conformance with the local and state CEQA Guidelines, as amended. URS Corporation provided environmental consultation for the EIR. As required by CEQA, this EIR is being provided to public agencies and private organizations for review and comment.

The City of Los Angeles circulated a NOP for this EIR to responsible agencies on May 2, 2005, to solicit comments on issues relevant to their agency or jurisdiction, and for consideration for this project. A list of the agencies that received the NOP and copies of all comments on the NOP are included in Appendix A and B to this EIR.

This EIR may be reviewed by interested parties not included in the City's distribution list. The document will be available for a 45-day public review period at the City of Los Angeles Bureau of Engineering, Environmental Management Section. The document will also be available at the City of Los Angeles Central Library, Venice Branch Library, Westchester Library, and Playa Vista Public Library. Agencies and interested persons not involved in the preparation of the EIR will have the opportunity to provide comments during the 45-day public review period and at the public hearings held prior to draft consideration of the project's adoption and the EIR's certification.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed project is in the City of Los Angeles (Figure 2.1-1, Regional Project Location Map) in the communities of Venice and Playa Del Rey (see Figure 2.1-2, Project Vicinity). The project originates from the VPP, located on Hurricane Street and the westerly bank of the Grand Canal and the northerly bank of the Ballona Lagoon in the community of Venice, and extends southerly under both the Grand Canal and Ballona Creek, and ends in Vista Del Mar approximately 240 feet south of Waterview Street. The project site can be accessed via Imperial Highway and Vista Del Mar on the south, and from Pacific Coast Highway (SR-1)/Lincoln Boulevard and Washington Boulevard on the north (see Figure 2.1-1).

2.2 PROJECT OBJECTIVES

The City of Los Angeles is proposing to construct and operate a new force main sewer extending from the existing VPP at 140 Hurricane Street in the community of Venice to a junction structure on the Coastal Interceptor Sewer in the community of Playa Del Rey on Vista Del Mar near Waterview Street. The VPP's existing 48-inch-diameter force main sewer, built in 1958, is a force main (pressurized pipeline) that currently conveys the plant's wastewater flows to the Hyperion Treatment Plant. Figure 2.2-1 shows the Project location.

Currently, the existing force main sewer can handle only about 60 percent of the flows that could otherwise run through the VPP when all five of its pumps are running at full capacity. When flows into the VPP exceed flows out of the plant, wastewater will overflow directly into Ballona Lagoon. During heavy storms, such as those that occurred during the winters of 1994-95 and 2004-05, the excess wastewater at the plant came within minutes of overflowing into Ballona Lagoon.

The project's intent is to construct a second force main sewer to be used in tandem with the existing force main sewer for the purpose of fulfilling the three key objectives described below. The following describes each of the City's objectives, purposes and needs for the proposed new 54-inch sewage conveyance line.

SEWAGE CONVEYANCE CAPACITY

The VPP is the largest pumping plant in the City of Los Angeles. It collects sewage from the coastal areas of the City through an existing 48-inch pipeline and transports it to the Hyperion Treatment Plant in Playa Del Rey (see Figure 2.2-1). Over the years, the existing pipeline that conveys sewage to the treatment plant has gradually approached maximum capacity placing substantial strain on the system forcing the water level in the wet-well of the VPP basement to rise.

The City of Los Angeles first identified the need for additional sewer capacity during the heavy storms of 1995 when sewage and infiltrated stormwater in the sewage system exceeded the capacity of the existing 48-inch line, creating a potentially serious human and environmental health risk. Although the pumping plant had all five pumps running during peak rainfall, the existing downstream sewer force main that runs along the beach could only handle approximately 60 percent of the flows that would otherwise run through the pumps - serving as a bottleneck in the system. The amount of sewage and infiltrated stormwater in the sewage system exceeded its capacity, forcing the water level in the wet-well of the VPP to rise. In an effort to prevent potential sewage spillage as a result of an overload situation, the City proposes to install an additional 54-inch pipeline to convey the flows.



REGIONAL PROJECT LOCATION MAP

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 2.1-1



REGIONAL PROJECT LOCATION

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 2.1-2



VENICE PUMPING PLANT AND HYPERION TREATMENT PLANT

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 2.2-1

PIPELINE REDUNDANCY

In addition to the need to provide pipeline capacity to manage peak flows, the new 54-inch force main would be used in tandem with the existing force main; together, the two force mains would provide the necessary capacity to meet current and future peak wet weather flow demands. The project's intent is to construct a second force main to be used in tandem with the existing force main for the purpose of fulfilling two objectives: expand the capacity of the Coastal Interceptor Sewer's force main segment from the VPP to a connection in Playa Del Rey in the vicinity of Waterview Street, such that all projected wet weather flows can be safely conveyed without future threats of spilling onto city streets and adjacent surface waters; and to provide force main redundancy to allow for maintenance and rehabilitation of the existing force main and future reciprocal cleaning of each force main during dry weather periods.

INABILITY TO PERFORM MAINTENANCE

The existing 48-inch pipeline was built in 1958 and has been in continuous operation since then. The installation of the proposed 54-inch force main will provide bypassing capability allowing repair and maintenance of the existing pipeline, which is currently not possible.

2.3 PROJECT DESCRIPTION

The City of Los Angeles is proposing to construct and install a new 54-inch diameter force main sewer extending from the VPP to a junction structure at the North Outfall Sewer under Vista Del Mar, approximately 240 feet south of Waterview Street in Playa Del Rey. The existing VPP force main is a pressurized pipeline that conveys wastewater flows to the Hyperion Treatment Plant located in Playa Del Rey.

The potential impacts resulting from the Project are construction related; no aspect of its operation applies to the Project. Therefore, the critical aspects of the Project address the spatial extent of construction, the equipment and activity associated with it, and the duration of the activities from the start of construction until Project completion.

Relevant aspects of construction associated with this project are as follows:

MICRO-TUNNELING (BORING) AND CUT-AND-COVER CONSTRUCTION

Boring would include excavation at the starting and ending points of the under-channel and under-canal sections of the alignments. The starting point is referred to as the "launch shaft," while the endpoint is referred to as the "receptor shaft." There are two launching shaft alternatives for under-channel boring, located at the northerly end of the Playa Del Rey Alignment Alternative, on the south side of the Marina Del Rey entrance channel, along the northeast side of the Pacific Avenue fishing bridge. Also, there are three alternative receptor shaft sites on the north side of the entrance channel. One would be in the parking lot northwest side of the corner where Via Marina turns 90 degrees to the southwest, one to the west of Via Marina located on the north side of the channel, and the other would be at the southeast end of Pacific Avenue.

PUSH SITE EQUIPMENT

The major elements of push site construction for the Project would be:

- Jacking pit [from which the hydraulic jacks push pipes through the ground behind a remotely operated Tunnel Boring Machine (TBM)];
- Remote control cabin for operating the TBM;
- Crane;
- Support facilities (generator, power pack, and bentonite lubrication unit);
- Slurry separation equipment and tanks;
- Construction/Laydown area, 10 – 12,000 square feet in area, for pipe and other equipment storage and staging;
- Truck traffic to and from the pit for transporting tunnel muck, pipe sections and tunneling equipment (There would be eight truck round trips per day for muck removal and material supply.);
- Construction crew (There would be 17 construction crew on site and 17 passenger-car round trips daily.);
- Nighttime construction and lighting (It may be required to proceed continuously at the end of long drives through sticky soils to prevent the pipe from getting stuck short of the receiving site. In such cases, nighttime construction would be required. It is assumed that there would be a need for lighting at the push site throughout the night, on occasion.); and
- Acoustic curtain (sound barrier) (To minimize the transmission of noise, it is proposed that a 20- to 30-foot-tall acoustic curtain be installed around the site. This curtain would shield from view all equipment around the push site, except for the crane.).

LAUNCH SITE CONSTRUCTION DURATION

The launch sites would require about 2 months to complete and must be constructed prior to the start of boring under the entrance channel and the Grand Canal. The under-channel tunnel is approximately 1,800 feet long and boring rates range from 30 - 50 feet per 8-hour shift. A conservative estimate allows for no nighttime work however, the mined tunnel method of construction would require continuous boring until the tunnel is completed. In areas where the cut and cover, and short range micro tunneling (boring) method of construction is used, is assumed that there would be one shift per day. Under this assumption, short range boring could require from 36 to 60 days (about 1 to 2 months). Cumulatively, push site construction and boring would take up to 4 months and would be considered to be "temporary." Even if tunnel boring were to be sequential to cut-and-cover construction activities (see below), the cumulative total construction time would be less than 1 year and would also be considered to be temporary. However, it is assumed that boring and trench construction would be concurrent.

For under-canal boring, the rate of advance would be the same as for under-channel boring. The tunnel length would range from about 100 to 500 feet, depending on which of the alternative launch sites are used for the shafts. Tunneling could require from 10 to 16 days for the longer route, or 3 to 4 days for the shorter route. It is assumed that there would be no nighttime construction.

RECEPTOR SITE EQUIPMENT

Construction activity at the receptor sites would occur during two periods: the initial construction of the shaft, and then, later, when the TBM is extracted from the tunnel and the pipeline is connected at the receptor sites.

The major equipment that would be utilized at the receptor shaft sites would be:

- Crane;
- Jacking equipment;
- Construction/Laydown area (about 5,000 square feet in area for pipe and other equipment storage and staging);
- Truck traffic to and from the pit for transporting tunnel muck (Pipe sections and tunneling equipment are estimated to be approximately 15 truck round trips per day for muck removal and material supply.);
- Construction crew (There would be 25 construction crew on site daily.); and
- Acoustic curtain (To minimize the transmission of noise, it is proposed that a 20- to 30-foot-tall acoustic curtain be installed around the site. This curtain would shield from view all equipment around the receptor site, except for the crane, which will extend beyond the top of the curtain.).

RECEPTOR SHAFT SITE DURATION

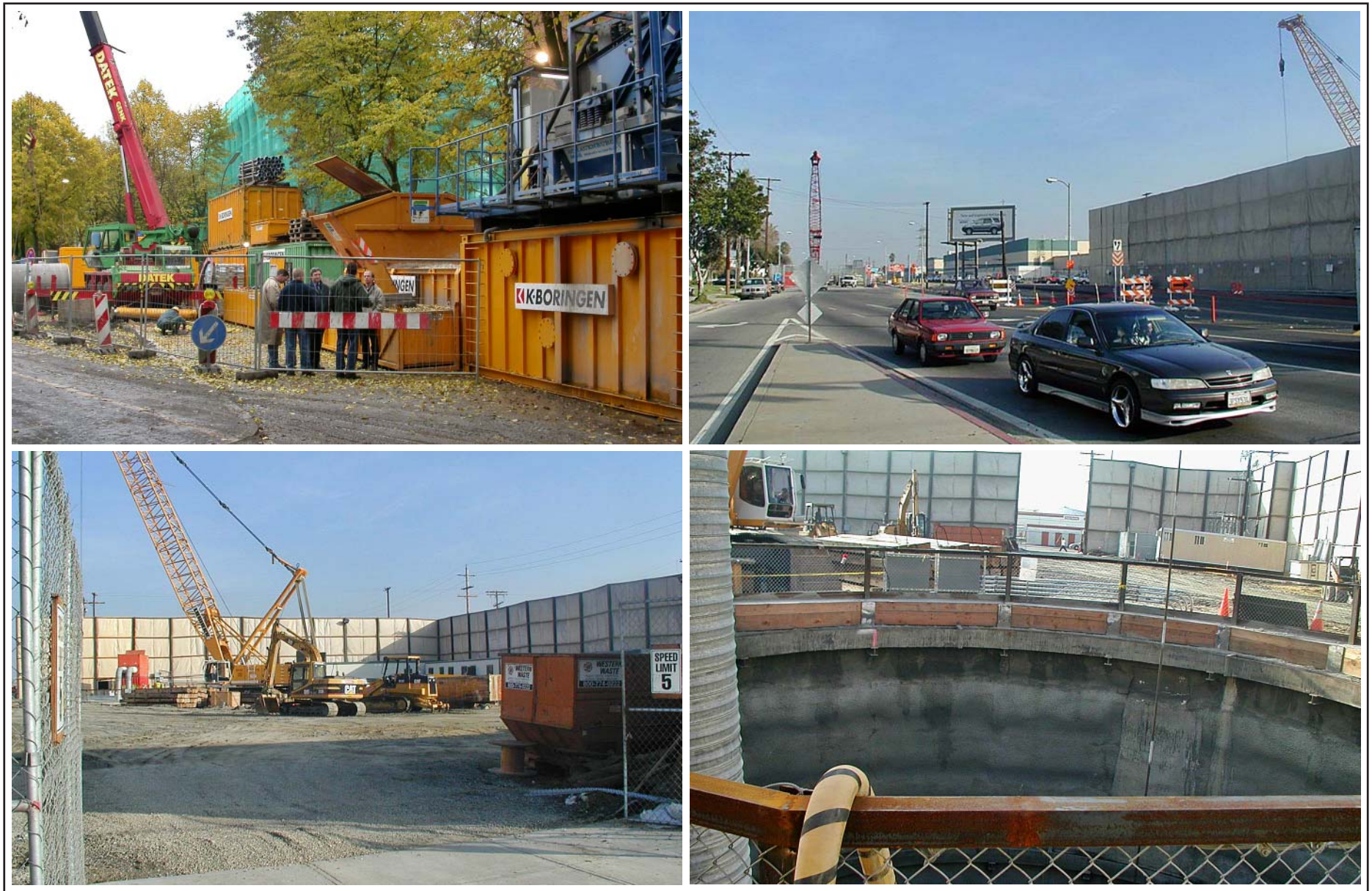
Construction of the receptor shafts would require about 6 weeks each to complete. Then all activity at the sites would cease until under-channel tunnel boring reaches them. At that point, the TBM would be extracted from the receptor shaft and the pipeline would be tied in with either the cut-and-cover alignment. It is estimated that the extraction and tie-in activities would require about 1 week. The receptor shaft site in the vacant lot opposite to the VPP would require 6 weeks to complete, then would lie dormant until under-canal tunnel boring reached the site. One week would be required for TBM extraction and tying the pipeline in with the VPP.

CUT-AND-COVER CONSTRUCTION SITE EQUIPMENT

Cut-and-cover construction is a common method of linear pipeline construction that involves an open trench and sequential activities. The trench would be excavated and then shored up with sheet piles that would be installed 200 to 300 feet ahead of the pipeline crew. Construction involves excavation, the pouring of a concrete foundation, backfilling with a bed of gravel, pipeline installation, backfill and compaction, restoration of curbs and utilities, and re-paving the affected road. Figure 2.3-1 shows one example of a typical array of equipment used in cut-and-cover construction along a public street.

The major visible elements of the cut-and-cover sites would be:

- Concrete saw;
- Pavement breaker;
- Pile driver;
- Excavator;
- Rubber tire loader;
- Cranes (2);
- Backhoe loader/compactor;
- Generator/compressor;
- Soil compactor;
- Asphalt paver;
- Sweeper;
- Water truck;
- Supply truck;
- Haul/dump truck;
- Minimum of 17 to 28 workers on site daily;
- A moving construction/laydown area along 1,000-foot stretches of the alignment; and
- A construction/laydown area next to push and receptor site construction activities.



City of Los Angeles
Venice Pumping Plant
Dual Force Main Project

Clockwise from Top: Construction Equipment for Typical Cut-and-Cover Construction. Sound Barriers, Seen from Street and from within Shaft Construction Area. Shaft, within Sound Barrier.

Figure 2.3-1

CUT-AND-COVER CONSTRUCTION DURATION

Given the proposed cut-and-cover construction sequence, within 12 weeks, approximately 1,800 feet of pipeline installation can be completed to the point that the affected road is returned to its pre-construction state (paved). Given the rate of construction, the duration of construction for the alignment alternatives north of the Marina Del Rey entrance channel would be approximately 7 months, and the alignment south of the entrance channel (Pacific Avenue/Vista Del Mar) would be the same duration. It is assumed that cut-and-cover construction north and south of the entrance channel would occur concurrently. The construction and operation of the launch and receptor sites would be concurrent with the cut-and-cover construction.

LARGE-DIAMETER (MINED) TUNNELING CONSTRUCTION

There are four alternative alignments for mined-tunneling construction; mined tunneling involves a launch shaft and an extraction shaft. The launch shaft would be located on Los Angeles International Airport (LAX) property about 300 feet northeast of Vista Del Mar and as close as 220 feet south of Napoleon Street. There are two alternative extraction sites, one on Dockweiler Beach at the southwest end of Hurricane Street, and the other at the northeast end of Hurricane Street in a vacant lot directly across from the VPP. Mined tunneling uses manned TBMs along a continuous alignment that may be of any length, so this construction alternative would require just the launch shaft and one extraction shaft. Additionally, two 3-foot-diameter escape shafts would be needed, one north and one south of the Marina Del Rey entrance channel, with construction requiring up to approximately 3 to 5 days.

STARTER SHAFT EQUIPMENT

The major equipment for the starter shaft sites would be:

- 30-foot-diameter starter shaft;
- One 160-ton crane to lift/set the TBM and hoist muck cars;
- One 35-ton RT crane to handle segments and load segment cars;
- Office facilities, change houses;
- Cut-and-cover equipment (see above) for open trench construction;
- Support facilities (generator for pumps, electrical substation);
- Construction/Laydown area (12,000 square feet in area for storage of tunnel liner and carrier pipe segments throughout the duration of the tunneling);
- Truck traffic to and from the pit for transporting tunnel muck, pipe sections and tunneling equipment (There would be 15 truck round trips per mining shift.);
- Construction crew (There would be a 20 to 25-person construction crew on site and 20 to 25 passenger-car round trips daily.);
- Lighting may be required for security of the construction site and nighttime construction for mined tunneling; and
- Acoustic curtain (To minimize the transmission of noise, it is proposed that a 20- to 30-foot-tall acoustic curtain be installed around the site. This curtain would shield from view all equipment around the extraction site, except for the crane.).

STARTER SHAFT CONSTRUCTION DURATION

The starter shaft would require approximately 7 months to construct and the tunnel portion of construction would last from 27 to 28 months.

EXTRACTION SITE EQUIPMENT

The major visible elements of the starter sites would differ depending on the phase involved. The first phase is the construction of the shaft, and the second phase is the removal of the TBM and construction of the tie-in with the pipeline that would be installed along Hurricane Street. For construction of the shaft, the following equipment would be needed:

- 20-foot-diameter extraction shaft;
- Crane;
- Jacking equipment;
- Cut-and-cover equipment (see above) for open trench construction;
- Support facilities (generator for pumps, electrical substation);
- Construction/Laydown area (5,000 square feet in area);
- Truck traffic to and from the pit for transporting tunnel muck, pipe sections and tunneling equipment;
- Construction crew;
- Lighting may be required for security of the construction site; and
- Acoustic curtain (To minimize the transmission of noise, it is proposed that a 20- to 30-foot-tall acoustic curtain be installed around the site. This curtain would shield from view all equipment around the extraction site, except for the crane.).

EXTRACTION SHAFT AND CUT-AND-COVER CONSTRUCTION DURATION

The extraction shaft would require approximately 10 weeks to construct and about 1 week for TBM removal after tunnel excavation has been completed. The cut-and-cover construction that is part of the mined-tunnel construction alternative is expected to occur concurrently with tunnel construction.

2.3.1 Project Alternatives

The City's objectives can be achieved by using one of several alternatives described in Section 6.0 of this EIR.

A preferred alternative for the project has not been determined at this time. Equal analysis has been given to each alternative associated with the Project, allowing for a decision to be made in accordance with CEQA Guidelines, which states that sufficient information must be provided to allow meaningful evaluation, analysis, and comparison of the proposed Project. A matrix displaying the major characteristics and significant environmental effects of each alternative are provided in Section 8.0 of this document, which may be used by decision-makers to make comparisons and ultimately choose a preferred alternative alignment for the VPP dual force main sewer.

Based upon the analysis conducted for the alternatives addressed in this EIR, the cut-and-cover method of construction for two of the proposed alignments were deemed not viable; therefore, a detailed impacts analysis is not provided for them. These two proposed alignments are the beachfront alignments on the

north, and south sides of the Via Marina/Ballona Lagoon channels. The deep-mined tunneling method of construction along the beachfront, however, has been analyzed for this project.

Unless otherwise stated, it is assumed that the Project, regardless of the alignment selected or the construction method used, will be designed, constructed and operated following all applicable laws, regulations, ordinances and other formally adopted City standards (e.g., *Los Angeles Municipal Code* and *Bureau of Engineering Standard Plans*). Also, the analysis provided in this EIR assumes that construction will follow the uniform practices established by the Southern California Chapter of the American Public Works Association (e.g., *Standard Specifications for Public Works Construction* and the *Work Area Traffic Control Handbook*) as specifically adopted by the City of Los Angeles [e.g., *City of Los Angeles' Department of Public Works Additions and Amendments to the Standard Specifications For Public Works Construction* ("The Brown Book")].

3.0 ENVIRONMENTAL SETTING

3.1 REGIONAL SETTING

The proposed project is located in the City of Los Angeles and lies along the immediate coastline of the Santa Monica Bay in the communities of Venice and Westchester/Playa Del Rey. Venice and Westchester/Playa Del Rey are bounded by Santa Monica on the north and El Segundo on the south and are known as popular beach communities with scenic parks, recreational areas and scenic vistas from upland areas on the east to the ocean fronting both communities on the west (see Figure 2.1-1 in Section 2.0, Project Description).

3.2 LOCAL SETTING

The VPP is located on Hurricane Street on the west bank of the Grand Canal and the Ballona Lagoon, at the junction of the two features in the Community of Venice. The VPP conveys sewage from the western part of the City of Los Angeles and transports it southerly under the Dockweiler Beach, under the Marina Del Rey Channel and through the communities of Westchester/Playa Del Rey, along Vista Del Mar Avenue to the Hyperion Treatment Plant in Playa Del Rey (see Figure 2.2-2 of Section 2.0, Project Description). There are parks and recreational areas surrounding the project to the east with public beaches and recreational facilities to the west, along the shoreline facing the Pacific Ocean.

3.3 RELATIONSHIP TO REGIONAL AND/OR LOCAL PLANS

The Project is subject to meeting the requirements of the following regional and local plans, which are more specifically described in Section 5.9, Land Use Plans:

- Los Angeles County General Plan;
- Marina Del Rey Local Coastal Program Implementation Plan;
- Marina Del Rey Specific Plan;
- City of Los Angeles General Plan;
- Venice Community Plan;
- Venice Coastal Specific Plan;
- Ballona Lagoon East/West Bank Sub-areas;
- Silver Strand Sub-area;
- Marina Peninsula Sub-area;
- Venice Land Use Plan (LUP);
- Westchester/Playa Del Rey Community Plan; and
- Westchester/Playa Del Rey Specific Plans.

4.0 ALTERNATIVES UNDER CONSIDERATION

Alternatives under consideration for this Project are defined by the alignment and construction method (alternative = alignment + construction method).

4.1 CONSTRUCTION METHODS

The three construction methods for consideration in this EIR are: (1) Cut-and-cover, (2) Micro-tunneling (or "boring"), which are proposed for optional alignments as described below, and (3) Continuous large-diameter (or "mined") tunneling, which is described below as an alternative means of constructing the sewer. Each method provides both benefits and issues of concern for the project. For example, while open trench with micro-tunneling construction costs less, mined tunneling would eliminate the majority of traffic and parking impacts to residential areas both north and south of the channels in Venice and can facilitate mitigation of other impacts such as noise and visual aesthetics.

4.1.1 Cut-and-Cover Construction

Cut-and-cover construction is a very common method of linear pipeline construction and replacement. The contractor would not start work in all areas on a site at the same time, but rather would proceed with finishing and restoring relatively short segments at a time. Underground utilities that conflict with the construction would be temporarily relocated as necessary.

For the purpose of this EIR, it is assumed that the 54-inch pipe would be placed on a 1-foot gravel bed on top of a 1-foot concrete mud slab placed at the bottom of an approximately 8-foot wide and 12-foot deep trench. A shoring-installation crew would get a head-start driving sheet piles approximately 200 to 300 feet in front of the pipeline crew. The latter would excavate approximately 80 feet of trench every day and pour the mud slab. The next day, 80 feet of pipe would then be installed and backfilled. This approach would yield an effective production rate of about 40 feet of completed pipe installation per day (i.e., 200 feet per week). Subsequent to pipe installation, a third crew would extract shoring, restore curbs and utilities, and repave about 600 feet of roadway every 3 weeks. With this approach, major construction activities could be limited to within relatively short segments of about 1,000 feet at any given time (Figure 4.1-1, Cut-and-Cover Construction).

4.1.2 Small-Diameter Micro-Tunneling (Boring)

Boring is a trenchless construction method, which utilizes hydraulic jacks to push pipes through the ground behind a remotely operated TBM. Drive lengths are generally limited to about 1,000 feet, depending upon ground conditions and pipe size; but intermediate jacking stations can be used to extend the drive length. Unlike conventional trenching techniques that require excavation for the entire length of pipeline, excavation for tunneling is limited to the endpoints of each drive at designated launching (jacking) and receiving pits. The launching pit contains the hydraulic jacks used to push the pipes, and the receiving pit is used to recover the TBM at the end of each drive. Tunneling can proceed intermittently; although, it is often necessary to proceed continuously, particularly on long drives through sticky soils, to prevent the pipe from getting stuck short of the receiving pit. Tunnel advance rates are typically between 30 and 50 feet per 8-hour work shift, depending on soil conditions and pipe size.



CUT-AND-COVER CONSTRUCTION

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.1-1

The tunnel face is supported by a thick liquid ("slurry"), which is a mixture of the excavated soil ("muck") and bentonite (a natural clay mineral). Keeping the slurry pressurized in a closed chamber behind the cutter-head of the TBM prevents groundwater and excess soil material from entering the TBM. This minimizes tunneling-induced ground settlements and associated damage to existing utilities and buildings along the tunnel alignment. A mixture of the excavated muck and slurry is pumped from the TBM to a slurry-processing plant on the surface, where soil particles are extracted from the slurry with vibrating screens and cyclones. The extracted soil is hauled away for disposal off-site, and the cleaned slurry is pumped (recycled) back to the TBM. The slurry-processing plant, remote control cabin for operating the TBM, as well as cranes and other construction equipment, are located near the jacking pit. The equipment setup is site specific, depending on available space. The jacking pipe, which is made of reinforced concrete or steel, serves as a temporary tunnel liner. Upon completion of the tunnel drive, the carrier pipe will be inserted and the space between it and the jacking pipe will be filled with grout.

4.1.3 Large-Diameter (Mined) Tunneling

In contrast to small-diameter micro-tunnels, which are constructed by remote-controlled TBMs and pipe-jacking, large-diameter tunnels (i.e., minimum excavated diameter = 10 to 12 feet) can be constructed with manned TBMs. The most important difference between these larger TBMs and the micro-tunneling machines discussed above is that the tunnel liner can be erected in segments immediately behind the TBM. This type of tunnel liner does not need to be continuously pushed (jacked) forward, and there is no length limitation due to frictional resistance building up with increasing tunnel length. For tunneling below the groundwater level without the need for dewatering, pressurized-face TBMs are used to stabilize the tunnel face and prevent the water from entering the TBM. There are two basic types of these machines: (1) Slurry TBMs and (2) Earth Pressure Balance (EPB) TBMs.

Both types of TBMs use pressurized muck to stabilize the tunnel face. The liquidized muck in Slurry TBMs is pumped in the same manner as described above for micro-tunneling. In contrast, the muck in EPB TBMs is more solid ("toothpaste-like"). Therefore, it is extracted from the face chamber of the TBM by means of a screw conveyor and then transported out of the tunnel by muck cars on rails or with a belt conveyor.

4.2 CUT-AND-COVER ALIGNMENT ALTERNATIVES

The City's objectives can be achieved by any one of several proposed construction alternatives under consideration in this section. During the course of this study and analysis, the cut-and-cover method of construction for two of the alignments proposed as alternatives to this project were "considered but determined to be not viable." They are: The South Dockweiler Beach to Pacific Avenue cut-and-cover alternative and the Dockweiler Beach cut-and-cover alternative, as described below. For the purpose of this EIR, these alignment alternatives are described without extended detailed analysis and the reason for their rejection are described in Section 6.0 of this document (Figure 4.2-1, Alignment Alternatives Overview).



ALIGNMENT ALTERNATIVES

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.2-1

MARINA DEL REY

Marquesas Way/Via Marina Way

From the existing VPP on Hurricane Street, the alignment would proceed east under the Grand Canal and along Marquesas Way, then southeasterly on Via Marina to the Marina Del Rey entrance channel to a boring shaft. From there, the alignment continues south along Pacific Avenue and Vista Del Mar to the connection near Waterview Street. This alignment is about 10,400 feet long. The new 54-inch line would be constructed by boring tunneling under the Grand Canal, cut-and-cover along Marquesas, Via Marina Way and Pacific Avenue/Vista Del Mar, and boring tunneling approximately 1,800 feet to cross the Marina Del Rey Channel and Ballona Creek. This alternative route has an estimated construction cost of $46,700,000.

VENICE

Pacific Avenue Alignment

From the pumping plant on Hurricane Street, the alignment would proceed westerly to Pacific Avenue, then turn southeast and proceed along Pacific Avenue, cross under the Marina Del Rey and Ballona Creek channels, and continue southeast within Pacific Avenue and Vista Del Mar to a junction structure under Vista Del Mar near Waterview Street. This alternative would be constructed by using the cut-and-cover method in the streets and tunneling beneath the channels. The approximate cost is $46,700,000.

Dockweiler Beach to Pacific Avenue Alignment

From the pumping plant on Hurricane Street, the alignment would proceed westerly to the existing 20-foot-wide sewer easement in Venice Municipal Beach and Dockweiler State Beach, then turn southeast and cross under the Marina Del Rey and Ballona Creek channels, and continue south within the Pacific Avenue and Vista Del Mar alignments to a junction structure under Vista Del Mar near Waterview Street. The cut and cover method of construction was initially considered for this alignment, however, due to the extensive number of impacts that it would impose along the beachfront, it was deemed not viable. The micro-tunnel method of construction is still an option for this alignment. The cost to micro-tunnel from Hurricane to the channel would be approximately $45,000,000.

Dockweiler Beach Alignment

From the pumping plant on Hurricane Street, the alignment would proceed westerly to the existing 20-foot wide sewer easement in Venice Municipal Beach and Dockweiler State Beach, then turn southeast and cross under the Marina Del Rey and Ballona Creek channels, and continue south along the Dockweiler Beachfront to a point west of the junction structure in Vista Del Mar near Waterview Street. From this point, the line runs easterly to the junction structure under Vista Del Mar near Waterview Street. The cut and cover method of construction was initially considered for this alignment, however, due to the extensive number of impacts that it would impose along the beachfront, it was deemed not viable. The micro-tunnel method of construction is still an option for this alignment. The cost to micro-tunnel from Hurricane to the tie in near Waterview in Playa Del Rey would be approximately $45,000,000.

WESTCHESTER/PLAYA DEL REY ALIGNMENT ALTERNATIVES

The alignment alternatives located in Westchester/Playa Del Rey are identified in the narratives above as the southern portion of the alignment descriptions and are located on Pacific Avenue/Vista Del Mar and on Dockweiler Beach respectively (Figure 4.2.1).

CHANNEL CROSSING

As noted in the alignment alternatives descriptions, each alignment under consideration crosses the Marina entrance channel and Ballona Creek, requiring approximately 1,800 feet of tunneling under the two channels. The location and alignment of the channel crossing will ultimately be determined by the chosen alternatives for the north and south portions of the overall sewer alignment.

SHAFTS AND LAYDOWN AREAS

The shafts for the boring associated with the cut-and-cover alignments (that is, locations where construction equipment will be used on the surface and visible during the construction of the particular alignment) may be located at any of the following locations numbered from 4 to 12 respectively (Figure 4.2-2):

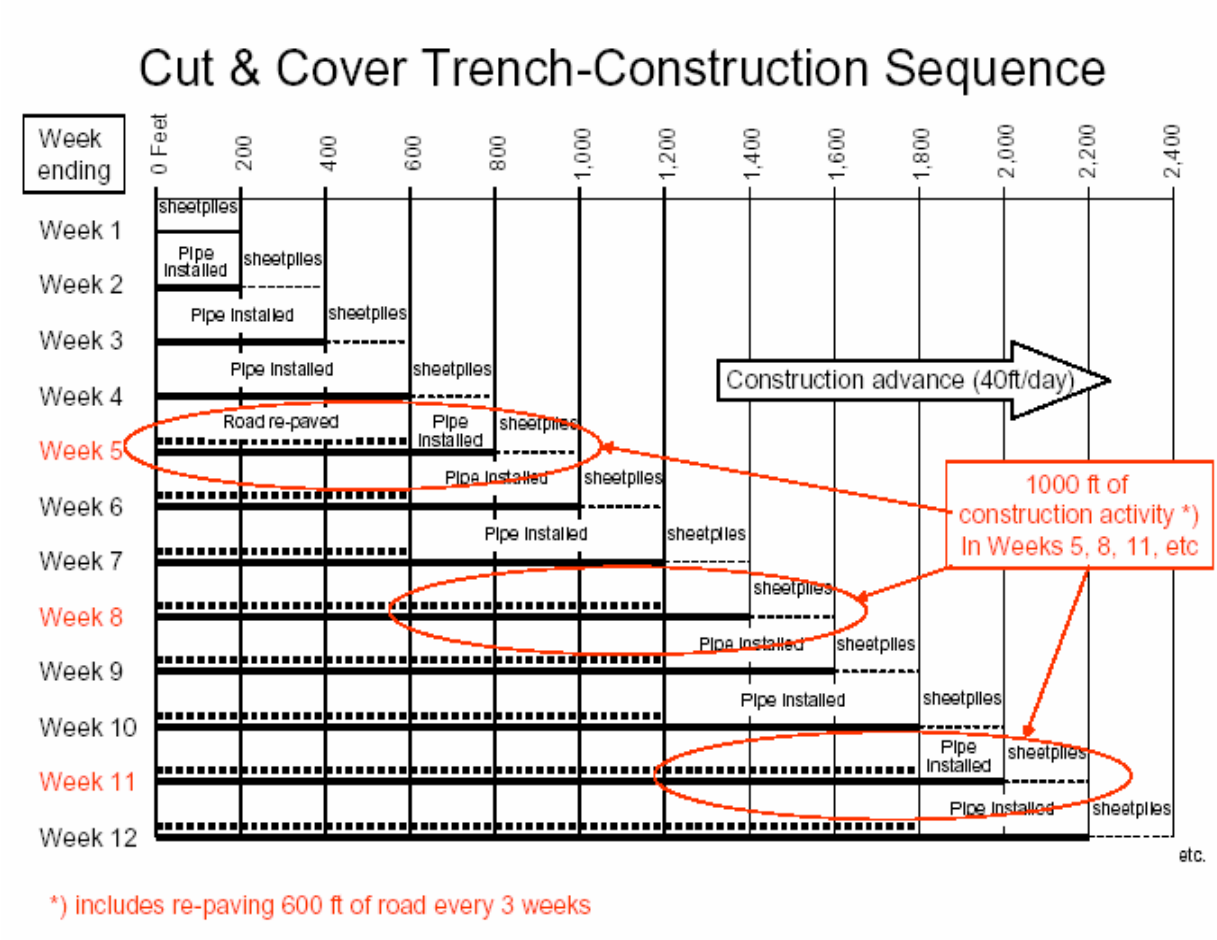
- #4 - 62nd Avenue at Pacific Avenue;
- #5 - The beach south of the Ballona Creek Channel;
- #6 - The beach at Waterview;
- #7 - Via Maria at Pacific Avenue;
- #8 - Marquesas Way at Via Marina;
- #9 - The beach at Hurricane Street;
- #10 - Hurricane at Canal Street;
- #11 - Hurricane at the Grand Canal; and
- #12 - Via Marina at the County surface parking lot.

TIMELINES FOR CUT-AND-COVER / BORING CONSTRUCTION

Each method of construction will have temporary impacts to the immediate and surrounding vicinity of the chosen alignment. In an effort to provide accurate information regarding the length of time associated with these impacts, Table 4.2-1 outlines the estimated duration of time it will take to install the sewer for each of the proposed alignment alternatives.

Table 4.2-1 Construction Duration for Cut-and-Cover/Boring Method

Alignment	Cut-and-Cover Location	Boring/Tunneling Location	Approximate Length in Feet (Lft)	Duration +/-
Marina Del Rey		Grand Canal	500	10-16 days
	Marquesas/Via Marina Way (to #1)		3,800	25 weeks
	Marquesas/Via Marina Way (to #2)		4,300	29 weeks
Venice	Hurricane Street		400	3 weeks
	Pacific Avenue		4,000	27 weeks
		Via Marina/Ballona Lagoon Channel	1,800	8 weeks
Westchester/ Playa Del Rey	Pacific Avenue		2,400	16 weeks
	Vista Del Mar		1,700	12 weeks
For All cut-and-cover alignments		Marina entrance/Ballona Lagoon Channels	1,800	8 weeks


Cut & Cover Trench-Construction Sequence
Week ending
0 Feet
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
2,200
2,400
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
sheetpiles
Pipe Installed
Road re-paved
Construction advance (40ft/day)
1000 ft of construction activity *) In Weeks 5, 8, 11, etc
etc.
*) includes re-paving 600 ft of road every 3 weeks



SHAFTS AND LAYDOWN AREAS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.2-2

CONSTRUCTION LAYDOWN AREAS

It is important to provide adequate space for staging construction operations so that pipe installation can be completed efficiently. Construction areas for cut-and-cover trenching would "travel with" progress. An area 1,000 feet long and approximately one lane wide would be under construction at any given time for driving sheet piles, trenching, laying pipe, backfilling, and paving. Some laydown areas would "travel with" progress; others may remain in one location throughout the duration of the project and would be removed upon final completion of the project. At least 10,000 square feet would be added to shaft laydown areas for this purpose. Construction access to jacking pits would be provided for transporting tunnel muck, pipe sections, and tunneling equipment. A typical pit site utilizes enough space for the jacking pit, slurry separation tanks, a crane, the control cabin, pipe storage, and support facilities (e.g., generator, power pack, and bentonite lubrication unit). The jacking pit is placed a sufficient distance from overhead electrical lines to avoid hazards in operating the crane. A gantry system may be used instead of a crane for smaller pipe sizes. These areas will contain anywhere from 12,000 to 5,000 square feet of additional space at shaft locations.

4.3 MINED-TUNNEL ALTERNATIVES

The mined-tunneling method of construction of the sewer is under consideration for the following alignment areas/locations (Figure 4.3-1):

Alt. 1 - Beach Alignment (Waterview to Hurricane) (also see Figures 4.3-2, 4.3-3, and 4.3-5)

Alt. 2 - Beach Alignment (LAX to Hurricane) (also see Figures 4.3-4, 4.3-5, 4.3-6, and 4.3-7)

Alt. 3 - Beach Alignment (LAX to VPP) (also see Figures 4.3-6, 4.3-7, and 4.3-8)

Alt. 4 - Inland Alignment (LAX to VPP) (also see Figures 4.3-7 and 4.3-9)

CONSTRUCTION-RELATED IMPACTS AND MITIGATION ACTIONS ASSOCIATED WITH MINED TUNNELING

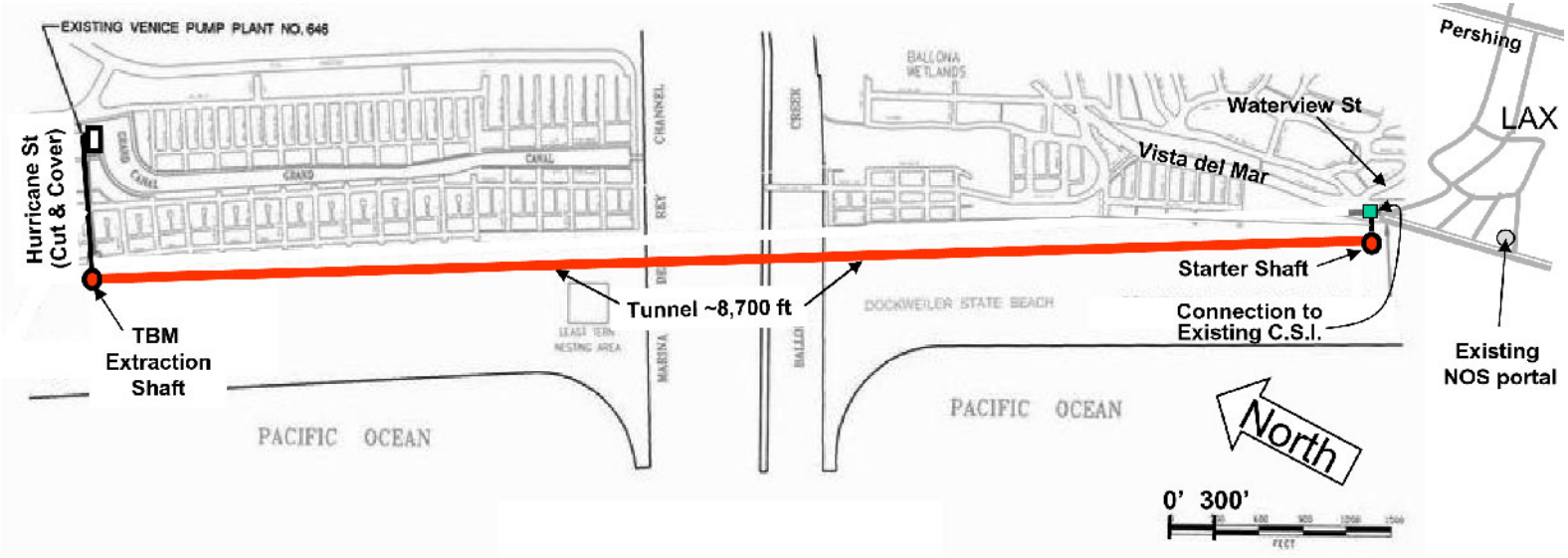
Oil Wells – There are hundreds of abandoned oil wells dotting the Venice area and Marina Del Rey Channel. Probing for possible oil wells ahead of the TBM will have to be performed during tunneling along any of the alternative alignments. This may be accomplished by magnetometer surveys performed in horizontal borings drilled from the TBM (Figure 4.3-10).

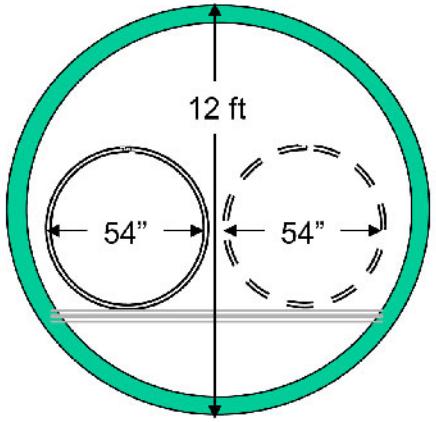
Methane Zones – Because the project area is designated as a "Methane Zone," emergency escape shaft(s) need to be provided during tunnel construction at intervals not exceeding 5,000 feet. With the alternative tunnel alignments being no more than 10,000 feet long, one escape shaft could be sufficient. However, since the Marina Del Rey Channel is right in the center of the alignment, it may be necessary to construct one of these shafts on either side of the channel. These shafts may be relatively simple consisting of nothing more than a 3-foot-diameter vertical casing accessible through the roof or side wall of the tunnel; and construction can be accomplished with a drill rig within a few days with minimal impact on the surface.



LARGE-DIAMETER (MINED) TUNNEL ALTERNATIVES

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-1





VENICE FORCE MAIN

Mined (Large-Diameter) Tunnel

Alternative 1
Beach Alignment
Waterview St. to Hurricane St.

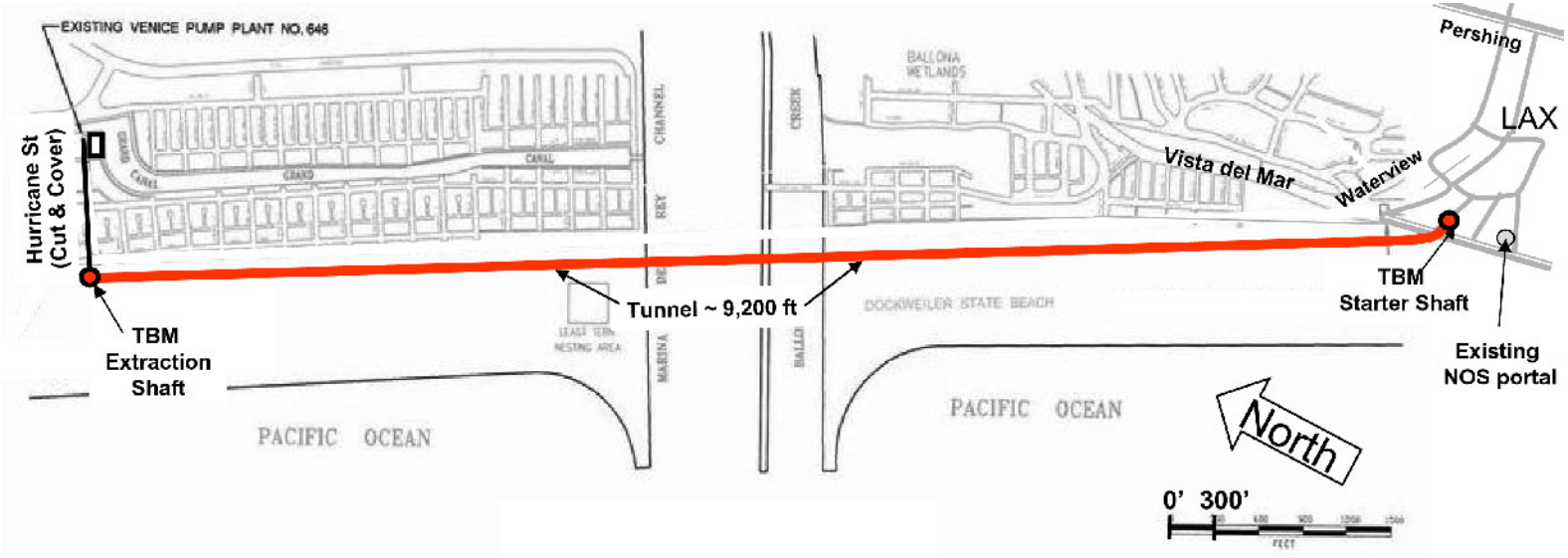
MINED (LARGE-DIAMETER) TUNNEL - ALIGNMENT 1

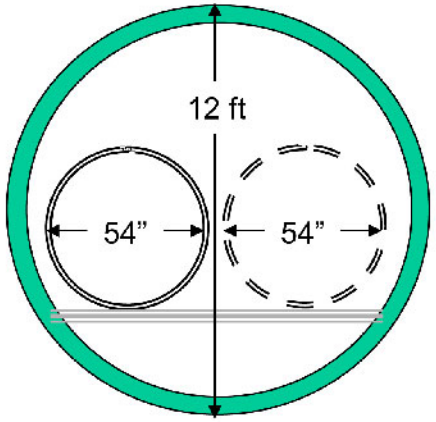
URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-2



MINED TUNNEL ALTERNATIVE 1: CUT-AND-COVER CONNECTION NEAR WATERVIEW ST.

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-3





VENICE FORCE MAIN

Mined (Large-Diameter) Tunnel

Alternative 2
Beach Alignment
LAX Shaft → Hurricane St

MINED (LARGE-DIAMETER) TUNNEL - ALIGNMENT 2

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-4



MINED TUNNEL ALTERNATIVES 1 & 2: CUT-AND-COVER CONNECTION ALONG HURRICANE ST.

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-5



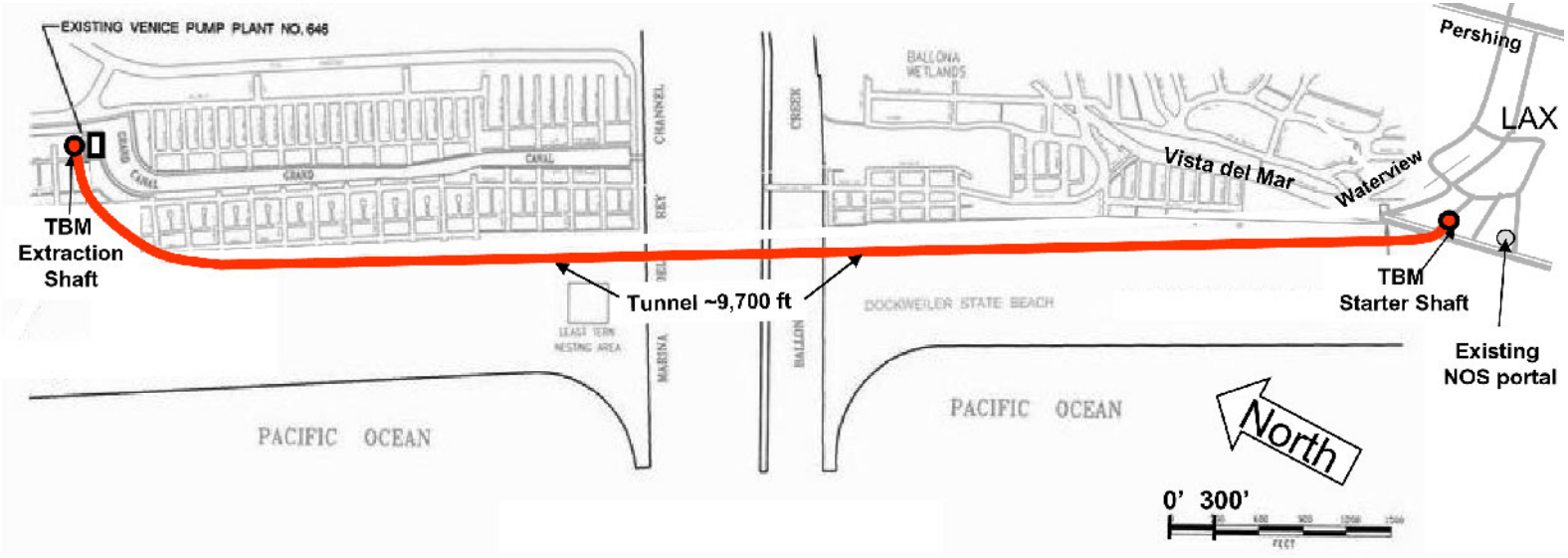
MINED TUNNEL ALTERNATIVES 2 & 3: TBM EXTRACTION SHAFT AT VENICE PUMP PLANT

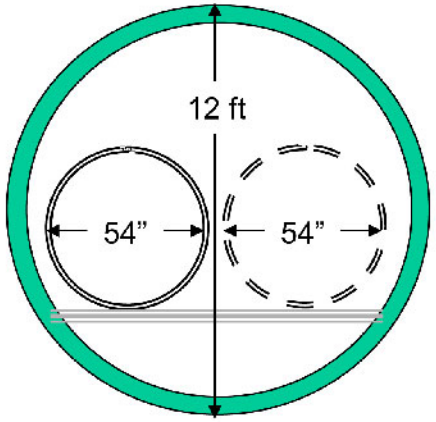
URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-6



MINED TUNNEL ALTERNATIVES 2, 3 & 4: TBM STARTER SHAFT AT LAX PROPERTY

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-7





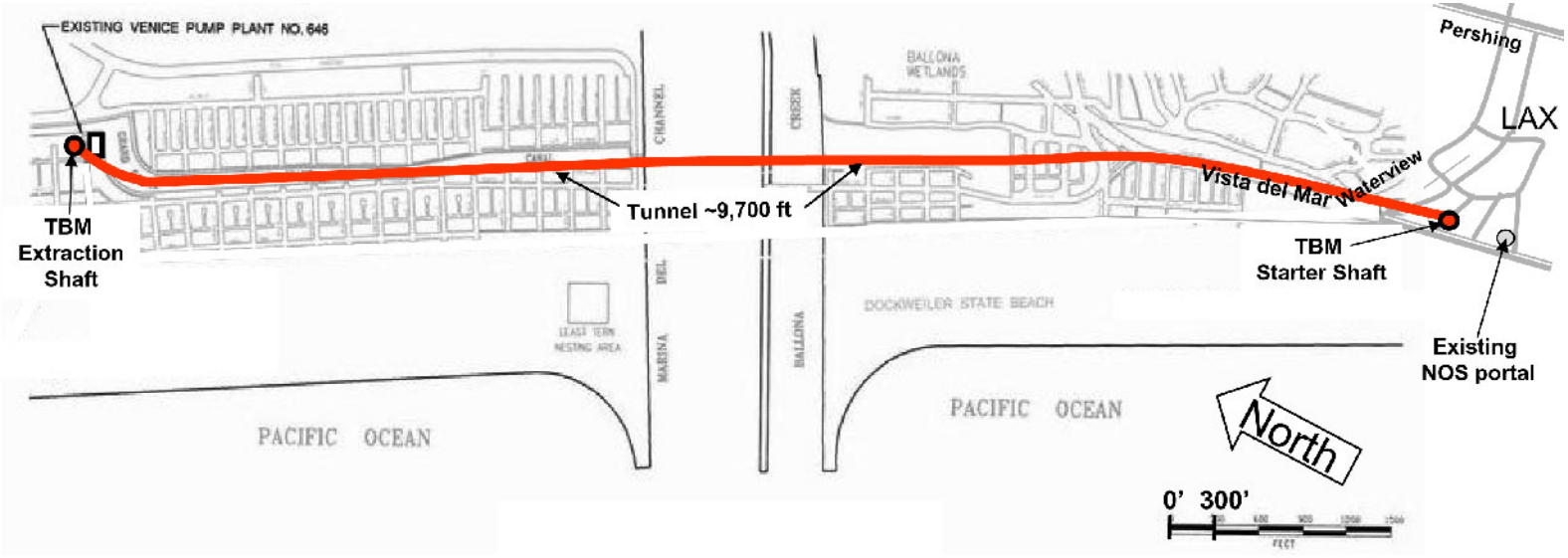
VENICE FORCE MAIN

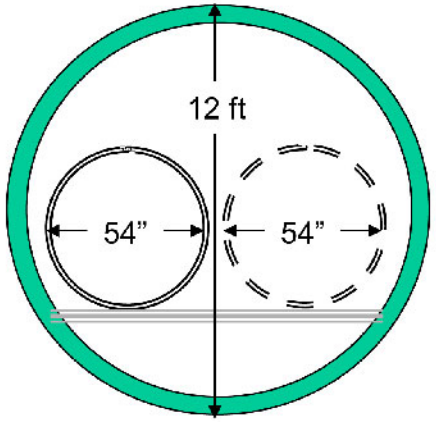
Mined (Large-Diameter) Tunnel

Alternative 3
Beach Alignment
LAX Shaft → Venice Pump Plant

MINED (LARGE-DIAMETER) TUNNEL - ALIGNMENT 3

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-8





VENICE FORCE MAIN

Mined (Large-Diameter) Tunnel

Alternative 4
Inland Alignment
LAX Shaft → Venice Pump Plant

MINED (LARGE-DIAMETER) TUNNEL - ALIGNMENT 4

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-9



OIL WELLS MINED TUNNELING

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 4.3-10

TIMELINES ASSOCIATED WITH MINED-TUNNELING CONSTRUCTION ALTERNATIVE

Rough-order-of-magnitude (ROM) estimates have been prepared for consideration in the EIR. Table 4.3-1 below summarizes estimated construction costs and durations:

Table 4.3-1 Rough-Order-of-Magnitude for Mined-Tunneling Construction

Alternative	Length of Tunnel [feet]	Cost Estimate (tunnel only) [million $]	Construction Duration (tunnel only) [months]	Length of Cut-and-Cover Construction (in addition to tunnel) [feet]
1	8,700	64.7	27	1,300
2	9,200	66.8	27	1,000
3	9,700	67.8	28	300
4	9,700	67.8	28	300

CONSTRUCTION LAYDOWN AREAS

Construction laydown areas of at least 12,000 square feet would be required for the starter shaft sites which, in addition to construction of the shaft itself, will also handle muck disposal and storage of tunnel-liner and carrier-pipe segments throughout the duration of tunneling. An area of only about 5,000 square feet would be required for constructing the TBM extraction shafts for an approximate duration of 10 weeks; plus about 1 week for TBM removal after tunnel excavation has been completed (see Figure 4.2-2).

5.0 ENVIRONMENTAL ANALYSIS

5.1 INTRODUCTION

In accordance with Sections 15126.2 through 15130(a) through (e) of the CEQA Guidelines, this EIR examines the significant environmental effects of the proposed Project and discusses any significant irreversible environmental changes or growth-inducing impacts resulting from the Project. For each impact identified, this EIR describes proposed mitigation measures to minimize the significant effects caused by them.

TECHNICAL STUDIES

Technical studies and analyses were conducted for the purpose of establishing existing conditions, thresholds of significance and environmental impacts for each resource which may be impacted as a result of the Project. Information derived from each technical report is summarized in this EIR. The technical reports are located in Appendices C through I of this document.

POTENTIAL IMPACTS FOUND NOT TO BE SIGNIFICANT

The following impacts were found to be less than significant and therefore, are not analyzed in this EIR:

- Agricultural Resources – There are no agricultural resources in the project area.
- Mineral Resources – The project will not result in the loss of valuable mineral resources to the region or in the vicinity of the project.
- Population and Housing – The project will not impact growth in either population or housing or displace any existing numbers of people or housing.

ENVIRONMENTAL ANALYSIS

The following sub-chapters provide an analysis for each environmental resource of concern for this project as identified in the Initial Study located in Appendix A of this document. Although there will be no significant long term or permanent adverse impacts to the environment resulting from the construction of the proposed new sanitary sewer dual force main, mitigation measures have been identified for the purpose of reducing construction-related impacts only due to the extended duration of the project's construction phase, which is estimated to be from 18 to 24 months.

5.2 AIR QUALITY

5.2.1 Environmental Setting

The proposed Project is located in the South Coast Air Basin (SCAB) with SCAQMD monitoring and regulating air quality from stationary sources within the SCAB.

REGIONAL AIR QUALITY

The air quality in the SCAB is influenced by its climate, which is in turn determined by its terrain and geographical location. The SCAB is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB.

The SCAB is ensconced in the semi-permanent, high-pressure zone of the eastern Pacific, thus its climate is mild, tempered by cool ocean breezes, and its salubrious climatological pattern is interrupted by rare periods of extremely hot weather or winter storms.

Annual average temperature fluctuates minimally throughout the SCAB, ranging from the low to mid 60s, measured in degrees Fahrenheit (°F). Due to more pronounced oceanic influence, coastal areas have less variability in annual minimum and maximum temperatures than inland areas.

Precipitation in the SCAB occurs mainly between November and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB, along the coastal side of the mountains (see subsequent section for local precipitation data.).

A temperature inversion (increasing temperature with increasing altitude) persists over much of the SCAB as a result of the strength and position of the sub-tropical high-pressure cell over the Pacific Ocean. This inversion limits the vertical dispersion of air contaminants, thereby increasing their ground level concentration. With solar heating of the ground and the lower air layer, the temperature of the air at lower elevations approaches the temperature of the base of the inversion (upper) layer until the inversion layer is eroded, enabling vertical mixing within the planetary boundary layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning. During the fall and winter months, Santa Ana winds – strong, dry north or northeasterly winds – disperse air contaminants for several days at a time (See subsequent section for local wind data.).

Coupling stagnant wind conditions and low inversions yield the greatest air pollutant concentrations. Ambient air pollutant concentrations are generally lowest on days of no inversion or high wind speeds. The greatest pollution problems in winter are carbon monoxide (CO) and oxides of nitrogen (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the more intense sunshine and longer daylight hours cause hydrocarbons and NO_x to react and form photochemical smog.

The California Legislature created the SCAQMD in 1977 by merging the air pollution control districts of the four counties sharing the SCAB. The SCAB covers an area of 6,745 square miles with a population of 14.6 million, while the larger SCAQMD boundary includes 10,743 square miles and a population of 15

million. The SCAB includes portions of Los Angeles, Riverside and San Bernardino counties and all of Orange County[1].

The SCAQMD is a non-attainment area for ozone (O_3), CO, and fine, suspended particulate matter less than 10 microns (PM_{10}) and 2.5 microns in diameter ($PM_{2.5}$)[1] and in attainment for the other criteria pollutants, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). To maintain the attainment status and reduce emissions for the non-attainment pollutants, the SCAQMD has established daily emission thresholds for all criteria pollutants to determine the significance of air quality impact from proposed projects. A significant impact would occur if the project resulted in substantial emissions during construction or operation that would exceed the established thresholds. For example, one of the proposed alternatives is to install the sewer line along the beach to minimize traffic impact to the project area. It should be noted that depending on wind conditions throughout the day, the excavation and transporting of sand, which also contains fine particulates, could potentially become airborne and cause a nuisance to nearby residences and sun bathers. To minimize airborne particulates, construction best management practices (BMPs) such as application of water should be implemented during the construction of the proposed sewer line.

LOCAL AIR QUALITY

Annual rainfall in the vicinity of the Project site can be characterized by historical average total precipitation data from Santa Monica Pier – National Climatic Data Center (NCDC), Cooperative Station, number 047953. NCDC data indicate that the bulk of annual precipitation occurs between November (1.46 inches) and March (1.94 inches), peaking in February (3.04 inches). Summer rainfall is minimal and the average total precipitation undergoes a seasonal reduction from 0.79 inches (April) to 0.02 inches (July).

Southwesterly winds dominate in the vicinity of the project site, as evidenced by historical meteorological data records from Santa Monica Airport. Annual average wind speed was 7.4 miles per hour (mph) with the highest winds occurring from April (8.5 mph) to May (8.4 mph) and the slowest winds in January (6.2 mph).

Ambient monitoring stations are used to collect ambient criteria pollutant data, which are used to determine whether the region is in attainment with the National Ambient Air Quality Standards (NAAQS) or the California Ambient Air Quality Standards (CAAQS). The NAAQS and CAAQS are designed to protect public health and to prevent degradation of the environment. The NAAQS and CAAQS are provided in Table 5.2-1. The California Clean Air Act (CCAA) of 1988 required non-attainment areas in the state to prepare air quality attainment plans. The attainment plans are required to achieve a minimum 5 percent annual reduction in the emissions of non-attainment pollutants, unless all feasible measures have been implemented. The SCAB is currently classified as a non-attainment area for O_3, CO, $PM_{2.5}$, and PM_{10}. The SCAB is technically in attainment for CO but has not been reclassified by the EPA; therefore, the current designation is considered as serious non-attainment. The attainment status for the SCAB is provided in Table 5.2-2.

[1] U.S. Environmental Protection Agency web page - http://www.epa.gov/air/data/monvals.html

Table 5.2-1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	0.12 ppm (235 µg/m^3)[8]	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)*		0.08 ppm (157 µg/m^3)[8]		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation*	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Geometric Mean	20 µg/m^3		50 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		65 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	NDIR
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	--
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	--	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 µg/m^3)		--		
Lead[9]	30 days average	1.5 µg/m^3	Atomic Absorption	--	--	--
	Calendar Quarter	--		1.5 µg/m^3	Same as Primary Standard	High-volume Sampler and Atomic Absorption
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	Ultraviolet Fluorescence	0.30 ppm (80 µg/m^3)	--	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm 105 µg/m^3)		0.14 ppm (365 µg/m^3)	--	
	3 Hour	--		--	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		--	--	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles of more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		NO FEDERAL STANDARDS		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			

** This concentration was approved by the California Air Resources Board (CARB) on April 28, 2005, and is expected to become effective in early 2006. (See Table notes provided on the following page*

Table 5.2-1 Notes:

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter-PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. New federal 8-hour ozone and fine particulate matter standards were promulgated by EPA on July 18, 1997. Contact EPA for further clarification and current federal policies.
9. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Acronyms:
$\mu g/m^3$ – micrograms per cubic meter
°C – degrees Celsius
EPA – U.S. Environmental Protection Agency
mg/m^3 – milligrams per cubic meter
ppm – parts per million

Source: California Air Resources Board (11/29/05)

Table 5.2-2 State and Federal Attainment/Non-Attainment Designations for South Coast Air Basin

Criteria Pollutant	County	State	Federal	
CO	Los Angeles County (P)	A	N	Serious
	Orange County	A	N	Serious
	Riverside County (P)	A	N	Serious
	San Bernardino County (P)	A	N	Serious
NO_x		A	A	A
SO_x		A	A	A
PM_{10}		N	N	Serious
$PM_{2.5}$		N	N	
Ozone (1-hour)		N	N	Extreme
Ozone (8-hour)		N	N	Severe 17
Lead		A		

Source: www. arb.ca.gov

The SCAQMD maintains ambient air quality monitoring stations throughout the SCAB and the air quality monitoring stations nearest to the Project site are the Lynwood (11220 Long Beach Boulevard, Lynwood) and Hawthorne (5234 West 120th Street, Hawthorne) monitoring stations located approximately 19 and 13 miles, respectively, from the VPP. While the Hawthorne station is closer to the project site, use of air quality data from the less proximate Lynwood site is necessary because the Hawthorne station lacked $PM_{2.5}$ monitoring data. Table 5.2-3 shows the criteria pollutants monitored at the Hawthorne and Lynwood stations, which include CO, O_3, NO_2, and $PM_{2.5}$. SO_2 and Pb are not listed because there have been no exceedances of the federal or state standards in the past 10 years.

The ambient air quality data in Table 5.2-3 show that CO and NO_2 levels are below the relevant state and federal standards at the Hawthorne site for the past 5 years. Hawthorne 1-hour O_3 and PM_{10} levels are below the federal standards but have exceeded the state standards within the past 5 years. The $PM_{2.5}$ concentration monitored at the Lynwood station exceeded the federal standard most recently in 2001 and has not been exceeded in the last few years.

The following paragraphs briefly describe the adverse health effects of the six criteria pollutants monitored in the Basin.

Ozone – O_3 is formed by photochemical reactions between NO_x and reactive organic gases, rather than being directly emitted. O_3 is a pungent, colorless gas typical of southern California photochemical smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, elderly, and young children. O_3 levels peak during the summer and early fall months.

Carbon Monoxide – CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. CO passes through the lungs into the bloodstream, where it interferes with the transfer of oxygen to body tissues.

Table 5.2-3 Ambient Air Quality at Air Monitoring Stations Close to the Project Site

	Carbon Monoxide (CO)				Ozone (O_3)				Respirable Particulate Matter (PM_{10})		Fine Particulate Matter[1] ($PM_{2.5}$)		Nitrogen Dioxide (NO_2)	
	Max 1-hour Conc. (ppm)	Number of Days Exceeded	Max 8-hour Conc. (ppm)	Number of Days Exceeded	Max 1-hour Conc. (ppm)	Number of Days Exceeded	Max 8-hour Conc. (ppm)	Number of Days Exceeded	Max 24-hour Conc. ($\mu g/m^3$)	Number of Days Exceeded	Max 24-hour Conc. ($\mu g/m^3$)	Number of Days Exceeded	Max 1-hour Conc. (ppm)	Number of Days Exceeded
State Standards	> 20 ppm/ 1 hour		> = 9 ppm/ 8 hour		> 0.09 ppm/ 1 hour		> 0.070 ppm/ 8 hour[2]		> 50 $\mu g/m^3$/ 24 hour		> 65 $\mu g/m^3$/ 24 hour		> 0.25 ppm/ 1 hour	
2004	5.8	0	4.43	0	0.069	0	ND[3]	ND[2]	52.0	2	55.8	0	0.084	0
2003	6.5	0	5.04	0	0.110	2	0.077	NA[3]	58.0	3	54.8	0	0.120	0
2002	6.8	0	6.00	0	0.087	0	0.072	NA[3]	121.0	12	64.0	0	0.099	0
2001	7.3	0	5.21	0	0.098	1	0.079	NA[3]	75.0	8	73.1	3	0.110	0
2000	8.7	0	7.14	0	0.095	1	0.075	NA[3]	74.0	9	82.1	2	0.128	0
Maximum	8.7	0	7.14	0	0.110	2	0.079	NA[3]	121.0	12	82.1	3	0.128	0
Federal Standards	> 35 ppm/ 1 hour		> = 9 ppm/ 8 hour		> 0.12 ppm/ 1 hour		> 0.08 ppm/8 hour		> 150 $\mu g/m^3$/ 24 hour		> 65 $\mu g/m^3$/ 24 hour		Annual Average > 0.053 ppm/ annual avg.	
2004	7.2	0	4.43	0	0.069	0	ND[2]	ND[2]	52.0	0	55.8	0	0.030	0
2003	10.4	0	5.04	0	0.110	0	0.077	0	58.0	0	54.8	0	0.024	0
2002	12.2	0	6.00	0	0.087	0	0.072	0	121.0	0	64.0	0	0.023	0
2001	15.8	0	5.21	0	0.098	0	0.079	0	75.0	0	73.1	3	0.024	0
2000	11.7	0	7.14	0	0.095	0	0.075	0	74.0	0	82.1	2	0.027	0
Maximum	15.8	0	7.14	0	0.110	0	0.079	0	121.0	0	82.1	3	0.030	0

Notes:

1. Fine particulate matter data are obtained from the Lynwood air monitoring station; all other tabulated data are from the Hawthorne air monitoring station.

2. NA – This standard was approved by the CARB on April 28, 2005 and is expected to become effective in early 2006.

3. ND – Insufficient data from the CARB on Hawthorne air monitoring station to determine this value.

ppm – parts per million

$\mu g/m^3$ – micrograms per cubic meter

Oxides of Nitrogen – NO_x contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2, a reddish-brown gas, and nitric oxide, a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as NO_x. NO_x is a primary component of the photochemical smog reaction. NO_2 decreases lung function and may reduce resistance to infection.

Sulfur Dioxide – SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the SCAB. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Reactive Organic Compounds – Reactive organic compounds (ROCs) are formed from combustion of fuels and evaporation of organic solvents. ROCs are a prime component of the photochemical smog reaction. Consequently, ROCs accumulate in the atmosphere more quickly during the winter when sunlight is limited and photochemical reactions are slower.

Particulate Matter – Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (larger than 2.5 microns, or PM_{10}) come from a variety of sources, including windblown dust and grinding operations. Fine particles (less than 2.5 microns, or $PM_{2.5}$) often come from fuel combustion, power plants, and diesel buses and trucks. Fine particles can also be formed in the atmosphere through chemical reactions.

Coarse particles (PM_{10}) can accumulate in the respiratory system and aggravate health problems such as asthma. The U.S. Environmental Protection Agency (EPA's) scientific review concluded that fine particles ($PM_{2.5}$) at concentrations that extend well below those allowed by the current PM_{10} standards, which penetrate deeply into the lungs, are more likely than coarse particles to contribute to the health effects listed in a number of recently published community epidemiological studies. These health effects include premature death, increased hospital admissions, and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms.

REGIONAL AIR QUALITY PLANNING FRAMEWORK

The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the state. The Federal CAAA of 1977 required that each state adopt a State Implementation Plan (SIP) outlining pollution control measures to attain the federal standards in non-attainment areas of the state.

The California Air Resources Board (CARB) coordinates and oversees both state and federal air pollution control programs in California. The CARB oversees activities of local air quality management agencies and is responsible for incorporating Air Quality Management Plans (AQMPs) from local air basins into a SIP for federal EPA approval. The CARB also maintains air quality monitoring stations throughout the state in conjunction with local air districts. Data collected at these stations are used by the CARB to

classify air basins as "attainment" or "non-attainment" with respect to each pollutant and to monitor progress in attaining air quality standards.

The CARB has divided the state into 15 air basins. Significant authority for air quality control within them has been given to local Air Pollution Control Districts or Air Quality Management Districts, which regulate stationary source emissions and develop local attainment plans. The CCAA provides the Air District with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution (e.g., the motor vehicles at an intersection, a mall, and highways). The Air Board regulates motor vehicles and fuels.

AIR QUALITY MANAGEMENT PLAN

The SCAQMD and South Coast Association of Governments (SCAG) are responsible for formulating and implementing the AQMP for the SCAB. Every 3 years, the AQMP is updated to reflect the overall plan for improving air quality in the region.

The 2003 AQMP was prepared pursuant to federal and state clean air legislation, and addresses 1990 CAA requirements with respect to particulate matter standards. Under the Clean Air Act (CAA), the AQMP must demonstrate attainment of PM_{10} standards by 2006 for both 24-hour and annual average ambient air quality standards. The 1997 AQMP responds to this requirement, relying mostly on the control measures outlined in the 1994 AQMP.

To ensure continued progress toward clean air and comply with state and federal requirements, the SCAQMD, in conjunction with the CARB, the SCAG, and the EPA, prepared and adopted the 2003 AQMP on August 1, 2003. The 2003 AQMP updates the demonstration of attainment with the federal standards for O_3 and PM_{10}, replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future, and updates the maintenance plan for the federal NO_2 standard that the SCAB has met since 1992. The 2003 AQMP also incorporates a revised emissions inventory, the latest modeling techniques, and updated control measures remaining from the 1997/1999 SIP, as well as new control measures. As of March 4, 2005, SCAQMD determined that the region has satisfied the federal CO standards requirements and will request the EPA to redesignate the region as attainment for CO standards. The EPA will have 18 months to process the request.

More specially, the 2003 AQMP is designed to satisfy the CCAA tri-annual update requirements and fulfills the SCAQMD's commitment to update transportation emission budgets based on the latest approved motor vehicle emissions model and planning assumptions. The SCAQMD forwarded the Final 2003 AQMP to the CARB on October 15, 2003, and in turn, the CARB submitted the 2003 AQMP to the EPA for approval on January 9, 2004.

5.2.2 Thresholds of Significance

Air quality impacts are determined by the level of significance. The analysis for the proposed project involves estimating emissions based on planning data for construction and operational activities. Construction emissions are considered short term because of the time duration. Construction emissions were quantified using emission factors provided in the SCAQMD *CEQA Air Quality Handbook* (1993),

and other resources to provide an accurate impact assessment. Operational emissions were not quantified because preliminary data show that there is no change in equipment; therefore, emissions would have little to no changes and are considered negligible. As such, air quality impacts from operation of the proposed Project are considered to be less than significant and will be briefly mentioned in this analysis.

To determine significance of air quality impact from the proposed Project, either a quantitative or qualitative method can be used as both methods are accepted by regulatory agencies. A quantitative method is used when accurate and reliable project-specific data are available, which allows the estimation of criteria pollutants using an approved air quality model such as URBEMIS2002 and/or CALINE4; whereas a qualitative method is used when specific project data are inadequate for quantifying emissions. This analysis utilizes the quantitative method because construction data are available.

THRESHOLD FOR CONSTRUCTION EMISSIONS

The following significance thresholds for construction emissions have been established by the SCAQMD:

- 75 pounds per day of ROC;
- 100 pounds per day of NO_x;
- 550 pounds per day of CO;
- 150 pounds per day of PM_{10}; and
- 150 pounds per day of SO_x.

Projects in the SCAB with construction-related emissions that exceed any of the emission thresholds listed above are considered significant by the SCAQMD.

THRESHOLD FOR OPERATIONAL EMISSIONS

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD's *CEQA Air Quality Handbook* (1993 and on their web page). The criteria include operational emissions thresholds, compliance with state and national air quality standards, and consistency with the current AQMP.

SCAQMD has separate criteria for operational activities. The criteria include operational emissions thresholds, compliance with state and national air quality standards, and consistency with the current AQMP. SCAQMD established daily significance thresholds for operational emissions and are as follows:

- 55 pounds per day of volatile organic compound (VOC);
- 55 pounds per day of NO_x;
- 550 pounds per day of CO;
- 150 pounds per day of PM_{10}; and
- 150 pounds per day of SO_X.

EMISSION STANDARDS

- California state 1-hour CO standard of 20.0 parts per million (ppm);
- California state and federal 8-hour CO standard of 9.0 ppm;
- California state 1-hour average NO_2 standard of 0.25 ppm;

- Federal annual average NO_2 standard of 0.053 ppm; and
- California state annual arithmetic mean for PM_{10} of 20 micrograms per cubic meter ($\mu g/m^3$).

SCAQMD is in attainment for CO and NO_2 and non-attainment for PM_{10}; therefore, a project is considered to be significant if it causes or contributes to an exceedance of one or more of the above standards. Project PM_{10} emissions are considered to be significant if the project increases the PM_{10} 24-hour average by 10.4 $\mu g/m^3$ for construction and 2.5 $\mu g/m^3$ for operation, or annual (geometric) average concentrations by 1 $\mu g/m^3$.

5.2.3 Environmental Impacts

Air pollutant emissions associated with the project would occur over the short and the long term. Short-term emissions are from construction activities such as fugitive dust from site preparation, soil excavation, and emissions from construction equipment exhaust. Long-term emissions are from equipment used for the proposed Project such as maintenance vehicles traveling to and from the pump station to service the equipment or to take readings. To determine whether the proposed Project would have a significant impact on air quality, the analysis has to show that the implementation of the proposed Project would not generate an increase in emissions that would exceed the SCAQMD construction and operational significance thresholds.

Potential adverse air quality impacts could occur during the course of construction and is associated with exhaust emissions generated by heavy-duty construction equipment, off-road mobile sources (construction equipment), on-road mobile sources (e.g., construction worker vehicle trips, materials transport, etc.), and fugitive dust.

The net change in emissions from the operation of the proposed Project is expected to be negligible because preliminary data indicate that the same equipment would be used with the same operating hours. As such, there would not, or there are not expected to be, any long-term air quality impacts from the operation of the proposed Project and, therefore, these will not be discussed further in this analysis.

5.2.3.1 Construction-Related Impacts

EQUIPMENT EXHAUSTS AND RELATED ACTIVITIES

Construction activities produce combustion emissions from various sources such as site grading, generators, worker's vehicles, on-site heavy-duty construction vehicles, and trucks hauling materials to and from the site. Exhaust and fugitive dust emissions from construction activities on site would vary daily as construction activity levels change. The use of construction equipment on site would potentially result in localized air quality impacts. Emissions from construction equipment generated from site grading activities were calculated using emission factors provided in the SCAQMD's *CEQA Air Quality Handbook*. Since the TBM is electrically driven, micro-tunneling is anticipated to produce minimal emissions if the TBM can be powered directly from the City's electrical grid.

Preliminary plans assume that two independent construction worker teams would be involved for two different construction techniques. One team would be responsible for tunneling the 1,800-foot section that crosses the Marina and Ballona Creek Channel and the other team would perform the open trench

techniques elsewhere along each alignment (approximately 8,200 to 8,600 feet). The following assumptions were also made in the calculations of the emissions from construction activities:

- The construction activities would operate 6.5 hours per day (as per the Mayoral Directive restricting on-street construction work hours);
- The construction zones have a total area of approximately 0.5 acre each; and
- The TBM and some of its associated paraphernalia (slurry settling tank, slurry pump and control trailer) emit negligible quantities of criteria pollutants because they are electrically driven.

Tables provided in Appendix C list the construction equipment and associated exhaust emissions from open trench and micro-tunneling methods, respectively. The list of equipment is derived from the Kaku Draft Traffic Report, September 1, 2005 conducted for this project and included in Appendix.

Total daily construction emissions from open trenching and micro-tunneling are summarized and compared with the SCAQMD daily construction significance thresholds. The estimated construction emissions are under the SCAQMD significance thresholds for all criteria pollutants, with the exception of NO_x emission. Thus, the combination of open trench and micro-tunneling construction is expected to have a significant impact on air quality, unless mitigation measures for NO_x are implemented. To mitigate NO_x emissions, there are several alternatives such as:

- Strategize and plan ahead to minimize the transporting of construction equipment and excessive material to and from work area;
- Optimizing construction crew size and proper selection of equipment to reduce any unnecessary emissions such as to eliminate redundancy or similarity in equipment capable of doing similar work in the same construction zone, e.g., excavator vs. backhoe;
- Adjusting the electronic timing on the construction equipment to reduce NO_x emissions;
- Use newer construction equipment such as equipment meeting Tier 2 emission standards;
- Minimize idling emissions from construction equipment and haul trucks by turning it off when not in use or during potential long delays (i.e., over 5 minutes);
- Optimize the muck removal schedule to reduce emissions from haul trucks; and
- Use of alternative fuel such as biodiesel, liquid natural gas, and propane.

Another option for further investigation should NO_x emissions become a primary concern is the large (mined) tunneling method.

FUGITIVE DUST

Fugitive dust emissions are generally associated with demolition, land clearing, exposure, and cut and fill operations. Dust generated during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions. Table 5.2-4 presents the best available control measures for high wind conditions. Fugitive dust would also be generated as construction equipment travels on unpaved roads or on the construction site. The fugitive PM_{10} emissions rate used in the Air Quality Analysis (AQA), 0.42 tons per acre-month (30 days), is for road construction, which is applicable to this Project. Approximately 28 pounds per day is generated each day during construction of the proposed Project. To minimize fugitive dust, control measures are provided in Table5.2-4, 5.2-5 and Table 5.2-6.

Table 5.2-4 Best Available Control Measures For High Wind Conditions

Fugitive Dust Source Category	Control Measures
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of 6 months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas three times per day. If there is any evidence of wind-driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 5-2 of the technical study (Appendix C), Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 5-1 of the technical study (Appendix C) may be used.

Table 5.2-5 Dust Control Actions

Fugitive Dust Source Category	Control Actions	
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by American Society for Testing and Materials (ASTM) Method D-2216, or other equivalent method approved by the Executive Officer, the CARB, and the EPA. Two soil moisture evaluations must be conducted during the first 3 hours of active operations during a calendar day, and two such evaluations each subsequent 4-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: construction fill areas	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM Method D-2216, or other equivalent method approved by the Executive Officer, the CARB, and the EPA. For areas which have optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the CARB and the EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first 3 hours of active operations during a calendar day, and two such evaluations during each subsequent 4-hour period of active operations.
Earth-moving: construction cut areas and mining operations	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind-driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: completed grading areas	(2c)	Apply chemical stabilizers within 5 working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind-driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.
Unpaved roads	(4a)	Water all roads used for any vehicular traffic at least once per every 2 hours of active operations ; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 mph; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind-driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the EPA as equivalent to the methods specified in Table 5-2 of the technical study (Appendix C) may be used.

Table 5.2-6 Track-out Control Options

(1)	Pave or apply chemical stabilization at sufficient concentration and frequency to maintain a stabilized surface starting from the point of intersection with the public paved surface, and extending for a centerline distance of at least 100 feet and a width of at least 20 feet.
(2)	Pave from the point of intersection with the public paved road surface, and extending for a centerline distance of at least 25 feet and a width of at least 20 feet, and install a track-out control device immediately adjacent to the paved surface such that exiting vehicles do not travel on any unpaved road surface after passing through the track-out control device.
(3)	Any other control measures approved by the Executive Officer and the EPA as equivalent to the methods specified in Table 5-3 of the technical study (Appendix C) may be used.

The combination of the PM_{10} fugitive dust and PM_{10} exhaust emissions from construction equipment are added together and compared to the SCAQMD daily threshold for PM_{10} to determine whether the Project has a significant impact on air quality. Total PM_{10} emissions, 22.6 pounds per day, from both construction operations are significantly lower than the SCAQMD daily threshold for PM_{10} of 150 pounds per day.

5.2.3.2 Operational Impacts

The proposed Project is anticipated to emit minimal odors. Once operational, the proposed Project would operate with minimal need for on-site maintenance under normal conditions. The total amounts of emissions from maintenance worker vehicle exhaust are considered negligible and would not have a significant impact on air quality.

Based on the above operational characteristics, the proposed Project is not likely to impede the progress of the SCAB in complying with federal or state ambient air quality standards, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors.

5.2.4 Mitigation Measures

Mitigation measures are not required for the operation of the proposed project because there would not be a significant long-term impact upon air quality.

NO_x emissions arising from short-term construction activities may be addressed by implementing various innovative emission control technologies (e.g., use of fuel additives, electronic timing and metering and use of alternative fuel).

FUGITIVE DUST CONTROL MEASURES

The Project would be required to comply with regional rules, which would assist in reducing short-term air pollutant emissions. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures (BACMs) so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 402 prohibits dust from creating a nuisance off site. These dust suppression techniques were summarized in Table 5.2-5 above. Implementation of these dust suppression techniques, as required by the SCAQMD, can reduce the fugitive dust generation (and thus the PM_{10} component) by 50 to 75 percent. Compliance with the following BACMs would reduce impacts on nearby sensitive receptors.

5.2.5 Unavoidable Adverse Project Impacts

Although the short-term construction emissions will contribute to the existing non-attainment status, the operation and construction of the proposed project is not expected to exacerbate long-term air quality. BACMs and other feasible control measures are suggested to reduce fugitive dust and other emissions from the construction zones.

5.2.6 Cumulative Impacts

CONSTRUCTION EMISSIONS

The implementation of the proposed Project and other development projects in the general vicinity of the Project area may be simultaneously under construction. Depending on construction schedules of all the projects in the area, fugitive dust and pollutant emissions generated during construction may result in substantial short-term increases in air pollutants, which would contribute to short-term cumulative air quality impacts. Traffic analysis conducted by Kaku Associates in September 1, 2005, has indicated that of the nine study intersections in the vicinity of the proposed project, six of study intersections currently operate at "acceptable" levels of service (LOS D or better) during the morning and afternoon peak traffic periods. LOS D may be defined as imposing delays that may be substantial during portions of the rush hours, but having enough lower volume periods to permit clearing of developing lines, thereby preventing excessive backups. Of these six intersections, four are operating at LOS B or better, i.e., reasonably unimpeded operations with slightly restricted maneuverability and stopped delays that are considered acceptable LOS.

PROJECT EMISSIONS

Currently, the SCAB is in non-attainment for O_3, PM_{10}, and $PM_{2.5}$. Preliminary data indicates that the maintenance schedule and equipment would remain the same; therefore, the operation of the proposed project should have an essentially negligible impact on the existing air quality status.

5.3 BIOLOGICAL RESOURCES

5.3.1 Environmental Setting

Biological resources within the proposed Project areas have been studied and analyzed for the purpose of determining any impacts to the environment resulting from the construction of the proposed sewer main. Resources were observed, studied, and analyzed within each of the alternative alignments to allow flexibility for construction staging, construction, and construction related activities.

This section summarizes the findings and conclusions contained in the Biological Technical Report prepared by Keane Biological Consulting (2005) and the Marine Resource report prepared by MBC Biological (2005) for the Project. The Biological Technical Report and Marine Resource Report are contained in Appendix D to this EIR. The reports were prepared to: (1) inventory, map and describe the types, current conditions, and value of existing on-site biological resources; (2) identify and evaluate the significance of all potential direct, indirect, and cumulative project impacts on existing resources; and (3) recommend mitigation measures to reduce impacts to a less than significant level.

This section also summarizes the findings and conclusions contained in the 404 and 1603 Jurisdictional Delineation Report prepared by URS for the Project site dated 2005 (Appendix D).

Marina Del Rey is one of the largest human-made marinas in the world with more than 6,000 berths (Pondella and Allen, unpublished data). Most of the Marina is silt-bottomed with little hard substrate other than various retaining walls, floats and pilings. Basin D, located on the west side of the marina, terminates in a sandy swimming beach, and eelgrass beds (*Zostera marina*) are present in the subtidal areas of the basin. The marina connects to Santa Monica Bay through an entrance channel bound by breakwaters running perpendicular to shore with a terminal breakwall running parallel to shore that protects the entrance.

The Ballona Creek flood control channel runs parallel to the Marina Del Rey entrance channel at the mouth of the Creek, emptying into Santa Monica Bay south of the Marina Del Rey Channel. Within the Project area, Ballona Creek is riprap-lined and primarily marine, providing tidal exchange for both Del Rey Lagoon and the nearby Ballona Wetlands. Ballona Creek drains most of Culver City and the surrounding areas [Wetlands Research Associates, Inc. (WRA), 1990].

To the west of the Project area, the Marina Del Rey and Ballona Creek entrances bisect Dockweiler State Beach. The north beach is adjacent to Venice Municipal Beach, the Ballona Lagoon and Marina Del Rey to the east. A protected California least tern (*Sterna antillarum browni*) avian nesting vegetated area is located near the southern end of the beach. The breeding area is fenced to exclude humans and predators.

The southern extent of Dockweiler State Beach is adjacent to Del Rey Lagoon, Playa Del Rey and LAX to the south. In the Del Rey Lagoon area, several fenced, vegetated dunes front the beach. Steeper slopes backing the beach are also vegetated. Two western snowy plover critical habitat units have been proposed for Dockweiler State Beach, the northernmost west section of the airport, slightly south of the southern extent of the project. Dockweiler State Beach, particularly the upper, dry back-beach area where proposed Project activities may occur are, for the most part, groomed with developed paths and volleyball courts.

Two Environmentally Sensitive Habitat Areas (ESHA) are located close to most of the potential alignments. To the north, three proposed project alignments are in proximity to the Grand Canal/Ballona Lagoon in the Venice and Marina Del Rey area. To the south, two proposed alignments are near Del Rey Lagoon situated in Playa Del Rey.

VEGETATION

The Ballona Lagoon area supports several coastal vegetative communities including Coastal Salt Marsh, characterized by vegetation that occupies intertidal areas and is periodically inundated by rising tides, Coastal Strand, which is characterized by vegetation typical of upland, beach and dune habitats, and Coastal Sage Scrub, a habitat that includes those species typically found higher, above the Coastal Strand community (Jones, 2003).

Del Rey Lagoon is surrounded by an urban park with manicured landscaping, lawns, a sandy beach, and recreational infrastructure along the southern end of the lagoon on level parkland about 10 feet above the elevation of the lagoon (WRA, 1990). Adjacent to Del Rey Lagoon to the south, between Pacific Avenue and Dockweiler State Beach, are several fenced, vegetated dunes. The dunes support a degraded Southern Dune Scrub habitat dominated by invasive iceplant, and to a lesser extent, native beach evening primrose.

Special-Status Species – For purposes of this EIR, a species is considered "special status" or "sensitive" if it is included in one of the following categories:

- Federal listing as threatened or endangered;
- State listing as rare, threatened, or endangered;
- Proposed for federal or state listing as threatened or endangered;
- Candidates for federal or state listing as threatened or endangered;
- Federal species of concern;
- Protected by the Migratory Bird Treaty Act;
- Designated by the CDFG as a Species of Special Concern; and
- Included in the sixth edition of the California Native Plant Society (CNPS) inventory of rare and endangered plants in California [California Natural Diversity Database (CNDDB), 2005].

Several species of plants or wildlife that occur (or could potentially occur) within Ballona and Del Rey Lagoons are listed by the federal and/or state governments as threatened or endangered. Additionally, some species are listed by government agencies and other entities as being of concern for various reasons. All marine mammals are protected by the Marine Mammal Protection Act, native birds by the Migratory Bird Treaty Act, and endangered plants and animals by the California Endangered Species Act.

Marina Del Rey Area – Sensitive insect species known to occur in the Marina Del Rey area, and that may potentially be found in the project area, include two species of butterflies, the federally listed endangered El Segundo blue butterfly (*Euphilotes battoides allyni)* and the wandering or saltmarsh skipper (*Panoquina errans*). Both butterflies are associated with host plant species that are known to occur in the Ballona Lagoon plant community. Historically three sensitive insect species, Dorothy's El Segundo dune weevil (*Trigonoscuta dorothea dorothea*), Belkin's dune tabanid fly (*Brennania belkini*),

and globose dune beetle (*Coelus globosus*), were reported to occur on the dunes of South Dockweiler State Beach (CNDDB, 2005). Recent occurrence of these species in the area has not been corroborated.

Venice Area – Several species of sensitive native plants were noted in the Ballona Lagoon area, including: red sand-verbena (*Abronia maritima*), southwestern spiny rush (*Juncus acutus ssp. leopoldii*), and woolly sea-blight (*Suaeda taxifolia*), which are sensitive species found in small populations of limited distribution. Three other plants, south coast saltbush (*Atriplex pacifica*), pink sand-verbena (*Abronia umbellata*), and California sea-blight (*Suaeda californica*) are considered to be rare, threatened or endangered in California.

Among avian species, the California least tern occurs in the Project area. It nests in a protected breeding site on North Dockweiler State Beach and feeding in shallow waters throughout the area. The Western snowy plover (*Charadrius alexandrinus nivosus*), another beach nesting species, is known to occur in the Project area in winter, feeding on lower beaches and tidal flats.

Playa Del Rey Area – Summer nesting in the Project area is not reported, but critical nesting habitat designation is proposed for Dockweiler State Beach south of the proposed Project area. Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) requires pickleweed habitat and is known to occur in the Marina Del Rey area. Belding's savannah sparrow could potentially be found foraging in or nesting near Del Rey Lagoon.

5.3.2 Thresholds of Significance

Direct impacts occur when sensitive biological resources are altered or destroyed as a result of project implementation. Examples of such impacts include removal of sensitive vegetation, filling of wetland habitats, or severing or physically restricting the width of wildlife corridors. Other direct impacts may include loss of foraging or nesting habitat and take of federal and state protected plant or animal species. Indirect impacts may occur due to elevated levels of noise or lighting, change in surface water hydrology within a floodplain, and increased erosion or sedimentation. These types of indirect impacts can affect vegetation communities or their potential use by sensitive wildlife species.

The CEQA Guidelines define "significant effect on the environment" as a "substantial, or potentially substantial, adverse change in the environment." The CEQA Guidelines further indicate that there may be a significant effect on biological resources if the project will:

a. Substantially affect an endangered, rare, or threatened species of animal or plant or the habitat of the species;
b. Interfere substantially with the movement of resident or migratory fish or wildlife species to the extent that it adversely affects the population dynamics of the species;
c. Substantially diminish habitat for fish, wildlife, or plants; or
d. Affect a substantial portion of the distribution of plant communities defined as threatened or very threatened by the Nature Conservancy Heritage Program or as designated in the CNDDB maintained by the CDFG.

5.3.3 Impact Analysis

MARINA DEL REY

Marquesas Way/Via Marina Way Alignment – Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the Grand Canal, although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. No permanent impacts to the water quality or marine resources in the Project area are anticipated from this alignment.

Temporary turbidity in the canal could occur with certain tunneling methods, and turbidity may affect least tern foraging either by reducing local prey availability and/or by compromising visibility of prey in the vicinity. However, in general, tunneling would occur below the bottom of the canal, and tunneling generally has no effect on the surface (Justin Brown, pers. comm.). Thus, no turbidity is expected in the canal near Hurricane and Marquesas Way where tunneling will occur.

VENICE ALIGNMENT

Pacific Avenue Alignment – Temporary impacts to water quality and marine resources at launching and receiving sites associated with the submarine canal erosion could occur through the unintentional release of excavated sediments and water into the local environment, although the proposed project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. No permanent impacts to the water quality or marine resources in the Project area are anticipated from this alignment.

Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance. Furthermore, those least terns using the nesting site will be affected if open-cut excavation, jacking pit, or micro-tunneling is used, within 500 feet of the nesting site. Additionally, the increased human disturbance may attract tern predators (i.e., American crow). Since this alignment would be located a minimum of 600 feet from the least tern nesting site, activity at the receptor site would not have any temporary or permanent effects on the nesting site should construction activities occur during nesting season, if proper BMPs are incorporated. No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Venice Beach/North Dockweiler Beach Alignment – Temporary impacts to water quality and marine resources could occur along the beach at launching and receiving pits through the unintentional release of sediments and water into the local environment. The cut-and-cover construction method for this alignment, though considered, has been deemed not viable.

Portions of the alignment (between Yawl and Topsail streets) would be located within 200 feet of the least tern nesting site. If any construction activities associated with tunneling occur during the least tern nesting season when terns are present, significant temporary impacts on least terns at the nesting site may result if noisy equipment is used, or if the micro-tunneling and jacking pit and/or receiving pit are within 500 feet of the nesting site. These impacts include noise, surface vibration, and increased human disturbance, as well as potentially attracting predators to the nesting site (crows). Construction activities may result in temporary effects on least terns [see Appendix D, Biological Technical Report (Keane,

2005)]. No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Channel Crossings – Temporary impacts associated with construction are possible, although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. No permanent impacts to the water quality or marine resources in the Project area are anticipated for any of the proposed alignment alternatives.

Continuous (Full-Length) Tunnel Alignment Alternatives; Venice Beach/Dockweiler Beach – Temporary impacts to water quality and marine resources at shaft points associated with methane venting along the alignment surface could occur through the unintentional release of excavated sediments and water into the local environment. Potential impact to the least terns exists within 600 feet of the designated least tern nesting area.

Construction Alternatives – Tunneling construction methods have the advantage of reducing impacts by limiting construction activities to the launch and receptor shaft sites, which could be positioned away from sensitive areas, although the construction technique could lead to temporary impacts to water quality and marine resources, which could occur through the unintentional release of excavated sediments and water into the local environment.

MINED TUNNELING/SHAFT LOCATIONS

Alt. 1 – Beach Alignment (Waterview to Hurricane) – Temporary impacts to water quality and marine resources could occur at the #1 starter shaft or #9 receptor shaft locations (mined tunnel Alternative #1), through the unintentional release of excavated sediments and water into the local environment. However, the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. In addition, impacts to least terns may occur at potential vent shafts. No permanent impacts to the water quality or marine resources in the Project area are anticipated from this alignment.

The Dockweiler State Beach #9 receptor shaft is located within 3,000 feet of the least tern nesting site. If any construction activities occur during the least tern nesting season when terns are present, no permanent and no significant temporary impacts on least terns at the nesting site are expected. Furthermore, no permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Alt. 2 – Beach Alignment (LAX to Hurricane) – Temporary impacts to water quality and marine resources could occur at the #2 starter shaft and #9 receptor shaft locations (mined tunnel Alternative #2), through the unintentional release of excavated sediments and water into the local environment. However, the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. In addition, impacts to least terns may occur at potential vent shafts. No permanent impacts to the water quality or marine resources in the Project area are anticipated from this alignment.

The Dockweiler State Beach #9 receptor shaft is located within 3,000 feet of the least tern nesting site. If any construction activities occur during the least tern nesting season when terns are present, no permanent

and no significant temporary impacts on least terns at the nesting site are expected. Furthermore, no permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Alt. 3 – Beach Alignment (LAX to VPP) – Temporary impacts to water quality and marine resources could occur at the #2 starter shaft and #10 receptor shaft locations (mined tunnel Alternative #3), through the unintentional release of excavated sediments and water into the local environment. However, the proposed project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. In addition, impacts to least terns may occur at potential vent shafts. No permanent impacts to the water quality or marine resources in the project area are anticipated from this alignment.

The Hurricane Street #10 receptor shaft is located within 3,400 feet of the least tern nesting site. If any construction activities occur during the least tern nesting season when terns are present, no permanent and no significant temporary impacts on least terns at the nesting site are expected. Furthermore, no permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the project area are expected.

Alt. 4 –Inland Alignment (LAX to VPP) – Temporary impacts to water quality and marine resources could occur at the #2 starter shaft and #11 receptor shaft locations (mined tunnel Alternative #4), through the unintentional release of excavated sediments and water into the local environment. However, the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. In addition, impacts to least terns may occur at potential vent shafts. No permanent impacts to the water quality or marine resources in the project area are anticipated from this alignment.

The Grand Canal #11 receptor shaft is located within 3,600 feet of the least tern nesting site. If any construction activities occur during the least tern nesting season when terns are present, no permanent and no significant temporary impacts on least terns at the nesting site are expected. Furthermore, no permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the project area are expected.

Other shaft locations which may be used for either method of tunneling are:

62nd Avenue – 62nd Avenue is located 1,800 linear feet from the least tern nesting area and is separated from the nesting area by Ballona Creek and Marina Del Rey Channel. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other short-term impacts on least tern foraging habitat are expected to occur in the project area.

The Beach at Hurricane Street – The beach at Hurricane Street is located 3,000 linear feet from the least tern nesting area. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other short-term impacts on least tern foraging habitat are expected to occur in the Project area.

The Beach at Waterview – The beach at Waterview is located 6,600 linear feet from the least tern nesting area and is separated from the nesting area by Ballona Creek and Marina Del Rey Channel. Noise and other activities associated with Project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other short-term impacts on least tern foraging habitat are expected to occur in the project area.

Marquesas Way at Via Marina – Marquesas Way at Via Marina is located 3,600 linear feet from the least tern nesting area and is separated from the nesting area by a housing development. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other short-term impacts on least tern foraging habitat are expected to occur in the project area.

Hurricane at the Grand Canal – Hurricane at the Grand Canal is located 3,600 linear feet from the least tern nesting area and is separated from the nesting area by a housing development. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site.

The Beach North of the Marina Entrance Channel – The beach north of the Marina entrance channel is located less than 400 linear feet from the least tern nesting area. Noise and other activities associated with project construction would affect least tern nesting if construction during the nesting season is located less than 1,000 linear feet from the least tern nesting area. Therefore, the alignment would result in temporary (and no permanent) effects on the nesting site.

The Beach South of the Ballona Creek Channel – The beach south of the Ballona Creek Channel is located 1,800 linear feet from the least tern nesting area and is separated from the nesting area by Ballona Creek and Marina Del Rey Channel. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site.

Hurricane at Canal Street (for the tunnel option only) – Hurricane at Canal Street is located 3,600 linear feet from the least tern nesting area and is separated from the nesting area by a housing development. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

The Dunes at LAX (tunnel option only) – The dunes at LAX (tunnel option only) are located 600 linear feet from the least tern nesting area and are separated from the nesting area by Ballona Creek and Marina Del Rey Channel. Noise and other activities associated with project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the

nesting site. No other short-term impacts on least tern foraging habitat are expected to occur in the Project area.

Via Marina at the County Surface Parking Lot – Via Marina at the County surface parking lot is located 3,600 linear feet from the least tern nesting area and is separated from the nesting area by a housing development. Noise and other activities associated with Project construction would not affect least tern nesting if construction during the nesting season is located 1,000 linear feet or further from the least tern nesting area. Therefore, the alignment would not result in any permanent or temporary effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

Via Marina at Pacific Avenue – The Via Marina at Pacific Avenue is located 600 linear feet from the least tern nesting area. Noise and other activities associated with Project construction would affect least tern nesting if construction during the nesting season is located less than 1,000 linear feet from the least tern nesting area. However, even though this site is located less than 1,000 linear feet from the least tern nesting area, it is separated by a housing development. Therefore, the alignment would not be expected to result in temporary (and no permanent) effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

WATER QUALITY

Clean Water Act – The Clean Water Act (CWA) of 1972 was designed to restore and maintain the physical, chemical, and biological integrity of the nation's waters. Sections of the CWA control the discharge of waste and pollutants into aquatic environments. Section 404 of the CWA established a program to regulate dredging and/or filling in U.S. waters. Under Section 404, the USACOE can issue two types of permits: a general permit or an individual permit. The general permit is a type of permit issued to the public at large on a regional or national basis and is only issued when the activities would cause only minimal direct or cumulative impacts. An individual permit is required for an applicant that wishes to conduct activities not already allowed under a general permit.

Rivers and Harbors Appropriations Act of 1899 – The Rivers and Harbors Appropriations Act of 1899 authorizes the USACOE to exercise control over all construction projects in U.S. navigable waters. The Rivers and Harbors Act was originally designed with the intent to protect navigation and navigable capacity. These objectives were later expanded to include environmental protection. The key provision to this Act is Section 13, which makes it a crime to discharge refuse into any navigable water without the permission of the USACOE.

All areas of construction must adhere to the CWA by implementing National Pollutant Discharge Elimination System (NPDES) compliance. The following alternative locations are subject to WQ requirements and may be subject to agency notification or review.

Water quality is discussed here, because it relates to the protection of marine/aquatic species. The following alternative locations are subject to water quality requirements as follows:

Location	Agency	Permit/Requirement	Issues of Concern
All Alignments	Los Angeles County	▪ Geotechnical/Grading/Hauling Permits ▪ Dept. of Beaches and Harbors; Right-of-Entry Permit ▪ ROW/Easements for construction and future maintenance and operations.	▪ Impacts from dewatering, tunneling ▪ Staging areas and additional easement
All Alignments	RWQCB	▪ NPDES Construction SWPPP Permit ▪ 401C Section Certification	Water quality and placement of discharges associated with dewatering activities. No permit required for discharges to sewer. General Permit saves time with RWQCB.
Launch Sections	USACOE	Section 10 or Section 404 Permit required if excavated material discharged to waters and construction permit.	▪ Location, placement and depth of pipeline ▪ Obstruction of navigation or other channel activities ▪ Channel safety ▪ Impacts to wildlife – right-of-entry fauna ▪ Dredging/filling activities
All Alignments	CDFG	1600 et. seq. (Streambed Alteration)	Impacts to fish habitat
All Alignments	CCC	Coastal Development Permit	▪ Obstruction of recreation and beachfront facilities ▪ Impacts to animal species and habitat ▪ Impacts to parking and traffic
N/A	California State Lands	Possible lease requirement	Verification of jurisdiction
All Alignments	National Marine Fisheries Service		Impacts to aquatic and marine life
All Alignments from Vista Del Mar and Northward	California Department of Conservation, Division of Oil, Gas and Geothermal Resources	A construction notification form should be submitted to the Division prior to any activity.	Project is inside administrative bounds of the Playa Del Rey Oil Field containing numerous plugged and abandoned oil wells.
All Alignments	State of California Department of Health Services	Project Review for compliance with Title 22, Section 64630 (Conducted through County Environmental Services Division)	Separation of water and sewer mains
All Alignments	USFWS		Impacts to habitat (i.e., least tern)

Source: LUPIN Website, LA County Website, CERES, Website, 2005

5.3.4 Mitigation Measures

The following mitigation measures are expected to reduce the proposed Project's potential significant adverse impacts to biological resources to less than significant levels:

BIO-1 If the Venice Beach/Dockweiler Beach alignment is selected and construction is to be above-ground, or if tunneling is used and the jacking and/or receiving pit is within 500 feet of the nesting site, and any construction activities are to occur during the least tern nesting season (April 1 through August 31), a qualified and experienced biological monitor shall be present during all construction activities within 500 feet of the nesting site to ensure that construction activities do not adversely affect least terns using the nesting site. In addition, the monitors will ensure that work crews properly dispose of all

garbage in covered containers so that work crews do not attract predators (such as crows) into the area and thus contribute indirectly to depredation of least tern eggs and chicks.

BIO-2 Construction of any of the alternative alignments includes tunneling under the Marina Del Rey Channel and Ballona Creek, and the Marquesas Way alignment includes tunneling under the Grand Canal. All of these waterways have been documented as foraging habitat for the least tern. If any tunneling activities are to occur during the least tern nesting season (April 1 through August 31), a water quality specialist or biological monitor shall conduct surveys at tunneling access shaft locations at a minimum of once daily to ensure that tunneling does not increase water turbidity. If any turbidity is discovered in these areas, the tunneling activities shall cease until the leak from the tunnel that is resulting in turbidity is repaired.

BIO-3 Existing and potential values in environmentally sensitive habitat areas shall be protected, enhanced, and where feasible, restored. If any habitat and of marine resources are disturbed, in accordance with the City of Venice LUP and Local Coastal Program (LCP), ESHAs would be restored as necessary to previous undisturbed condition. Marine resources shall be maintained, enhanced, and restored, as necessary.

5.3.5 Unavoidable Adverse Impacts

If the avoidance and minimization measures described in this EIR are implemented successfully, no unavoidable adverse impacts on biological resources are expected as a result of the proposed Project.

5.3.6 Cumulative and Secondary Impacts

No significant cumulative impacts have been identified to biological resources or habitats in the Project area. Assuming the avoidance and minimization measures above are implemented successfully, the project would not contribute to cumulative adverse effects on least terns in southern California or result in secondary impacts on least terns, least tern nesting sites or least tern foraging habitat. There are no other known projects in the vicinity of the proposed project that, when considered together, would result in significant adverse impacts to the wildlife and habitats in the Marina Del Rey area.

5.4 CIRCULATION, TRAFFIC AND TRANSPORTATION

5.4.1 Environmental Setting

EXISTING STREET SYSTEM

The regional freeway and highway system serving the project alignment area is depicted in Figure 5.4-1. Primary regional access to the project site is provided by the Marina Freeway (SR 90), the San Diego Freeway (I-405), the Santa Monica Freeway (I-10) and the Glenn M. Anderson Freeway (I-105). SR 90 runs northeast of the VPP site along a diagonal east of Marina Del Rey. Access to the site from SR 90 can be obtained from Admiralty Way or Lincoln Boulevard. I-10 runs in an east/west direction in the northern portion of the study area approximately 4 miles north of the Ballona Creek, and I-105 runs east/west about 3 miles south of the Ballona Creek. Both I-10 and I-105 connect with I-405 to the north and south, respectively.

The main streets carrying project-related construction traffic (both worker trips and truck trips) to the construction pits or zones would be:

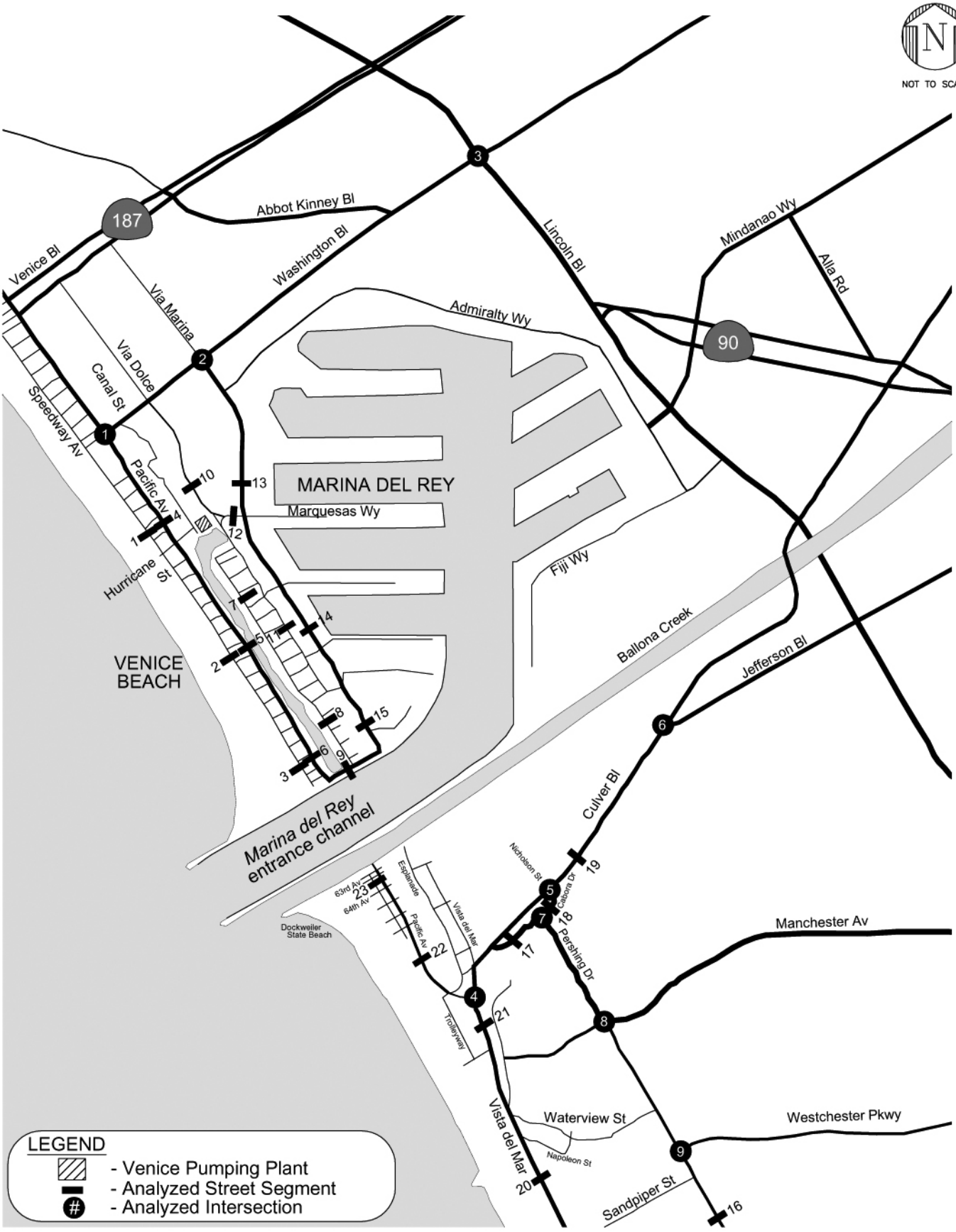
Venice and Marina Del Rey Areas – Lincoln Boulevard (SR 1), Washington Boulevard, Venice Boulevard (SR 187), Via Marina, Via Dolce, Pacific Avenue, and Hurricane Street adjacent to the VPP.

Westchester/Playa Del Rey Areas - Vista Del Mar, Culver Boulevard, Jefferson Boulevard, Pershing Drive, Westchester Parkway, Manchester Avenue, and Pacific Avenue.

These secondary highways, collectors and selected local streets in the project's study area offer sub-regional and local access and circulation opportunities. These facilities generally provide two to four travel lanes and allow parking on one side of the street. The physical characteristics and functional classifications for the above key streets in the project alignment area are summarized in Appendix E of this EIR. In addition, an inventory of the existing on-street parking supply along Pacific Avenue in the vicinity of the VPP and along the project alternative alignments both north and south of the Ballona Creek/Marina Del Rey Channels can also be found in Appendix E.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

Twenty-three roadway segments and nine intersections in the vicinity of project alignment alternatives were analyzed in the project study area. New daily roadway traffic machine counts and morning and afternoon intersection peak hour traffic volumes (the highest 1-hour period between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m.) were conducted in July 2005 and are included in Appendix E. The volume-to-capacity (V/C) ratio and corresponding LOS of each segment was calculated. A capacity of 800 vehicles per lane per hour (vplph) was used on Major Arterials (Class II), 750 vplph for secondary arterials, 650 vplph for collectors, 600 vplph for local streets. In accordance with Los Angeles Department of Transportation (LADOT) practices, a 7 percent increase in capacity was assumed on major and secondary street segments to reflect the benefits of the existing Automated Traffic Surveillance and Control (ATSAC) system. Detailed assessment of the existing operating conditions at these 23 roadway segments and the LOS definitions for roadway segments are included in Appendix E. All but two of the 23 analyzed directional street segments in the project study area are currently operating at LOS D or better during morning and afternoon peak hours, the exceptions being Nicholson Street between Culver Boulevard and Pershing Drive, and Culver Boulevard east of Nicholson Street in the Playa Vista area south of the Ballona Creek (#5 and #6, respectively, in Figure 5.4-1).



REGIONAL FREEWAY AND HIGHWAY SYSTEM

Project No.: 29401783	Date: DECEMBER 2005	Project: VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT	Figure 5.4-1

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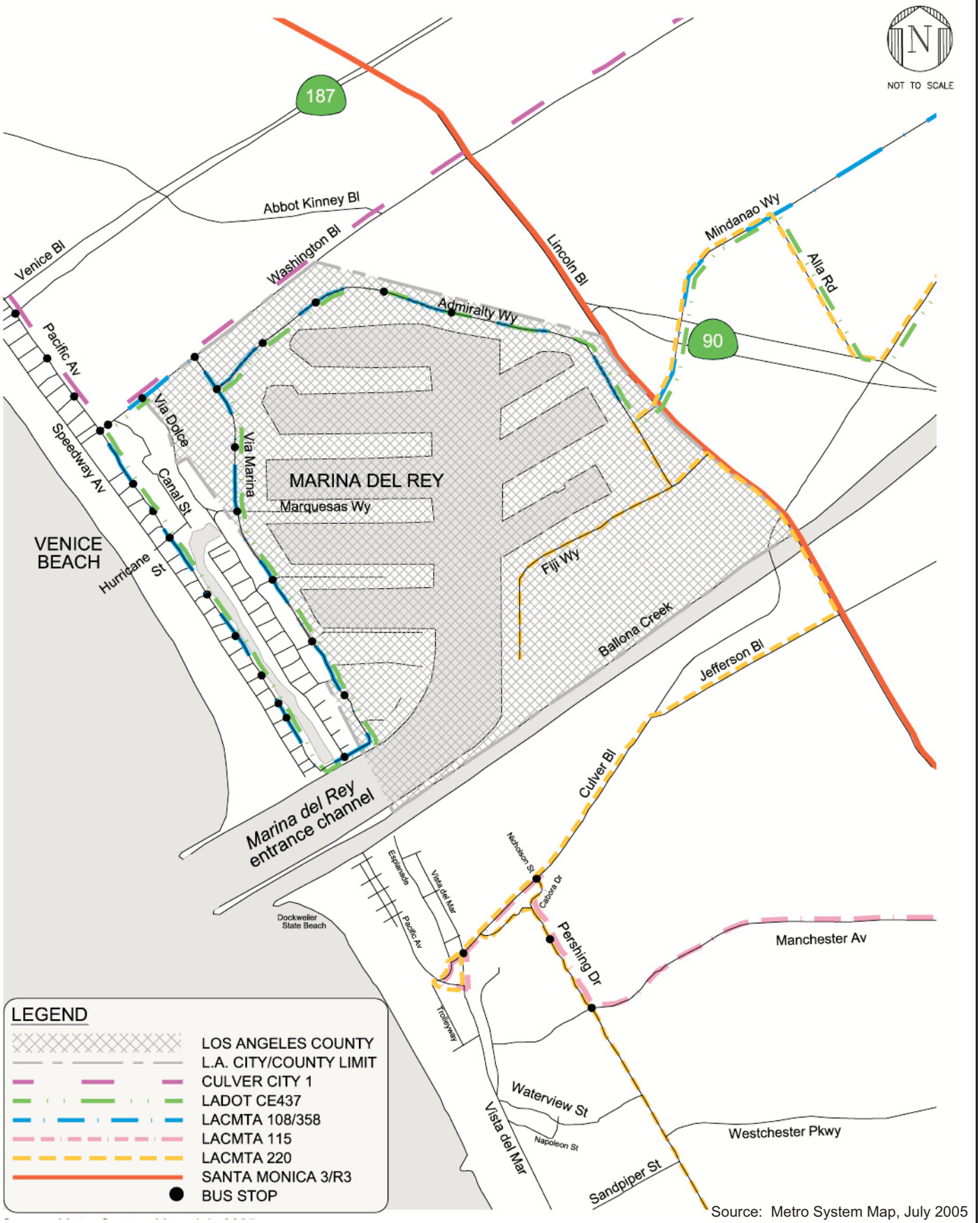
Of the nine analyzed intersections, three are located in the Marina Del Rey area and six are located south of the Ballona Creek. Seven intersections are currently controlled by traffic signals. The intersections of Vista Del Mar/Pacific Avenue and Pershing Drive/Cabora Drive are stop-controlled intersections. In accordance with LADOT procedures, the "Critical Movement Analysis-Planning" (Transportation Research Board, 1980) method of intersection capacity analysis was used to determine the intersection V/C ratio and corresponding LOS for the turning movements and intersection characteristics at the seven signalized study intersections. The Computer Assisted Level of Service Calculations and Database (CALCADB) software developed by LADOT was used to implement the Critical Movement Analysis (CMA) methodology. The ranges of V/C ratios and corresponding LOS for signalized intersections are included in Appendix E. The "Two-Way Stop Controlled" methodology and the "All-Way Stop Controlled" methodology from the 2000 Highway Capacity Manual were used to determine the average vehicle delay (in seconds) and the corresponding LOS for the two stop-controlled study intersections. The LOS definitions for the stop-controlled intersections are included in Appendix E. Detailed assessment of the existing operating conditions at the nine intersections, including the V/C ratio or delay (in seconds) and corresponding LOS at each of the study intersections during the morning and afternoon peak hour can be found in Appendix E. Six of the nine analyzed intersections currently operate at acceptable levels of service (LOS D or better) during both peak periods. The exceptions are the two signalized intersections of Lincoln Boulevard/Washington Boulevard and Pershing Drive/Nicholson Street/Culver Boulevard, and the stop-controlled intersection of Pershing Drive/Cabora Drive.

EXISTING TRANSIT SYSTEM

Public transit services operating in the Marina Del Rey and Playa Del Rey area include the Los Angeles County Metropolitan Transportation Authority (MTA) system, Los Angeles Department of Transportation Commuter Express (CE), Culver City Bus, and the Santa Monica City Big Blue Bus. The routes that serve the Project area are shown in Figure 5.4-2. Bus routes and their frequencies during the morning (7-9 a.m.) and afternoon (4-6 p.m.) peak periods are detailed as follows:

Line 108 – Line 108 is a local east/west line that travels from Pico Rivera to Marina Del Rey. Limited-stop Line 358 travels during the peak hours. These lines run primarily along Slauson Avenue and serve the Metro Blue Line Slauson Station and the Westfield Shoppingtown Fox Hills Transit Center. They travel along Centinela Avenue, Mindanao Way, Admiralty Way, Via Marina, Pacific Avenue, and Washington Boulevard. Both lines have stops on Via Marina and Pacific Avenue adjacent to the project area. Line 358 has an average a.m. and p.m. peak hour headway of 25 minutes, whereas Line 108 provides average midday headway of 40 minutes.

Line 115 is an east/west local line that travels primarily along Manchester Boulevard and Firestone Boulevard connecting Playa Del Rey and Norwalk and serves the Metro Blue Line Firestone Station and Metro Green Line I-105/I-605 Station. In the vicinity of the Project, this line travels along Manchester Avenue and serves a loop route starting from Pershing Drive, Culver Boulevard, Pacific Avenue, Vista Del Mar, and returning back to Pershing Drive. Line 115 has average a.m. and p.m. peak hour headways of 30 minutes and 40 minutes.



Source: Metro System Map, July 2005

EXISTING TRANSIT SYSTEM

Project No.: 29401783	Date: DECEMBER 2005	Project: VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT	Figure 5.4-2

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Line 220 – Line 220 is a north/south local service that travels along Robertson Boulevard, Culver Boulevard, Pershing Drive, and Imperial Highway, connecting West Hollywood and LAX. In the vicinity of the Project, this line serves a loop route starting from Culver Boulevard, Esplanade, Pacific Avenue, Convoy Street and returning back to Culver Boulevard. Line 220 has an average headway of 60 minutes throughout the day.

LADOT CE 437 – This LADOT commuter express line serves the communities of Venice, Marina Del Rey, Mar Vista, and Culver City and travels along Santa Monica Freeway (I-10) to connect them with downtown Los Angeles. In the vicinity of the project, this line travels along Admiralty Way and Via Marina and terminates at Pacific Avenue and Washington Boulevard. This line provides average a.m. and p.m. peak hour headways of 25 minutes and 30 minutes.

Culver City Line 1 – This Culver City Bus line travels primarily along Washington Boulevard and Pacific Avenue, and connects the Venice Beach area, Culver City area, and West Los Angeles transit center. In the vicinity of the Project, this line has stops at Washington Boulevard and Pacific Avenue, with 15-minute headways throughout the day.

Santa Monica Line 3/Rapid 3 – Santa Monica Line 3/Rapid 8 travel primarily along Lincoln Boulevard and connect Santa Monica, Marina Del Rey and LAX. Line 3 provides a 10-minute headway throughout the day, and Rapid 3 provides additional limited-stop service during peak hours.

NON-MOTORIZED TRANSPORTATION

Biking and walking are non-motorized transportation modes that typically serve shorter trips than do motorized travel modes. In the VPP area, bikeways facilitate and encourage this mode of non-motorized transportation. According to LADOT, Class I bikeways are separate off-street paths, Class II bikeways are striped lanes within streets, and Class III bikeways are signed bicycle routes. The existing bicycle network in the vicinity of the project area is depicted in Appendix E. Pedestrian access at and near public transit, in local commercial and residential areas is facilitated by sidewalks, which are present on most streets.

5.4.2 Thresholds of Significance

The *Draft Los Angeles CEQA Thresholds Guide* presents traffic impact significance thresholds applicable to projects in the City's jurisdiction. Relevant thresholds are discussed below. The impact analysis discussion will address each pipeline alignment alternative's effects with respect to each of these thresholds.

TRA-1: A significant impact would occur if the project would permanently increase the V/C ratio of applicable intersections or street segments beyond the limits established by the City of Los Angeles, including the V/C ratio along Congestion Management Program (CMP) designated roads. The City has established operational traffic impact criteria for the assessment of potential impacts of a project on the local street system after completion and during operation. Those operational standards indicate that a project is considered to have a significant traffic impact if the increase in V/C ratio attributed to the project exceeds a specific threshold for each level of service (see Appendix E for the definitions of level of service for signalized intersections and for unsignalized intersections).

A sliding scale has been established under which the maximum allowable increase in the V/C ratio decreases as the V/C ratio increases using the following scale:

V/C Ratio with Project Traffic	Maximum Allowable Increase in V/C Ratio
0.701 to 0.800 (LOS C)	<0.040
0.801 to 0.900 (LOS D)	<0.020
0.901 or greater (LOS E or LOS F)	<0.010

Using these criteria, a project would not have a significant impact at an analyzed intersection if it were operating at LOS A or B after the addition of project operational traffic. Also, a project would not have a significant impact on an analyzed intersection if it were operating at LOS C and the incremental change in the V/C ratio were less than 0.04, or if it were operating at LOS D and the incremental change in the V/C ratio were less than 0.02. If the location were operating at LOS E or F after the addition of project operational traffic and the incremental change in the V/C ratio were greater than or equal to 0.01, a project would be considered to have a significant impact.

In addition, based upon discussions with the City staff, the following threshold criteria, set forth in the Draft L.A. CEQA Threshold Guide (City of Los Angeles, 1998) are used to determine if a project has an impact at a specific roadway segment for the roadway link-level analysis:

A proposed project would normally have a significant street segment capacity impact if proposed traffic causes an increase in the V/C ratio on the street segment operating condition after the addition of project traffic equal or greater than the following:

- V/C ratio increase > 0.080 if final LOS is C
- V/C ratio increase > 0.040 if final LOS is D
- V/C ratio increase > 0.020 if final LOS is E or F

Final LOS is defined as projected future conditions including project, ambient, and related project growth but without project traffic mitigation.

Although the methodologies and the criteria to calculate V/C ratios for intersections and segments are intended by LADOT to identify potential traffic impacts during operation, they can also be applied to construction. During project construction, however, LADOT considers such impacts as adverse but not significant since, while they introduce inconvenience for vehicular traffic, those impacts are only temporary. Where determinations of adverse impacts are made, motorists would experience inconveniences that range in intensity from slight to substantial.

TRA-2: The project would be considered to have a significant impact if it were to result in bicycle, pedestrian, or vehicular safety hazards, or if it results in the permanent removal of designated bike lanes or access points to public transportation.

TRA-3: The project would have a significant impact if it were to permanently eliminate a substantial amount of on-street or off-street parking.

5.4.3 Environmental Impacts

This section provides an assessment of the potential transportation impacts and effects associated with each project alternative, including both motorized and non-motorized transportation. The methodology used to assess these impacts and a discussion of the regulatory framework is provided. The significance of impacts is analyzed for each of the alternatives and the No Project alternative. Mitigation to reduce the impacts associated with each alternative is provided where applicable.

The City of Los Angeles regulations for the following are discussed below:

1. Significance of construction-related activities;
2. Designated truck routes and hours;
3. Noise restrictions due to construction and excavation activities; and
4. Construction clearance requirements.

The City of Los Angeles considers construction-related traffic effects adverse but not significant impacts because such effects, while sometimes inconvenient, are only temporary. Because of this, construction-related traffic effects are discussed but are not considered to be significant. Additionally, the City of Los Angeles requires implementation of Worksite Traffic Control Plans to ensure that any construction-related effects are minimized to the greatest extent possible. The City of Los Angeles allows major and secondary arterials to be used as truck routes. Some local streets, however, have weight limitations or restrictions that limit truck traffic. Typically, trucks would not travel on these streets except to obtain access to a specific site. The City of Los Angeles' policy is to allow trucks to travel in a "reasonable fashion" to and from a work site. The City of Los Angeles reviews each haul-route permit for specific application of its general guidelines.

The new Mayoral Executive Directive No. CP AV-1 (dated August 12, 2005) formalizes the prohibition on rush hour construction by any city department agency on major roads from 6:00 a.m. to 9 a.m., and 3:30 p.m. to 7:00 p.m. In recognition of the priority need to protect public health and safety, it is the intent of the Mayoral Executive Directive that construction activities related to emergency maintenance and repair are exempted from the rush hour construction ban, and formal traffic mitigation plans shall be required for projects that receive exemptions. Since the VPP is not related to emergency maintenance or repair, project construction activities are not exempted from the Mayoral Directive Executive.

The City of Los Angeles restricts the speed limit to 25 mph in construction areas. The City of Los Angeles' construction clearance requirements are as follows:

- Five-foot clearance between a traffic lane and the nearest vertical obstruction is required. This can be reduced to 3 feet with the approval of the City.
- Two-foot clearance to a raised curb is required. This can be reduced to zero with the approval of the City.
- A minimum 10-foot-wide traffic lane must be maintained through construction zones.

The minimum taper requirement for channeling traffic flow lanes is 25:1 to 30:1. Factors such as speed and type of facility, location and other geometric characteristics of the specific roadway under construction will dictate the actual taper ratio.

5.4.3.1 Future Cumulative Base Conditions

Future cumulative conditions during construction were evaluated for all street segments where in-street construction activities associated with Project alignment alternatives analyzed could result in temporary lane closures. These locations lie along the alignments under consideration for different construction methods. Although the Project would occur in several stages, it has been assumed that construction specified at all sites would be performed at any given time between the start and the end of construction (2008 – 2010 with the Pacific Avenue, Via Marina/Marquesas Way roadway alignments and 2008 – 2011 with the beach alignment). Therefore, to be conservative, all roadway segments and intersections in the vicinity of VPP Project area were evaluated for the future year 2011, which corresponds to the Draft EIR construction timeframe. The street and intersection improvements within the study that are programmed for implementation by 2011 are identified in Appendix E and were assumed in the analysis of future conditions.

An application of one percent per year growth factor was used to estimate total ambient growth to 2011. In addition, information was obtained from LADOT, Culver City and the Los Angeles County Department of Regional Planning and Department of Public Works Bureau of Engineering regarding known approved or planned development projects within a 2-mile radius of the project area. A list of these 10 projects and the estimated trip generation of each and the locations of these projects are illustrated in Appendix E. These related project volumes were then added to the existing traffic volumes after the adjustment for area-wide growth to represent cumulative base conditions (i.e., future conditions without the proposed project), and were analyzed to determine the projected V/C ratios and LOSs for the 23 study segments and nine intersections. Future cumulative base volumes, which represent future no project traffic conditions at the nine analyzed intersections, and the detailed level of service analysis results for the nine study intersections and the 23 roadway segments can be found in Appendix E. It is projected that the same five intersections and the 21 roadway segments that operate at LOS D or better under the existing conditions would continue to operate at LOS D or better under future cumulative base conditions.

5.4.3.2 Construction Assumptions

Trip generation estimates that were prepared for each Project alignment alternative estimate for construction phases were based upon projected staffing and truck activity levels. Future traffic conditions on these roadway segments prior to construction of the Project alignment alternatives, and the changes related to construction activities (additional vehicular traffic and reduction of roadway capacity due to the project), if any, at each of the worksites were evaluated to identify adverse impacts. This traffic analysis represents a worst-case scenario in that it considers the upper bounds of impacts likely to be experienced on the street system in the immediate vicinity of each site where in-street construction activities could result in temporary lane closures and loss of on-street parking at nearby locations.

The development of traffic generation estimates for the proposed Project involves the use of a three-step process similar to that discussed above for the cumulative projects, including traffic generation, trip distribution, and traffic assignment. It was assumed that approximately 40 to 50 feet of cut-and-cover section would be excavated per day with a maximum depth of 12 feet and a maximum width of 8 feet. The City's Wastewater Master Specifications (Section 02200 Earthwork, 3.3.C) states *"the maximum amount of open trench permitted in any one location shall be 500 feet or the*

length necessary to accommodate the amount of pipe installed in a single day, whichever is greater." The construction zone for the proposed Project would include approximately 1,000 feet of roadway during the 3-week cycle, as it is more feasible and cost effective to schedule asphalt paving every 3 weeks rather than every week. The construction zone would also be fully backfilled at the end of each day or be covered by heavy steel plates adequately braced and capable of supporting vehicular traffic in those locations, as required by the Wastewater Specifications.

A construction zone of 1,000 feet would include approximately four blocks of Pacific Avenue on the north side of the channel. During construction, one-way traffic would be maintained along the west side of Pacific Avenue (southbound movement), controlled by using the small one-way speedway that runs parallel to and west of Pacific Avenue. Work on the south side of the channel on Pacific Avenue and Vista Del Mar would be performed in a similar manner, but the traffic control would be different since there is only a short segment of Speedway Avenue to provide additional access. It appears appropriate to assume, therefore, that no more than one travel lane would be blocked on any street segment at any time, including the clear area beside the actual trench. Although the Project may occur in several stages, it has been assumed for the purpose of this analysis that construction specified at all sites would be performed at any given time between the start and end of construction (2008 – 2010 for the roadway alignments and 2008 – 2011 for the beach alignment). The construction activities are anticipated to occur simultaneously at two locations as a worst-case scenario.

It is assumed that up to two locations, a tunnel-boring operation near Hurricane Street and one trenched segment north of the channel or a tunnel-boring operation south of the channel and one trenched segment south of the channel could be in active construction at once. Traffic impacts associated with the three north and the two south alignments were evaluated. It is assumed that two independent construction teams would be involved, one for each of the two construction techniques. One construction team would be responsible for a 1,800-foot tunnel-boring construction section that crosses beneath the Marina entrance and Ballona Creek channels and, if necessary, beneath the Grand Canal near Hurricane Street. Elsewhere along each alignment totaling approximately 8,200 to 8,600 feet, open-trench technique, as performed by a second construction team, is assumed.

A list of equipment required for the open-trench and the tunnel-boring construction teams was obtained from the project team. As shown in Table 5.4-1, the total equipment (number and type of equipment) required for both construction techniques and for each construction segment section at any given time is approximately 22 vehicles for open-trench and 13 vehicles for tunnel-boring. The number of construction workers required for both techniques during each construction section was derived based on the estimated ratio of construction workers to equipment or supplies on site. The ratio of construction workers needed per piece of equipment was obtained from previous traffic studies for similar projects. Ratios range from 0.8 (minimum) to 1.3 (maximum) workers per piece of equipment.

Table 5.4-1 Derivation of Project Trip Generation Estimates

Part A. Equipment Required during Open-Trench for the Large Sewers			Part B. Equipment Required during Tunnel-Boring			Part C. Equipment Required during Large (Mined) Tunneling	
Equipment	**Horsepower**	**Approximate Number Required**	**Equipment**	**Horsepower**	**Approximate Number Required**	**Equipment**	**Approximate Number Required**
Concrete Saw	56	1	Hydraulic Jack	90	1	12 feet O.D. EPB TBM complete with trailing gear, segment, erector	1
Pavement Breaker	100	1	Crane	300	1	Diesel Locomotives	3 (includes 1 spare)
Pile Driver	100	1	Generator/Air Compressor	45	5	Five-cy Lift-off Muck Cars	12 (includes 2 spares)
Excavator	360	1	Slurry Settling Tank	0	1	Segment Cars	3
Rubber Tire Loader	110	1	Slurry Pump	0	1	100-hp fans	3 (1 spare)
Crane	300	2	Control Trailer	0	1	24 inch fanline (sufficient to construct the tunnel and vent up the shafts)	1
Backhoe loader/Compactor	100	1	Tunneling Machine	0	1	160+/- ton Crane (to lift/set TBM and hoist muck cars)	1
Generator/Compressor	45	1	Supply Truck	300	1	35 ton RT Crane (to handle segments and load segment cars)	1
Soil Compactor	100	1	Haul Truck/Cement Truck	0	1	4-cy FEL (to remove tunnel muck, load trucks, tic)	1
Asphalt Paver	102	1				Office facilities, change houses, electrical substations, and related equipment (standby generator for pumps)	N/A
Sweeper	97	1				Pumping system with sump and shaft pumps and stand-by units	N/A
Power Tools	N/A	N/A				Rail, ties, water, discharge lines	N/A
Water Truck	92	1				Electrical cable to power TBM and for lights, etc.	
Supply Truck	300	1				Transformers for fans, pumping, lighting	
Haul Truck/Dumper	300	8				Pipe jumbo or carrier for setting carrier pipe into tunnel once mining is complete	
						Small or midsize compressor for air supply	
Total # of Equipment		***22***	***Total # of Equipment***		***13***	***Total # of Equipment***	***N/A***
Minimum Workers on Site [a]		**17**	**Minimum Workers on Site [a]**		**10**		
Maximum Workers on Site [a]		**28**	**Maximum Workers on Site [a]**		**17**	**Crew Size on Site [f]**	**25**
Required Truck Loads Per Day for Muck Removal [b]		**10**	**Required Truck Loads Per Day for Muck Removal [d]**		**6**	**Required Truck Loads Per Day for Muck Removal [f]**	**15**
Required Truck Loads Per Day for supply [c]		**5**	**Required Truck Loads Per Day for Supply [e]**		**2**	**Required Truck Loads Per Day for Supply [f]**	**3**

Note:

[a] The required ratios of number of workers versus number of total equipment are assumed to be 0.8 (minimum) and 1.3 (maximum).

[b] Muck removal per day (1.5 bulking, 50% removed, 50% re-used): 1.5 bulking x 50% x 8 feet x 12 feet x 40 feet /27 = 106 cubic yards. Assuming truck load capacity of 10 cubic yards per truck, a total of 10 trucks loads per day would be required.

[c] Required truck loads per day for material supply (pipes, concrete, sheetpiles, etc.) assumed five truck loads per day.

[d] Muck removal per day (1.5 bulking, 100% removed): 1.5 bulking x 40 feet x 6 feet x 6 feet x 3.14 /4 /27 = 63 cubic yards. Assuming truck load capacity of 10 cubic yards per truck, a total of six trucks loads per day would be required. Required truck loads per day for material supply (bentonite, miscellaneous, etc.) assumed two truck loads per day. Therefore, a total of 8 truck round trips per day were estimated during the tunneling construction.

[e] Required truck loads per day for material supply (bentonite, miscellaneous, etc) assumed two truck loads per day.

*[f] A crew of about 20 to 25 would be required for constructing the large tunnel. Assuming an advance rate of 24 feet/8 hour shift, muck removal for a 12-foot-diameter tunnel per day: 1.5 bulking*36*3.14*24/27 = 151 cubic yards. Assuming truck load capacity of 10 cubic yards per truck, a total of 15 truck round trips per mining shift for mucking. Required trucks trips for material supplies assumed three truck round trips per mining shift per day. Therefore, a total of 18 truck round trips per mining shift per day were estimated during the large (mined) tunneling construction.*

Source: Required truck loads were prepared by URS Corporation staff based on the (peak) production rate of 40 feet per day given the prohibition of in-street construction between 6-9 a.m. and 3:30 – 7 p.m. (August 22, 2005).

As indicated, the peak estimate for daily commute workers due to the proposed Project is approximately 28 construction workers for the open-trench method and 17 construction workers for the tunnel-boring method. With the moderate construction speed of 40 feet per day due to the mayoral construction rush hour prohibition, the required number of delivery truckloads for materials and supplies was estimated at five truckloads per day for the open-trench and two truckloads per day for the tunnel-boring. The number of required truckloads for muck removal was estimated at 10 truck round trips per day for the open-trench, and 6 truck round trips per day for the tunnel-boring methods. Therefore, approximately 15 truck round trips and 28 construction workers would be needed for each construction section on a daily basis if the open-trench method was implemented. Approximately 17 construction workers and 8 trucks (or 2 trucks if no muck removal is required) were estimated for the underwater construction section beneath the two channels on a daily basis.

Using open-trench construction as the basis of comparison, approximately 30 one-way truck trips would be generated for each construction section if 15 truckloads would be needed on a daily basis. The 30 daily one-way truck trips were then converted with a passenger car equivalent (PCE) of 2.5 to 75 vehicle trips since trucks create a greater impact on the capacity of intersections than typical automobiles. Considering the Mayoral Directive limiting on-street construction work hours, all of the truck trips related to the VPP Project should only operate from 9:00 a.m. to 3:30 p.m. (6.5-hour workday). It is also assumed that the workers would be allowed to arrive before 9 a.m. and leave after 3:30 p.m., so the workers would be ready to start construction work at 9 a.m. sharp and stop at 3:30 p.m. The only exception would be the construction truck operations on the beach shafts during the full-length large (mined) alternatives, so that during the most intense construction period, 100 percent of the construction workers and 10 percent of truck trips at each site would arrive or depart during the peak hours of adjacent street traffic. Therefore, none of the estimated 75 PCE daily truck trips would occur during the morning and afternoon peak hour if the open-trench method were implemented on the street. However, all 28 construction workers would arrive during the morning peak hour and leave during the afternoon peak hour. As for the tunnel-boring, using the same trip generation methodology described above, approximately 10 total daily truck trips (in PCE) would occur for the underwater sewer section, none of which would arrive and leave during the morning or afternoon peak hour. In addition, 17 construction workers were estimated to be on the site for the same section, which would generate a total of 34 daily trips (17 inbound trips during the morning and 17 outbound trips during the afternoon peak hour).

The four large-diameter tunneling alternatives with short cut-and-cover segments were evaluated separately. For these alternatives, a receiving shaft location would be located on the beach west of Hurricane Street and a launch shaft would be located either on the beach or on LAX property at the southern end of the alignment. During the most intense phase of tunnel construction, there would be a 25-person crew on site per shift, generating 15 truckloads of soil per day and three supply truck trips per typical day. Since the majority of the large tunnel construction would occur on the beach shaft site off the street or outside of the residential area either east or west of Vista Del Mar, it is assumed that construction truck trips that travel to and from the large tunnel construction shafts would not be affected by the Mayoral Directive on construction hour prohibition. Assuming the same equipment and crew for the open-trench method would apply for the cut-and-cover segments, it is assumed that approximately 15 truck round trips and 28 construction workers would be needed at the cut-and-cover section on a daily basis.

The above trip generation estimates were derived assuming the presence of two independent construction groups for each of the two different construction techniques. As the worst-case scenario, it was assumed that the entire alignment would be constructed simultaneously by two teams of construction workers. Estimated worker trips and truck trips generated by each construction method were added accordingly, as shown in Table 5.4-2.

The geographic distribution of the traffic generated by each of the Project build alignments depends on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which the construction workers are drawn, the locations of the construction material suppliers and soil dump sites, and the locations of the shaft sites in relation to their surrounding street systems and available access to the regional freeway system. The generalized regional trip distribution applied in the analysis for construction workers is approximately 35 percent to and from the north, 35 percent to and from the south, 30 percent to and from the east, and negligible traffic to and from the west. The generalized trip distribution applied in the analysis for construction truck trips is approximately 35 percent to and from the northwest and 65 percent to and from the southeast. As the construction material suppliers of concrete and gravel and soil dump sites are located through Los Angeles and Orange counties, all truck deliveries would travel on the regional freeway networks and connect to the construction sites from the adjacent freeway ramps. Most of the construction workers would travel on the regional freeway network, while some portion of them would arrive from the local street network. Given the difference between the distribution of construction workers and that of truck trips, specific distribution patterns for each of the Project build alternative alignments were developed for both the construction worker commute trips and the truck delivery trips. The traffic expected to be generated by each of the project alignment alternatives, given concurrent construction activities as shown in Table 5.4-2, was assigned to the street network based on with the application of the generalized trip distribution. The assignment of construction traffic for each of the 10 project alignment alternatives is included in Appendix E, including the six combinations of alignments utilizing the open-trench method and the tunnel-boring method and the four larger full-length tunnel alternative alignments.

The project-generated construction traffic volumes were added to the cumulative base traffic projections, resulting in the Projected cumulative plus project a.m. and p.m. peak hour traffic volumes. These cumulative plus project volumes represent projected future weekday peak hour traffic conditions, including the presence of the construction traffic. The Project-generated construction traffic volumes on the 23 analyzed roadways and the resulting projected cumulative plus Project peak hour link volumes are included in Appendix E.

5.4.3.3 Project Impacts

The construction-period impacts for each of the build alternatives are assessed in this section. This analysis includes general traffic impacts caused by construction traffic and reduction of roadway segment capacities, if any, and localized impacts related to access, pedestrian movement, bus routes and stops, and on- and off-street parking in the vicinity of each of the construction sites.

Table 5.4-2 Project Trip Generation Estimates

Activities	Trip Types	Required Quantity	TRIP GENERATION ESTIMATES [a]						
			Daily Trips	a.m. Peak Hour			p.m. Peak Hour		
				In	Out	Total	In	Out	Total
North Portion: Dockweiler Beach Alignment & Pacific Avenue Alignment									
Open-Trench	Truck Deliveries	15 truckloads per day	75	0	0	0	0	0	0
	Construction Workers	28 workers on site per day	168	28	0	28	0	28	28
		Subtotal	*243*	*28*	*0*	*28*	*0*	*28*	*28*
Tunnel-boring Construction (one-time TBM removal from receiving shaft; no muck removal during tunneling)	Truck Deliveries	2 truckloads per day [b]	10	0	0	0	0	0	0
	Construction Workers	17 workers on site per day	34	17	0	17	0	17	17
		Subtotal	*44*	*17*	*0*	*17*	*0*	*17*	*17*
		Total	287	45	0	45	0	45	45
North Portion: Marquesas Way/Via Marina Alignment									
Open-Trench	Truck Deliveries	15 truckloads per day	75	0	0	0	0	0	0
	Construction Workers	28 workers on site per day	56	28	0	28	0	28	28
		Subtotal	*131*	*28*	*0*	*28*	*0*	*28*	*28*
Muck removal from one jacking shaft during tunneling across Grand Channel (one-time TBM removal from receiving shafts; no muck removal during tunneling)	Truck Deliveries	8 truckloads per day [b]	40	0	0	0	0	0	0
	Construction Workers	17 workers on site per day	34	17	0	17	0	17	17
		Subtotal	*74*	*17*	*0*	*17*	*0*	*17*	*17*
		Total	205	45	0	45	0	45	45
South Portion: South Pacific Avenue/Vista Del Mar Alignment and South Dockweiler Beach and Pacific Avenue Alignment									
Open-Trench Construction	Truck Deliveries	15 truckloads per day	75	0	0	0	0	0	0
	Construction Workers	28 workers on site per day	56	28	0	28	0	28	28
		Subtotal	*131*	*28*	*0*	*28*	*0*	*28*	*28*
Tunnel-Boring Construction (with muck removal from one jacking shaft during tunneling across marina)	Truck Deliveries	8 truckloads per day [c]	40	0	0	0	0	0	0
	Construction Workers	17 workers on site per day	34	17	0	17	0	17	17
		Subtotal	*74*	*17*	*0*	*17*	*0*	*17*	*17*
		Total	205	45	0	45	0	45	45
Full-length Large Diameter Tunnel Alignments									
Short Cut-and-Cover [e]	Truck Deliveries	15 truckloads per day	75	0	0	0	0	0	0
	Construction Workers	28 workers on site per day	56	28	0	28	0	28	28
		Subtotal	*131*	*28*	*0*	*28*	*0*	*28*	*28*
Large-Diameter Tunneling	Truck Deliveries	18 truckloads per day [d]	90	9	9	18	9	9	18
	Construction Workers	25 workers per shift on site per day (1 shift per day) [d]	50	25	0	25	0	25	25
		Subtotal	*140*	*34*	*9*	*43*	*9*	*34*	*43*
		Total	271	62	9	71	9	62	71

Note:

*[a] Truck trip assumes 2.5 passenger car equivalent (PCE). Daily truck trips = required daily truckloads *2 trips per truckloads. Except the off-street full-length large (mined) diameter Tunnel alignment, application of the Mayor's new directive of prohibition on construction hours indicated that no truck trips would be allowed to arrive or leave construction work zones during the peak periods between 6 to 9 a.m. and 3:30 to 6 p.m. for in-street construction.*

[b] The truck delivery trip estimates for muck removal during tunneling were excluded as part of the peak truck trip estimates.

[c] The truck delivery trip estimates for muck removal during tunneling across Grand Canal were included as part of the peak truck trip estimates.

[d] Required truck deliveries and construction workers trips were development by assuming 25-person crew on site, 15 truckloads of soil per shift per day, and three supply truck roundtrips per shift per day during the largest (mined) tunneling construction.

[e] Short cut-and-cover method would only be applied to the full-length Dockweiler Beach alignment alternative (on both the north and south ends) and the Dockweiler Beach to LAX Shaft alignment on the north end along Hurricane Street.

MARINA DEL REY SEGMENT

(1) Marquesas Way/Via Marina Alignment - Construction of the proposed (3,200-foot-long) Marquesas Way/Via Marina Alignment, including open-trench construction zone, tunneling shaft sites, and maintenance holes would produce temporary localized impacts on the transportation system for a period of up to 3 weeks around each active open-trench zone and up to 2 months around the tunnel-boring jacking and extraction shafts, all between the start (year 2008) and end (year 2010) of construction. The temporary localized impacts on the transportation system would involve the combined effects of additional construction traffic and closure of travel lanes on certain roadways, leading to reductions in roadway capacity.

During the construction of the Marquesas Way, alignment that begins at the VPP on Hurricane Street crosses under the Grand Canal and proceeds along Marquesas Way before turning southeast on Via Marina. Jacking will be performed at two optional launching sites and one extraction site. The extraction shaft (receiving) site is located on the northeast corner of the VPP property just west of the Grand Canal. The potential construction equipment laydown zone for this site would be on vacant land across from the VPP opposite Hurricane Street. One of the proposed shaft sites is located at the southwest corner of the intersection of Via Marina and Marquesas Way, and the alternative shaft site would be located on Marquesas Way adjacent to the raised triangle island at the intersection of Via Dolce and Marquesas Way. The raised island would also be the potential laydown zone for the two optional shaft sites east of the Grand Canal. If the shaft site adjacent to Via Marina were used, temporary closure of the eastbound right-turn only lane on Marquesas Way and the outer southbound lane on Via Marina south of the Marquesas Way would be necessary. Vehicles on Marquesas Way intending to make eastbound right-turn maneuvers would have to make wide turning movements to go around the shaft site to travel southbound on Via Marina. Alternatively, if the shaft site adjacent to Via Dolce were used, temporary closure of the eastbound travel lane on Marquesas Way between Via Dolce and Via Marina would be necessary to allow for jacking activities across the Grand Canal and the open-trench activities on Marquesas Way between the jacking site and the Via Marina alignment. To minimize the impact of closing Marquesas Way, the jacking method could be applied underneath the intersection to avoid blocking the northbound movement on Via Dolce at the intersection of Via Dolce and Marquesas Way. Otherwise, northbound traffic on Via Dolce would need to detour to travel through Tahiti Way or another parallel east-west roadway and use Via Marina to reach Marquesas Way. Also, pedestrian access would be impacted at Via Marina/Marquesas Way because of the temporary closure of the west and south legs of the pedestrian crosswalks. With any shaft site, however, the tunneling or open-trench activities for the Marquesas Way alignment would be temporary in nature and are expected to be completed during a period of up to two months. None of the shaft sites under consideration would result in the loss of on-street or off-street parking.

During the construction of the Marquesas Way, alignment that begins at the VPP on Hurricane Street crosses under the Grand Canal and proceeds along Marquesas Way before turning southeast on Via Marina. Jacking will be performed at two optional launching sites and one extraction site. The extraction shaft (receiving) site is located on the northeast corner of the VPP property just west of the Grand Canal. The potential construction equipment laydown zone for this site would be on vacant land across from the VPP opposite Hurricane Street. One of the proposed shaft sites is located at the southwest corner of the intersection of Via Marina and Marquesas Way, and the alternative shaft site would be located on

Marquesas Way adjacent to the raised triangle island at the intersection of Via Dolce and Marquesas Way. The raised island would also be the potential laydown zone for the two optional shaft sites east of the Grand Canal. If the shaft site adjacent to Via Marina were used, temporary closure of the eastbound right-turn only lane on Marquesas Way and the outer southbound lane on Via Marina south of the Marquesas Way would be necessary. Vehicles on Marquesas Way intending to make eastbound right-turn maneuvers would have to make wide turning movements to go around the shaft site to travel southbound on Via Marina. Alternatively, if the shaft site adjacent to Via Dolce were used, temporary closure of the eastbound travel lane on Marquesas Way between Via Dolce and Via Marina would be necessary to allow for jacking activities across the Grand Canal and the open-trench activities on Marquesas Way between the jacking site and the Via Marina alignment. To minimize the impact of closing Marquesas Way, the jacking method could be applied underneath the intersection to avoid blocking the northbound movement on Via Dolce at the intersection of Via Dolce and Marquesas Way. Otherwise, northbound traffic on Via Dolce would need to detour to travel through Tahiti Way or another parallel east-west roadway and use Via Marina to reach Marquesas Way. Also, pedestrian access would be impacted at Via Marina/Marquesas Way because of the temporary closure of the west and south legs of the pedestrian crosswalks. With any shaft site, however, the tunneling or open-trench activities for the Marquesas Way alignment would be temporary in nature and are expected to be completed during a period of up to 2 months. None of the shaft sites under consideration would result in the loss of on-street or off-street parking.

During the construction of the Via Marina alignment from Marquesas Way to the tunnel-boring shaft site at the end of Via Marina adjacent to Aubrey Austin Memorial Park, open-trench techniques performed by a second construction team are assumed. Temporary closure of the outer southbound lane on Via Marina would be necessary to provide space for the open-trench construction zone during the 3-week cycle at any time between years 2008 and 2010. The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way, Tahiti Way, and Captain's Row Drive for MTA Lines 108 and 358 and LADOT Commuter Express Line 437. Since no street parking is present on this Via Marina segment, no parking loss would be expected due to the closure of the southbound lane. Increased safety risks for vehicles, bicyclists and pedestrians could result from construction activities within or adjacent to streets. Local pedestrian or vehicular access for residences and businesses immediately adjacent to the open-trench construction would be restricted between 9 a.m. and 3:30 p.m., but would be maintained with a metal cover or other replacement to provide access to these properties outside of active construction hours during the temporary construction period of up to 3 weeks.

During the construction of the 1,800-foot tunnel-boring section that crosses under the marina entrance channel and the Ballona Creek channel, the receiving shaft site would be located on a vacant site and the sidewalk adjacent to the end of southbound lane on Via Marina. The potential construction equipment laydown zone for this site would be located on the existing parking lot and would temporarily displace approximately 24 parking spaces, leading to increased competition for available beach parking and affecting pedestrian movement to the waterfront at the marina entrance for up to 2 months.

It was assumed that the entire Marquesas Way/Via Marina alignment would be performed simultaneously by two teams of construction workers (for trench and tunneling) as the worst-case scenario, resulting in

peak trip generation estimates of 45 worker trips and no construction truck trips during the morning and afternoon peak hour. The projected incremental change in V/C ratio during construction of the Marquesas/Via Marina alignment for the nine analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Project trips generated by the construction of the entire Marquesas Way/Via Marina alignment in combination with either of the two Playa Del Rey alignments would not result in an adverse impact at any of the four study intersections north of the Marina Del Rey Channel in Marina Del Rey, but could occur at Via Marina south of Tahiti Way (one of the 23 analyzed roadway segments) in Marina Del Rey with a southbound lane closure.

(2) Pacific Avenue Alignment – Construction of the proposed (3,000-foot-long) Pacific Avenue alignment would be similar to that described above for the Marquesas Way/Via Marina alignment and would involve both the open-trench construction and tunnel-boring. The temporary localized impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

The open-trench method would be performed to construct the Pacific Avenue alignment in Marina Del Rey, beginning at the VPP on Hurricane Street, proceeding west to Pacific Avenue, and turning south and proceeding along Pacific Avenue and ending at the receiving shaft for the tunnel-boring construction at the southern end of Pacific Avenue on vacant land west of the Los Angles County parking lot. The potential equipment laydown area will be located in the vacant land across from the VPP and on the beach area south of the least tern area. Hurricane Street is 36 feet wide from curb to curb with street parking and residential neighborhoods on both sides. Pacific Avenue is 42 feet wide from curb to curb with one lane in each direction, and street parking is only allowed on the west side (southbound) of this roadway. A construction zone 1,000 feet long and 8 feet wide would include all of Hurricane Street east of Pacific Avenue and approximately four blocks of Pacific Avenue on the north side of the channel at any time during the 3-week cycle. During construction, two-way traffic could be maintained along Hurricane Street by displacing parking along Hurricane Street (approximately 17 spaces on the north side and 10 spaces on the south side) and northbound traffic would be detoured to Speedway Avenue where necessary. One-way traffic would be maintained along the west side of Pacific Avenue (southbound movement). Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue.

To minimize the impact of closing the northbound lane of Pacific Avenue, it is assumed that the jacking method would be used to construct the 100-foot segment at the end of Pacific Avenue to avoid blocking traffic flow and transit buses traveling between Via Marina and Pacific Avenue. The open-trench construction of the Pacific Avenue segment could temporarily affect the transit system by requiring the relocation of transit bus stops on Pacific Avenue northbound in the immediate vicinity of the construction areas. Since no street parking is allowed on the east side of Pacific Avenue, no parking loss would be expected due to the closure of the northbound lane for four blocks at a time on Pacific Avenue. In addition, Pacific Avenue is designated a Class II Bikeway by the City of Los Angeles. Increased safety risks for vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to streets. Pedestrian access to the bridge across Ballona Lagoon at Lighthouse Street would also be affected during the daytime construction period. Local access to residences and businesses on the east side of Pacific Avenue and the pedestrian bridge across the Ballona Lagoon would be maintained in

the same manner as described in the Marquesas Way/Via Marina alignment during the temporary construction period of up to 3 weeks for each construction segment.

Like the development of Project trip generation estimates, as described in the Marquesas Way/Via Marina alignment, the projected incremental change in V/C ratio during construction of the Pacific Avenue for the nine analyzed intersections and the 23 analyzed roadway segments are identified in Appendix E. During construction of the Pacific Avenue alignment in combination with either of the two Playa Del Rey alignments, construction-period adverse impacts would not result in an adverse impact at any of the four study intersections north of the Marina Del Rey Channel in Marina Del Rey, but could occur on 2 of the 15 analyzed roadways in the Marina Del Rey area:

- Pacific Avenue between Privateer Street and Quarterdeck Street; and
- Pacific Avenue between Westwind Street and Yawl Street.

(3) Venice Beach/North Dockweiler Beach Alignment - Construction of the proposed (3,300-foot-long) North Dockweiler Beach alignment would be similar to that described above for the other two project alignments in the Marina Del Rey area, involving both open-trench and tunnel-boring construction methods. The temporary localized impacts on the transportation system would occur due the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

The open-trench method would be used to construct the North Dockweiler Beach alignment beginning from the VPP on Hurricane Street, proceeding west to the existing 20-foot-wide sewer easement on Venice and Dockweiler beaches, then turning south and ending at the beach shaft for the tunnel-boring construction at the waterfront of Marina Del Rey Channel. The equipment laydown area would be adjacent to this shaft on the beach area. Hurricane Street is 36 feet wide from curb to curb, with street parking and residential neighborhoods on both sides. A construction zone 1,000 feet long and 8 feet wide would include all of Hurricane Street west of the Grand Canal. During construction, two-way traffic could be maintained along Hurricane Street by displacing the parking along Hurricane Street. Approximately 17 unmarked spaces on the north side and 10 spaces on the south side of Hurricane Street are available east of Pacific Avenue, while 11 spaces on the north side and 5 spaces on the south side of Hurricane Street are available between Pacific Avenue and Oceanfront Walk. During the construction of the open cut-and-cover section across the intersection of Hurricane Street and Pacific Avenue or the intersection of Hurricane Street and Speedway Avenue, traffic would be diverted to either Galleon Street or Ironsides Street and return to Pacific Avenue or Speedway Avenue when either of the intersections is closed. Given the construction speed of 40 feet per day, however, the traffic diversion would be brief and would only occur during the off-peak daytime period.

Non-motorized transportation would be temporarily affected by construction on Hurricane Street. Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be required for MTA Lines 108 and 358 and LADOT Commuter Express Line 437. Pedestrian and bike movement in the vicinity would also be affected by construction on Hurricane Street. Construction of the beach alignment would have possible conflicts with the walking path adjacent to the jacking pit at the oceanfront. Local access to residences and businesses on Hurricane Street could

be maintained in the same manner as described in the Marquesas Way/Via Marina alignment during the construction period.

Similar to the development of Project trip generation estimates, as described in the other two alternative Marina Del Rey alignments, the projected incremental change in V/C ratio during construction of the beach alignment for the nine analyzed intersections and the 23 analyzed roadway segments are identified in Appendix E. Construction of the entire North Dockweiler Beach alignment in combination with either of the two Playa Del Rey alignments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments north of the Marina Del Rey Channel in Marina Del Rey.

CHANNEL SEGMENT

The Marina Del Rey and Ballona Creek channels would be crossed using the tunnel-boring method. For any combination of north and south alignments, the launching shaft would be on the southern shore of the channel, while the receiving shaft would be located on the northern shore. Depending on which combination of north and south alignments is selected, the channel crossing would be about 1,300-1,900 feet long. As the tunnel-boring would occur at the same time as the open-trench construction, a discussion of the Project impacts for the channel segments is included in the discussion above and in the following discussion of the two Project alignment alternatives in the Playa Del Rey segment.

PLAYA DEL REY SEGMENT

(1) Pacific Avenue/Vista Del Mar Alignment – Construction of the proposed 4,400-foot Pacific Avenue/Vista Del Mar alignment would be similar to that of the Pacific Avenue alignment and would involve both open-trench construction and tunnel-boring. Temporary localized impacts on the transportation system would occur as a result of a reduction in roadway capacity due to construction traffic and the closure of roadway travel lanes.

The open-trench method would be used to construct the Pacific Avenue/Vista Del Mar alignment beginning from tunnel-boring shaft on the south shore of the Ballona Creek channel, continuing south along Pacific Avenue and Vista Del Mar to a junction structure at Vista Del Mar near Waterview Street. The potential equipment laydown area would be immediately adjacent to the shaft on 62nd Avenue and the public parking lot east of Pacific Avenue. A portion of the open-trench segment would occur across this laydown area. Therefore, during the tunnel-boring and open-trench construction, 62nd Avenue east of Pacific Avenue would be temporarily closed and would result in the temporary loss of approximately 15 parking spaces in the public parking lot. Non-motorized transportation would be temporarily affected by establishment of the laydown area of the tunnel-boring construction. Pedestrian pathways to Back Bay Place and the Del Rey Lagoon waterfront would need to be diverted around the construction laydown area.

Pacific Avenue north of 66th Avenue is approximately 40 feet wide from curb to curb with one lane in each direction and street parking available on both sides of the street. A construction zone 1,000 feet long and 8 feet wide would affect the Pacific Avenue segment north of 66th Avenue for a period of up to 3 weeks. Two-way traffic on Pacific Avenue could be maintained by temporarily displacing approximately 13 unmarked spaces on the east side of Pacific Avenue. An alternative arrangement could maintain one-

way traffic along the west side of Pacific Avenue (southbound movement), controlled by diverting northbound traffic to the alley that runs parallel to and west of Pacific Avenue north of 66th Avenue. Temporary closure of the northbound lane of Pacific Avenue would require diverting the northbound traffic on Pacific Avenue to use 63rd Avenue or another parallel east-west roadway to reach the alley. During the in-street construction on Pacific Avenue between 66th Avenue and at the public parking lot north of Convoy Street, temporary removal of street parking from one or both sides of the street would be required to allow two-way traffic to safely travel through this segment of Pacific Avenue. Approximately two parking spaces on the west side and four parking spaces on the east side are available.

South of 66th Avenue, Pacific Avenue widens from approximately 40 feet to over 80 feet, which along Convoy Street, allows maneuvering in and out of 35 parking stalls. Pacific Avenue narrows back to 40 feet south of Convoy Street, and then flares out when intersecting with Culver Boulevard. During the in-street construction on Pacific Avenue between 66th Avenue and Culver Boulevard, temporary removal of street parking on one side of the would be required to allow two-way traffic to safely travel through this segment of Pacific Avenue. Approximately 37 unmarked spaces on the west side and 35 spaces and 4 unmarked spaces on the east side are available for parking. Also, temporary removal of the northbound lane on the short route of Pacific Avenue between Culver Boulevard and Vista Del Mar (also known as Trolley Place) would be needed for construction for up to 3 weeks. Traffic on Vista Del Mar intending to use this short segment would be detoured to the adjacent segment of Culver Boulevard.

During the construction of the open cut-and-cover section across the intersection of Culver Boulevard and Pacific Avenue, traffic on Culver Boulevard would be diverted to use Esplanade and Convoy streets to reach the Pacific Avenue segment north of Culver Boulevard. Traffic on Pacific Avenue southbound would be detoured to use the intersection of Vista Del Mar and Pacific Avenue. Similarly, during the open cut-and-cover section across the intersection of Pacific Avenue and Vista Del Mar, traffic on Vista Del Mar could be detoured to use Pacific Avenue and Culver Boulevard to avoid the construction zone. To minimize the impact of cut-and-cover construction across a major intersection like Culver/Pacific or Vista Del Mar/Pacific, the underground jacking method could be used to construct the 100-foot alignment to avoid diverting traffic traveling through the intersections. All the traffic diversion, however, would be temporary in nature and would only occur for a period of up to 3 weeks.

Finally, during the open-trench construction on Vista Del Mar or during the connection with the existing junction structure on Vista Del Mar near Waterview Street, temporary closure of the outer northbound lane on Vista Del Mar would be required for 1,000 feet at any time during the 3-week cycle. No relocation of transit stops would be required during the construction of the Pacific Avenue/Vista Del Mar alignment.

Similar to the development of Project trip generation estimates described in the other Playa Del Rey alignment, the projected incremental change in V/C ratio during construction of the Pacific Avenue/Vista Del Mar alignment for the 9 analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Construction of the entire Pacific Avenue alignment in combination with any of the three Marina Del Rey alignments would not result in an adverse impact at any of the study intersections south of the Ballona Creek Channel in Playa Del Rey, but could occur on two of the eight analyzed roadways in the Playa Del Rey area:

- Vista Del Mar from Pacific Avenue to Surf Street; and
- Pacific Avenue from 63rd Avenue to 64th Avenue.

(2) South Dockweiler Beach Alignment – Construction of the proposed 4,200-foot South Dockweiler Beach alignment would be similar to that described above for the North Dockweiler Beach alignment in the Marina Del Rey area, involving both open-trench and tunnel-boring construction methods. The temporary localized impacts on the transportation system would occur due the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

The open-trench method would be performed to construct the South Dockweiler Beach alignment beginning from tunnel-boring shaft on the south shore of the Ballona Creek Channel, continuing within the existing 20-foot-wide sewer easement to a junction structure in Vista Del Mar near Waterview Street. The potential equipment laydown area would be adjacent to the shaft on 62nd Avenue and parking lot west of Pacific Avenue. Therefore, during the tunnel-boring construction, 62nd Avenue west of Pacific Avenue would be temporarily closed and would result in temporary loss of approximately 36 parking spaces for up to 2 months. Non-motorized transportation would be temporarily affected by the laydown area of the tunnel-boring construction. Diversion of pedestrians and cyclists on the Ballona Creek Bike Path would be required to avoid the construction laydown area and the cut-and-cover trenching section on the beach. During the open-trench construction when connecting the beach alignment with the existing junction structure on Vista Del Mar near Waterview Street, travel lanes in each direction on Vista Del Mar could be maintained by temporarily displacing on-street parking on Vista Del Mar between Waterview Street and Napoleon Street (nine metered spaces on the west side and one metered space on the east side). No relocation of transit stops would be required during the construction of the South Dockweiler Beach alignment.

Like the development of Project trip generation estimates, as described in the other Playa Del Rey alignment, the projected incremental change in V/C ratio during construction of the South Dockweiler Beach alignment for the 9 analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Construction of the entire South Dockweiler Beach alignment in combination with any of the three Marina Del Rey alignments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments south of the Ballona Creek Channel in Playa Del Rey.

CONTINUOUS (FULL-LENGTH) TUNNEL ALIGNMENTS

(1) Dockweiler Beach – Construction of the first full-length large-tunnel alternative via Dockweiler Beach would be excavated (mined) with a TBM to connect the VPP and the existing junction structure on Vista Del Mar near Waterview Street directly. Two short cut-and-cover open-trench connectors are proposed at the north end along Hurricane Street to connect the VPP with the TBM-extraction shaft site on Venice Beach and at the south end to connect the single (starter) beach shaft located outside of residential areas west of Vista Del Mar with the junction structure near Waterview Street.

Project impacts of the cut-and-cover section would result in same localized impacts on the vehicular and non-motorized transportation on Hurricane Street west of Grand Canal, as described in the North Dockweiler Beach alignment above for the Marina Del Rey alignment alternatives. As indicated, street

parking on Hurricane Street would be displaced to provide two-way traffic along Hurricane Street. During the construction of the open cut-and-cover section across the intersection of Hurricane Street and Pacific Avenue or the intersection of Hurricane Street and Speedway Avenue, traffic would be diverted to either Galleon Street or Ironsides Street and return to Pacific Avenue or Speedway Avenue when either of the intersections is closed. Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be necessary. Local access to residences and businesses on Hurricane Street would be restricted during construction hours. In addition, during the cut-and-cover construction when connecting the beach shaft with the existing junction structure on Vista Del Mar near Waterview Street, two travel lanes in each direction on Vista Del Mar could be maintained by temporarily displacing parking on Vista Del Mar between Waterview Street and Napoleon Street (nine metered spaces on the west side and one metered space on the east side).

Given the Project trip generation estimates and distribution, as described in the previous discussions of construction assumptions, the construction traffic volumes generated by this full-length Dockweiler Beach alignment and future traffic volumes with construction traffic for this beach alignment could be developed, as illustrated in Appendix E. The projected incremental change in V/C ratio during construction for the 9 analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Construction traffic (both worker and truck trips) generated from both the tunnel construction and the cut-and-cover activities on both ends of the alignment would result in adverse construction-period impacts at two of the nine analyzed study intersections and 1 of the 23 study segments:

- Pacific Avenue at Washington Boulevard
- Nicholson Street at Culver Boulevard
- Culver Boulevard east of Nicholson Street (p.m. peak hour)

(2) Dockweiler Beach to LAX Shaft – Construction of the second full-length, large-tunnel alternative via Dockweiler Beach would involve the use of a TBM to connect the VPP and starter shaft on LAX property east of Vista Del Mar and south of Waterview Street. Only one short cut-and-cover open-trench connector is proposed at the north end along Hurricane Street to connect the VPP with the TBM-extraction shaft site on Venice Beach.

Project impacts of the cut-and-cover section would result in same localized impacts on the vehicular and non-motorized transportation on Hurricane Street west of Grand Canal, as described in the previous full-length, large-tunnel alternative beneath Dockweiler Beach. Localized impacts would occur on the non-motorized transportation system under this alternative in the vicinity of the of the Hurricane Street cut-and-cover segment. Like the development of Project construction traffic volumes and future Project traffic volumes described in the other tunnel alignments, the projected incremental change in V/C ratio during construction for the 9 analyzed intersections, and the 23 analyzed roadway segments are identified in Appendix E. Construction traffic (both worker and truck trips) generated from both the tunnel construction and the cut-and-cover activities on Hurricane Street would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

(3) Venice Pumping Plant to LAX Shaft via Dockweiler Beach – Construction of the third full-length, large-tunnel alternative via Dockweiler Beach would involve the use of a TBM to connect the VPP and the starter shaft on LAX property east of Vista Del Mar and south of Waterview Street directly. Since most of the tunnel construction would avoid in-street activities, no localized impacts would occur on the non-motorized transportation system during the large worker-entry tunneling beneath the beach. Like the development of project construction traffic volumes and future Project traffic volumes as described in the other tunnel alignments, the projected incremental change in V/C ratio during construction for the 9 analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

(4) Venice Pumping Plant to LAX Shaft via Inland Route – Construction of the fourth full-length large-tunnel alternative via the inland area of Dockweiler Beach would involve TBM to connect the VPP and the starter shaft on LAX property east of Vista Del Mar and south of Waterview Street directly. Since most of the tunnel construction would avoid in-street activities, no localized impacts would occur on the non-motorized transportation system during the large man-entry tunneling beneath the beach. Like the development of Project construction traffic volumes and future Project traffic volumes as described in the other tunnel alignments, the projected incremental change in V/C ratio during construction for the 9 analyzed intersections and 23 analyzed roadway segments are identified in Appendix E. Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

CONSTRUCTION ALTERNATIVES

(1) Cut-and-Cover Construction – A discussion of the project impacts due to the cut-and-cover construction method is included above for each of the three project alignment alternatives in the Marina Del Rey area and for each of the two Project alignment alternatives in the Playa Del Rey area. This method would be used in conjunction with the tunnel-boring method in several Project alternatives and would result in greater circulation impacts than the large-diameter tunneling alternatives.

(2) Tunnel-boring – A discussion of the Project impacts due to the tunnel-boring construction method is included above for each of the three Project alignment alternatives in the Marina Del Rey area and for each of the two Project alignment alternatives in the Playa Del Rey area. This method would be used in conjunction with the cut-and-cover method in several Project alternatives and would result in greater circulation impacts than the large-diameter tunneling alternatives.

(3) Large-Diameter Tunneling – A discussion of the Project impacts due to the use of large-diameter tunneling is included in the alternatives above for each of the four proposed larger tunnel alignment alternatives. These alternatives would result in fewer circulation impacts than those employing cut-and-cover and tunnel-boring methods.

Table 5.4-3 summarizes the results of the analysis discussed in Section 5.4.3. Based on this analysis, the project alternatives are not expected to result in significant impacts to the transportation system upon completion of the proposed sewer facilities. The construction of the sewer facilities, however, could result in temporary adverse traffic and parking impacts, the introduction of temporary bicycle, pedestrian, or vehicular safety hazards and the temporary relocation of access points to public transit.

During the various construction phases of each project alignment, travel by construction workers and truck hauling of supplies and disposal would generate trips on the regional and local transportation system surrounding each construction shaft site or zone. These trips would represent temporary increases during defined phases of construction and, upon completion of construction, would cease. Adverse short-term impacts, as shown in Table 5.4-3 could result, but because they would be of limited-duration, they are not considered to be significant.

In addition, temporary lane closure due to open-trench construction activities for the six Project combinations of Marina Del Rey and Playa Del Rey alignment alternatives and the short open-and-cut section for the Dockweiler Beach full-length tunnel alternative and the Dockweiler Beach – LAX Shaft full-length alternative would result in adverse impacts on up to four affected streets. Surface construction, however, would result in only temporary transportation impacts, which while adverse, would not be considered significant.

Similarly, during the construction period at locations where construction activity would occur within public street ROW or in areas accessible to the public (i.e., locations other than within the site of the VPP), increased safety risks to vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to affected sites due to narrowed lanes, altered travel patterns, and temporarily obstructed sidewalks. Adverse short-term impacts could result but, because they would be of limited duration, they are not considered to be significant for any of the 10 project alignment alternatives.

Finally, as shown Table 5.4-3, construction of 8 of the 10 proposed alignment alternatives involving the open-trench method and tunnel-boring method would result in temporary loss of parking spaces either at the public parking lot adjacent to the channel or at on-street locations. This would be considered adverse, but not significant due to the temporary nature of the impacts.

5.4.4 Mitigation Measures

Proposed mitigation consists of the following measures to reduce the temporary adverse impacts associated with construction-period activity in the vicinity of each construction shaft site or construction zone. The implementation of the following mitigation measures would reduce the Project traffic/transportation impacts for all Project alignment alternatives to a less than significant level.

For all construction sites, TRA-1 would apply.

Table 5.4-3 Project Alignment Alternative Impact Summary

Project Alignment Alternatives	Traffic V/C increase	Transportation Safety	Parking
Open-trench and Tunnel-boring Alternatives			
Marquesas Way/ Via Marina - Pacific Avenue	Potentially adverse Impacts during construction at three analyzed locations: Via Marina (SB) South of Tahiti Way (p.m.) Pacific Av (SB) from 63rd Av to 64th Av (a.m./p.m.) Vista Del Mar (NB) from Pacific Av to Surf St (a.m./p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction on Hurricane Street east of Pacific Avenue, at the two tunnel-boring sites across the marina entrance channel and Ballona Creek Channel, and Pacific Avenue between 62nd Avenue and Vista Del Mar
Marquesas Way/Via Marina - South Dockweiler Beach	Potentially adverse impact during construction at one analyzed location: Via Marina (SB) South of Tahiti Way (p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction on Hurricane Street east of Pacific Avenue and at the two tunnel-boring sites across the marina entrance channel and Ballona Creek Channel
Pacific Avenue	Potentially adverse impact during construction at four analyzed locations: Pacific Av (NB) from Privateer St to Quarterdeck St (a.m./p.m.) Pacific Av (NB) from Westwind St to Yawl St (a.m./p.m.) Pacific Av (SB) from 63rd Av to 64th Av (a.m./p.m.) Vista Del Mar (NB) from Pacific Av to Surf St (a.m./p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction on Hurricane Street east of Pacific Avenue, at the tunnel-boring site adjacent to Ballona Creek Channel, and Pacific Avenue between 62nd Avenue and Vista Del Mar
Pacific Avenue - South Dockweiler Beach	Potentially adverse impact during construction at two analyzed locations: Pacific Av (NB) from Privateer St to Quarterdeck St (a.m./p.m.) Pacific Av (NB) from Westwind St to Yawl St (a.m./p.m.)	Potentially adverse impacts during construction	Potentially averse impacts during construction on Hurricane Street east of Pacific Avenue and at the tunnel-boring site adjacent to Ballona Creek Channel
Dockweiler Beach - Pacific Avenue	Potentially adverse impact during construction at two analyzed locations: Pacific Av (SB) from 63rd Av to 64th Av (a.m./p.m.) Vista Del Mar (NB) from Pacific Av to Surf St (a.m./p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction Hurricane Street west of Grand Canal, at the tunnel-boring site adjacent to Ballona Creek Channel, and Pacific Avenue between 62nd Avenue and Vista Del Mar
Dockweiler Beach	None during construction	Potentially adverse impacts during construction	Potentially adverse impacts during construction on Hurricane Street west of Grand Canal and at the tunnel-boring site adjacent to Ballona Creek Channel
Full Length (Mined) Large-tunnel Alternatives			
Dockweiler Beach	Potentially adverse impact during construction at three analyzed locations: Pacific Av& Washington Bl (p.m.) Nicholson St & Culver Bl (p.m.) Culver Bl east of Nicholson St (p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction during construction on Hurricane Street west of Grand Canal
Dockweiler Beach Shaft to LAX Shaft	Potentially adverse impact during construction at one analyzed location: Pacific Av & Washington Bl (p.m.)	Potentially adverse impacts during construction	Potentially adverse impacts during construction on Hurricane Street west of Grand Canal
VPP to LAX Shaft via Dockweiler Beach	Potentially adverse impact during construction at one analyzed location: Pacific Av & Washington Bl (p.m.)	None during construction	None during construction
VPP to LAX Shaft via Inland	Potentially adverse impact during construction at one analyzed location: Pacific Av & Washington Bl (p.m.)	None during construction	None during construction

Source: Kaku Associates, Inc.

TRA-1 For each construction site, a construction traffic management plan shall be prepared and submitted to the City Department of Transportation for review and approval prior to the start of any construction work. This plan shall include such elements as the designation of haul routes for construction-related trucks, the location of access to the construction site, any driveway turning movement restrictions, temporary traffic control devices or flagmen, travel time restrictions for construction-related traffic to avoid peak travel periods on selected roadways, and designated staging and parking areas for workers and equipment.

Where construction would occur within a public street ROW, including during the open-trench construction activities for all six combinations of Marina Del Rey and Playa Del Rey alignment alternatives and at the short cut-and-cover portion on both ends of the two full-length tunnel alternatives (Dockweiler Beach alignment and Dockweiler Beach to LAX Shaft alignment), the following mitigation measures would also apply:

TRA-2 A site-specific construction work site traffic control plan shall be prepared for each construction site and submitted to the LADOT for review and approval prior to the start of any construction work. This plan shall include such elements as the location of any lane closures, restricted hours during which lane closures would not be allowed, local traffic detours, protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, temporary traffic signals, warning signs), access to abutting properties, and provisions to maintain emergency access through construction work areas.

TRA-3 Fully utilize available street space to minimize lane reductions on affected streets, including elimination of on-street parking where necessary. Implement left-turn restrictions as appropriate on restriped street segments to facilitate the movement of through traffic. Only eliminate travel lanes when absolutely necessary.

TRA-4 Provide signage indicating alternative pedestrian and bicycle access routes where existing facilities would be affected.

TRA-5 Provide advance notice to any affected residents, businesses and property owners in the vicinity of each construction site and, where existing property access will be reduced, identify alternative means of access.

TRA-6 Coordinate with emergency service providers (police, fire, ambulance and paramedic services) to provide advance notice of any lane closures, construction hours and changes to local access and to identify alternative routes where appropriate.

TRA-7 Coordinate with pubic transit providers (MTA, LADOT Commuter Express, Culver City Bus) to provide advance notice of any lane closures, construction hours and, where necessary, to identify sites for temporary bus stops within a reasonable walking distance of any displaced bus stops.

5.4.5 Unavoidable Adverse Impacts

In-street construction associated with each of the Project alternatives could result in adverse traffic and parking impacts in the immediate vicinity of each active construction site leading to localized congestion

and increased competition for available parking. Because these impacts would be of limited duration, however, they are considered to be less than significant. No feasible mitigation measures have been identified to reduce these temporary impacts to a less than significant level.

5.4.6 Cumulative and Secondary Impacts

CUMULATIVE IMPACTS

The traffic analysis above provides projections of future traffic growth by increasing background traffic by CMP-derived annual percentages and by adding development. The addition of background growth over time approximates traffic from development that is expected to occur under the General Plan and other jurisdictional plans and growth projections; consequently, the traffic analysis is therefore a cumulative evaluation. Operation of the proposed Project after the completion of the sewer line would result in periodic vehicle trips associated with inspection and maintenance activities that would generate negligible traffic volumes over the life of the Project. Since the construction traffic would be temporary in nature and would cease after the completion of the Project, none of the proposed 10 project alignment alternatives would result in substantial contribution to cumulative traffic impacts. In addition, in-street construction in the city and other jurisdictions requires permits for the regulating transportation agency. These agencies require the preparation of traffic control plans for in-street construction and require certain practices to be incorporated into the plans for implementation to maintain traffic flow and accommodate emergency response vehicles. The preparation of such traffic control plans would ensure that construction-related traffic impacts do not represent a substantial contribution to cumulative traffic impacts no matter which Project alternative alignment is chosen.

Construction could temporarily reduce parking in the vicinity of construction zones, but such reductions are not considered significant. None of the other related projects are expected to result in construction that could affect the same Project construction areas at the same time; consequently, significant cumulative parking impacts during construction are not anticipated.

SECONDARY IMPACTS

If the avoidance and minimization measures above were implemented successfully, no secondary parking, traffic or safety hazard would be associated with any of the proposed Project alternative alignments.

5.5 CULTURAL/PALEONTOLOGICAL RESOURCES

5.5.1 Cultural Resources

5.5.1.1 Environmental Setting

The general location of the Project areas are the residential section north of the Marina Del Rey Channel and the mixed use area south of the channel in Playa Del Rey.

MARINA DEL REY AND VENICE

Marquesas Way and Via Marina – contain high-density residential housing on the west side of the streets, a planted median, two traffic lanes running in each direction, and mixed use residential housing and commercial structures on the east side. Ground visibility is intermittent on the west side of the streets constrained by ivy, ornamentals and short sections of sidewalk and curvilinear paths. The median is densely planted with trees and various shrubs. The east side of Via Marina is primarily sidewalk with some grassy areas and open ground.

Pacific Avenue – is lined with residential units, including apartments, condominiums and single-family residences. The street is paved with asphalt with very few areas of open ground and hardscape planters.

Dockweiler Beach – is open beach with residential units, apartments, condominiums and single-family residences on the east side. Housing meets the sand in some areas with the beach extending some 900 feet west to the Pacific Ocean.

WESTCHESTER/PLAYA DEL REY

The combined alternatives south of Marina Del Rey Channel include residential units, park areas, parking areas, sand dunes, commercial structures and eroded bluffs near the southern terminus. The alignment follows Pacific Avenue, which turns northeast near Culver Boulevard and transitions to Vista Del Mar. The beach area alignment is sand, two cement curvilinear paths and sand dunes.

Archaeological records indicate that sedentary populations once occupied the Project area. Numerous artifacts and multiple burials were encountered in the general area. Excavation of a major burial ground (300 people) is ongoing in the area north Lincoln Boulevard, at the site of the Playa Vista housing development. These investigations serve to highlight the sensitivity of the Project areas for archaeological resources, which are described in the technical report provided in Appendix F to this EIR.

Historical records also identify the presence of oil well structures resulting from the Ohio Oil Companies wildcat drilling east of Venice's Grand Canal and throughout the Project area. Playa Del Rey was once the fourth largest oil field in California and home to over 50 oil wells. By the end of 1931, there were 325 active oil wells in the Ballona Lagoon area, highlighting the sensitivity of the Project areas expanding from Playa Del Rey and north of the Venice Project areas. Table 5.5-1 shows a summary of archaeological investigations in the VPP Project area.

Table 5.5-1 Archaeological Investigations Summary

Reference Number	Name of Project	Type of Investigation	Author/Date	Results
L-873	373-375 Fowling Street	Records search and survey	Singer, 1980c	No impact
L-1157	Job No. 1GOL0601	Records search and survey	Dillon, 1982	Negative
L-4868	Sempra Energy Gas	Record search	Shepard, Mason, Lander, 2000	CA-LAN-64, -65, -203, -204, -206
L-4910	LAX	Survey	Raschke, Stadum and Bissell, 1995	19-000202, 19-000214, 19-000691, 19-001118; NR#9200095, 74000522, 86001666
L-5556	Vista Del Mar, Culver Boulevard to Napoleon Street	Historic survey	Tillman, 1977	Nothing historic, mentions an archaeological site
L-5559	AT&T Wireless Services Facility Number R319	Records search and survey	Lapin, 2000a	19-001716, 19-000066
L-5561	Pacific Bell Wireless Facility	Records search and phase I survey	Lapin, 2000b	Negative
L-5563	Request for Determination of Effect, 07-LA-187, P.M. 2.0/3.5	Road construction	U.S. Department of the Interior, National Park Service	19-167308, 19-167310
L-5761	Facility No. Sm 018-01 (appears to be a duplicate)	Records search	Duke, 2001	Negative

Source:
Historical maps consulted:
U.S. Geological Survey Redondo Beach 15' Quadrangle, 1986, no structures.
U.S. Geological Survey Redondo Beach 15' Quadrangle, 1944, 3 structures north of Ballona Creek; many structures south of Ballona Creek.

5.5.1.2 Thresholds of Significance

A significant impact on archaeological resources would occur if an activity would permanently destroy, misplace or alter the integrity of the physical site and or the physical findings of the site and area of findings. A significant impact to a historical or prehistoric resource would occur if a project causes a substantial adverse change in the qualities that contribute to the significance of the resource.

5.5.1.3 Environmental Impacts

Direct impacts are those that may result from the immediate disturbance of resources, whether from removal of vegetation, demolition of structures, earth-moving activities or excavation. Since the Project will entail surface and subsurface disturbance of the ground, the proposed development of the sewer alignment has the potential to cause a significant impact on unknown cultural resources.

One archaeological site is recorded in the vicinity of the Vista Del Mar alignment area, as shown in the above table. The area has been repeatedly impacted by development. It is possible that if the location retains any integrity, remnants may be present under the pavement of the Vista Del Mar alignment area; however, it is the Archaeologists' opinion that there is insufficient evidence that a cultural resource is present. Therefore, no impact is expected.

5.5.1.4 Mitigation Measures

The following mitigation measures will reduce impact on cultural resources to a level below significance:

CR-1 Avoid areas where cultural resources are known to exist.

CR-2 When avoidance cannot be achieved, alternate measures such as surface collection and/or subsurface data recovery of significant sites must be implemented.

CR-3 If previously unknown cultural resources are encountered during site clearance and preparation, or during project construction, and they can not be avoided, then contingency measures must be in place to react promptly to protect the resources and ameliorate the impacts to a level of not significant.

CR-4 Monitor all construction in the vicinity of the CA-LAN-66 site located in Vista Del Mar by an Archaeologist qualified to recognize and assess both prehistoric and historical resources.

CR-5 A contingency plan should be developed by the City before project construction activities; the plan shall address unanticipated new discoveries of cultural resources in the project area, evaluate and report any findings.

CR-6 If significant cultural resources are found during Project construction activities, they shall be recovered from the Project site, curated by an archaeologist recommended by the City and offered to an area museum whose collection is available for reviewing by the public.

5.5.1.5 Unavoidable Adverse Impacts

There are no unavoidable impacts to the cultural resources resulting from this Project with appropriate mitigation in place.

5.5.1.6 Cumulative and Secondary Impacts

There are no cumulative and/or secondary impacts to the cultural resources resulting from this Project with appropriate mitigation in place.

5.5.2 Paleontological Analysis

5.5.2.1 Environmental Setting

Paleontologic resources of the Project site include sedimentary or stratigraphic rock units that immediately underlie the surface and have a potential for yielding particular types of fossil remains because they have yielded similar fossil remains at previously recorded fossil sites near the Project site. Fossils, the remains or indications of once-living organisms, are a very important scientific resource because of their use in 1) Documenting the evolution of particular groups of organisms, 2) Reconstructing the environments in which they lived, and 3) Determining the ages of the strata in which they occur and of the geologic events that resulted in the deposition of the sediments constituting these strata.

The Project site lies on the western shelf of the Cenozoic Los Angeles Basin (Wright, 1991), which, in turn, is situated at the northwestern corner of the Peninsular Ranges Province, where major linear geographic features (i.e., mountains, valleys) and the underlying geologic structures (i.e., faults, folds) trend in a northwesterly direction (Jahns, 1954). The western shelf is composed of sedimentary or stratigraphic rock units consisting of late Cenozoic marine and stratigraphically overlying nonmarine strata reflecting the final filling of the basin and its accompanying emergence above sea level.

Regional surficial geologic mapping of the Project site and vicinity is provided by Jennings (1962) at a scale of 1:250,000. Larger-scale (1:31,680) geologic mapping of the area by Poland and others (1959) indicates that the project site is underlain by three Quaternary rock units. In ascending stratigraphic order, these rock units include the Pleistocene marine Palos Verdes Sand and Holocene dune sand, which form the lower portion of the bluff at the southeastern corner of the Project site; and by Holocene coastal deposits, which underlie the remaining flat-lying portion of the Project site.

5.5.2.2 Thresholds of Significance

The paleontologic importance (high, moderate, low, none, undetermined) of a rock unit present at the Project site is the measure most amenable to assessing the scientific importance of the paleontologic resources of the Project site because the areal distribution of a rock unit can be delineated on a topographic map. The paleontologic importance of a rock unit reflects 1) its potential paleontologic productivity and 2) the scientific importance of the fossils it has produced locally.

The potential paleontologic productivity (high, moderate, low, none, undetermined) of a rock unit present at the project site is based on the abundance/densities of fossil specimens and/or unrecorded/previously recorded fossil sites in exposures of the unit at and near the Project site. Exposures of a specific rock unit at the project site are most likely to yield fossil remains representing particular species in quantities similar to those previously recorded from the unit at and near the Project site, or to contain fossil sites at similar densities. The criteria for establishing the potential paleontologic productivity of a rock unit present at the Project site are described below.

1. High potential: rock unit contains comparatively high density of unrecorded/previously recorded fossil sites and has produced numerous fossil remains at and/or near the Project site, and is very likely to yield additional similar remains at the Project site.
2. Moderate potential: rock unit contains relatively moderate density of unrecorded/previously recorded fossil sites and has produced some fossil remains at and/or near the Project site, and is somewhat likely to yield additional similar remains at the Project site.
3. Low potential: rock unit contains no or comparatively low density of previously recorded fossil sites and has yielded very few or no fossil remains near the Project site, and is not likely to yield any remains at Project site.
4. Undetermined potential: rock unit has limited or no exposure at and/or near the Project site, is poorly studied, contains no previously recorded fossil site, and has produced no fossil remains near the Project site. However, in the Project site region, same or correlative and/or lithologically similar rock unit contains sufficient recorded fossil sites to suggest rock unit at the Project site has at least a moderate potential for containing unrecorded fossil sites (note: elsewhere in California, exposures of rock units with few or no previously recorded fossil sites have recently proven abundantly fossiliferous during surveying, monitoring, or processing of fossiliferous rock samples as part of mitigation programs for other earth-moving projects).
5. No potential: unfossiliferous artificial fill and igneous and high-grade metamorphic rock units with no potential for containing any unrecorded fossil site or yielding any fossil remains.

A fossil specimen is considered scientifically highly important if it is 1) Identifiable, 2) Complete, 3) Well preserved, 4) Age diagnostic, 5) Useful in environmental reconstruction, 6) A type or topotypic specimen,

7) A member of a rare species, 8) A species that is part of a diverse assemblage, and/or 9) A skeletal element different from, or a specimen more complete than those now available for its respective species. Identifiable fossil land mammal remains, for example, are considered scientifically highly important because of their potential use in providing very accurate age determinations and environmental reconstructions for the rock units in which they occur. The geologic age of some fossil mollusk and land mammal and plant remains can be determined by carbon-14 dating analysis. Moreover, land mammal and plant remains are comparatively rare in the fossil record.

Using the definitions presented above, the paleontologic or scientific importance of a rock unit present at the Project site would be assessed using the following criteria.

1. High importance: rock unit has comparatively high potential for containing unrecorded fossil sites and for yielding scientifically important fossil remains at the Project site similar to those previously recorded from rock unit at and/or near the Project site.
2. Moderate importance: rock unit has relatively moderate potential for containing unrecorded fossil sites and for yielding scientifically important fossil remains at the Project site similar to those previously recorded from rock unit near the Project site.
3. Low importance: rock unit has comparatively low potential for containing any unrecorded fossil site or for yielding any scientifically important fossil remains at the Project site.
4. Undetermined importance: rock unit for which too few data are available from the Project site and vicinity to allow an accurate assessment of its potential for containing any unrecorded fossil site or for yielding any scientifically important fossil remains at the Project site.
5. No importance: unfossiliferous artificial fill and igneous and high-grade metamorphic rock units having no potential for containing any unrecorded fossil site or for yielding any fossil remains.

Note, however, that any fossil site containing identifiable fossil remains and the fossil-bearing strata are considered highly important paleontologically, regardless of the paleontologic or scientific importance of the rock unit in which the site and strata occur.

The following tasks were conducted in compliance with SVP (1995) guidelines for assessing the significance of construction-related adverse environmental impacts on paleontologic resources, or the paleontologic sensitivity of a particular rock unit to adverse impacts.

5.5.2.3 Environmental Impacts

An inventory of the paleontologic resources of the rock units present at the project site is listed below. The scientific importance of these resources is assessed in the Appendices. Although neither the literature review, the archival search nor the field survey conducted for this inventory documented any previously recorded fossil site as occurring at the project site, a number of previously recorded fossil sites were documented as occurring in areas mapped as being underlain by these rock units near the project site. The fossil remains from some of these fossil sites were uncovered as a result of earth-moving activities associated with other major construction projects.

The occurrence of several previously recorded fossil sites near the Project site suggests that there probably is a high potential for additional similar, scientifically highly important fossil remains at the Project site being encountered by earth-moving activities at unrecorded fossil sites in the Palos Verdes

Sand. Identifiable fossil remains recovered from this rock unit at the Project site would be particularly important if they represented a new or rare species; geologic (temporal) and/or geographic range extension; new taxonomic record for the rock unit; age-diagnostic species; and/or a skeletal element different from, or a specimen more complete than those now available for its respective species. Moreover, the recovery of remains representing environmentally sensitive species would be critical in paleo-environmental and habitat reconstruction. The remains would contribute to a more comprehensive documentation of the diversity of animal life that existed at and near the Project site during the Pleistocene Epoch (Figure 5.5-1).

VISTA DEL REY

LAX Launch Shaft Location – Although no previously recorded fossil site is reported as occurring in the dune sand at the Project site, fossilized remains representing an extinct species of elephant might have been recovered from this rock unit at LACM fossil site 3264, which was encountered at a depth of 25 feet below previous grade approximately 2.4 miles east-southeast of the Project site at LAX. However, the fossil site also might have been in the stratigraphically underlying terrace cover, which is mapped with the Palos Verdes Sand and has yielded the fossilized bones and teeth of extinct species of land mammals, including mastodon, mammoth, horse, bison, and rabbit, near the airport at LACM fossil sites 1180, 3789, 4942, and 7332 (Jefferson, 1991b; Miller, 1971). These sites were encountered at depths 13.5 to 16 feet below previous grade. The occurrence of fossilized remains representing an extinct species of Pleistocene bison (*Bison*), which defines the beginning of the Rancholabrean North American Land Mammal Age (Savage, 1951), indicates that the terrace cover is Rancholabrean in age.

Playa Vista – Although no previously recorded fossil site is reported as occurring in the coastal deposits at the Project site, fossilized shells of marine mollusks were encountered below the water table at depths of 2 to 31 feet below previous grade in 28 borings from Playa Vista, immediately east of the Project site, and fossilized wood was encountered in one of the borings at a depth nearly 70 feet below previous grade (Converse Consultants, Inc., 1981; Lander, 1990, 2003; LeRoy Crandall and Associates, 1988).

Direct impacts would result mostly from earth-moving activities (primarily trenching and boring for pipeline) in previously undisturbed strata. Although earth-moving activities would be comparatively short term, the possible accompanying loss of some fossil remains, unrecorded fossil sites, associated specimen data and corresponding geologic and geographic site data, and the fossil-bearing strata is a potentially significant long-term adverse environmental impact.

The Palos Verdes Sand has yielded abundant fossil remains at several previously recorded fossil sites near the Project area. For this reason, adverse environmental impacts on the paleontologic resources of the Palos Verdes Sand that would result from earth-moving activities at the Project site would be considered to be of high paleontologic significance because there probably is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities.



EXPLANATION

Qal	coastal deposits (Holocene at/near surface, Pleistocene at depth; marine)	low sensitivity at/near surface, high sensitivity at depth
Qs	dune sand (Holocene at/near surface, Pleistocene at depth; continental)	low sensitivity at/near surface, undetermined sensitivity at depth
Qpu	Palos Verdes Sand (Pleistocene, marine)	high sensitivity
Qsp	San Pedro Formation (Pleistocene, marine)	(not present at project site)
——	geologic contact	

PALEONTOLOGICAL RESOURCE SENSITIVITY MAP

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.5-1

DOCKWEILER BEACH

Dune Sand – The dune sand possibly has yielded fossil remains at only one previously recorded fossil site near the Project site. For this reason and because this fossil site was encountered at tunnel boring depth, adverse environmental impacts on the paleontologic resources of the dune sand that would result from earth-moving activities at the Project site would be considered to be of undetermined (but probably no more than moderate) paleontologic significance at depth because the potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities is undetermined.

On the other hand, any adverse environmental impact on the paleontologic resources of the dune sand that would result from earth-moving activities at and near the surface probably would be considered to be of low significance because the dune sand probably is too young at and near the surface to contain remains old enough to be considered fossilized.

Coastal Deposits – The coastal deposits have yielded fossil remains at numerous previously recorded fossil sites near the Project site. For this reason and because these fossil sites were encountered at ??" above depth, adverse environmental impacts on the paleontologic resources of the coastal deposits that would result from earth-moving activities at the Project site would be considered to be of high paleontologic significance at depth because there probably is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities.

Any adverse environmental impact on the paleontologic resources of the coastal deposits that would result from earth-moving activities at and near the surface probably would be considered to be of low significance because the coastal deposits probably are too young at and near the surface to contain remains old enough to be considered fossilized.

5.5.2.4 Operational Impacts

There would be no impact on paleontologic resources during the operational phase of the Project if there were no earth-moving activity.

5.5.2.5 Mitigation Measures

The following measures comprise a paleontologic resource impact mitigation program that would reduce, to an insignificant level, the direct, indirect, and cumulative adverse environmental impacts on paleontologic resources that might accompany earth-moving activities (primarily trenching and boring for pipeline) associated with Project construction in the selected alignment. The program would allow for the recovery of some scientifically highly important fossil remains, should any be encountered by these activities, as well as associated specimen data and corresponding geologic and geographic site data; their preservation in a recognized museum repository; and their availability for future study by qualified scientific investigators. These specimens and data otherwise might have been lost to the earth-moving activities and unauthorized fossil collecting. Specimen recovery would be allowed under CEQA Appendix G (5.c).

Monitoring would not be required in an area underlain by artificial fill or a rock unit of no paleontologic importance (unless a rock unit of higher importance would be encountered at depth), or one in which a

rock unit would be buried, but not otherwise disturbed. No rock sample would be processed if the rock were too coarse grained or resistant to breaking down in water.

The discovery and subsequent recovery of fossil remains as part of the mitigation program might result in a slight delay of some earth-moving activities. However, the mitigation measures presented below have been designed to eliminate or reduce any delay to the greatest extent possible by 1) Ensuring that a paleontologic construction monitor would be present when and where fossil remains were most likely to be uncovered by earth-moving activities; 2) Allowing for the rapid recovery of fossil remains, should any be encountered by these activities, and associated specimen and site data; and 3) If necessary, diverting the activities temporarily around a newly discovered fossil site until the remains had been removed by the monitor and the activities allowed to proceed through the site. Similar paleontologic resource impact mitigation programs usually have resulted in no delay of earth-moving activities.

All mitigation measures presented below should be directed by a vertebrate paleontologist approved by the City of Los Angeles and LACMVP. The paleontologist should have substantial experience designing and conducting paleontologic resource impact mitigation programs in areas underlain by fossil-bearing strata. The paleontologic monitor and other paleontologic staff working under the direction of the paleontologist should have experience monitoring earth-moving activities, recovering large vertebrate fossil specimens, and recovering and processing large samples of fossiliferous rock or sediment.

The mitigation measures described below would be in compliance with any City of Los Angeles environmental guideline and with SVP (1995, 1996) standard guidelines for mitigating adverse construction-related impacts on paleontologic resources. The paleontologist would ensure implementation of these measures and verify the effectiveness of the measures. The results of the program would be summarized in a final technical report of results and findings submitted to the City of Los Angeles.

PAL-1 Prior to construction, the services of a qualified vertebrate paleontologist approved by the City of Los Angeles and LACMVP will be retained to implement the mitigation program, including monitoring, during earth-moving activities at the project site.

PAL-2 The paleontologist will develop a formal agreement with a recognized museum repository, such as the LACMVP or LACMIP, regarding the final disposition and permanent storage and maintenance of any fossil remains and the archiving of associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the mitigation program, and the level of treatment (preparation, identification, curation, cataloguing) of the remains that would be required before the entire mitigation program fossil collection would be accepted by the repository for storage.

PAL-3 The qualified monitor will coordinate with the appropriate construction contractor personnel to provide information regarding lead agency requirements for the protection of paleontologic resources. Contractor personnel also will be briefed on procedures to be followed in the event that a fossil site or remains are encountered by earth-moving activities, particularly when the monitor is not on site. The briefing will be presented to new contractor personnel as necessary. Names and telephone numbers of the monitor and other appropriate mitigation program personnel will be provided to the appropriate contractor personnel.

PAL-4 Earth-moving activities will be monitored by the qualified monitor only in those areas of the Project site where these activities will disturb previously undisturbed strata. Monitoring will be conducted on a full-time basis in areas underlain by the Palos Verdes Sand and, once the activities have reached a depth 5 feet below grade, on a full-time basis in areas underlain by the coastal deposits and on a half-time basis in areas underlain by the dune sand. If fossil remains are encountered by these activities, monitoring will be increased to full time, if appropriate, at least in the vicinity of the fossil site where the area is underlain by the fossil-bearing rock unit. If no fossil remains are found once 50 percent of earth-moving activities have been completed in an area underlain by a particular rock unit, with City of Los Angeles approval, monitoring can be reduced or suspended in that area.

Monitoring will consist of visually inspecting debris piles and freshly exposed strata for larger fossil remains, and periodically dry test screening sediment, rock, and debris for smaller fossil remains. As soon as practicable, the monitor will recover all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that can be recovered easily. If recovery of a large or unusually productive fossil occurrence is warranted, earth-moving activities will be diverted temporarily around the fossil site and a recovery crew will be mobilized as necessary to remove the occurrence as quickly as possible. If not on site when a fossil occurrence is uncovered by these activities, the activities will be diverted temporarily around the fossil site and the monitor called to the site to evaluate and, if warranted, recover the occurrence. If the fossil site is determined too unproductive or the fossil remains not worthy of recovery, no further action will be taken to preserve the fossil site or remains, and earth-moving activities will be allowed to proceed through the site immediately. The location and proper geologic context of any fossil occurrence will be documented, as appropriate. Any recovered rock sample will be processed to allow for the recovery of smaller fossil remains.

Rock samples will be processed to allow for the recovery of smaller fossil remains that normally are too small to be observed by the monitor. No more than 6,000 pounds (12,000 pounds total) of rock will be processed from either the Palos Verdes Sand or coastal deposits.

PAL-5 All fossil specimens recovered from the Project site as a result of the mitigation program, including those recovered as the result of processing fossiliferous rock samples, will be treated (prepared, identified, curated, catalogued) in accordance with designated museum repository requirements. Small rock samples from the Palos Verdes Sand, dune sand, and coastal deposits will be submitted to commercial laboratories for microfossil, pollen, or radiometric (carbon-14) dating analysis.

PAL-6 The monitor will maintain daily monitoring logs that include the particular tasks accomplished, the earth-moving activity monitored, the location where monitoring was conducted, the rock unit encountered, fossil specimens recovered, and associated specimen data and corresponding geologic and geographic site data. A final technical report of results and findings will be prepared by the paleontologist in accordance with any City of Los Angeles requirement.

5.5.2.6 Unavoidable Adverse Impacts

Development of the Project could lead to the permanent loss of fossil-bearing strata in rock units. The loss of any paleontologic resources could pose potentially significant long-term adverse environmental impacts, however, the Project would not impose adverse environmental impacts with proper mitigation monitoring in areas where excavation and or boring is to occur.

5.5.2.7 Cumulative Impacts

Development of the Project, in combination with other projects in the region where a project site is underlain by the Palos Verdes Sand might lead to the progressive loss of fossil-bearing strata in these rock units that could be prospected for fossil remains and unrecorded fossil sites. The loss of these additional paleontologic resources is another potentially significant long-term adverse environmental impact.

5.6 GEOLOGY, SOILS AND SEISMICITY

5.6.1 Environmental Setting

This analysis is based on a review of available information and data on the geotechnical and geological conditions of the various components of the proposed Project. The primary information reviewed for this analysis was site-specific geological and geotechnical investigations performed for the proposed Project and both published and unpublished geological and geotechnical reports and maps.

REGIONAL GEOLOGIC AND SITE SETTING

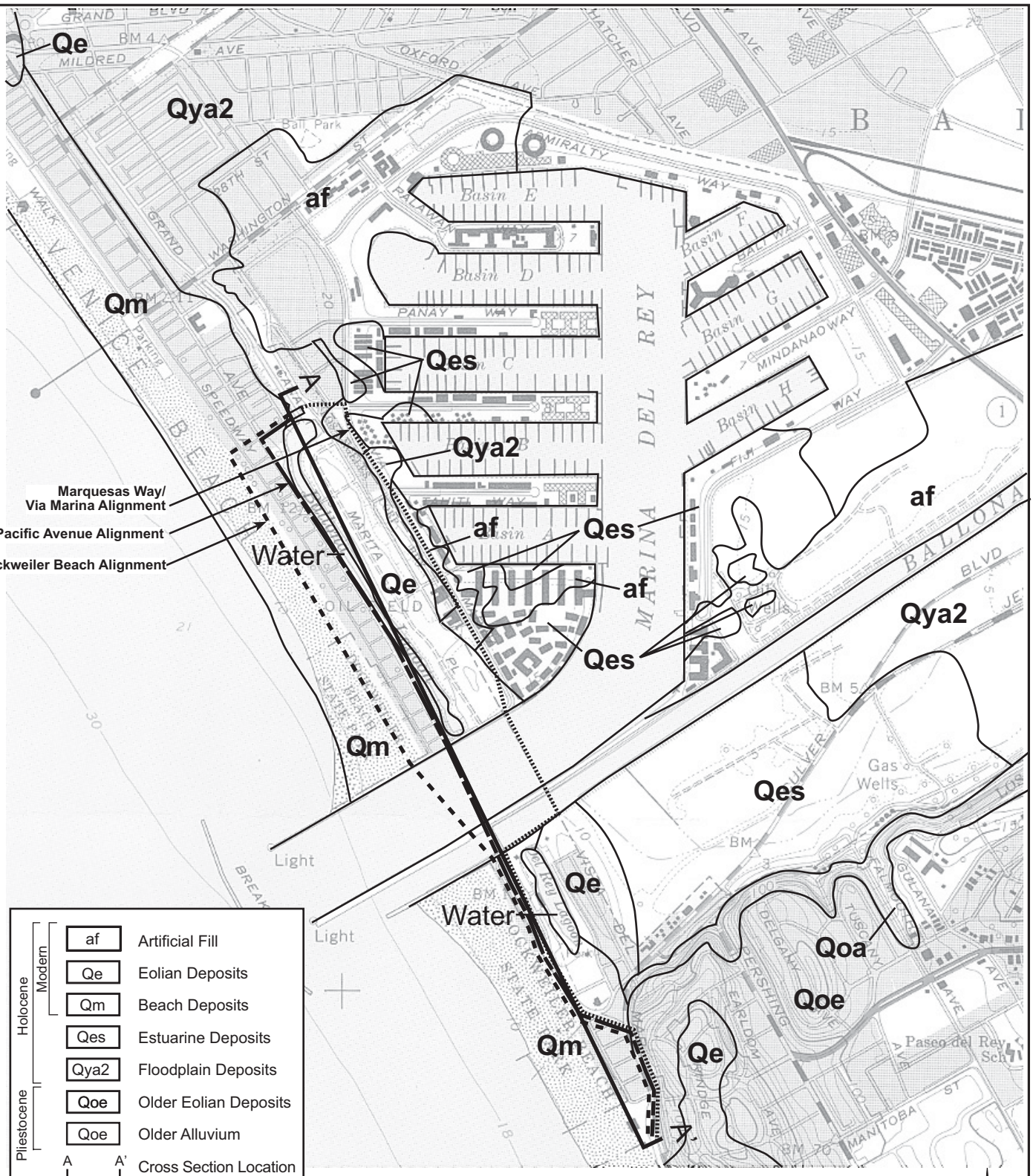
The Project area lies within a portion of the Los Angeles Basin known as the "Ballona Gap." The Ballona Gap is a broad alluvium filled valley developed as a result of stream incision occurring along the ancestral Los Angeles River (Poland, 1959). Before 1825, the Los Angeles River flowed westward through the Ballona Gap. Flooding in 1825 changed the course of the river to its present day course southward into San Pedro Bay (Poland, 1959). Presently, Ballona Creek drains westward across the project area in a concrete-lined drainage channel.

The Project area is generally bounded by Santa Monica Bay to the west, Marina Del Ray harbor to the east-northeast, marsh and wetlands of Playa Del Ray to the east, and stream-cut bluffs that delineate the southern margin of the Ballona Gap to the southeast. The entrance to the Marina Del Ray harbor crosses the project area and is parallel to, and lies just north of, Ballona Creek. The Venice Grand Canal and Ballona Lagoon lie within the Project area between the Santa Monica Bay and the Marina Del Ray harbor.

The topography in the Project area is relatively flat lying with an elevation of about 13 feet (above mean sea level datum) north of Ballona Creek. South of Ballona Creek, the topography is relatively flat lying at about elevation 14 feet until reaching Sunridge Street where the topography rises southward at an approximate grade of 3 to 4 percent up to about an elevation of 51 feet at the south end of the proposed Project. The slopes that lie to the southeast of the southern end of the project rise approximately 110 feet above the Project area at inclinations ranging from about 8:1 (horizontal: vertical) to 1:1.

GENERAL SITE GEOLOGY

The main surficial and subsurface materials within the Project area include artificial fill, eolian deposits, beach deposits, estuarine deposits, and alluvial sediments. The surficial sediments are underlain at an elevation of about -80 feet by sedimentary rock of the San Pedro formation. The areal distribution of the surficial materials within the Project area is shown on the Geologic Map, Figure 5.6-1. A geologic cross section showing the generalized distribution of the subsurface materials is provided on Figure 5.6-2. The following paragraphs provide brief, generalized descriptions of the subsurface materials along the proposed Project alignments.



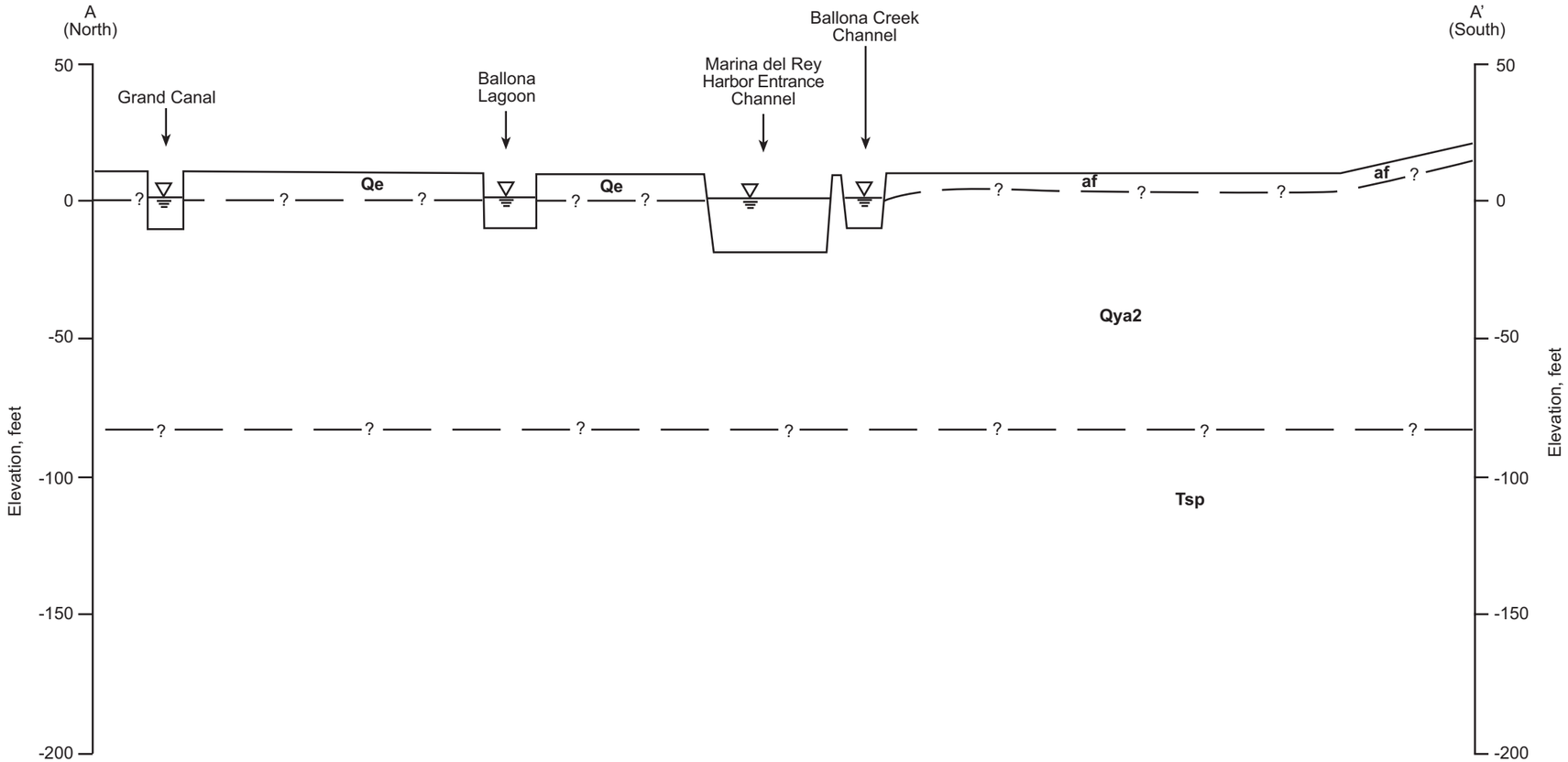
Notes:
1. Geology from CDMG (1998) Open-File Report 98-27.
2. Base map topography from USGS Venice Quadrangle, photorevised 1981.

GEOLOGIC MAP

Project No.: 29870322	Date: AUGUST 2004	Project: VENICE DUAL FORCE MAIN EIR	Figure 5.6-1

URS

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LEGEND

af = Artificial Fill (Note: Observed in borings by URS (2000a) south of Ballona Creek. Areal extent unknown and therefore, is not shown on geologic map

Qe = Eolian deposits

Qya2 = Alluvial deposits

Tsp = San Pedro Formation

Horizontal Scale: 1" = 1000 Feet
Vertical Scale: 1" = 50 Feet

Note: See Geologic Map, Figure _, for Cross Section Location

GENERALIZED GEOLOGIC CROSS SECTION ALONG PROPOSED FORCE MAIN

Project: VENICE DUAL FORCE MAIN EIR

Project No.: 29870322

Date: AUGUST 2004

Figure 5.6-2

URS

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Young Surficial Sediments (Holocene) – Artificial fill materials exist throughout the Project area. Where encountered south of Ballona Creek, the artificial fill typically ranges in thickness from about 5 to 17 feet below the ground surface (URS, 2000a). The artificial fill generally consists of sand and silty sand with occasional gravel and debris. The artificial fill is typically very loose to loose, but has occasional dense to very dense layers. Note that the artificial fill is not shown on the Geologic Map, Figure 5.6-1, along the proposed alignments because the areal extent of this material is not currently known:

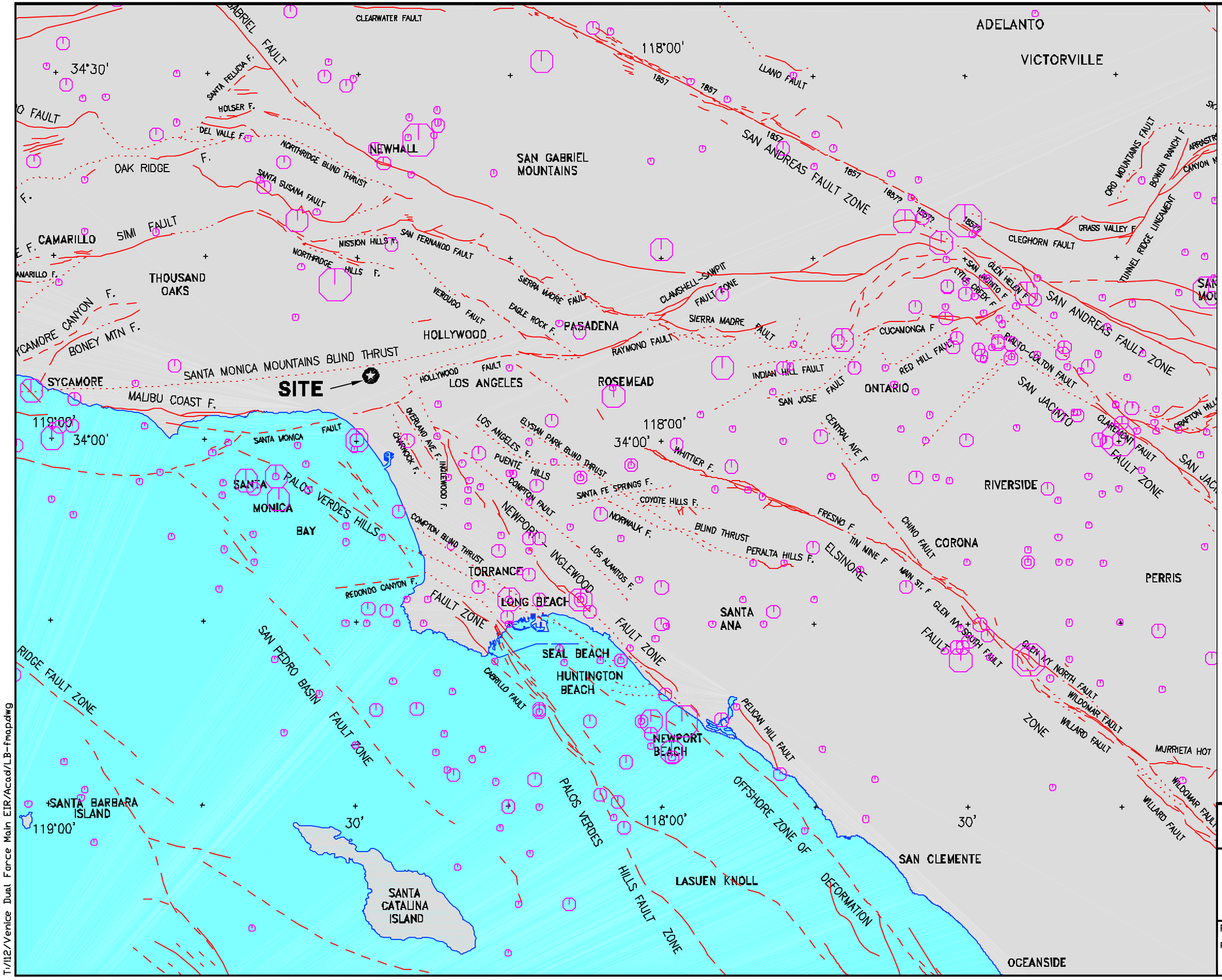
- Beach deposits (Qm) – Modern beach deposits consisting of loose to medium dense coarse sand and gravelly sand up to 23 feet thick [California Division of Mines and Geology (CDMG), 1998].
- Eolian deposits (Qe) – Windblown deposits that lie immediately inland from the modern beach. The eolian deposits consist of fine sand less than 10 feet in thickness (CDMG, 1998).
- Estuarine deposits (Qes) – Marsh deposits that typically include silt, sand, and clayey sand that are loose to medium dense (CDMG, 1998). The thicknesses of the estuarine deposits are likely less than 20 feet.
- Alluvial deposits (Qya2) – Young floodplain sediments derived primarily from the ancestral Los Angeles River. The alluvial deposits generally consist of intervals of sand, silty sand, silt, sandy to silty clay, and clay (URS, 2000a; 2000b). Occasional gravel and shells occur in the coarse-grained alluvium (sand). An approximately 15-foot-thick layer of gravelly sand to sandy gravel was encountered in borings in the area of the entrance channel and Ballona Creek at elevations ranging from –64 to –73 feet (URS, unpublished). This gravelly layer is likely the "50-foot gravel" of Poland (1959) and is the lower division of the younger alluvial deposits. The 50-foot gravel is a widespread relatively thin and irregular gravel and sand body laid down by the ancestral Los Angeles River. The consistency of the coarse-grained alluvium ranges from very loose to very dense, but is typically medium dense to dense (URS, 2000a; 2000b). The consistency of the fine-grained alluvium (silt and clay) ranges from soft to very stiff (URS, 2000a; 2000b).

SAN PEDRO FORMATION (EARLY PLEISTOCENE)

- Tsp – Weakly lithified deposits of non-marine to shallow marine origin that generally consist of stratified and cross-bedded sand with occasional beds of fine gravel, silty sand, and silt (Poland, 1959). The rock likely underlies the alluvial deposits at about elevation -79 to -88 feet.

FAULTS AND SEISMICITY

- Southern California is crossed by numerous northwest-trending active and potentially active surface faults and underlain by several "blind" thrust faults (i.e., a low-angle reverse fault with no surface exposure). The locations of the known active and potentially active faults and epicenters of earthquakes with magnitudes of 3.5 or greater with respect to the proposed Project are shown on the Regional Fault and Epicenter Map, Figure 5.6-3.
- No active surface fault traces are known to cross the proposed project area. In addition, the Project area is not underlain by a blind thrust fault that is recognized by the California Geological Survey (2003) as a potential seismic source. However, as shown on Figure 5.6-3, the Project area is located near several active or potentially active faults. Based on the known activity of faults in the region and on the recorded seismicity, the project site is likely to experience strong ground shaking from future earthquakes. Significant historical earthquakes that have occurred near the Project area include:
  - The 1933 Long Beach earthquake (Magnitude (M) 6.4) on the Newport-Inglewood Fault south of Huntington Beach;
  - The 1971 San Fernando earthquake (M6.6) on the San Fernando Fault;
  - The 1987 Whittier earthquake (M6.0); and
  - The 1994 Northridge earthquake (M6.7).



N

0 15 30

APPROXIMATE SCALE, kilometers

LEGEND

REPORTED EARTHQUAKE MAGNITUDES.

3.5 TO 3.9

4.0 TO 4.9

5.0 TO 5.9

6.0 TO 6.9

7.0 AND GREATER

SOUTH OF LATITUDE 35°N, EPICENTER AND MAGNITUDE DATA ARE FROM THE CALTECH EARTHQUAKE CATALOG FOR THE PERIOD FROM 1800 TO JUNE 1994. ONLY EARTHQUAKES OF MAGNITUDE 3.5 AND LARGER ARE SHOWN. AFTERSHOCKS ARE NOT INCLUDED.
NORTH OF LATITUDE 35°N, DATA ARE FROM THE CNSS EARTHQUAKE CATALOG (UC BERKELEY) FOR THE PERIOD FROM 1932 TO DECEMBER, 1998. ONLY EARTHQUAKES OF MAGNITUDE 4.0 AND LARGER ARE SHOWN. SIGNIFICANT AFTERSHOCKS OF THE 1952 KERN COUNTY EARTHQUAKE ARE INCLUDED.

? ? ?

APPROXIMATE LOCATION OF HOLOCENE AND PLEISTOCENE FAULTS, DOTTED WHERE CONCEALED, QUERIED WHERE CONJECTURAL. FAULT LOCATIONS BASED ON: ZIONY AND JONES, 1989; CDMG GEOLOGIC MAP SERIES OF CALIFORNIA, 1977–1986 (1:250,000 SCALE); CDMG GEOLOGIC MAP SERIES, CALIFORNIA CONTINENTAL MARGIN, 1987 (1:250,000 SCALE); HAUKSSON, 1990; SHAW AND SHEARER, 1999; WRIGHT, 1991; AND DOLAN ET AL., 1995; GRANT ET AL. 1999.

URS

REGIONAL FAULT AND EPICENTER MAP

Proj. No.: 29865195	Date: MARCH 2004
Project: LEO BAECK TEMPLE PARKING FACILITY	Figure: 6

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The geoseismic characteristics of some of the faults considered by the California Geological Survey (2003) as potential seismic sources within about 50 kilometers of the proposed project are listed in Table 5.6-1, including an estimate of the maximum earthquake magnitude that might be generated by each fault.

As noted in Table 5.6-1, the closest active or potentially active faults to the project area are the Palos Verdes, Santa Monica, and the Newport-Inglewood fault zone, as discussed briefly below.

Table 5.6-1 Summary of Potential Seismic Sources

Fault or Fault Segment	Fault Type[1]	Dip (deg.)	Dip Direction	Approx. Fault Length (km)[2]	Approx. Closest Distance to Site (km)[3]	Approx. Max Magnitude, Mw[4]
Palos Verdes	RL	90	--	96	5¾	7.3
Santa Monica	O/LL, R	N	75	28	9	6.6
Newport-Inglewood (onshore)	RL	90	--	66	10½	7.1
Malibu Coast	O/LL, R	75	N	37	10½	6.7
Hollywood	O/LL, R	70	N	17	13½	6.4
Raymond	O/LL, R	75	N	23	20	6.5
Anacapa-Dume	O/LL, R	45	N	75	25	7.5
Verdugo-Eagle Rock	R	45	NE	29	28	6.9
San Fernando	R	45	N	18	36	6.7
Santa Susana	R	55	N	27	38	6.7
Sierra Madre	R	45	N	57	38	7.2
Northridge	R	42	S	31	39½	7.0
Whittier	O/RL, R	75	NE	38	40	6.8
San Andreas (Mojave)	RL	90	--	103	72	7.4

The Palos Verdes Fault, located about 3½ miles (5¾ kilometers) to the southwest, is a northwest-trending right-lateral strike-slip fault zone. The fault extends from near the southern boundary of the Transverse Ranges beneath Santa Monica Bay southeastward across the northeastern base of the Palos Verdes Hills before trending offshore to where it bifurcates around Lausen sea knoll offshore of San Clemente (Nardin and Henyey, 1978). The fault continues south and possibly connects with the offshore Coronado Bank fault within the Continental Borderlands Province. Segments of the Palos Verdes Fault are considered by Jennings (1994) as a Holocene fault (indicating displacement within the past 10,000 years). The Palos Verdes Fault has not produced any moderate or large earthquakes in the historical record.

The Santa Monica Fault, located about 5½ miles (9 kilometers) to the north, is part of the Transverse Ranges Southern Boundary fault system, a west-trending system of reverse, oblique-slip, and strike-slip faults that extends for more than 124 miles (200 kilometers) along the southern edge of the Transverse Ranges (Dolan et al., 2000). This fault system consists of a series of predominantly left-lateral, strike-slip surficial faults (from west to east, Santa Rosa Island, Santa Cruz Island, Anacapa-Dume, Santa Monica, Hollywood, and Raymond faults). The Santa Monica Fault is considered a late Quaternary fault (indicating displacement within the past 700,000 years) (Jennings, 1994) and has not produced any moderate or large earthquakes in the historical record.

The Newport-Inglewood Fault zone, located about 6½ miles (10½ kilometers) to the east, is an active right lateral wrench fault system that extends southwest from Beverly Hills to offshore of Newport Beach

for a total length of about 41 miles (66 kilometers). The Newport-Inglewood Fault zone is considered to connect with features south of Newport Beach (the Offshore Zone of Deformation, and the Rose Canyon Fault) to form a major zone of deformation that extends from Baja California to the southern front of the Santa Monica Mountains. The Newport-Inglewood Fault zone is considered a Holocene fault in the project vicinity (Jennings, 1994). The most recent earthquake on the Newport-Inglewood Fault zone was a magnitude M6.4 that occurred on March 10, 1933, on a segment of the fault south of Huntington Beach.

Two other nearby faults, the Charnock and the Overland Avenue faults, lie within approximately 3 miles (5 kilometers) and 4½ miles (7¼ kilometers) to the east of the proposed Project, respectively. Both of these faults were located by well log and water level data and have no surface expression (Poland, 1959). The Charnock and Overland Avenue faults are considered late Quaternary faults (Jennings, 1994). However, the California Geological Survey (2003) does not consider the Charnock and the Overland Avenue faults as potential seismic sources with respect to seismic shaking.

5.6.2 Thresholds of Significance

A project would normally create a significant impact on geology or soils if it would:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death;
b. Be subject to the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault, or be subject to the following;

- Strong seismic ground shaking.
- Seismic-related ground failure, including liquefaction.
- Landslides.

c. Result in substantial soil or loss of topsoil;
d. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; and
e. Be located on expansive soil, as defined in Table 18- 1-B of the Uniform Building Code (UBC) (1994), creating substantial risks to life or property.

5.6.3 Environmental Impacts

Seismic hazards associated with seismic activity are described as follows:

Ground Shaking – As indicated by the numbers and distribution of recorded earthquake epicenters shown on Figure 5.6-3, the proposed Project will continue to be subjected to periodic seismic shaking, perhaps of considerable intensity. The degree of shaking that is felt at a given site depends on the distance from the earthquake source and on the type of subsurface material on which the site is situated. Based on our review, we anticipate that the highest levels of ground shaking at the proposed Project are anticipated to result from an earthquake on the nearby Palos Verdes Fault. All of the alternative alignments of the proposed project will be equally impacted by strong ground shaking.

Liquefaction – Defined as significant and relatively sudden reduction in stiffness and shear strength of saturated sandy soils caused by a seismically induced increase in pore water pressures. Potential for seismically induced liquefaction exists whenever relatively loose, sandy soils exist with high groundwater level and/or potential for long duration, high seismic shaking. When liquefaction occurs, the site can experience damage induced by permanent ground movements resulting in differential settlement and flotation of structures, tanks and pipelines.

Recent geotechnical studies performed for the proposed project encountered saturated sandy soils at relatively shallow depths along most of the Pacific Avenue alignment (URS, 2000a; 2000b). Standard Penetration Test (SPT) blow counts indicate the consistency of some of these sandy soils is relatively loose and therefore prone to liquefaction.

The California Geological Survey has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at greater risk of liquefaction-related ground failure during a seismic event, based upon mapped surficial deposits and the presence of a relatively shallow groundwater table. As shown on Figure 5.6-4, the California Geological Survey has identified the project area as being in a potential liquefaction hazard zone (CDMG, 1999).

Because of the combination of sands and shallow groundwater in the project area, liquefaction is considered a significant potential seismic hazard along all of the alternative alignments for the Project.

Differential Seismic Settlement – Differential seismic settlement occurs when seismic shaking causes one type of soil or rock to settle more than another type. It may also occur within a soil deposit with relatively homogeneous properties if the seismic shaking is uneven, which could occur due to variable geometry, for example, and variable depth of the soil deposit. Differential seismic settlement is most likely to occur in areas that transition between rock formations and more recently deposited alluvial soils or human-placed artificial fill. The components of the project are situated entirely upon saturated soils, which would be prone to differential settlement, primarily if liquefaction occurred. Differential settlement represents a potential seismic hazard along all of the alternative alignments for the Project.

Surface Fault Rupture – No known active or potentially active fault traces have been recognized as crossing any of the proposed Project areas, and the California Geological Survey does not delineate any part of the proposed Project area as being within an Alquist-Priolo Earthquake Fault Zone (CDMG, 1997). The potential for surface fault rupture is not considered a significant seismic hazard along any of the alternative alignments of the Project.

Tsunami – A tsunami is a great sea wave (commonly called a tidal wave) produced by a significant undersea disturbance, such as tectonic displacement of the sea floor associated with large, shallow earthquakes. Tsunamis are characterized by their high speed, long wavelength and long periods. They generally have low observable amplitude in the open sea, but in extreme cases may pile up to heights of 100 feet (30 meters) or more upon entering shallow water. Tsunamis can cause great damage in near-shore areas.

Marquesas Way/Via Marina Alignment

Pacific Avenue Alignment

Dockweiler Beach Alignment

MAP EXPLANATION

Zones of Required Investigation:

Liquefaction

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

Earthquake-Induced Landslides

Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

NOTE:
Base map taken from State of California, Seismic Hazards Zones, Venice Quadrangle, Official map, released March 25, 1999.

SCALE 1:24,000

1 .5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

N

SEISMIC HAZARD ZONES MAP

Project: VENICE DUAL FORCE MAIN EIR

Project No.: 29870322

Date: JULY 2004

Figure 5.6-4

URS

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Compared with most coastal regions in the circum-Pacific region, tsunamis have represented a relatively minor threat to coastal areas of southern California in the historical period. The tsunami from the 1964 Alaskan earthquake, the only tsunami that has caused extensive damage to California since 1812, was measured at about 9 feet (3 meters) at Santa Monica and 5 feet (1.5 meters) at Los Angeles Harbor (McCulloch, 1985).

Numerically modeled heights of potential major tsunamis along the southern California coast with distant and local sources are reported by McCulloch (1985) for 100- and 500-year recurrence intervals. For the proposed Project, potential wave (and run-up) heights are reported at about 7½ feet (2¼ meters) and 14 feet (4¼ meters) for the 100- and 500-year events, respectively. The elevation of the Project site [approximately 10 feet mean sea level (MSL), or 6 meters] stands below the highest of these potential tsunami events.

It is well known that a tsunami can cause substantial erosion and scour on the shore. For example the 1960 Chilean tsunami scoured out the port entrance by more than 30 feet at Kesen-numa Port in Japan. Although the pipeline would be buried at depths no shallower than 10 feet below the surface, the possibility of damage to the proposed pipeline cannot be disregarded. A catastrophic tsunami could result in erosion of the surficial soils covering the proposed pipeline, primarily along the proposed Dockweiler Beach Alignment alternative.

Seiche – A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank, resulting from earthquakes or other large environmental disturbances. The nearby semi-enclosed Marina Del Ray harbor could be subject to seiche during a seismic event. However, because the proposed Project components will be buried in the subsurface, it is unlikely that impacts from seiche, if any, would affect the project. Therefore, seiches are not considered a significant seismic hazard along any of the alternative alignments for the proposed Project.

Seismically Induced Landslides – The potential for landslides induced by seismic shaking is not anticipated to pose a significant seismic hazard to the proposed Project. The proposed Project lies in a relatively flat-lying area where landslides would not be expected to occur. In addition, the Potential Liquefaction Hazard Zone map for the Venice quadrangle, referenced as Figure 5.6-4, indicates that the Project elements do not lie within areas designated as having the potential for earthquake-induced land sliding (CDMG, 1999). These are areas where previous occurrence of landslide movement, or local topographic, geologic, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement during a seismic event. Landslides from other mechanisms are discussed further in this section.

Subsidence – The extraction of water or petroleum from sedimentary source rocks can cause the permanent collapse of the pore space previously occupied by the removed fluid. The compaction of subsurface sediment caused by fluid withdrawal will cause subsidence of the ground surface overlying a pumped reservoir. If the volume of water or petroleum removed is sufficiently great, the amount of resulting subsidence may be sufficient to damage nearby engineered structures. Significant quantities of water or petroleum are not currently being extracted in the area occupied by the proposed Project. However, dewatering of the excavations made during construction of the proposed Project could result in potentially damaging subsidence adjacent to the construction area.

The Project area is in proximity of the Playa Del Rey oil field, which is used by the Southern California Gas Company as a natural gas storage facility. Although a detailed study has not been performed for this report, it is anticipated that the continued operations at the natural gas storage facility would not result in measurable subsidence in the Project area, barring such extraction in the future. Because of the potential for subsidence to occur as a result of construction dewatering, subsidence is considered a potential geologic hazard to the proposed Project.

Expansive Soils – Expansive soils are fine-grained soils (clay) that can undergo a significant increase in volume with an increase in water content and a significant decrease in volume with a decrease in water content. Changes in the water content of an expansive soil can result in severe distress to structures constructed upon the soil. The soils in the Project area consist primarily of coarse-grained sands that are not susceptible to expansion. Therefore, expansive soils are not anticipated to pose a significant hazard to any of the alternative alignments of the proposed Project.

Collapsible Soils – Collapsible soils are soils that undergo settlement upon wetting, even without the application of additional load. Most elements of the proposed Project would be founded in materials that are below the groundwater level and are unlikely to be affected by collapsible soils. Therefore, collapsible soils are not likely to affect any of the alternative alignments of the proposed Project.

Landslides – The same site conditions that are conducive to seismically induced landslides are also conducive to landslides associated with high rainfall or a rise in groundwater and involve slopes underlain by both surficial deposits (generally colluvium) and bedrock. As noted above, the proposed Project lies in a relatively flat-lying area where landslides would not be expected to occur. The potential for landslides induced by other mechanisms is not anticipated to pose a significant hazard to any of the alternative alignments of the proposed project. It is not anticipated that the project would cause any slope instability to the adjacent Del Ray Bluffs.

Methane – The proposed project lies within an area delineated by the City of Los Angeles (2004) as a "Methane Zone" indicating the potential for seepage of methane gas to occur in buildings within the Project area. Therefore, methane gas is considered a potential hazard to all of the alternative alignments of the proposed Project, primarily during construction, or at permanent structures, such as vaults, where gas could accumulate.

Mineral Resources – No mineral resources extraction projects in the vicinity of the Project site, therefore no effect on geological resources is expected from construction or operation of the proposed project. With proper mitigation, natural resources occurring within the region include sand as a potential aggregate resource and oil and gas. There are currently no significant sand and gravel mines in the Project area. The proposed Project site lies above the Playa Del Ray oil field (Munger Map Book, 2001). The proposed Project would be constructed in a previously developed area already incompatible with mining, and given the urban setting, there is little or no potential for new production in the area.

The proposed Project is located in an existing urbanized area and is designated by the California Geological Survey (CDMG, 1979) as being in an MRZ-1 and MRZ-3 area. A MRZ-1 area corresponds to "areas where adequate information indicates that no significant mineral deposits are present, or where it is

judged that little likelihood exists for their presence." A MRZ-3 area corresponds to "areas containing mineral deposits the significance of which cannot be evaluated from available data."

None of the alternative alignments of the proposed Project would have an adverse impact on aggregate resources or oil and gas resources in the state of California.

CONSTRUCTION

The geology and subsurface conditions of the site have been evaluated in terms of their impact on the proposed Project. We have also evaluated the impact of the proposed Project on the existing geologic condition of the site.

The Project site is suitable for the proposed construction. It is noted that this is a preliminary site assessment; for any given aspect of the development, final geotechnical conclusions and recommendations should be provided in a separate report after plans become more finalized and the appropriate field investigations have been performed.

5.6.4 Mitigation Measures

The following measures are proposed to mitigate potentially significant geologic hazards to less than significant levels for the Project components. No unavoidable adverse impacts that cannot be mitigated have been identified for any of the Project components. These mitigation measures are more accurately described as project design features and are presented here for clarity.

GEO-1 Earthquake Ground Shaking – The proposed Project and associated facilities will likely be subjected to moderate or strong earthquake motions in their lifetime. The components of the proposed project will be designed and constructed to the seismic design requirements for ground shaking specified in the UBC for Seismic Zone 4 at a minimum. Proper design and construction of the Project components will reduce impacts from ground shaking to less than significant.

GEO-2 Liquefaction and Differential Seismic Settlement – Mitigation measures with respect to liquefaction and differential seismic settlement hazards are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on these potential hazards will be performed as part of the design studies. Design and construction of the proposed Project will include mitigation measures, such as flexible connections that can accommodate differential settlement, compaction grouting to densify the soils, or structural anchors to secure the pipeline. The mitigation measures will reduce impacts from liquefaction and differential seismic settlement to less than significant.

GEO-3 Subsidence – Mitigation measures with respect to subsidence as a result of construction dewatering are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on this potential hazard will be performed as part of the design studies. Design and construction of the proposed Project will include mitigation measures, such as a watertight excavation support system to minimize groundwater pumping or constructing the pipeline in a "wet" excavation. The mitigation measures will reduce impacts from subsidence to less than significant.

GEO-4 Methane – Mitigation measures with respect to methane gas hazards may be necessary for the proposed Project. Site-specific investigations that focus on the potential methane hazard will be

performed as part of the design studies. Design and construction of the proposed project will include active or passive mitigation systems for methane gas hazards, if necessary. The mitigation measures will reduce impacts from methane to less than significant.

GEO-5 Tsunami – A tsunami could result in erosion of the surficial soils covering the proposed pipeline, primarily along the proposed Dockweiler Beach Alignment. Proper design and construction of the Project components, including erosion control measures or choosing an alternate alignment off of the beach, will reduce impacts from a tsunami to less than significant levels.

5.6.5 Unavoidable Adverse Impacts

With the implementation of proper engineering practices and mitigation measures prior to and during construction, no unavoidable or adverse impacts on the geologic footprint of this area from the Project are expected.

5.6.6 Cumulative and Secondary Impacts

Cumulative impacts on the geologic footprint of this area are not expected from the Project with the implementation of proper engineering practices and mitigation measure prior to and during construction.

5.7 HAZARDOUS WASTE AND MATERIALS

5.7.1 Environmental Setting

Hazardous wastes are hazardous materials that have been discharged, spilled, contaminated; are being discarded as no longer of practical use, have an expired shelf-life; or are being stored prior to proper disposal.

In compliance with CEQA and the State CEQA Guidelines, a more specific description of types of impacts is considered, including foreseeable accidents involving hazardous materials releases, handling of acutely hazardous materials within a quarter mile of a school (Public Resources Code Section 21151.4), and interference with emergency response plans and emergency evacuation plans. CEQA also requires a search of databases for sites that any agency has identified as having been contaminated by hazardous materials releases (Public Resources Code Section 21092.6). A detailed report is provided in Appendix G of this EIR.

The environmental setting of the Project area is determined by performing a site reconnaissance, researching historical use, storage, or disposal of hazardous materials or petroleum products, reviewing previous environmental reports, and reviewing databases generated by regulatory agencies. The site reconnaissance revealed that most of the properties alongside the proposed alignments are residential.

Abandoned oil wells are located along the proposed alignment routes. Therefore, this section also addresses risks that could result from exposure to toxic chemicals as a result of potential accidental releases of methane gases in quantities sufficient to result in fires or explosions that could cause injury, or the accidental release of hydrogen sulfide (H_2S) gas, an acutely hazardous substance (Figure 5.7-1).

Historical Sanborn Maps were obtained from the Los Angeles Public Library website. The maps dated from 1950 (updated from 1918) and showed most of the proposed alignment route along Pacific Avenue. The east-west trending area displayed extended from the edge of the beach just west of Ocean Front Walk to just east of Ballona Lagoon (Grand Canal). The north-south trending area of coverage extended from 34th (Catamaran) Avenue in the north to roughly the end of Del Rey Lagoon (Lake Del Rey), also showing a portion of Culver Boulevard and the area north of Esplanade to the Los Angeles County boundary. Copies of the maps reviewed are included in Appendix G of this EIR.

Most of the area is depicted as occupied by residential development or undeveloped lots. The area occupied by the VPP is not depicted. The lots shown to the north of Pacific Avenue from 39th (Hurricane) Avenue to 41st Avenue are undeveloped. Oil wells are shown at the terminus of 41st Avenue and at the southeast corner of 41st and Pacific Avenue, as well as across the lagoon between 41st and 42nd avenues. Oil wells and derricks are depicted along the west side of the lagoon, south of 42nd Avenue (with two storage tanks) and 44th Avenue. Almost every city block from Pacific Avenue to Ocean Front Walk is developed with at least one oil well derrick, platform, and/or tank between 38th (Galleon) Avenue to 60th Avenue. The only businesses depicted are an unnamed store at the northwest corner of 49th (Reef) and Pacific Avenues, a life guard station at 66th Avenue and Ocean Front Walk, and a restaurant at 6615 Speedway.



ABANDONED OIL WELL LOCATIONS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.7-1

Data regarding areas of known contamination were obtained from a variety of sources. Consistent with CEQA Section 21092.6, a search of several database lists was conducted to determine if other agencies have identified sites within, or close to, the proposed alignments as having been contaminated by hazardous materials releases.

The database report was provided by Environmental Data Resources, Inc. (EDR) and reviewed to evaluate whether activities on or near the proposed alignments have the potential to create adverse environmental impacts on the proposed project. EDR reviews databases compiled by federal, state, and local government agencies. It should be noted that this information is reported as received from EDR, which in turn, reports information as it is provided in various government databases. It is not practicable to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

Table 5.7-1 describes the regulatory agency databases searched, which have been reviewed for the applicable search distances as specified in American Society for Testing and Materials (ASTM) Standard E1527-00, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", at a minimum. The complete database report is provided in the Appendix G of this EIR.

The topography in the vicinity of the site slopes generally to the southwest. Surface water flow would generally follow the topographic gradient and flow to the southwest. According to groundwater well data obtained from the Los Angeles County of Public Works, Water Resources Division, deep groundwater flows to the south-southwest. Therefore, sites located generally to the northeast of the proposed alignments are considered to be hydrologically upgradient.

Listed facilities identified close to, or upgradient of, each of the proposed alignments within the database search radii indicated above are identified in Table 5.7-2. The final column in the table assigns a potential for each database listing of a given facility to represent a risk in any proposed alignment. The potential is classified as "Low", "Medium", or "High" based upon the facility's distance relative to the proposed alignments and projected groundwater gradient; and its regulatory status on that particular database. Facility listings representing a moderate or high potential for environmental concern at the proposed alignments are further discussed after the table.

Table 5.7-1 Regulatory Database Descriptions and Corresponding ASTM Search Distances

Type of Database/Date	Description of Database	Radius Searched
Required Federal Database Listings		
NPL	The National Priorities List (NPL) identifies uncontrolled or abandoned hazardous waste sites. To appear on the NPL, sites must have met or surpassed a predetermined hazard ranking system score, been chosen as a state's top priority site, pose a significant health or environmental threat, or be a site where the EPA has determined that remedial action is more cost-effective than removal action.	1.0 mile
CORRACTS	Resource Conservation & Recovery Act (RCRA) facilities ordered to implement corrective actions.	1.0 mile
CERCLIS	The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database identifies hazardous waste sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.	0.5 mile
RCRA TSDs	RCRA treatment, storage, or disposal (TSD) sites.	0.5 mile
CERCLIS- NFRAP	No Further Remedial Action is Planned (NFRAP) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for these sites and they have been removed from CERCLIS list based on findings of site investigations.	Site and Adjoining
RCRA Generators	RCRA regulated hazardous waste generator notifiers list; both large quantity and small quantity generators are included in this list.	Site and Adjoining
ERNS	EPA's Emergency Response Notification System (ERNS) list contains reported spill records of oil and hazardous substances.	Site
Supplemental Federal Database Listings		
CONSENT	Superfund (CERCLA) Consent Decrees by the Department of Justice. Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.	1.0 mile
ROD	Record of Decision (ROD) documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.	1.0 mile
DELISTED NPL	NPL Deletions. The National Oil and Hazardous Substances Pollution Contingency Plan establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425 (e), sites may be deleted from the NPL where no further response is appropriate.	1.0 mile
DOD	Department of Defense (DOD) Sites. This data set consists of federally owned or administered lands, administered by the DOD, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.	1.0 mile
INDIAN RESERVE	This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.	1.0 mile
FUDS	Formerly Used Defense Sites (FUDS). The listing includes locations of FUDS properties where the USACOE is actively working or will take necessary cleanup actions.	1.0 mile
US ENG CONTROLS	Engineering Controls Sites List. A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.	0.5 mile
ODI	Open Dump Inventory (ODI). An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.	0.5 mile
UMTRA	Uranium Mill Tailings Sites. Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.	0.5 mile
FINDS	The Facility Index System (FINDS) database identifies different databases that contain information regarding federally listed sites.	Site and Adjoining
MINES	Mines Master Index File. Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.	Site and Adjoining
TSCA	Toxic Substances Control Act (TSCA). TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.	Site and Adjoining

Type of Database/Date	Description of Database	Radius Searched
SSTS	Section 7 Tracking Systems. Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the EPA by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.	Site and Adjoining
TRIS	The Toxic Release Inventory System (TRIS) database identifies facilities that release toxic chemical to the air, water, or land in reportable quantities.	Site and Adjoining
FTTS	Tracks administrative cases and pesticide enforcement actions and compliance activities related to the Federal Insecticide, Fungicide, and Rodenticide Act, the TSCA, and the Emergency Planning and Community Right-to-Know Act.	Site and Adjoining
HMIRS	The Hazardous Material Information Reporting System records of spills or hazardous materials incidents reported to the Department of Transportation.	Site
MLTS	Material Licensing Tracking System (MLTS). The MLTS is maintained by the Nuclear Regulatory Commission (NRC) and contains a list of approximately 8,100 sites, which possess or use radioactive materials and which are subject to NRC licensing requirements.	Site
NPL LIENS	Federal Superfund Liens. Federal Superfund Liens. Under the authority granted the EPA by the CERCLA of 1980, the EPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. EPA compiles a listing of filed notices of Superfund Liens.	Site
PADS	Polychlorinated Biphenyl (PCB) Activity Database System. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the EPA of such activities.	Site
RAATS	RCRA Administration Action Tracking System (RAATS). RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.	Site
Required State Database Listings		
AWP/ Former BEP	Annual Work Plan (formerly known as Bond Expenditure Plan [BEP]) sites – known hazardous waste sites targeted for cleanup. This is the state-equivalent to the NPL.	1.0 mile
CalSites	The CalSites database contains potential or confirmed release properties. This is the state equivalent to CERCLIS.	0.5 mile
VCP	Voluntary Cleanup Program sites – low-threat sites with either confirmed or unconfirmed releases and that have requested DTSC oversight and cleanup activities and have agreed to cover cleanup costs. (Similar to Brownfields sites below)	0.5 mile
TOXIC PITS	Toxic Pits Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.	0.5 mile
STATE LANDFILL	Solid Waste Information System. Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.	0.5 mile
WMUDS/SWAT	State inventory of solid waste disposal and landfill sites.	0.5 mile
LUST	List of information pertaining to all reported leaking underground storage tanks (LUSTs). This includes listings at the state and local level.	0.5 mile
Cortese	The Hazardous Waste & Substances Sites list identifies older LUST sites and sites listed by the Department of Health. It is no longer updated.	0.5 mile
INDIAN LUST	LUSTs on Indian land in Arizona, California, New Mexico and Nevada.	0.5 mile
CA UST	State listing of active underground storage tank (UST) sites.	Site and Adjoining
INDIAN UST	USTs on Indian land in Arizona, California, New Mexico and Nevada.	Site and Adjoining
CA FID UST	State listing of active and inactive UST sites. This list is no longer updated.	Site and Adjoining
HIST UST	State listing of historical UST sites. This list is no longer updated.	Site and Adjoining

Type of Database/Date	Description of Database	Radius Searched
NOTIFY 65	Proposition 65 Notification Records. The NOTIFY 65 list contains facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk.	Site and Adjoining
CHMIRS	The California Hazardous Material Incident Report System records of spills or hazardous materials incidents.	Site
Supplemental State and Local Database Listings		
SLIC	The Regional Water Quality Control Board issues this list of sites with non-tank spill, leaks, investigations, and cleanups.	0.5 mile
Brownfields	Database of low-threat properties with either confirmed or unconfirmed releases that have requested DTSC oversight and cleanup activities and have agreed to cover cleanup costs. (Similar to VCP sites above)	0.5 mile
DEED	Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.	0.5 mile
City of L.A. Landfills	The City Engineering and Construction Division maintain a list of landfills within city limits.	0.5 mile
L.A. County SWLF	The Los Angeles County Department of Public Works maintains a list of historic, current, and potential landfills within the county.	0.5 mile
WDS	The State Water Resources Control Board generates this list of industrial wastewater dischargers.	Site and Adjoining
HAZNET	Facility and manifest data is gathered for this database from hazardous wastes manifests that are submitted to DTSC.	Site and Adjoining
EMI	Database of facilities reporting toxic and criteria pollutant emissions data to the local air pollution agencies.	Site and Adjoining
NFA	No Further Action Determination. This category contains properties at which DTSC has made a clear determination that the property does not pose a problem to the environment or to public health.	Site and Adjoining
REF	Unconfirmed Properties Referred to Another Agency. This category contains properties where contamination has not been confirmed and which were determined as not requiring direct DTSC Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency.	Site and Adjoining
SCH	School Property Evaluation Program. This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.	Site and Adjoining
NFE	Properties Needing Further Evaluation. This category contains properties that are suspected of being contaminated. These are unconfirmed contaminated properties that need to be assessed using the PEA process. PEA in Progress indicates properties where DTSC is currently conducting a PEA. PEA Required indicates properties where DTSC has determined a PEA is required, but not currently underway.	Site and Adjoining
Dry Cleaners	EDR compiles a database of dry cleaning facilities based on their having a hazardous waste generator ID and certain SIC codes.	Site and Adjoining
L.A. County HMS	The Los Angeles County Department of Public Works maintains a listing of files they maintain for sites with USTs or facilities with industrial wastewater permits.	Site and Adjoining
Site Mitigation List	The L. A. County Department of Public Health maintains a listing of industrial sites that have had some sort of spill or complaint.	Site and Adjoining
AST	Registered Aboveground Storage Tanks.	Site

Table 5.7-2 Regulatory Database Findings for Proposed Venice Force Main Alignments

EDR Map ID	Facility Name Address	Proximity to Via Marina Alignment Alternative	Proximity to Pacific Ave Alignment Alternative	Proximity to Beach Alignment Alternative	Database Lists	Description	Current Agency Status	Recognized Environmental Condition Potential
5	LA Pumping Plant #46 140 Hurricane Street	On site	On site	On site	RCRS-SQG	Small quantity generator of hazardous waste	No violations reported	Low
					Notify 65	Site has notified the State Water Resources Control Board that a release of hazardous substances could potentially impact drinking water	Not applicable-notification only	Low
					FINDS	Included on RCRIS	Not provided	Low
18	7332 Vista Del Mar	On site	On site	On site	ERNS	Sewer collapsed on 4/17/1992; release to land only.	Not provided	Low
7	Timberlake Group Int'l 4100-5000 Pacific	Approx. 900 feet. southwest	On site	Approx. 500 feet northeast	CA SLIC	Total petroleum hydrocarbons (TPH) contamination	Case closed	Low
11	S. California Gas Co. 5400 Pacific Avenue	Approx. 900 feet. southwest	On site	Approx. 500 feet northeast	CA SLIC	TPH contamination	Case closed	Low
					HAZNET	Generator of contaminated soil from site cleanup	Not provided	Low
Unmapped	S. California Gas Co. 143 Union Jack	Approx. 700 feet southwest	Approx. 200 feet northeast	Approx. 700 feet northeast	CA SLIC	TPH contamination	Case closed	Low
12	OHN Kearney 6512 Pacific Avenue	Approx. 1000 feet southwest	On site	Approx. 400 feet northeast	HAZNET	One-time generator of asbestos-containing waste.	Not provided	Low
8	Unocal #0407 13800 Bora Bora Way	Approx. 0.25 mile east	<0.25 mile east	<0.25 mile east	Cortese	Leaking UST site	Not provided	Low
					LUST	Release of gasoline to groundwater in 1991 as a result of piping failure. Methyl tert-butyl ether (MTBE) detected.	Case closed in 1997	Low
9	Unocal Corp SS 0407 1 Bora Bora Way (File review indicates actually same location as above)	Same as above	Same as above	Same as above	CA FID UST	UST location	Active	Low
9	Service Station No. 1 Bora Bora Way (Same as above)	Same as above	Same as above	Same as above	HIST UST	Historic UST site with 10,000-gallon Product 10,000-gallon Premium 10,000-gallon Unleaded 10,000-gallon Diesel (1) 550-gallon Waste oil (1) Unidentified contents	Not provided	Low

EDR Map ID	Facility Name Address	Proximity to Via Marina Alignment Alternative	Proximity to Pacific Ave Alignment Alternative	Proximity to Beach Alignment Alternative	Database Lists	Description	Current Agency Status	Recognized Environmental Condition Potential
9	Pegasus Carriers, Inc. (Same as above)	Same as above	Same as above	Same as above	RCRIS-SQG	Small Quantity Generator of hazardous waste	No violations reported	Low
					FINDS	Identified on RCRIS	Not provided	Low
3	Via Dolce Acquisition Area 3 3700-3706 Canal North-northwest	Approx. 1000 feet north-northwest	Approx. 1000 feet north-northwest	Approx. 1000 feet north-northwest	CA SLIC	TPH contamination	Case closed	Low
3	Via Dolce Acquisition Area 2 3600-3615 Canal North-northwest	Approx. 1000 feet north-northwest	Approx. 1000 feet north-northwest	Approx. 1000 feet north-northwest	CA SLIC	TPH contamination	Case closed	Low
4	Via Dolce Acquisition Area 1 3602 Pacific Avenue Northwest	Approx. 1000 feet northwest	Approx. 1000 feet northwest	Approx. 1000 feet northwest	CA SLIC	TPH contamination	Case closed	Low
10	Southern California Gas Company 5101 Ocean Front Walk West	Approx. 200 feet southwest	Approx. 1200 feet southwest	Less than 100 feet northeast	CA SLIC	TPH contamination	Case closed	Low
14	Del Rey Cleaners 310 Culver Blvd. Northeast	Approx. 200 feet northeast	Approx. 200 feet northeast	Approx. 2000 feet southeast	CA SLIC	Perchloroethylene, VOC (volatile organic compounds) release from non-tank source	Site assessment	Moderate
					RCRIS-SQG	Small quantity generator of hazardous waste	No violations reported	Low
					FINDS	Identified on RCRIS	Not provided	Low
					HAZNET	Generator of hazardous waste: Halogenated solvents; Liquids with halogenated organic compounds >1,000 milligrams per liter.	Not provided	Low
					Cleaners	Dry cleaning establishment	Not provided	Low

According to records, there are a few hazardous materials-related sites on, or near, the proposed alignments. These have a low potential to have impacted the proposed alignments, unless contamination not yet discovered and abated is encountered during construction.

One site, Del Rey Cleaners, located approximately 200 feet north of the intersection of Culver Boulevard and Pacific Avenue, is reportedly currently undergoing site assessment activities. It is possible that contamination from that site may have migrated to the proposed alignments near Culver Boulevard. Precautions should be taken in this area to monitor for concentrations of dry cleaning fluids that may be present in the soils disturbed during construction.

The potential for facilities located more than 0.25 mile from the proposed Project alignments to have contaminated an alignment is considered low based on the relative distance of those facilities from the Project area and/or regulatory status.

5.7.2 Thresholds of Significance

A significant hazardous materials impact would occur if either direct, or indirect, changes in the environment caused by a particular Project alignment construction alternative would potentially result in one or more of the following conditions:

- Create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a substantial hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites and as result create a substantial hazard to the public or the environment; and/or
- Exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.

5.7.3 Environmental Impacts

The proposed Project could pose potentially significant hazard impacts. These include the potential for exposure to gas leaking from abandoned wells in areas excavated during the Project, and/or potential effects from accidental releases of hazardous substances during construction.

OIL WELL FIELD HAZARDS

Based on reports and files reviewed at the California Division of Oil, Gas, and Geothermal Resources (CDOGGR), the proposed Project alignments lie within an area of oil well field development known as the Playa Del Rey Field. Several abandoned oil wells lie either within, or within proximity of, the proposed alignments (refer to Figure G-1 in Appendix G and also see Figure 5.7-1 for locations).

As part of the existing environment, hazardous materials and wastes may be encountered at each of the abandoned oil wells within the surrounding residential community. H_2S and other odorous substances,

such as methyl mercaptan, benzene, as well as other aromatic hydrocarbons, are all byproducts of natural gas production. These toxins may be present at active or abandoned wells.

There are three types of gas that may exist within the geological and soil units underlying the Project area: biogenic (or swamp) gas, thermogenic (field) gas, and processed natural gas (or piped gas). Biogenic gases are not toxic at low (ppm) levels; however, they act as asphyxiants at high concentrations. Biogenic gases contain trace quantities of other chemicals which are toxic at low levels (in the ppm range), including benzene, toluene, ethylbenzene, and xylenes (BTEX).

Thermogenic gas and butane, as well as trace amounts of toxic gases, including H_2S, exhibit distinct chemical characteristics, which permit "fingerprinting" or differentiation between gas types. In addition to lacking heavier gas components (propane, butane, ethane, etc.), the presence of helium in detectible amounts is a primary fingerprint for natural gas imported from the central United States and previously stored in the deep storage zone.

Migration Pathways – Natural gas can migrate via a variety of manmade structures through the subsurface soil both vertically and laterally. The most common manmade structures that may serve as conduits include:

- Old abandoned oil and gas wells or dry holes;
- Previously undocumented wells and dry holes;
- Recently plugged and abandoned oil and gas wells (abandoned in accordance with current CDOGGR regulations);
- Existing water extraction or injection wells;
- Old abandoned water wells;
- Monitoring wells;
- Utility trenches;
- Stormdrain systems; and
- Sewer lines.

Gas can also reach the surface through natural geologic features, which may facilitate migration. The geologic features most likely to serve as potential pathways include:

- Surficial deposits;
- Porous and permeable formations;
- Aquifers;
- Fracture systems;
- Fault planes; and
- Other geologic features and structures, such as unconformities.

The potential for gas migration to reach the surface is considered to be the greatest through or along human-made structures as geologic pathways are relatively "tight" and provide less space to facilitate migration. Within the Project area, wells penetrate shallow and deep gas zones at various depths. While a poorly constructed or abandoned well can serve as a conduit for upward migration of natural gas, even when proper construction and abandonment methods have been applied, such conduits can develop as wells deteriorate over time.

RISK OF EXPLOSION

The generation, transmission, and distribution of natural gas may pose a risk of explosion. Natural gas has a flammable property that needs to be strictly regulated in order to reduce the risk of explosion to the public and the environment. Explosion can occur as a result of leakage from abandoned wells and pipelines, and/or from third party interaction with the wells, transmission lines, and distribution lines. In addition, releases of gas from the abandoned wells may occur if construction activities accidentally puncture an abandoned well, leading to a possible explosion.

POTENTIAL SPILLS OR RELEASES

Land uses along the proposed alignment alternatives include mostly single- and multiple-family residences and a restaurant. Types of hazardous materials associated with these activities would typically include mostly common household janitorial supplies.

Potential impacts associated with increases in hazardous materials use and hazardous waste generation can result from hazardous materials releases during handling or transport, interference with emergency response plans, and limited hazardous waste disposal capacity.

An increase in hazardous materials use and hazardous waste generation during construction would increase the chances of a spill or release of hazardous substances. If a spill were to occur, emergency response procedures would be implemented to contain and clean up the spill. There are regulations in place regarding such procedures, and provisions would be in place from the onset of Project activities in order to eliminate, or at least minimize, potential spills and releases that might create a hazard to the public or the environment, or result in contamination of soil or groundwater. Therefore, impacts would be less than significant.

EXPOSURE TO CONTAMINATION

During construction, there is the potential for the disturbance of contaminated soils and groundwater that could pose a risk of exposure to construction workers, the public, and the environment as contaminants may be encountered during excavation activities. These contaminants would be expected to be petroleum-related substances given the extensive oil well development in the area; or, as discussed above, there is the possibility of contamination from other sources, such as dry cleaning establishments.

In addition, emissions of diesel particulate matter from the construction equipment would result in increased exposure near the construction activities. However, these emissions would be temporary and would not contribute significantly to chronic long-term exposure. Ongoing compliance with regulatory requirements under any alternative would provide an environment in which workers, visitors, and tenants located in, and near, the Project site would be protected.

There are a few electrical transformers located along the portions of the proposed alignments located along city streets. Should project activities require disturbance or relocation of these units, the Los Angeles Department of Water and Power records should be consulted to ascertain the potential polychlorinated biphenyl (PCB) content of the units. PCBs were commonly used in fluids contained in electrical equipment, primarily transformers and capacitors, and are known to have toxic and carcinogenic health effects. Manufacture of PCBs was completely banned in the U.S. in January 1979, and their

distribution in commerce was prohibited effective July 1979. Regulations require workers to wear protective clothing or equipment to protect dermal contact or inhalation of PCBs or materials containing PCB materials. All disposal activity of PCB material must adhere to EPA regulations. Disposal of PCB liquid and waste are also regulated at the state level.

HAZARDOUS WASTE GENERATION

Hazardous wastes generated during construction activities for each of the alignments would include miscellaneous motor vehicle fluids, potentially contaminated soil, and spent materials used during construction; such as fuels, lubricants, paints, and solvents. Hazardous wastes generated during project activities should be removed by licensed waste haulers and transported for treatment, disposal, or recycling at authorized off-site facilities.

TRANSPORTATION AND DISPOSAL OF HAZARDOUS MATERIALS AND WASTES

Transportation of hazardous materials and hazardous wastes is strictly regulated by federal and state laws. These laws include the Hazardous Material Transportation Act of 1994, administered by the United States Department of Transportation (USDOT), which includes standards for classification of hazardous materials, labeling, and placarding of containers, and vehicles, vehicle equipment standards, training of transport personnel, and incident reporting.

5.7.4 Mitigation Measures

The following mitigation measures are included in the project to reduce its impacts on hazards and hazardous material to below a level of significance for each of the alignments:

HAZ-1 A surface sweep is a method for measuring combustible vapors which may be emitted from the ground surface. The technique utilizes a sensitive portable gas detector, called a flame ionization detector (FID) to detect methane. The FID is capable of measuring methane concentrations as low as several ppm. When conducting the surface sweep, more attention can be taken in areas where underground gas would tend to exit the surface, such as at cracks in the ground.

Surface sweep measurements are intended to identify any flow of gas from the surface of the ground. Finding such "advective" flow is a good indicator of potential pressurized flow of undiluted gas in the soil.

HAZ-2 The City of Los Angeles Building Code requires that methane mitigation be implemented when construction occurs at these sites to ensure public safety. These measures include the installation of membrane barriers and vent piping, as well as trench dams and electrical seal-offs for each of these properties. Since these measures would already be required by City regulation, no additional mitigation measures are required.

Continued compliance with the many federal, state, and local requirements pertaining to the handling of hazardous materials/wastes would maintain acceptable levels of health and safety. These regulatory requirements are specifically designed to avoid any unauthorized and uncontrolled releases of hazardous materials to the environments and protect workers who may be exposed to hazardous materials/wastes, as well as provide a level of safety for the general public.

Strict compliance with local, state, and federal regulatory requirements provides the primary method of mitigating against hazardous waste impacts.

Handling of contaminated materials encountered during construction of any of the alignments should be coordinated centrally in order to ensure compliance with all applicable regulations. Construction bid documents should incorporate provisions for identification, segregation, handling and disposal of contaminated materials. In addition, bid documents should require all construction contractors to prepare site-specific Health and Safety Plans.

5.7.5 Unavoidable Adverse Impacts

Provided that all federal, state, and local regulations pertaining to project activities are followed and project-specific Health and Safety and Emergency Response Plans are developed and implemented, significant or long-term adverse impacts will be avoided.

5.7.6 Cumulative and Secondary Impacts

The three main aspects of hazardous materials addressed in this analysis are (1) the use, storage, transport, and disposal of hazardous materials and waste; (2) hazardous materials contamination and remediation; and (3) hazardous building materials.

Development of any of the proposed alignments would result in increased use of hazardous substances such as fuels, cutting fluids, other lubricants, solvents, and waste oils. The increase in the presence of these substances could increase the chances of a spill or release of hazardous substances during handling or storage. The use of hazardous materials and the generation of hazardous wastes from the construction activities would also increase the transportation of hazardous materials and hazardous wastes on public roadways. The likelihood of an accident involving hazardous materials or wastes would therefore increase, resulting in a greater potential for people and the environment to be exposed to these substances.

These alternatives would also increase demand for hazardous waste disposal capacity. During the extensive construction activities associated with each of the alignment alternatives, it is possible that contaminated soils would be unearthed, potentially exposing construction workers or the public to hazardous materials. However, this material will be collected, put in containers and disposed of at a Class 1 Landfill.

Proper packaging and handling of hazardous materials and wastes, coupled with employee training and emergency response, would reduce potential cumulative impacts of increased ground transport of hazardous materials/wastes to a level that is less than significant. With respect to the cumulative demand for treatment, recycling, and disposal, because sufficient capacity is expected to be available, the impact of cumulative increases is hazardous.

5.8 HYDROLOGY, WATER QUALITY / STORMWATER RUNOFF

5.8.1 Environmental Setting

The VPP Project is located within the Ballona Creek Watershed (watershed). The watershed is located on the coastal plain in the western portion of the Los Angeles Basin with the Santa Monica Mountains on the north and the Baldwin Hills on the south. Ballona Creek flows downstream from the Santa Monica Mountains through the City of Culver City and flows into the ocean at Playa Del Rey. Except for its estuary, Ballona Creek is a concrete-lined channel extending through a complex underground storm drainage system that drains approximately 130 square miles of urban developed land area. Tributaries of Ballona Creek include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other stormdrains all of which are either concrete channels or underground box culverts.

Cities within the watershed area consist of Culver City, Beverly Hills, West Hollywood, parts of Santa Monica, parts of Inglewood, parts of Los Angeles and portions of unincorporated areas of Los Angeles County. Adjacent to the downstream portion of the Ballona Creek Channel are the Marina Del Rey Harbor, Ballona Lagoon and Venice canals, Del Rey Lagoon and Ballona Wetlands. These waterbodies do not discharge into Ballona Creek, but are grouped as waterbodies in this subwatershed because of their proximity and various forms of hydrological connection to Ballona Creek (Los Angeles RWQCB, 2004).

Portions of the watershed are underlain by oil deposits. In 1892, extraction of oil began in the watershed, with the discovery of oil in Echo Park. In subsequent decades, oil wells were drilled throughout portions of the watershed. Initially, production was generally limited to downtown Los Angeles, but exploration continued to move west. With the discovery of the Inglewood oil field in 1924, production began in and around the Baldwin Hills. Oil was discovered in the Venice area in 1930, which initiated an oil boom along the coast. Today, the Project area is dotted with sixty-nine plugged and abandoned oil wells.

The watershed is within the Mediterranean climate zone of California, which is characterized by wet winters and long dry summers. The proximity and steep rise of the San Gabriel Mountains from the coast creates a barrier that traps moist ocean air against the mountain slopes and partially blocks summer heat coming from the desert and winter cold coming from the interior northeast. Average daytime summer and winter temperatures range from 71/63°F at the coast. The long-term annual rainfall average along the coast is 12.5 inches with most precipitation falling in a few major storm events between November and March. Most winter storms come from the northwest, moving across southern California into Arizona. Typical storms in the watershed bring ¾ inch or less of rainfall. Storms from the south or southwest are less common, but because they may stall off the coast, they may bring 3 to 6 inches of rain over portions of the watershed. Summer rains are rare, but when they occur, they are a result of tropical thunderstorms originating in the Gulf of Mexico or late summer hurricanes off the West Coast of Mexico.

Most of the storm drainage system, within the watershed, is managed through flood control structural features consisting of debris basins, storm drains, underground culverts, and open concrete channels. Many of these flood control features were designed and implemented by the USACOE. Ballona Creek is an underground box culvert throughout the eastern portion of the watershed, then converting to an open channel near the vicinity of Venice Boulevard and Pickford Street, and continuing downstream for approximately 9 miles to Santa Monica Bay. Only a few channels remain open for major portions of their length, including the Sepulveda Wash and Centinela Creek. Natural, undisturbed streams are located

primarily within the Santa Monica Mountains and Baldwin Hills area, where the water flow is seasonal and the channels are small. A few channels within major canyons area have been channelized and remain open channels, including Stone Canyon Creek.

Due to historical modification to Ballona Creek and its tributaries, natural hydrologic conditions have been significantly modified within the watershed. Today, approximately 40 percent of the watershed is covered with impervious surfaces and therefore, runoff enters the Ballona Creek and its tributaries at a more accelerated rate, and in greater volume than in prior years due to an increase in urban development. Since most channels are concrete-lined or within underground box culverts, the natural processes of erosion and sedimentation runoff have been altered. Under current conditions, eroded sediment material is transmitted downstream to the mouth of Ballona Creek where it collects and causes periodic closure of the public boating facility entrance at Marina Del Rey.

The construction of levees along portions of Ballona Creek and the construction of Marina Del Rey have significantly reduced the extent of tidal wetlands, and tidal flushing in the estuary and associated lagoons (i.e., Del Rey Lagoon and Ballona Lagoon). With an increase of imported water supply and an increase of landscape material to the area, surface runoff from irrigation systems has resulted in year-round flow conditions within most channels which are typically dry throughout most of the year.

Groundwater resource is located under most of the Ballona Creek Watershed area in groundwater formations known as the West Basin and a small portion of the Central Basin under the southeastern portion of the watershed. Groundwater in the Ballona Creek Watershed is replenished by percolation of rainfall and stream flow from the Santa Monica Mountains to the north and the Baldwin Hills to the south. With approximately 40 percent of the watershed covered by impervious surfaces and concrete lining most tributary channels, the land area open to direct infiltration of rainfall and percolation from stream channels has been substantially reduced (Los Angeles Department of Public Works, 2004).

The Water Quality Control Plan for the Los Angeles Region identifies the following beneficial uses for Ballona Creek, the Ballona Creek Estuary, the Ballona Lagoon, the Venice canals and the Del Rey Lagoon within the project area as shown in Table 5.8-1:

Table 5.8-1 Beneficial uses for Ballona Creek, Ballona Creek Estuary, Ballona Lagoon, Venice Canals and Del Rey Lagoon

• Navigation	• Migration of aquatic organisms
• Recreation	• Spawning/reproduction/early development
• Commercial and sport fishing	• Shellfish harvesting
• Estuarine habitat	• Warm freshwater habitat
• Marine habitat	• Municipal and domestic supply
• Rare, threatened or endangered species	

Source: Water Quality Control Plan for Los Angeles Region

Under Section 303(d) of the CWA, the proposed Project is required to identify the water bodies that do not meet water quality objectives necessary to support designated beneficial uses. Water bodies that have been identified as impaired are often referred to as the "303(d) List". Once a water body has been deemed impaired, a total maximum daily load (TMDL) must be developed for each water quality constituent that

compromises a beneficial use. A TMDL is an estimate of the total load of pollutants that a water body may receive without impairing applicable water quality standards.

The VPP is located within the area of Venice Beach, Venice canals, Marina Del Rey, Marina Del Rey Channel, Ballona Creek and its estuary, the Del Rey Lagoon and Dockweiler State Beach. Table 5.8-2 below summarizes the 2002 303(d) (approved by EPA in 2003) listings for these water bodies, as well as the associated TMDL completion dates.

Table 5.8-2 2002 CWA Section 303(D) Listed water bodies in the project area

Name	Pollutant/Stressor	Potential Sources	TMDL Priority	Est. Size Affected	Proposed TMDL Completion
Ballona Creek	Cadmium (sediment)	Nonpoint/Point Source	High	6.5 miles	2004
	ChemA (tissue)	Source Unknown	High	6.5 miles	2004
	Chlordane (tissue)	Nonpoint/Point Source	High	6.5 miles	2004
	Copper, Dissolved	Nonpoint Source	High	6.5 miles	2004
	Dichlorodiphenyltrichloroethane (DDT) (tissue)	Nonpoint/Point Source	High	6.5 miles	2004
	Dieldrin (tissue)	Nonpoint/Point Source	High	6.5 miles	2004
	Enteric Viruses	Nonpoint/Point Source	High	6.5 miles	2003
Ballona Creek Estuary	Chlordane (tissue & sediment)	Nonpoint/Point Source	High	2.3 miles	2004
	DDT (sediment)	Nonpoint/Point Source	High	2.3 miles	2004
	High Coliform Count	Nonpoint/Point Source	High	2.3 miles	2003
	Lead (sediment)	Nonpoint/Point Source	High	2.3 miles	2004
	PAHs (sediment)	Nonpoint/Point Source	Low	2.3 miles	2004
	PCBs (tissue & sediment)	Nonpoint/Point Source	High	2.3 miles	2004
	Sediment Toxicity	Nonpoint/Point Source	High	2.3 miles	2004
Marina Del Rey Harbor Beach	Beach Closures	Nonpoint/Point Source	High	.29 miles	2003
	High Coliform Count	Nonpoint/Point Source	High	.29 miles	2003
Dockweiler Beach	Beach Closures	Nonpoint Source	High	4.6 miles	2002
	High Coliform Count	Nonpoint Source	High	4.6 miles	2002
Venice Beach	Beach Closures	Nonpoint Source	High	2.5 miles	2002
	High Coliform Count	Nonpoint Source	High	2.5 miles	2002

The Regional Board has adopted a trash TMDL (zero trash in the water) for the Ballona Creek and wetland, a metal TMDL for Ballona Creek, and at toxic pollutants TMDL for the Ballona Creek Estuary. The metals and toxic pollutant TMDLs are summarized Table 5.8-3 and 5.8-4 on the following page.

Dry-weather numeric targets are expressed in terms of dissolved and total recoverable fraction.

Table 5.8-3 Metals TMDL (Dry-Weather Numeric Targets)

Metal	Target* (µg/L) Dissolved	Conversion Factor	Target (µg/L) Total Recoverable
Copper	23	0.96	24
Lead	8.1	0.631***	13
Selenium**	---	---	5
Zinc	300	0.986	304

**Freshwater targets are based on a hardness of 300 µg/L*
***Selenium is expressed in the total recoverable form*
****Conversion factor is hardness dependent, based on a hardness of 300 µg/L*
Source: Los Angeles RWQCB, May 31, 2005
µg/L – micrograms per liter

Wet-weather numeric targets expressed in terms of dissolved and total recoverable fraction.

Table 5.8-4 Metals TMDL (Wet-Weather Numeric Targets)

Metal	Target* (µg/L) Dissolved	Conversion Factor	Target (µg/L) Total Recoverable
Copper	11	0.62	18
Lead	49	0.829***	59
Selenium**	---	---	5
Zinc	94	0.79	119

**Freshwater targets are based on a hardness of 77 µg/L.*
***Selenium is expressed in the total recoverable form*
****Conversion factor is hardness dependent, based on a hardness of 77 µg/L*
Source: Los Angeles RWQCB, May 31, 2005

Numeric targets for sediment quality in Ballona Creek and Estuary as shown in Table 5.8-5 below.

Table 5.8-5 Numeric Targets for Sediment Quality in Ballona Creek and Estuary

Organics	Numeric Target for Sediment
Chlordane	0.5 micrograms per kilogram (µg/kg)
Total DDT	1.58 µg/kg
Total PCBs	22.7 µg/kg
Total PAHs	4,022 µg/kg
Metals	Numeric Target for Sediment
Cadmium	1.2 milligrams per kilogram (mg/kg)
Copper	34 mg/kg
Lead	46.7 mg/kg
Silver	1.0 mg/kg
Zinc	150 mg/kg

Since only the cities of Beverly Hills and Santa Monica use groundwater for domestic water supplies, information regarding groundwater quality in most of the watershed is limited. "Hard" water (water with high levels of dissolved solids, which contribute to the formation of calcium and other deposits on shower walls and other surfaces), is common throughout southern California. Other contaminants from urban land uses may also be present in groundwater such as volatile organic compounds (VOCs), hexavalent

chromium (or Chromium 6), and N-nitrosodimethylamine (NDMA) from industrial activities and nitrates from the use of fertilizers and septic tanks. In 1996, the discovery of a gasoline additive, methyl tert-butyl ether (MTBE) in groundwater extracted from a well in the City of Santa Monica prompted the shutdown of City wells and lead to the removal of MTBE from gasoline. However, the extent of possible MTBE contamination in soil and/or groundwater in the watershed is currently unknown (Los Angeles Department of Public Works, 2004).

5.8.2 Thresholds of Significance

The proposed Project would cause a significant impact to the hydrologic (surface water) if conditions from the Project would:

- Result in flood damages from a 50-year or greater storm even and have the potential to cause significant impact to the general public and environmental resources;
- Result in a substantial reduction or increase in the amount of surface water associated in a water body; or
- Result in a permanent or adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

The proposed Project would cause a significant impact on surface water quality if discharges associated with the Project would:

- Result in creating an increase to pollution, contamination or nuisance as defined in Section 13050 of the California Water Code or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

The proposed Project would cause a significant impact to groundwater resources if it would:

- Result in a change in available potable water supply levels due to:
    - A significant reduction in the groundwater supply and the inability of a water supply agency to use the groundwater resources for public water supplies, conjunctive use purposes, storage of imported water, summer/winter peaking, or to respond to emergencies and drought;
    - Reduced yields of adjacent wells or well fields (public or private); or
    - Adversely change the rate or direction of flow of groundwater; or
    - Result in a demonstrable and sustained reduction of groundwater recharge capacity.

The proposed Project would cause a significant impact on groundwater quality if it would:

- Result in a change to the rate or direction of movement of existing contaminants;
- Result in the expansion of an area affected by contaminants;
- Result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or
- Result in regulatory water quality standards at an existing production well to be violated, as defined in the CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act;
- Result in a changed condition to the surface water hydrology;
- Result in causing minor flooding during a projected 50-year developed storm event. However, it would not likely have the potential to harm people or damage property or sensitive biological resources;

- During construction and in the case of dewatering, result in a potential increase to the amount of surface water into local water bodies; and
- The proposed Project would not result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow. The proposed Project is located within an urban developed area.

SURFACE WATER QUALITY THRESHOLDS OF SIGNIFICANCE

It is technically infeasible that completion of the proposed Project, within any of the proposed three alternative locations, will cause any unwarranted discharge that would affect the current surface water quality condition. Unless there is a catastrophic event (e.g., high magnitude earthquake) the proposed Project is designed to provide additional mitigation of possible sewage spills from the existing pumping station/sewer main system.

During construction, the surface water quality condition may be affected by discharges associated with the Project including accidental spills, dewatering, construction maintenance and storage, equipment parking, spoil pile and debris stockpiles. Miscellaneous nuisance water flows may also be discharged during the construction of this project at the location of the jacking pits. These possible discharges would be managed as required by the project-specific construction SWPPP.

GROUNDWATER CONDITIONS

Implementation of the proposed Project would not extend into a groundwater aquifer nor would it involve the pumping of any water from an underlying aquifer. Therefore, the proposed Project is not expected to cause any adverse impact to groundwater resources.

Perched groundwater, however, may likely be encountered during the excavation operation of construction. Dewatering during construction could also lower local groundwater levels and potentially result in subsidence of the immediate area adjacent to the proposed Project alignment (reference design material). However, construction dewatering would not result in a loss of groundwater from a producing aquifer.

EXISTING GROUNDWATER CONDITIONS

The proposed Project lies within the Santa Monica Sub-basin in the northwestern part of the Coastal Plain of the Los Angeles Groundwater Basin. The Santa Monica Sub-basin is bounded by the Santa Monica Mountains on the north, the Ballona Escarpment on the south, the Pacific Ocean on the west, and the Newport-Inglewood Fault to the east. The Santa Monica Sub-basin includes several distinct aquifers in the vicinity of the proposed Project, the semiperched aquifer, the Ballona aquifer, and the Silverado aquifer.

The shallowest aquifer within the vicinity of the Project area is the semiperched aquifer, which is found to consist of coarse sands and gravel material that are at or near the ground surface [California Department of Water Resources (CDWR), 1961]. The semiperched aquifer varies in regional depth from zero to approximately 60 feet and in some instances may contain significant amounts of unconfined water with more than 20 feet in depth. The semiperched aquifer is considered of little beneficial use because wells in the aquifer yield very small quantities of water (CDWR, 1961). The semiperched aquifer is confined

from the underlying aquifer by the Bellflower Aquiclude, which consists of sediments of lower permeability that restrict vertical movement of groundwater (CDWR, 1961). The Bellflower Aquiclude is estimated to be less than 20 feet in depth in the Project area.

The Ballona aquifer is estimated to be located beneath the Bellflower Aquiclude and the Project area at a depth of approximately 40 to 60 feet below the ground surface (elevations -30 to -50 feet) and is estimated to vary in depth from approximately 10 to 30 feet within the Project area boundary (CDWR, 1961). The Silverado aquifer is merged with the Ballona aquifer within the Project vicinity (CDWR, 1961). The base of the Silverado aquifer is estimated to lie at a depth of approximately 110 feet below the ground surface (elevation -100 feet). The Silverado aquifer is a main groundwater producing unit in the Santa Monica Sub-basin.

Historical regional data have recorded the highest groundwater level, within this area, to be as high as approximately 5 feet below the ground surface (CDMG, 1998). Recent geotechnical studies conducted for the proposed Project have documented the current groundwater levels to be estimated at a depth of approximately 10 to 15 feet below the ground surface (URS, 2000a; 2000b).

GROUNDWATER LEVEL THRESHOLDS OF SIGNIFICANCE

The proposed Project will be constructed within a developed, urban area and located within the coastal zone. It is not proposed that this Project will have any significant impact to surface water quality thresholds of significance are described in Section 5.8.2., of this document. The groundwater within the Project area boundary is not used as a potable water source.

GROUNDWATER QUALITY THRESHOLDS OF SIGNIFICANCE

The proposed Project is located within a historical, developed coastal zone with land uses consisting of residential, industrial and recreation areas. The Project will maintain the City of Los Angeles compliance with the NPDES Municipal Separate Storm Sewer System (MS4) Permit. The permit requires that the permittees (City of Los Angeles) maintain their current sanitary sewer systems in order to prevent accidental discharges. Without the proposed Project, the existing sanitary sewer system cannot be adequately maintained without causing a disruption in service to the users (the local public).

- The proposed Project will be located within saturated subgrade soils and it is unlikely to affect the rate or change the direction of movement of existing contaminants. The proposed Project is not designed to restrict, impede or delineate movement of existing groundwater contamination. The proposed Project is designed to minimize and/or prevent the risk of accidental sewage releases into the local waterways and/or groundwater.
- The proposed Project is not designed to further expand the area currently affected by known contaminants.
- The completed Project would not result in an increased level of groundwater contamination (including that from direct percolation, injection or saltwater intrusion). The location of this Project, in reference to the ocean and local waterways, provides for a very high watertable. During construction, there is a possibility that an accidental pollutant release could contaminate a localized groundwater area.
- The proposed Project will not impact any existing production wells, as defined in the CCR, Title 22, Division 4, Chapter 15 and in the Safe Drinking Water Act.

5.8.3 Environmental Impacts

All proposed alternatives will cause similar construction operations impact to the project boundary and adjacent area. The completed Project will be in compliance with the NPDES Municipal Separate Storm Sewer System (MS4) Permit and meet the necessary sanitary sewer service standards. Without the installment of the new sanitary sewer main, the current sanitary system will continue to deteriorate and run a high risk of overflowing the system, cause a potential break in the system, and cause a potential health risk to the local waterways.

From a hydrology and water quality position, all alternatives cause a similar temporary disturbance to the current site conditions. All three proposed alignments cross under the Marina Del Rey Channel and Ballona Creek via tunneling, and the Marquesas Way alignment crosses under the Grand Canal via tunneling. Tunneling would occur below the bottom of these waterways, and have no effect on the waterways.

5.8.4 Mitigation Measures

The following mitigation measure has been added to the project to minimize the proposed Project's impacts on water quality and hydrologic conditions.

H/WQ-1 Appropriate BMP measures (sandbags, plastic lining covering stormwater inlets, temporary detentions basins, etc.) will be implemented during the construction period to retain excavated soil material on site and minimize the potential risk of contaminated soil being removed off site. Also, monitoring activities will be conducted during the installation of the BMP measures and throughout the construction period.

5.8.5 Unavoidable Adverse Impacts

Provided that all federal, state, and local regulations pertaining to Project activities are followed accordingly and stormwater prevention plans are implemented and monitored, then the potential for significant or long-term adverse impacts should be avoidable.

5.8.6 Cumulative and Secondary Impacts

The Project area is not within a sensitive environmental setting. Change to the existing site conditions will be temporary and the site will be restored back to a similar pre-construction condition. Pre- and post-construction hydrologic conditions will be similar and any change in condition will be minimal. All proposed alternatives have similar construction applications and procedures and no one alternative is superior to another. Therefore, there are no foreseen hydrologic or water quality cumulative or secondary impacts.

5.9 LAND USE PLANS

5.9.1 Environmental Setting

The Project lies within the bounds of Los Angeles County and the City of Los Angeles. Within these two jurisdictions, each community has a local land use. The Community Plans in this Project area are designed to ensure that each area within the City meets the state requirements of the California Coastal Act.

EXISTING LAND USES

Existing land uses within the Venice area, extending north from Via Marina Way on the south, consist of six major land-use designations: single- and multi-family residential, commercial, industrial, open space, and public utilities. The proposed alignments north of the Marina Del Rey Channel and on the southeast side of the Ballona Lagoon are in areas zoned single and multi-family residential. Areas to the west are zoned open space along the Ballona Lagoon and low to medium residential. The area surrounding the VPP is primarily zoned multi-family residential to the north, and open space on the south along the Ballona Lagoon. Along the alternative alignments south of the channel, and under consideration by the City, the zoning is also primarily residential and light commercial.

The proposed new force main does not require a zone change, as the Project is a component of the municipal infrastructure and is a not a land use, nor does the proposed Project require a change in a land use.

Land uses within the Westchester/Playa Del Rey are and adjacent to the Project footprint include public facility open space. There are no land use impacts associated with this Project because the Project will not require changes to the land uses designated in Westchester/Playa Del Rey land use map.

5.9.1.1 Relationship to Regional and/or Local Plans

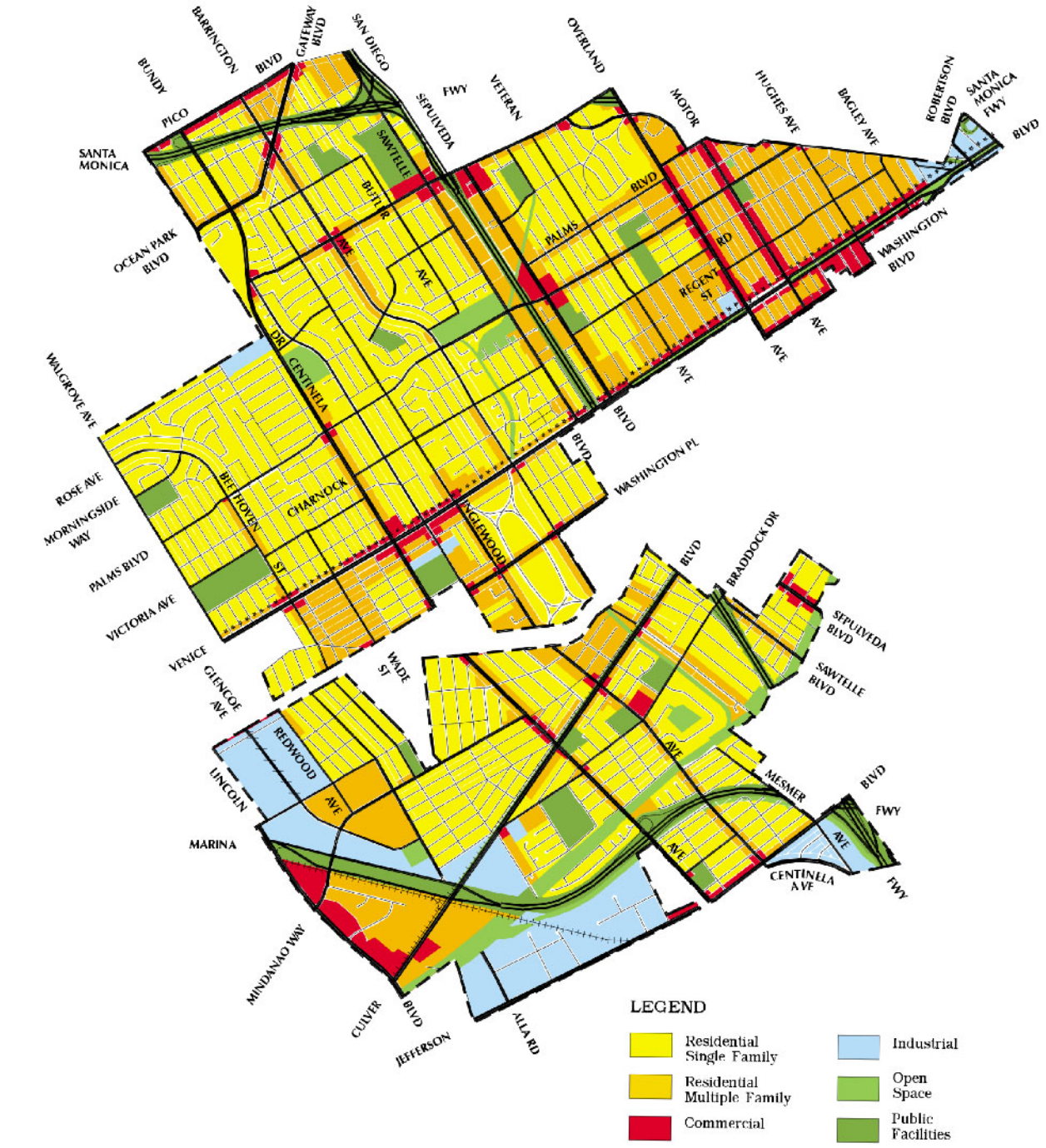
The project is subject to meeting the requirements of the following regional and local plans.

MARINA DEL REY

Los Angeles County General Plan

A portion of the project lies within the jurisdiction of Los Angeles County, as well as in the City of Los Angeles' community of Marina Del Rey. The General Plan is comprised of LUPs (see Figure 5.9-1), which describe designated land uses and policies. The policies set forth in the LUP for Marina Del Rey address future land use, new access, recreation and resource protection areas, and improvement of existing facilities. In accordance with the California Coastal Act, and in consideration for this project, the Marina Del Rey LUP provides for the following:

- Minimizing risks to life and property in areas of high geologic, flood, and fire hazard;
- Assuring stability and structural integrity, and neither creating, nor contributing to erosion, geologic instability, or destruction of the site or surrounding area or in any way requiring protective devices that would substantially alter natural land forms along the coastal land; and
- Being consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.



Source: Los Angeles City, Department of City Planning

MARINA DEL REY LAND USE PLAN

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-1

Figure 5.9-1 Marina Del Rey Land Use Plan

The County General Plan Ordinance No.30254 states that new or expanded Public Works facilities shall be designed and limited to accommodate the needs generated by development or uses permitted consistent with these provisions; provided, however, that it is the intent of the Legislature that State Highway Route 1 (Pacific Coast Highway) in rural areas of the coastal zone remain a scenic two-lane road. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.

County policies and actions described in the Marina Del Rey LUP that are associated with infrastructure are listed below:

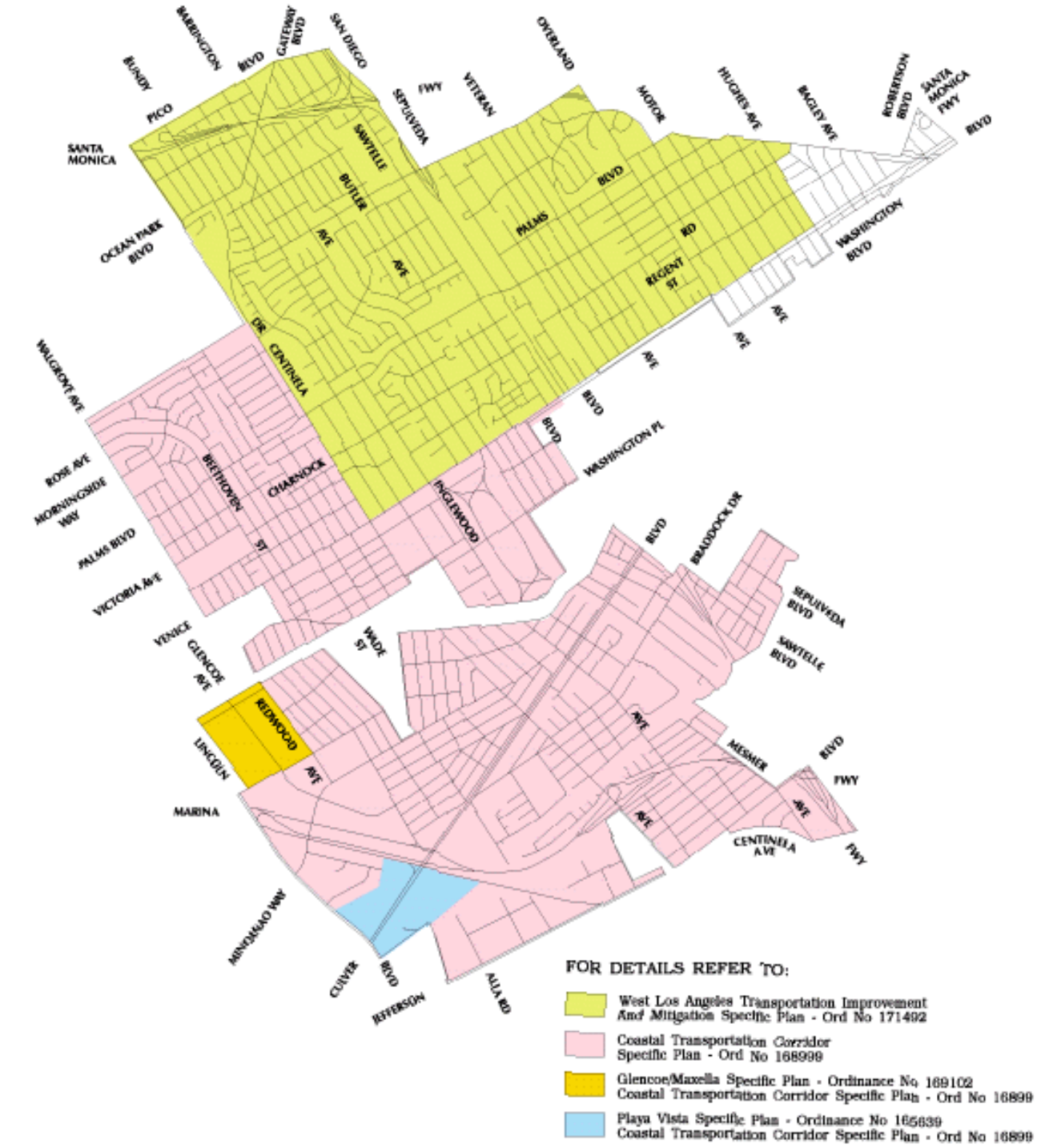
- Public works in the study area shall be designed to accommodate new development permitted in the area and provide for future public access needs;
- As indicated in Section 22.46.1090 of the County's Marina Del Rey Specific Plan, phasing of developing also requires necessary public improvements to be constructed in a timely and orderly manner, to minimize possible adverse impacts of new development on coastal resources (such as sensitive habitat resources or recreation areas) and to protect the ability of the public to travel to coastal attractions; and
- Installation of new sewer and water lines shall be accomplished via the least environmentally damaging method.

MARINA DEL REY LOCAL COASTAL PROGRAM IMPLEMENTATION PLAN

The certified Marina Del Rey LCP Implementation Plan has been integrated into the Los Angeles County Zoning Ordinance as the Marina Del Rey Specific Plan, beginning at Section 22.46.900.

MARINA DEL REY SPECIFIC PLAN

Major infrastructure systems serving the Marina Del Rey Specific Plan Area (see Figure 5.9-2) include sewer, water, storm drains and utilities. The County of Los Angeles maintains a contractual agreement with the City of Los Angeles to provide sewer services for the marina area. The purchase of flow rights includes the use of the sewers and pumping system, as well as treatment at the Hyperion Treatment Plant near Imperial Highway. Maintenance of the sanitary sewers within the marina is the responsibility of the Department of Public Works, Waterworks, and the Sewer Maintenance Division. The Marina Del Rey Specific Plan indicates that there is currently sufficient sewage capacity to handle only a portion of the development permitted by this Specific Plan.



Source: Los Angeles City, Department of City Planning

MARINA DEL REY SPECIFIC PLAN AREAS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-2

The Marina Del Rey Specific Plan constitutes the primary implementation mechanism for the Marina Del Rey LUP as certified by the CCC in December 1986 and subsequently amended. Applicable Marina Del Rey Specific Plan guidelines within the Project area include site-specific development guidelines under Section 22.46.1130 which state the following:

- Section 22.46.1090 states that phasing of development also requires necessary public improvements to be constructed in a timely and orderly manner, to minimize possible adverse impacts of new development on coastal resources (such as sensitive habitat resources or recreation areas) and to protect the ability of the public to travel to coastal attractions.
- Appropriate phasing of new development may be necessary because of capacity limitations at the Hyperion Treatment Plant. Proof of adequate sewer and waste treatment capacity for new development will be required per the provisions of subsection (A) (14) of Section 22.46.1180 of the Marina Del Rey Specific Plan.
- Installation of new sewer and water lines shall be accomplished via the least environmentally damaging method.

The Project supports the intent of Section 22.46.1130 for the Marina Del Rey Specific Plan by providing added capacity for potential new development within the area.

VENICE

City of Los Angeles General Plan

The City of Los Angeles General Plan is comprised of 11 citywide elements: transportation, infrastructure systems, housing, noise, air quality, conservation, open space, historic preservation and cultural resources, safety, and public facilities and services, and the land use element. The land use element is composed of 35 local area plans, known as community plans, with associated counterpart plans for the Port of Los Angeles and LAX. The parts of these plans, which are relevant to the project, are considered in each of the studies and analysis in Chapter 5.0 of this EIR.

The following are brief descriptions of the plans for the Project areas are as follows:

Venice Land Use Plan (LUP)

The LUP 1998-0119 LCP consists of the City of Los Angeles land use plans, zoning ordinances, and other actions, which implement the provisions and policies of the California Coastal Act at the local level. The CCC has the authority to approve the City's alignment of the proposed Project. Specifically, the CCC is responsible for key issues of concern in the Venice LUP, which may be impacted by this Project, which are as follows:

- Enforcement and regulation of encroachments into public ROW;
- Protection of existing natural and recreational resources, including the Venice Canals Ballona Lagoon, Grand Canal south of Washington Boulevard, and Venice Beach;
- Protection of coastal views and vistas;
- Preservation of significant archaeological sites;
- Conflict between residential and beach visitor parking;
- Inadequate off-street parking near or on the beach frontage for visitors and residents;
- Intrusion of non-resident vehicles on residential streets to locate available parking spaces;

- Preventing polluted stormwater runoff from parking lots from entering the Venice canals and Ballona Lagoon;
- Lack of adequate alternate public transportation systems, including shuttle systems, park and ride facilities (bikeways) and public bus services;
- Inadequate traffic management to facilitate coastal access to and within the Venice Coastal Zone;
- Inadequate access to walkways due to lack of adequate parking facilities;
- Impacts to recreation and visitor-serving facilities;
- Impacts to water and marine resources;
- Impacts to ESHA;
- Enhancement and maintenance of habitat value, including foraging habitat for the least tern, an endangered species; and
- Prevention of hazards, such as liquefaction and flooding.

VENICE COMMUNITY PLAN

The Venice Community Plan (see Figure 5.9-3, Venice Community Plan Land Use Designations) is comprised of specific plan areas (see Figure 5.9-4, Venice Specific Plan Areas). Each are described as follows:

Venice Coastal Zone Specific Plan

The Venice Coastal Zone Specific Plan (Ordinance No. 175, 963 effective January 19, 2004) is divided into eight sub-areas. The following describes only those areas within the Venice Coastal Zone Specific Plan, which may be impacted by the Project (see Figure 5.9-5).

Ballona Lagoon West Bank Sub-area: This area is bounded by Driftwood Street on the north, Via Marina on the south, Ballona Lagoon on the east, and Strongs Drive, Canal Court and Pacific Avenue on the west. The Pacific Avenue alignment alternative is located in this area.

Ballona Lagoon (Grand Canal) East Bank Sub-area: This area is bounded by Washington Boulevard on the north, the northern terminus of the Ballona Lagoon on the south, Via Dolce on the east, and Grand Canal on the west. The VPP is located at the southwest corner of this area where the Grand Canal and the Ballona Lagoon intersect at Hurricane Street.

Silver Strand Sub-area: This area is bounded by the eastern extension of Driftwood Street on the north, Via Marina on the south, the Los Angeles County boundary on the east, and Ballona Lagoon on the west. Both the VPP and the proposed Via Marina/Marquesas Way alternative alignment are located in this area.

Marina Peninsula Sub-area: This area is bounded by Thirtieth Place and the Washington Boulevard Pier on the north, Via Marina on the south, Strongs Drive, Canal Court and Pacific Avenue on the east, and the Pacific Ocean on the west. Both the VPP and the proposed Pacific Avenue and Dockweiler Beach alternative alignments are located in this area.



Source: Los Angeles City, Department of City Planning

VENICE COMMUNITY PLAN LAND USE DESIGNATIONS

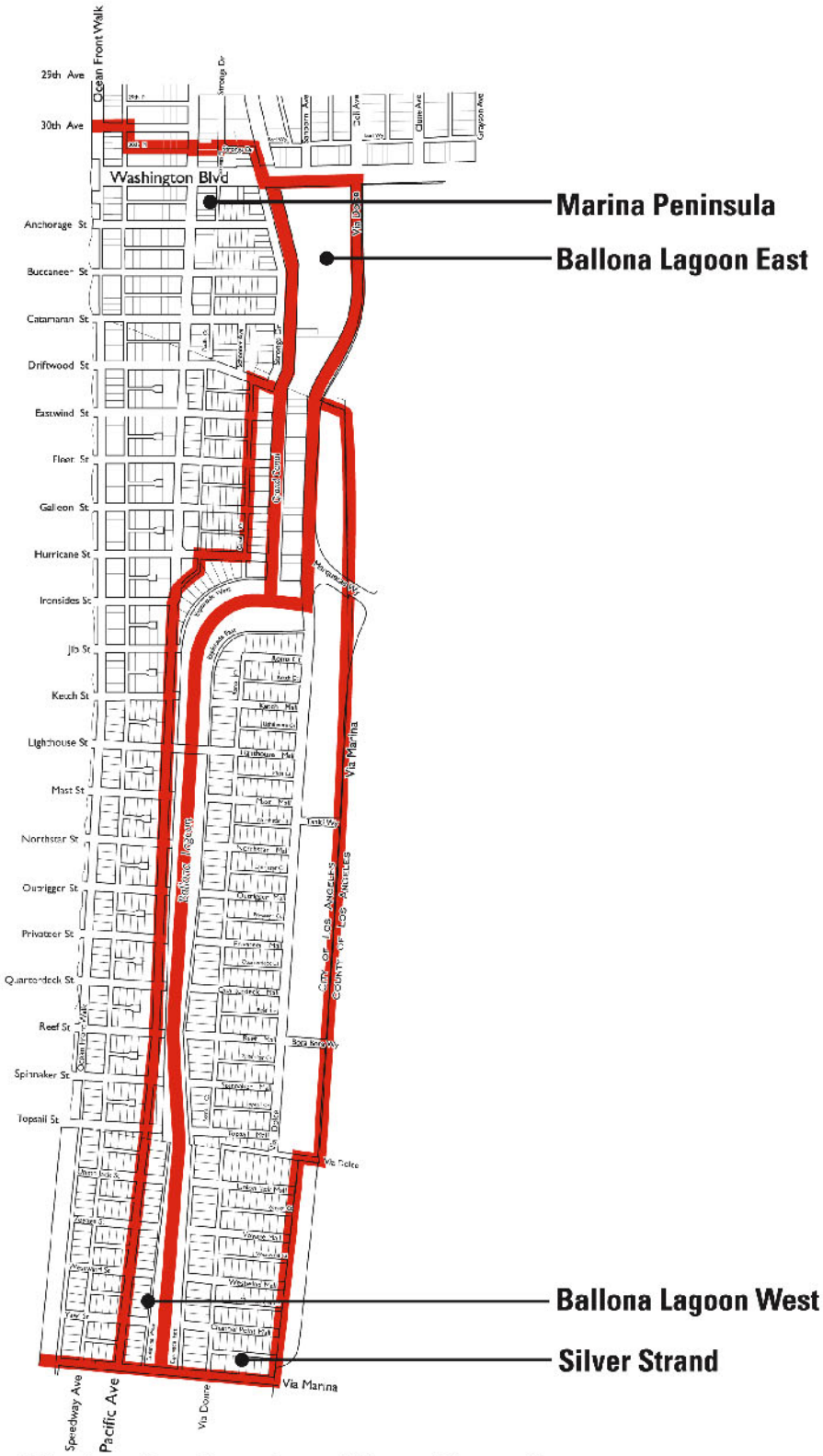
URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-3



Source: Los Angeles City, Department of City Planning

VENICE SPECIFIC PLAN AREAS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-4


Marina Peninsula
Ballona Lagoon East
Ballona Lagoon West
Silver Strand
Washington Blvd
Via Marina
Pacific Ave
Speedway Ave
Via Dolce
Ocean Front Walk
25th Ave
30th Ave
Anchorage St
Buccaneer St
Catamaran St
Driftwood St
Eastwind St
Fleet St
Galleon St
Hurricane St
Ironsides St
Jib St
Keuch St
Lighthouse St
Mast St
Northstar St
Outrigger St
Privateer St
Quarterdeck St
Reef St
Spinnaker St
Topsail St
Via Dolce
Via Marina
Via Marina
Ballona Lagoon
Grand Canal
Grand Canal
Sherman Canal
Sherman Canal
Sherman

The purposes of the Venice Specific Plan are as follows:

- To implement the goals and policies of the California Coastal Act;
- To implement the LCP for that portion of the Venice community within the coastal zone as designated by the state legislature;
- To protect, maintain, enhance and, where feasible, restore the overall quality of the coastal zone environment and its natural and human-made resources;
- To assure that public access to the coast and public recreation areas is provided as required by the California Coastal Act and the LCP;
- To prepare specific provisions tailored to the particular conditions and circumstances of Venice coastal zone, consistent with the general policies of the adopted Los Angeles General Plan; and
- To regulate all development, including use, height, density, setback, buffer zone and other factors in order that it is compatible in character with the existing community and to provide for the consideration of aesthetics and scenic preservation and enhancement, and to protect environmentally sensitive areas.

The regulations of the Venice Specific Plan are in addition to those set forth in the planning and zoning provisions of Chapter 1 of the Los Angeles Municipal Code, as amended, and any other relevant ordinances. They do not convey any rights not otherwise granted under those provisions except as specifically provided in the Venice Specific Plan. Wherever provisions of Venice Specific Plan differ from the provisions contained in Chapter 1 of the Municipal Code (with regard to use, density, lot area, floor area ratio, height of buildings or structures, setbacks, yards, buffers, parking, drainage, fences, landscaping, design standards, light, trash and signage, etc.), the Venice Specific Plan supersedes those other regulations. Whenever the Venice Specific Plan is silent, the regulations of the Municipal Code apply.

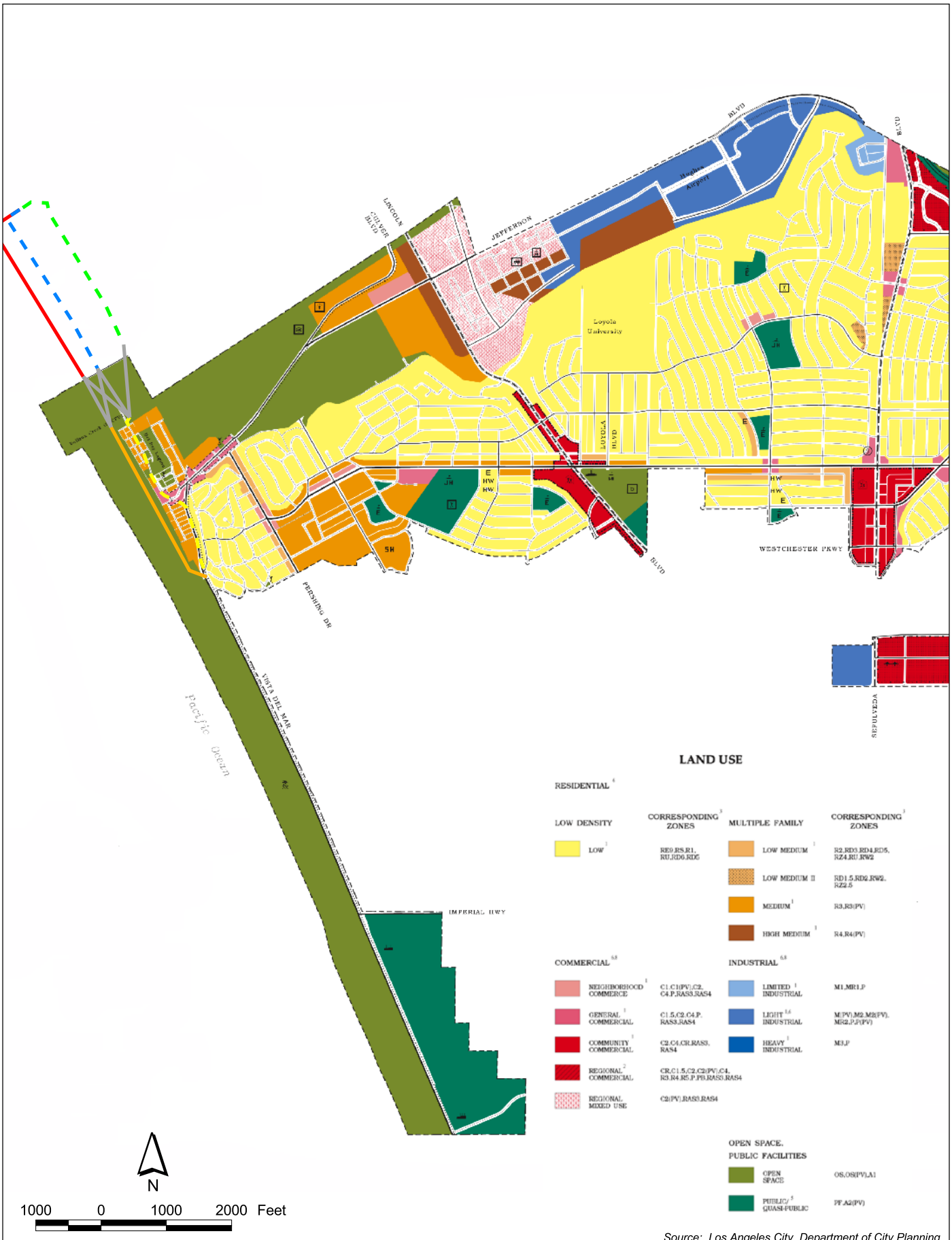
WESTCHESTER/PLAYA DEL REY

Westchester/Playa Del Rey Community Plan

The Westchester Playa Del Rey Community Plan area (Ordinance No. 160.521 - Effective December 27, 1985) is located in the western portion of the Los Angeles Basin, adjacent to LAX (see Figure 5.9-6). This area is located south of Palms- Mar Vista-Del Rey and Venice; adjacent to the Cities of Culver City, Inglewood, El Segundo; and the Los Angeles County unincorporated areas of Del Aire, Ladera Heights, Lennox, and Marina Del Rey.

Westchester/Playa Del Rey Specific Plans

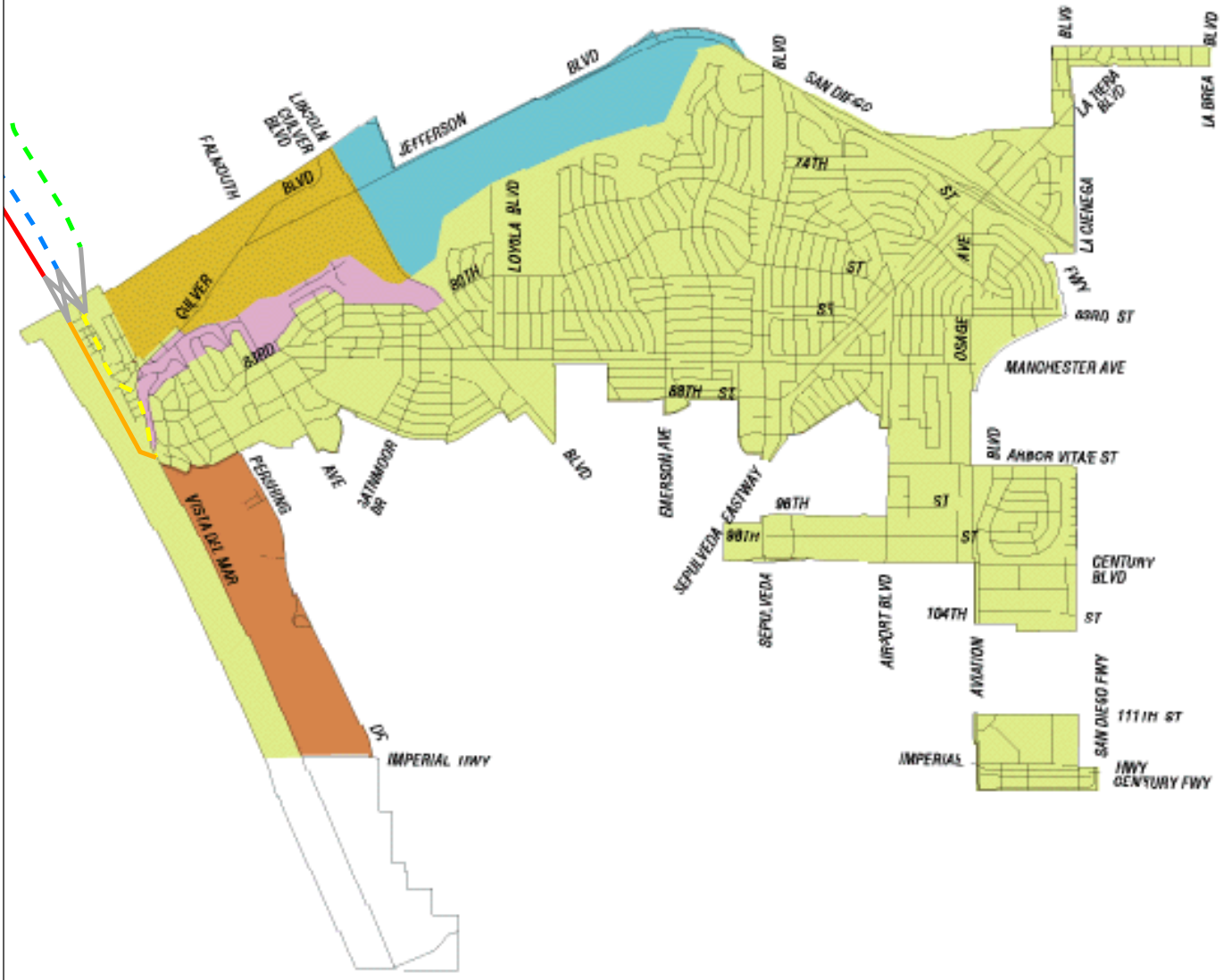
The Westchester/Playa Del Rey Specific Plan area (see Figure 5.9-7) is located within the County of Los Angeles. Land uses adjacent to the project footprint include the Los Angeles Airport/El Segundo Dunes Specific Plan and the Coastal Transportation Corridor Specific Plan (SP-3).



Source: Los Angeles City, Department of City Planning

WESTCHESTER/PLAYA DEL REY COMMUNITY PLAN LAND USE DESIGNATIONS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-6



Source: Los Angeles City, Department of City Planning

WESTCHESTER/PLAYA DEL REY SPECIFIC PLAN AREAS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.9-7

5.9.2 Thresholds of Significance

Land use thresholds are determined by a project's location, its relationship to the immediate plan area, and its ability to meet specified zoning requirements and land use ordinances. A project that cannot meet land use requirements can mitigate the effect of the project and its inability to meet land use requirements, by petitioning for a variance or an exemption approved by the City/County Planning Commission, the City Council, and the County Board of Supervisor, the ruling authorities of the local General and/or Local Plans.

5.9.3 Environmental Impacts

Protection of the environment against impacts resulting from a project are generally achieved through the land use process by providing means of regulatory requirements specified within a given land designation, as adopted by the regulating agency from City and County authorities.

Because this is a municipal project providing improvements to public facilities through the City of Los Angeles Department of Public Works, this Project will adhere to all local and regional regulatory requirements necessary for the construction of the sewer. Additionally, this Project is not a land use, nor does it require a change/variance in land use; therefore, there are no impacts to land uses within the Project areas.

Rules set forth in specific plan areas pose certain limitations to various activities within those areas that may be impacted as a result of potential Project requirements.

The Project could impose temporary construction impacts in the Coastal Transportation Corridor Specific Plan area due to construction-related transport to and from construction areas north of the Marina Del Rey/Ballona Lagoon channels.

5.9.4 Mitigation Measures

Potential impacts to the Coastal Transportation Corridor Specific Plan should be addressed with the county prior to starting Project activities.

5.9.5 Unavoidable Adverse Impacts

There are no unavoidable adverse impacts to local LUP or policies resulting from this Project.

5.9.6 Cumulative and Secondary Impacts

There are no cumulative or secondary impacts to local LUPs or policies resulting from this Project.

5.10 NOISE AND VIBRATION

5.10.1 Environmental Setting

This section describes the existing levels of environmental noise at sensitive receptors along the alignments of the Project alternatives, identifies the applicable regulatory background, and presents the predicted noise and vibration impacts associated with the Project alternatives. Mitigation measures are recommended for consideration where appropriate.

The terms and metrics associated with noise that are used can be complex and are discussed in detail in Appendix A of the Noise and Vibration Technical Study, which is included in Appendix H of this EIR.

As shown in Figure 5.10-1, the proposed Project is located on the immediate coastline and inland adjacent to the coastline in the southern portion of the community of Venice, and in the community of Playa Del Rey. The primary land uses in these areas are medium- to high-density residential with some recreational and light commercial designations, particularly in the Playa Del Rey and Marina Del Rey areas.

Two ESHAs are located close to most of the potential alignments: the Grand Canal/Ballona Lagoon in the Venice and Marina Del Rey area and the Del Rey Lagoon situated in Playa Del Rey. These ESHAs, as well as Dockweiler State Beach, are designated as conservation and open space. The Project area is near LAX, with the southern end approximately 0.5 mile away from the westbound departure flight path of the northernmost runway (Runway 24/6) and the northern end approximately 2.5 miles away. Overflights by departing commercial aircraft are frequent, and are particularly noticeable in the Project area south of the Marina Del Rey Channel.

In order to characterize the existing noise in the Project area and as a point of comparison for the Project alternatives, ambient noise and meteorological conditions were measured along the proposed alignments during a 3-day period from Wednesday, June 8 through Friday, June 10, 2005. The Noise and Vibration Technical Report (Appendix H) contains a more detailed description of the measurements and analysis used to arrive at the results presented herein.

NOISE

Two types of ambient noise measurements were conducted: short-term and long-term. The short-term measurements consisted of separate measurements at 16 representative noise-sensitive locations, and were each 15 minutes in duration. These sampling measurements are considered representative of the hourly noise levels at the measurement sites. "Precision" grade (Type 1) sound level meters (SLMs) were used to conduct the short-term noise measurements. All of the short-term measurements were attended (i.e., performed by persons with training and experience in measuring environmental sound). In addition to operating the SLMs, the noise specialists actively observed and noted the acoustical, weather, and community activity conditions. The long-term noise measurements were unattended. Automated "Engineering" grade (Type 2) community noise analyzers were deployed at four representative locations along the proposed alignments to collect continuous hour-by-hour sound level data for 24 hours at each location. Noise levels are reported here using the equivalent noise level (Leq) and community noise equivalent level (CNEL), which are described further in the Noise and Vibration Technical Report.



PROJECT AREA OVERVIEW, ALIGNMENTS, AND MEASUREMENT LOCATIONS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.10-1

The measurement locations are shown on Figures 5.10-2 and 5.10-3, and the short-term and long-term noise measurement data are summarized in Tables 5.10-1 and 5.10-2. Noise associated with typical coastal residential activity (e.g., traffic, pedestrian, and wind/waves) dominates in the Project area north of the Marina Del Rey Channel. The measured noise levels were typical for the Project area's land uses. Near the southern end of the project area, the predominant noise sources are traffic on Vista Del Mar and overflights of commercial aircraft taking off from LAX.

The 15-minute Leqs measured at the eight short-term locations south of the Marina Del Rey Channel ranged from 56 decibels, A-weighted (dBA) at the beachfront patios of houses just south of 62nd Avenue (Short-Term 8) to 66 dBA in the parking lot abutting Vista Del Mar between Sunridge Street and Surf Street (Short-Term 1). Street traffic was the predominant noise source at Short-Term 1 and Short-Term 3, while aircraft overflights were the predominant noise source at Short-Term 2 and Short-Term 4 through Short-Term 8. At the eight short-term locations north of the Marina Del Rey Channel, 15-minute Leqs ranged from 55 dBA at the beachfront sites (Short-Term 9, Short-Term 15, and Short-Term 16) to 62 dBA at some inland sites (Short-Term-12, Short-Term-13, and Short-Term 14). CNELs at the four long-term locations ranged from 52 dBA at the east end of 62nd Avenue (Long-Term 1) to 70 dBA near the intersection of Vista Del Mar and Waterview Street.

VIBRATION

An ambient vibration survey was performed along the Pacific Avenue Alignment in October 2002 (Behrens, 2002). The survey measured existing ground vibration levels at four locations along Pacific Avenue north of the Marina Del Rey Channel. The major sources of vibration were trucks and buses traveling on Pacific Avenue. The maximum ground vibration level for vibration "events" (i.e., bus or truck passbys) at any of the measurement sites was 0.02 inches per second peak-to-peak velocity. This level is within the range of human perception, but well below the threshold levels for architectural or structural damage.



VENICE PROJECT AREA, ALIGNMENTS, AND MEASUREMENT LOCATIONS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.10-2



PLAYA DEL REY PROJECT AREA, ALIGNMENTS, AND MEASUREMENT LOCATIONS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 5.10-3

Table 5.10-1 Short-Term Noise Measurement Data Summary

Site ID	Measurement Location	Measurement Period				Measurement Results, dBA					
		Date	Start Time	Duration (mins)	Predominant Noise Source	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	Parking lot abutting W side of Vista Del Mar, S of Culver Blvd	6/8/2005	15:30	15:00	Vista Del Mar traffic, LAX aircraft takeoff overflights, rustling leaves, birds, distant landscaping	65.5	80.7	45.8	55.6	63.2	68.7
ST-2	Oceanfront patios of condos S of Surf St	6/8/2005	15:45	15:00	Wind, ocean surf, LAX aircraft takeoff overflights, Vista Del Mar traffic, distant landscaping & vacuum cleaner	62.8	80.2	42.6	46.0	50.0	64.5
ST-3	Montreal St @ Vista Del Mar	6/8/2005	15:45	15:00	Pacific Ave traffic, LAX aircraft takeoffs, rustling leaves, distant barking dogs	64.1	81.7	45.5	50.4	60.1	67.5
ST-4	Oceanfront patio of house between 6987/9 and 6995/7 Trolleyway	6/8/2005	16:15	15:42	LAX aircraft takeoffs, distant house construction (hammer & saw) & workers talking, birds, ocean surf, helicopter flyby along shore	61.8	77.4	42.6	46.0	50.0	63.5
ST-5	Park S of Del Rey lagoon	6/8/2005	16:10	15:00	Coach talking @ nearby baseball practice, rustling leaves, distant children playing	57.2	69.8	45.5	47.9	50.9	59.9
ST-6	Oceanfront patio of 3rd building S of 66th Ave	6/8/2005	17:05	15:02	LAX aircraft takeoffs, distant volleyball practice, ocean surf, motorboat, helicopter passby along shore	61.7	77.7	43.6	49.5	55.0	65.5
ST-7	Park @ Pacific Ave N of 64th Ave	6/8/2005	17:00	15:00	LAX aircraft takeoffs, rustling leaves, birds, wind chimes	59.5	74.6	44.2	46.9	51.7	69.2
ST-8	Oceanfront patio of 3rd building S of 62nd Ave	6/8/2005	17:30	15:07	LAX aircraft takeoffs, people on beach & bike path, distant portable radio	55.9	69.8	41.4	43.5	49.0	60.0
ST-9	W end of Yawl St, even w/ building facades @ beach	6/9/2005	10:55	15:00	LAX aircraft, nearby pedestrians talking, rustling leaves	55.4	65.5	46.3	48.4	52.2	59.5
ST-10	Park @ S curve of Via Marina, N of Marina Del Rey Channel	6/9/2005	10:55	15:00	Via Marina traffic, LAX aircraft, rustling leaves, distant landscaping, bids, distant back-up alarm	57.9	70.4	47.3	51.0	55.5	61.0
ST-11	Westwind St & Pacific Ave, S of 5315 Pacific Ave	6/9/2005	11:25	15:00	Distant home construction, distant LAX aircraft, rustling leaves, birds	56.5	69.9	46.4	49.8	53.5	60.2
ST-12	NW corner of Via Marina & Tahiti Way	6/9/2005	11:45	15:12	Via Marina traffic, distant circular saw, birds	61.9	75.5	44.4	49.5	57.5	66.0
ST-13	Pacific Ave @ Outrigger St	6/9/2005	11:55	15:00	Pacific Ave traffic, distant LAX aircraft, rustling leaves, barking dogs, birds	61.8	79.6	43.2	45.5	51.5	66.7
ST-14	SW corner of Via Marina @ Marquesas Way	6/9/2005	15:00	15:00	Via Marina & Marquesas Way traffic, distant LAX aircraft, rustling leaves	62.3	82.7	47.9	51.4	58.0	65.1
ST-15	W end of Outrigger St, even w/ building facades @ beach	6/9/2005	16:10	15:00	Distant LAX aircraft, distant traffic	54.8	67.9	45.5	47.7	51.4	57.4
ST-16	Oceanfront patio of 3901 Speedway, S of Hurricane St	6/9/2005	16:15	15:00	Ocean surf, distant LAX aircraft, distant dogs playing	54.9	70.3	46.0	48.0	50.5	57.0

Table 5.10-2 Long-Term Noise Measurement Data Summary

Site ID	Location	Measurement Period			Measurement Results, dBA				
		Start Date	Start Time	Duration (hours)	L_{eq}	L_{90}	L_{50}	L_{dn}	CNEL
LT-1	Back P/L of vacant lot N of 6206 Pacific Ave @ 62nd St	6/8/2005	13:00	24:00	52.3	46	49	57.2	57.5
LT-2	W side of Vista Del Mar @ Waterview St	6/8/2005	14:00	24:00	69.5	55	67	72.7	73.3
LT-3	N side of Hurricane St @ Grand Canal	6/9/2005	16:00	24:00	52.5	47	50	56.0	56.6
LT-4	Via Marina @ S end of Ballona Lagoon	6/9/2005	16:00	0:00	61.1	49	55	64.0	64.4

5.10.2 Thresholds of Significance

Operations and construction noise and vibration are treated separately in the following four subsections.

OPERATIONS NOISE

Screening criteria are given in the Los Angeles CEQA Guidelines: If the proposed project triggers a "yes" response to the following questions, further study would be required:

- Would the project introduce a stationary noise source likely to be audible beyond the property line of the project site?
- Would the project include 75 or more dwelling units, 100,000 square feet or greater of nonresidential development, or have the potential to generate 10,000 or more average daily vehicle trips?

In the operational noise evaluation outlined in the Los Angeles Draft CEQA Guidelines, the thresholds for impact are based on the net change in the environmental noise level due to the Project alternative. Similarly noise-sensitive land uses are grouped, and ambient noise levels are classified according to their compatibility with the various land use types. For each land use group, the ambient level is either normally acceptable, conditionally acceptable, normally unacceptable, or clearly unacceptable. The land use compatibility categories and their associated noise levels are given in Table 5.10-3.

Table 5.10-3 Land Use Compatibility Categories and Noise Levels

Land Use	Ambient Community Noise Exposure Level (dBA CNEL)		
	Normally/Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single-family, duplex, mobile homes, multi-family homes	50 – 70	70 – 75	above 70
Schools, libraries, churches, hospitals, nursing homes, motels, hotels	50 – 70	70 – 80	above 80
Auditoriums, concert halls, amphitheatres	50 – 70	***	above 65
Sports arenas, outdoor spectator sports	50 – 75	***	above 70
Playgrounds, neighborhood parks	50 – 70	67 – 75	above 72
Golf courses, riding stables, water recreation, cemeteries	50 – 75	70 – 80	above 80
Office buildings, business and professional commercial	50 – 77	Above 75	***
Industrial, manufacturing, utilities, and agriculture	50 – 80	Above 75	***

*** *values not given in Thresholds Guide*
Source: Draft L.A. CEQA Thresholds Guide, Section I.2.A.

A project would have a significant impact on community noise if the operations caused the ambient noise level at the property line of the affected uses to either:

- Increase by 5 dBA CNEL or more; or
- Increase by 3 dBA CNEL and rise into either the normally unacceptable or clearly unacceptable category.

These criteria apply to various noise sources, respond to heightened community annoyance caused by late-night or early-morning noise, and respond to varying sensitivity of communities under different ambient conditions to noise from projects.

The County of Los Angeles addresses noise in Chapter 12.08 (Noise Control) of the County Code. Section 12.08.390 lists exterior noise standards for various land use zones. These noise standards are listed in Table 5.10-4. The noise standards shown in Table 5.10-4 would apply at residential and commercial structures that are within the unincorporated County and adjacent to the portion of the Via Marina Alignment Alternative taking place in the unincorporated County.

Table 5.10-4 Los Angeles County Exterior Noise Standards

Noise Zone	Designated Noise Zone Land Use (Receptor property)	Time Interval	Exterior Noise Level (dBA)
I	Noise-Sensitive Area	Anytime	45
II	Residential Property	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	45 50
III	Commercial Property	10:00 p.m. to 7:00 a.m. 7:00 a.m. to 10:00 p.m.	55 60
IV	Industrial Property	Anytime	70

Source: Los Angeles County Code, Section 12.08.390

If any Project alignment alternative exceeded the relevant noise criteria for impact, then noise abatement actions would be considered. Noise from any Project alignment alternative, that is predicted to exceed the criteria for impact under CEQA, would result in a significant adverse effect. In such a case, feasible/effective noise mitigation measures would need to be considered. If feasible/effective mitigation actions were not available, then unavoidable adverse impacts would occur if the particular alternative were to be selected.

CONSTRUCTION NOISE

Depending upon the method of construction chosen, short-term increases in noise from construction would result from the operation of heavy equipment needed to construct the tunnels or cut, dig and re-fill the trenches and insert the pipeline for the Project. The City of Los Angeles regulates noise from construction, and the contractor will be required to adhere to these regulations.

The City of Los Angeles Noise Ordinance (L.A.M.C. Section 112.03) regulates construction noise by referencing Section 41.40 of the Los Angeles Municipal Code. Section 41.40(a) prohibits use of any noise-producing device or powered equipment for construction or repair work on any building or structure between the hours of 9:00 p.m. and 7:00 a.m. on weekdays. Section 41.40(c) prohibits non-emergency grading or construction, other than by an individual homeowner on his/her own single-family residence, on or within 500 feet of residential land before 8:00 a.m. and after 6:00 p.m. on Saturdays and national

holidays, and at any time on Sundays. These sections also prohibit operation, repair, or servicing of construction equipment and job-site delivering of construction materials during those hours.

The County of Los Angeles addresses noise from construction activities in Section 12.08.440 (Construction Noise) of the Los Angeles County Code. The operation of any tools used for construction or related activities such that a noise disturbance is created at a residential or commercial land use is prohibited on weekdays between 7:00 p.m. and 7:00 a.m. or at any time on Sundays or holidays. The noise standards listed in Table 5.10-5 are applicable to construction activities conducted within the unincorporated County.

Table 5.10-5 Los Angeles County Noise Standards for Mobile Construction Equipment

	Single-Family Residential	Multi-Family Residential	Semi-Residential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sundays and legal holidays	60 dBA	64 dBA	70 dBA

Source: Los Angeles County Code, Section 12.08.440

OPERATIONS AND CONSTRUCTION VIBRATION

The City of Los Angeles does not have a quantified standard or threshold for vibration that is applicable to the construction or operations phase of this Project.

The County of Los Angeles addresses vibration in Section 12.08.560 of the County Code. Vibration from any device is prohibited that creates vibration above the threshold of perception at a distance of 150 feet from the source if the source is on a public space or public ROW. The threshold of perception is defined as 0.01 inch per second over the range of 1 to 100 Hertz.

5.10.3 Environmental Impacts

Potential noise and vibration effects from operation and construction of the Project were analyzed as described in Section 5.10-2, and are discussed below.

5.10.3.1 Operational Noise

The following discussion applies to all "Build" Alignment Alternatives: Marquesas Way/Via Marina Alignment; Pacific Avenue Alignment; Dockweiler Beach/Pacific Avenue Alignment; Dockweiler Beach Alignment.

No additional powered, noise-producing machinery, such as pumps, compressors, motors, etc., will be installed as part of this Project. The physical elements of the Project would consist of underground sewer pipe, which under normal operation would not produce audible or measurable noise at nearby noise-sensitive land uses. No significant noise effect is anticipated from operation of this project for any of the alignment alternatives.

5.10.3.2 Construction Noise

Construction activities have the potential to temporarily increase noise levels at noise-sensitive land uses located near the Project alignment or along construction vehicle routes.

Potential noise impacts from the construction phase of the various Project alignment alternatives were assessed for each of the applicable construction methods, such as open trench, tunneling, and large-diameter tunneling, and are discussed in greater detail in the Noise and Vibration Technical Study. The impacts are summarized below:

MARQUESAS WAY/VIA MARINA ALIGNMENT

Open-Trench Method – The open-trench method (also known as cut-and-cover) for underground pipeline installation would include driving of sheet-piles, trenching (approximately 8 feet wide by up to 12 feet deep), pipe installation and backfill, compaction and repaving. Construction of the proposed 3,200-foot-long Marquesas Way/Via Marina Alignment is expected to result in temporary increases in noise levels in the vicinity of construction sites for a period of up to 2 weeks around each active open trench zone, up to 2 months around the tunneling, jacking, and extraction shafts between the estimated star (year 2008) and end (year 2010) of construction.

Construction noise would be taking place at different locations along the route at any given time, and noise impacts at any one point are short term, typically lasting less than 2 weeks. Construction is planned to take place during normal weekday working hours. Table 5.10-6 lists the predicted noise levels from pipeline construction activities for the Project at a reference distance of 50 feet. As Table 5.10-6 shows, the predicted noise levels from pipeline construction range from approximately 87 to 90 dBA at a distance of 50 feet.

Table 5.10-6 Noise Levels from Typical Open-Trench Construction Activities

Construction Activity[1]	Average Noise Level @ 50 feet dBA
Pile Driving (Vibratory)	Varies; up to 90
Trench Excavation	87
Pipe Laying	87
Pipe Bedding and Backfill	88

1- Note that each of these activities are inclusive of the typical number and type of equipment necessary for that activity, and would take place separately from the standpoint of any one noise-sensitive receiver.

Source: Acentech, 1999 (all levels except pile driving. For pile driving noise level, Technical European Sheet Piling Association, 2001

The pipeline alignment along the Marquesas Way/Via Marina Alignment would result in open-trench construction activities taking place within approximately 25 feet of adjacent residences. Because construction noise increases and decreases at a rate of approximately 6 decibels per doubling (or halving) of distance, residences that are directly adjacent to an active open-trench zone would experience noise levels of approximately 93 to 96 dBA. Residences at a distance of 100 feet from the construction activity would experience noise levels of approximately 81 dBA to 84 dBA. Noise levels of this magnitude would violate the County of Los Angels noise standards for construction activities taking place within the unincorporated County (i.e., at Marquesas Way and Via Marina), and would constitute a short-term but significant impact unless mitigation measures are implemented. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance (i.e., 7:00 a.m. to 9:00 p.m. on weekdays, 8:00 a.m. to 6:00 p.m. on Saturdays and national holidays, and at no time on Sundays), construction taking place within the City of Los Angeles would not violate the Noise Ordinance. However, because of the proximity of noise-sensitive land uses to the construction work area,

the noise levels at residences along the entire Marquesas Way/Via Marina Alignment would be of a magnitude that would constitute a short-term, but significant, impact unless mitigation measures are implemented. Mitigation measures for open-trench construction activities are listed in Section 5.10.4.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

The incremental increase in traffic volumes associated with the Project alternative using open-trench construction was examined for the potential to increase off-site traffic noise levels. Because of the widespread nature of the workforce and the relatively low number of workers for the project, the small increase in vehicle trips on levels of local traffic noise would not be audible or measurable, and thus would not be a significant impact. Similarly, the estimated 15 round-trip truckloads per day for excess material and supplies would not constitute a significant noise impact, given the relatively high traffic volumes along the designated truck routes that the truck would use.

Micro-Tunneling Method – Micro-tunneling is a trenchless construction method, which utilizes hydraulic jacks to push pipes through the ground behind a remotely operated TBM. Excavation for micro-tunneling is limited to the endpoints for each drive at designated launching (jacking) and receiving pits. The launching pit contains the hydraulic jacks used to push the pipes. The receiving pit is used to recover the TBM at the end of each drive. The excavated material is carried via augers and conveyors, or by recycled slurry through closed-system pipelines to the surface for processing and disposal. The remote control cabin for operating the TBM, as well as cranes and other construction equipment, is at the surface near the jacking pit. Because of the nature of the work, micro-tunneling operation may extend beyond normally permitted hours for construction activities.

Construction noise emissions from micro-tunneling would be dominated by stationary equipment. Assuming five pieces of heavy equipment operating simultaneously (the power unit for the TBM, a crane, a supply truck and two air compressors), the typical noise level from micro-tunneling activity would be approximately 88 dBA at a distance of 50 feet, as shown in Table 5.10-7.

Table 5.10-7 Noise Levels from Typical Micro-Tunneling Equipment Operations

Equipment Type	Average Noise Level@ 50 feet dBA
Power Unit for TBM	84
Crane	81
Supply or Muck Truck	81
Generator/Air Compressors (2)	80
Combined Noise Level	**88**

Source: Boyle Engineering, 2003.

The proposed locations of the launch and receiving pit work areas for the Marquesas Way/Via Marina Alignment would result in construction activities taking place within approximately 50 feet (at the receiving pit located at the southern end of Via Marina) to 100 feet (at the receiving pit located near the VPP at Hurricane Street) of adjacent residences. Residences located 50 feet from an active micro-

tunneling work area would experience noise levels of approximately 88 dBA. Residences located 100 feet from the micro-tunneling activity would experience noise levels of approximately 82 dBA. Noise levels of this magnitude would violate the County of Los Angeles noise standards for construction activities taking place within the unincorporated County (i.e., at Marquesas Way and Via Marina), and would constitute a short-term but significant impact unless mitigation measures are implemented. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, construction taking place within the City of Los Angeles would not violate the noise ordinance. However, because construction may extend beyond these hours and because of the proximity of noise-sensitive land uses to the micro-tunneling work areas, the noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact unless mitigation measures are implemented. Mitigation measures for micro-tunneling construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the project alternative using micro-tunneling was examined for the potential to increase off-site traffic noise levels. Because of the widespread nature of the workforce and the relatively low number of workers for this Project, the small increase in vehicle trips on levels of local traffic noise would not be audible or measurable, and thus would not be a significant impact. Similarly, the estimated eight round-trip truckloads per day for excess material and supplies would not constitute a significant noise impact, given the relatively high traffic volumes along the designated truck routes that the trucks would use.

PACIFIC AVENUE ALIGNMENT – NORTH AND SOUTH

Similarly to the Marquesas Way/Via Marina Alignment, the Pacific Avenue Alignment project alternative was assessed for both the open-trench and the micro-tunneling construction method.

Open-Trench Method – The pipeline alignment along the Pacific Avenue Alignment would result in open trench construction activities taking place within approximately 25 feet of adjacent residences along most of the Project alignment. Residences that are directly adjacent to an active open-trench zone would experience noise levels of approximately 93 to 96 dBA. Residences at a distance of 100 feet from the construction activity would experience noise levels of approximately 81 to 84 dBA. Residences at a distance of 100 feet from the construction activity would experience noise levels of approximately 81 dBA to 102 dBA. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, construction would not violate the noise ordinance. However, because of the proximity of noise-sensitive land uses to the construction work area, the noise levels at residences along the entire Pacific Avenue Alignment would be of a magnitude that would constitute a short-term, but significant, impact unless mitigation measures are implemented. Mitigation measures for open-trench construction activities are listed in Section 5.10.4.

Based upon the construction noise data, noise levels on the construction site could exceed federal OSHA and Cal-OSHA regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

The incremental increase in traffic volumes associated with the Project alternative using open-trench construction was examined for the potential to increase offsite traffic noise levels. Project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

Micro-Tunneling Method – The proposed locations of the launch and receiving pit work areas for the Pacific Avenue Alignment would result in construction activities taking place within approximately 50 feet (at the receiving pit located at the southern end of Pacific Avenue) to 150 feet (at the launch pit located just south of the Ballona Creek Channel) of adjacent residences. Residences located 50 feet from an active micro-tunneling work area would experience noise levels of approximately 88 dBA. Residences located 100 feet from the micro-tunneling activity would experience noise levels of approximately 82 dBA. Residences located 150 feet from the micro-tunneling activity would experience noise levels of approximately 78 dBA. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, the construction would not violate the noise ordinance. However, because construction may extend beyond these hours and because of the proximity of noise-sensitive land uses to the micro-tunneling work areas, the noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact unless mitigation measures are implemented. Mitigation measures for micro-tunneling construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the Project alternative using micro-tunneling was examined for the potential to increase off-site traffic noise levels. As for the Pacific Avenue Alignment alternative, Project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

DOCKWEILER BEACH ALIGNMENT – NORTH AND SOUTH

Similarly to the Marquesas Way/Via Marina and Pacific Avenue Alignments, the Dockweiler Beach Alignment Project alternative was assessed for both the open-trench and the micro-tunneling construction method.

Open-Trench Method – The pipeline alignment along the Dockweiler Beach Alignment would not result in open-trench construction activities, however, micro-tunneling activities at shaft site areas may take place within approximately 25 feet of adjacent residences along Hurricane Street and within approximately 100 feet of residences along The Strand. Residences that are directly adjacent to an active open trench zone or micro-tunnel would experience noise levels of approximately 93 to 96 dBA. Residences at a distance of 100 feet from the construction activity would experience noise levels of approximately 81 to 84 dBA. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, construction would not violate the noise ordinance. However, because of the proximity of noise-sensitive land uses to the construction work area, the noise levels at residences near the Dockweiler Beach Shafts would be of a magnitude that would constitute a short-term, but significant, impact unless mitigation measures are implemented. Mitigation measures for open-trench construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the Project alternative using open-trench construction was examined for the potential to increase off-site traffic noise levels. As with the Marquesas Way/Via Marina and Pacific Avenue Alignment alternatives, Project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

Micro-Tunneling Method – The proposed locations of the launch and receiving pit work areas for the Dockweiler Beach Alignment would result in construction activities taking place within approximately 100 feet (at the receiving pit near the VPP, at the west end of Hurricane Street and at the southern end of Pacific Avenue) to 150 feet (at the launch pit located just south of the Ballona Creek Channel) of adjacent residences. Because noise decreases at a rate of approximately 6 decibels per doubling of distance, residences located 100 feet from the construction activity would experience noise levels of approximately 82 dBA. Residences located 150 feet from the micro-tunneling activity would experience noise levels of approximately 78 dBA. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, construction taking place within the City of Los Angeles would not violate the noise ordinance. However, because construction may extend beyond these hours and because of the proximity of noise-sensitive land uses to the micro-tunneling work areas, the noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact unless mitigation measures are implemented. Mitigation measures for micro-tunneling construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the Project alternative using micro-tunneling was examined for the potential to increase off-site traffic noise levels. As with the Marquesas Way/Via Marina, and Pacific Avenue alternatives, project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

MARINA DEL REY CHANNEL ALIGNMENTS

The Marina Del Rey and Ballona Creek Channels would be crossed using micro-tunneling construction methods. For any combination of north and south alignments, the launching shaft would be located on the southern shore of the channel and the receiving shaft would be on the northern shore of the channel. The proposed locations of the launch and receiving pit work areas for the Marina Del Rey Channel Alignments would result in construction activities taking place within approximately 50 feet (at the receiving pit located at the southern end of Via Marina) to within approximately 50 feet (at the receiving pit located at the southern end of Via Marina) to 150 feet (at the two launch pits just south of the Ballona Creek Channel) of adjacent residences. Residences located 50 feet from an active micro-tunneling work area would experience noise levels of approximately 88 dBA. Residences located 150 feet from the micro-tunneling activity would experience noise levels of approximately 78 dBA. Providing that construction activities take place within the prescribed hours set forth in the City of Los Angeles Noise Ordinance, construction taking place within the City of Los Angeles would not violate the Noise Ordinance. However, because construction may extend beyond these hours and because of the proximity of noise-sensitive land uses to the micro-tunneling work areas, the noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact unless mitigation measures are implemented. Mitigation measures for micro-tunneling construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the Project alternative using micro-tunneling was examined for the potential to increase off-site traffic noise levels. As with the Marquesas Way/Via Marina, Pacific Avenue, and Dockweiler Beach Alignment alternatives, project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

LARGE-DIAMETER TUNNELING ALIGNMENT ALTERNATIVES

The four full-length, large-diameter tunneling alignments with short open-trench segments were evaluated as part of this Project. The following tunnel alignment alternatives are being evaluated:

1. Beach alignment with open-trench connections to VPP in the north and Coast Interceptor Sewer (CIS) along Vista Del Mar in the south;
2. Beach alignment with open-trench connection to VPP and direct tunnel connection to North Outfall Sewer (NOS) or CIS – via a shaft on LAX property;
3. Beach alignment with direct tunnel connections to VPP and NOS or CIS – via a shaft on LAX property; and.
4. Direct (inland) tunnel connection between VPP and NOS or CIS – via a shaft on LAX property.

Activities from large-diameter tunnel construction would be similar in type but larger in scale, compared with micro-tunneling. Crew size and equipment type and number would be greater, although much of the equipment and crew would remain underground while in operation and thus would not materially contribute to aboveground noise levels. The typical noise level from large-diameter tunneling activity would be 91 dBA at a distance of 50 feet, as shown in Table 5.10-8. Large-diameter tunnel operations would likely continue around the clock, although nighttime activities would be arranged so as to avoid noisy and otherwise disturbing events at nearby sensitive receptors whenever practicable.

Table 5.10-8 Noise Levels from Typical Large-Diameter Tunneling Equipment Operations

Equipment Type	Average Noise Level @ 50 feet dBA
Power Unit for TBM	87
Crane	81
Supply Trucks (2)	84
Fans (2)	77
Generator/Air Compressors (4)	83
Combined Noise Level	**91**

Source: Boyle Engineering, 2003; URS Corporation 2005

The proposed locations of the tunnel construction shafts would result in activities taking place within approximately 100 feet (near the VPP at Hurricane Street) to 200 feet (at the proposed shaft on LAX property) of adjacent residences. Residences located 100 feet from the large-diameter tunneling activity would experience noise levels of approximately 82 dBA. Residences located 200 feet from an active large-diameter tunneling work area would experience noise levels of approximately 76 dBA. Because large-diameter tunneling activities are expected to take place outside the prescribed hours of operation set forth in the City of Los Angeles Noise Ordinance, and because of the proximity to noise-sensitive land uses to the work areas, construction noise would constitute a short-term but significant impact unless mitigation measures are implemented. Mitigation measures for micro-tunneling construction activities are listed in Section 5.10.4.

The incremental increase in traffic volumes associated with the Project alternative using large-diameter tunneling was examined for the potential to increase off-site traffic noise levels. As for the other alternatives, Project-related construction traffic would not materially affect traffic noise levels. There would be no significant traffic noise impact.

5.10.3.3 Operation Vibration

No additional powered machinery such as pumps, motors etc. will be installed as part of this Project. Thus, the operation of the pipeline is not anticipated to cause measurable or perceptible levels of vibration at adjacent land uses.

5.10.3.4 Construction Vibration

Groundborne vibration from heavy equipment operations during Project construction was evaluated and compared with relevant vibration impact criteria as discussed in the Noise and Vibration Technical Study. The following summarizes the results of the analysis conducted for each of the alternative construction methods, by alignment alternatives.

MARQUESAS WAY/VIA MARINA ALIGNMENT

The Marquesas Way/Via Marina Alignment Project alternative was assessed for both the open-trench and micro-tunneling construction methods.

Open-Trench Method – The pipeline alignments along the Marquesas Way/Via Marina Alignment would result in open-trench construction activities taking place within approximately 25 feet of adjacent residences. Assuming that vibratory pile-driving methods are utilized to install the sheet-piles during open-trench construction, the Los Angeles County vibration standard of 0.01 inches per second would be exceeded at a distance of 150 feet as specified in the County Code. Thus, a significant impact would result from pile-driving activities during open-trench work, unless mitigation measures are implemented. Other activities associated with open-trench construction such as loaded truck movements, backhoe loader/compactor, etc. would result in less-than-significant levels of vibration. Mitigation measures for pile-driving during open-trench construction are listed in Section 5.10.4.

Micro-Tunneling Method – The proposed locations of the launch and receiving pit work areas for the Marquesas Way/Via Marina Alignment would result in construction activities taking place within approximately 50 feet (at the receiving pit located at the southern end of Via Mariana) to 100 feet (at the receiving pit located near the VPP at Hurricane Street) of adjacent residences. Residences located 50 feet from an active micro-tunneling work area would experience vibration levels of less-than-significant magnitude. No significant vibration impacts from micro-tunneling activities are predicted for the Marquesas Way/Via Marina Alignment.

PACIFIC AVENUE ALIGNMENT – NORTH AND SOUTH

Open-Trench Method – The pipeline alignment along the Pacific Avenue Alignment would result in open-trench construction activities taking place within approximately 25 feet of adjacent residences along most of the Project alignment. A significant impact from vibration would result from pile-driving activities during open-trench work, unless mitigation measures are implemented. Vibration levels from

other activities associated with open-trench construction would be of a less-than-significant magnitude. Mitigation measures for pile-driving during open-trench construction are listed in Section 5.10.4.

Micro-Tunneling Method – The proposed locations of the launch and receiving pit work areas for the Pacific Avenue Alignment would result in construction activities taking place within approximately 50 feet (at the receiving pit located at the southern end of Pacific Avenue) to 150 feet (at the launch pit located just south of the Ballona Creek Channel) of adjacent residences. Residences located 50 feet and 150 feet from an active micro-tunneling work area would experience vibration levels of a less-than-significant magnitude.

DOCKWEILER BEACH ALIGNMENT – NORTH AND SOUTH

Open-Trench Method – The pipeline alignment along the Dockweiler Beach Alignment would result in open-trench construction activities taking place within approximately 25 feet of adjacent residences along Hurricane Street, and within approximately 100 feet of residences along The Strand. A significant impact from vibration would result from pile-driving activities during open-trench work unless mitigation measures are implemented. Vibration levels from other activities associated with open-trench construction would be of a less-than-significant magnitude. Mitigation measures for pile-driving during open trench construction are listed in Section 5.10.4.

Micro-Tunneling Method – The proposed locations of the launch and receiving pit work areas for the Dockweiler Beach Alignment would result in construction activities taking place within approximately 100 feet (at the receiving pits located near the VPP, at the west end of Hurricane Street and at the southern end of Pacific Avenue) to 150 feet (at the launch pit located just south of the Ballona Creek Channel) of adjacent residences. Residences would experience less-than-significant vibration levels from these construction activities. No significant vibration impacts from micro-tunneling activities are predicted for the Dockweiler Beach Alignment.

MARINA DEL REY CHANNEL ALIGNMENTS

The proposed locations of the launch and receiving pit work areas for the Marina Del Rey Channel Alignments would result in construction activities taking place within approximately 50 feet (at the receiving pits located at the southern end of Via Marina) to 150 feet (at the two launch pits located just south of the Ballona Creek Channel) of adjacent residences. Residences would experience less-than-significant vibration levels from these construction activities. No significant vibration impacts from micro-tunneling activities are predicted for the Marina Del Rey Channel alignments.

LARGE-DIAMETER TUNNELING ALIGNMENT ALTERNATIVES

The proposed locations of the tunnel construction shafts would result in construction activities taking place within approximately 100 feet (near the VPP at Hurricane Street) to 200 feet (at the proposed shaft on LAX property) of adjacent residences. Residences would experience less-than-significant vibration levels from these construction activities. No significant vibration impacts from large-diameter tunneling activities are predicted for this alternative.

5.10.4 Mitigation Measures

OPERATIONAL NOISE MITIGATION

Operational noise levels from the proposed alignments are predicted to be less than significant. Therefore, no abatement measures are recommended for the operational phase of the Project.

CONSTRUCTION NOISE MITIGATION

Potential construction noise mitigation measures may include limiting the hours of noisy construction activities to daytime hours near residences and other sensitive receptors. Other measures could include limiting the number of construction equipment operating at any one time. Following are additional construction noise mitigation measures that should be followed, to the extent feasible:

NOI-1 Trucks shall be limited to designated truck routes and shall avoid residential streets to the extent practicable.

NOI-2 Temporary soundwall barriers shall be erected for launch and receiving pits and large-diameter tunnel shaft work areas. Such soundwall barriers shall be of a sufficient height, length and configuration so as to provide substantial noise reduction and effectively block the line-of-sight between nearby noise-sensitive receivers and the work zone.

NOI-3 Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment where feasible.

NOI-4 Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.

NOI-5 Construction site and haul-road speed limits shall be established and enforced during the construction period.

NOI-6 The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only.

NOI-7 No project-related public address or music system shall be audible at any adjacent receptor.

NOI-8 The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the Bureau of Engineering shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

NOI-9 The contractor shall develop a project noise control plan, which shall have been approved by the owner or designated noise control professional and implemented prior to commencement of any construction activity.

OPERATIONAL VIBRATION MITIGATION

Because no vibration impacts are predicted for operation of the pipeline, no mitigation measures are required or recommended for the operational phase of the project.

CONSTRUCTION VIBRATION MITIGATION

The only vibration impact identified for the construction phase of the Project was from pile-driving during open-trench-type construction. Vibration levels from pile-driving using vibratory methods would exceed the Los Angeles County threshold of perceptibility standard. Use of the following mitigation measure would reduce construction vibration to a level below significance.

Pile-driving: "Press-in" pile drivers shall be utilized rather than vibratory pile-drivers, if feasible. Use of this alternative pile driving technology would reduce vibrations from pile-driving to a level below significance.

5.10.5 Unavoidable Adverse Impacts

There would be no unavoidable adverse impacts as a result of this Project.

5.10.6 Cumulative and Secondary Impacts

There would be no cumulative and secondary impacts as a result of this Project.

5.11 PUBLIC FACILITIES AND SERVICES

RECREATIONAL FACILITIES AND PUBLIC RESOURCES

This section of the EIR includes a description of the existing recreational facilities and public resources in the proposed Project area. Thresholds to determine if the proposed Project could result in significant adverse impacts to recreational facilities and public resources are provided. An analysis of anticipated recreation impacts (project and cumulative), mitigation measures and level of significance after mitigation is provided.

The potential for significant impacts to recreation due to the proposed Project was evaluated in accordance with the methodologies and information provided by the CEQA Guidelines[2].

5.11.1 Environmental Setting

REGULATORY SETTING

The CCC maintains jurisdiction for development in the coastal zone. California coastal act policies promote and protect recreational and visitor serving uses in the coastal zone.

The CDFG maintains stewardship for the state over those open space portions of the Ballona Wetlands lying generally southwest of the Marina Expressway to the developed areas of Marina Del Rey and Playa Del Rey. These areas are designated as Areas A, B and C, with the exception of two portions of Area B – the Freshwater Marsh located southwest of the Lincoln and Jefferson Boulevard intersection, and the Expanded Wetlands parcel – under the jurisdiction of the State Lands Commission (SLC). Additionally, the Area B Freshwater Marsh is held by the non-profit Ballona Wetlands Conservancy (BWC) in a conservation easement. The CDFG conducts its stewardship mission, in part, through a network of access agreements with authorized users/co-stewards.

A wide range of access agreements are in place with the following organizations for a variety of highly specific recreational activities:

1. Security Patrols & Trash Removal: Ballona Wetlands Land Trust and Trust for Public Land;
2. Water and Sediment Sampling: Loyola Marymount University (LMU);
3. Workdays, Maintenance and Land Management: Ballona Wetlands Land Trust, Friends of Ballona Wetlands, and Center for National Lands Management (CNLM);
4. Environmental Monitoring: BWC, CNLM and City of Los Angeles Environmental Monitoring Division;
5. Invasive Species Removal: Ballona Wetlands Land Trust and Friends of Ballona Wetlands;
6. Dune Restoration: Friends of Ballona Wetlands;
7. Scientific Symposia: Ballona Wetlands Foundation and Friends of Ballona Wetlands;
8. Environmental Education, Tours and School Field Trips (K-12): Audubon Society, Ballona Wetlands Land Trust and Friends of Ballona Wetlands;
9. Special Projects and Events: Audubon Society, Ballona Wetlands Land Trust and Friends of Ballona Wetlands; and

[2] California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000 – 15387. *Available at: http://ceres.ca.gov/topic/env_law/ceqa/guidelines/*

10. Recreation:
    a. Birding & Bird Counts: Audubon Society and Wetlands Action Network.
    b. Natural History & Site Tours: Ballona Wetlands Land Trust, Fiends of Ballona Wetlands and Wetlands Action Network.
    c. Organized Sports Recreation: Playa Vista Little League Program.
    d. Free-form Recreation - Walking, Biking, Boating and Fishing: General Public.

Interim stewardship and access management is shared and coordinated by the following three State agencies in and around the vicinity of the project: State Coastal Conservancy (SCC), CDFG and SLC. These agencies have drafted the Ballona Wetlands Interim Stewardship and Access Management Plan (Draft) dated March 28, 2005. A Ballona Wetlands Restoration Plan is being developed by them and will guide all future restoration efforts.

EXISTING CONDITIONS

The natural and developed recreation resources in the Project area make it highly desirable for residents, visitors, and tourists who all share and enjoy the local beachfront, parks and recreational facilities in the vicinity of the proposed project. Recreational facilities and resources in the vicinity of the proposed project are described below.

Venice, Including Ballona Lagoon Marine Reserve – This area provides year-round recreational activities including walking, biking, birding, sightseeing, and volley ball.

Venice Municipal and Dockweiler State Beach from Hurricane Street to Waterview and Napoleon Streets, Playa Del Rey – Year-round recreational activities include ocean-based swimming, surfing, boating and fishing (resident species); and beach-based walking, cycling, roller-blading, frisbee-tossing, and sightseeing. Seasonal recreational activities include ocean-based whale watching excursions, fishing (transient species); and beach-based volleyball and special-interest birding (Venice California least tern colony located north of Ballona Creek).

Marina Del Rey and Marina Del Rey Channel, Including Aubrey E. Austin Park and North Jetty Promenade – Marina Del Rey is the world's largest developed yacht/small-craft marina. Famous beaches make it a favored destination for local residents and domestic and international tourists. Year-round recreational activities in Marina Del Rey include yachting, boating, sailing, biking, walking, sightseeing, dining and shopping. Special events such as whale watching excursions, swimming, wading, and sunbathing at Mother's Beach. Year-round recreational activities in the Marina Del Rey Channel include yachting, boating, sailing, fishing, biking, walking and sightseeing.

Ballona Wetlands and Ballona Creek – The Ballona Wetlands is the largest remaining coastal estuary/wetlands habitat within the Los Angeles Basin (State Coastal Conservancy, 2005). The Ballona Wetlands serves migrating avian populations using the Pacific Flyway that extends from Alaska to Central America (Santa Monica Bay Restoration Commission, 2005). Shore birds use Ballona Wetlands for nesting, feeding, wintering grounds and resting stopovers. As a result, the Ballona Wetlands is the premier bird watching destination in the Los Angeles Basin. Year-round recreational activities include creek-based kayaking, small pleasure-craft boating and fishing. Wetlands-based recreational activities include birding, walking, cycling, sightseeing, environmental stewardship and education activities.

Playa Del Rey, including Del Rey Lagoon and Park (inland areas only) – Year-round recreational activities include walking, biking, birding and sightseeing.

Del Rey Lagoon Park – Recreational activities include baseball, basketball, children's play area, picnicking and outdoor grilling, community center classes and programs The El Segundo blue butterfly habitat exists west of LAX. Also nearby is a rare dune beach in Playa Del Rey. The Ballona Escarpment extends along the southern edge of the wetlands.

5.11.2 Thresholds of Significance

Under the CEQA Guidelines, a significant impact related to recreational facilities and public resources would occur if the proposed Project would increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

5.11.3 Public and Recreational Facilities Impacts

OPERATIONAL IMPACTS

Operation of the proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities in the Project area. Upon completion of the Project construction, all areas that experienced surface disturbance during construction would be returned to their present condition. The improved reliability of the sewer lines and the reduction in the potential for overflow into the adjacent waterways and the ocean would ensure the availability of existing recreational resources for residents and domestic and international tourists. A beneficial long-term impact on existing recreational resources is anticipated. There would be no long-term adverse impacts that require mitigation measures to the study areas affected.

SHORT-TERM CONSTRUCTION IMPACTS

Although the proposed Project would not involve permanent adverse impacts to recreational facilities and public resources, site-specific adverse impacts may occur during the construction period. These short-term impacts are listed below by the affected community:

Venice

- Pipe laydown activities associated with Push Site 2 would interrupt access to the public trail along the east side of Grand Canal that starts at Via Dolce;
- All or most of the parking along Via Marina at the entrance channel would be removed;
- Access to a designated scenic highway/drive would be eliminated for a period of about 7 months. Via Marina along the entrance channel would be closed to public traffic (one lane would be closed and, along with the parking area, one would be used for a construction/laydown site);
- The Class II Bike Trail along Pacific Avenue would be closed during construction;
- Beach access at Hurricane Street would be affected by the extraction shaft, and cut-and-cover-construction along Hurricane Street. This area is used for passive recreation and volleyball;
- Fishing from the North Jetty would be restricted due to laydown area and receive site. No parking would be available in this area; and
- Construction activities on the beach and reduced parking could interfere with scheduled recreational events on the beach such as volleyball tournaments.

Marina Del Rey - Aubrey E. Austin Park

- Sightseeing from the Via Marina (a scenic highway/drive) would be affected; and
- The existing parking for the marina at the intersection of Marquesas Way and Via Marina will be eliminated and used for a pipe laydown area. Access to the marina would be affected.

Playa Del Rey

- The parking lot at Del Rey Lagoon Park would be used by the Project. The construction activity would affect the recreation experience for this park;
- The bike path at Pacific Avenue bridge and along the la-down area at 62nd Street would be adversely affected;
- Access to the beach would be adversely affected, as parking would be removed along 62nd Street and along Pacifica Avenue at the park; and
- The Napoleon Street residential foot path could be interrupted by construction activities.

While the overall length of Project construction is multi-year, construction impacts at specific recreational resource locations would be much shorter. Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

Although there would be impacts of existing recreational activities and use of public recreational resources during Project construction, the construction activities and related adverse impacts are considered short term and not significant. No permanent substantial physical deterioration of recreational facilities or public recreational resources would occur or be accelerated. Therefore, no significant impacts to recreation are anticipated.

5.11.4 Mitigation Measures

Although no significant impacts to recreation are anticipated, the following mitigation measures would minimize adverse short-term construction related impacts in the Project area.

REC-1

In order to minimize competition between construction-related equipment and activities and Dockweiler State Beach users for parking space at Vista Del Mar and the resulting temporary impacts to recreation, special parking arrangements should be made for construction workers (see Section 5.4 Circulation, Traffic and Transportation).

REC-2

In order to minimize recreational access and use issues during the course of construction, additional consultation and coordination with key stakeholders, local residents, members of the general public and City/County planners should occur to balance the needs of the recreational users and construction related activities (see Section 5.4 Circulation, Traffic and Transportation).

REC-3

The City should coordinate with the sponsors of local and major regional, national and international beach events to schedule the events and/or construction activities to minimize conflicts.

REC-4

The City should coordinate all construction scheduling and activities with the Los Angeles County Department of Public Works for the purpose of eliminating or reducing construction-related impacts.

5.11.5 Unavoidable Adverse Impacts

No significant long-term impacts to recreational facilities are anticipated. Project construction activities would adversely affect the enjoyment of local recreational facilities, including use of the beach, natural lagoons, parking lots, bikeways, sidewalks and public trails. Although temporary, these adverse short-term construction impacts for the duration of Project construction cannot be avoided.

5.11.6 Cumulative and Secondary Impacts

The impacts of the proposed Project, when considered in combination with the environmental effects of other related projects shown in Table 1.7-1, Related Projects, would not involve long-term or significant cumulative impacts; however, construction-related impacts could be cumulative should two projects be constructed in the same area at the same time. Specifically, should construction of the Los Angeles County Marina Del Rey Tide-Gates Rehabilitation Project, located at the intersection of Pacific Avenue and Via Marina Way near the Grand Canal, occur at the same time as construction of the VPP Dual Force Main Project, impacts may occur along the recreational walkway on Via Marina Way. However, these impacts would not occur with adequate coordination between the City of Los Angeles and its departments, and between the City and County Departments of Public Works to ensure that construction-related activities do not create additional impacts to the aforementioned areas.

5.12 VISUAL AND AESTHETIC RESOURCES

5.12.1 Environmental Setting

In accordance CEQA Guidelines and the City of Los Angeles Draft CEQA Threshold Guide (1998) for determining impact significance, this section addresses the potential impacts to Visual and Aesthetic Resources (Visual Resources) in the project vicinity which may result from the construction of the force main and the significance of such impacts. The visual resources assessment includes the following information:

- Identifies those views potentially affected by the Project over which the public is most likely to express concern (critically sensitive public views);
- Describes the existing character and quality of those potentially affected critically sensitive views;
- Estimates the intensity of possible adverse visual impacts on those views;
- Evaluates the significance of the possible impacts; and
- As applicable, considers possible mitigation measures that could lessen the impacts to negligible levels of intensity.

Visual Sensitivity – Sensitivity is the social setting for visual resources. As applied to visual impact analyses, sensitivity refers to public attitudes about specific views, or interrelated views, and is the key to assessing how important a visual impact may be and whether or not it represents a significant impact.

To assess visual sensitivity, indicators of public concern were identified and sensitivity rated accordingly. The indicators are listed in Table 1 of Attachment A in Appendix I and reflect the concepts and methods of several federal agencies that treat sensitivity as a function of viewer activity, awareness, values, and goals.

The four levels of sensitivity are high, moderate, low and no sensitivity.

- **High Sensitivity.** High sensitivity suggests that at least some part of the public is likely to react strongly to a threat to visual quality. A highly concerned public is assumed to be more aware of any given level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represent a substantial reduction in visual quality.
- **Moderate Sensitivity.** Moderate sensitivity suggests that the public would probably voice some concern over substantial visual impacts. Often the affected views are secondary in importance or are similar to others commonly available to the public. Noticeably adverse changes would probably be tolerated if the essential character of the views remains dominant.
- **Low Sensitivity.** Low sensitivity is considered to prevail where the public is expected to have little or no concern about changes in the landscape. This may be because the affected views are not "public" (not accessible to the public) or because there are no indications that the public values the affected views.
- **No Sensitivity.** There is no sensitivity where the potentially affected views are not "public" (not accessible to the general public) or because there are no indications that the affected views are valued by the public.

Sensitivity of Project Locale – By definition, views from areas serving residential, recreational and tourism land uses, as well as from the transportation routes serving those land uses, are considered to be

highly sensitive. The public is expected to value such views and to potentially react strongly to adverse changes to the visual character and quality of their surroundings.

The CCC's primary concern over visual resources within the coastal zone is:

> *"…the protection of ocean and coastal views from public areas such as highways, roads, beaches, parks, coastal trails and accessways, vista points, coastal streams and waters used for recreational purposes, and other public preserves rather than coastal views from private residences where no public vistas are involved."*

This assessment considers the collective views throughout the Project area, which are important to the consideration of the significance of visual impacts. The following narrative describes the existing visual conditions within the Project areas and identifies the various levels of impacts to the visual character posed by the Project at each alternative location.

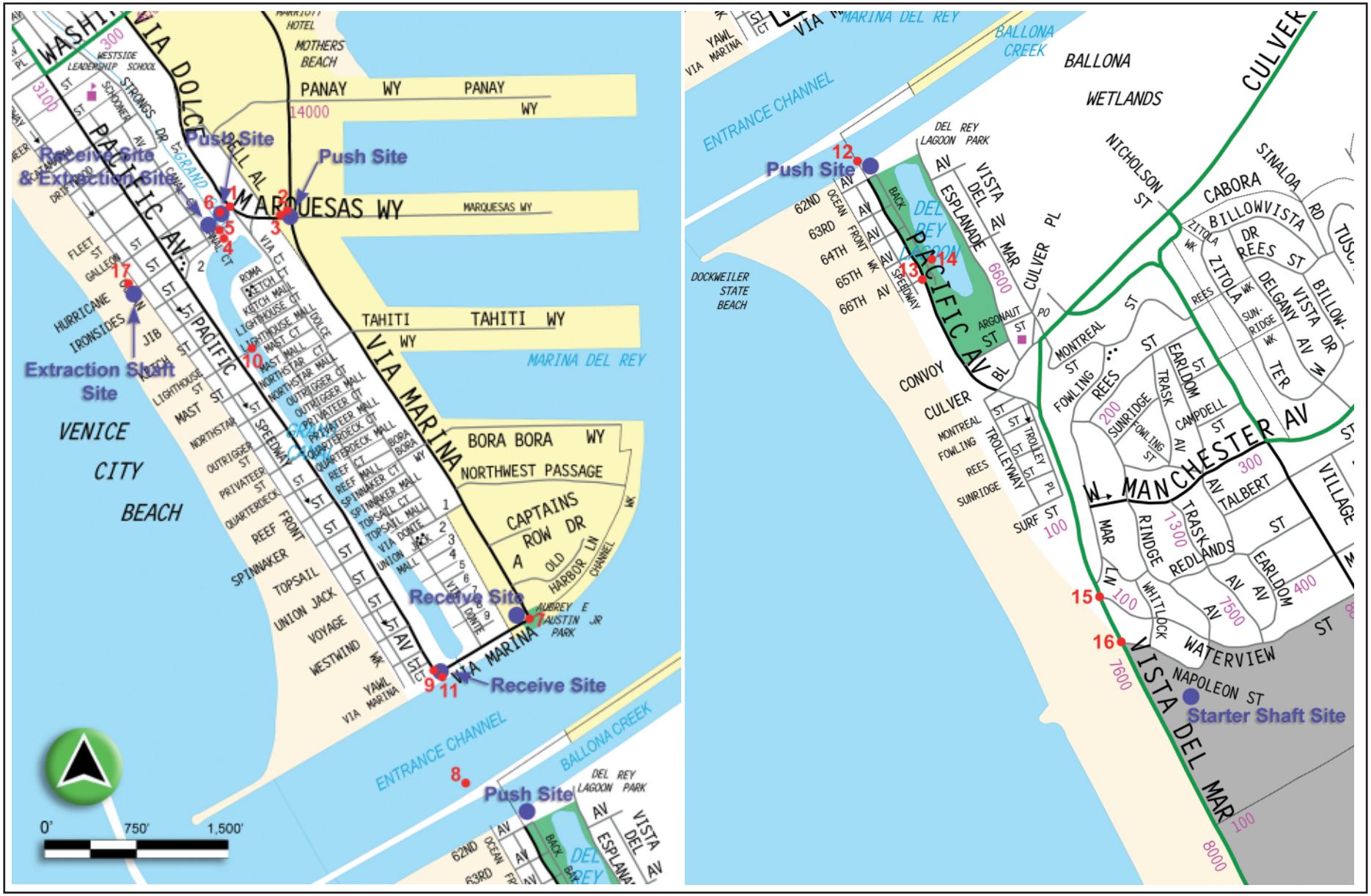
MARINA DEL REY

Marquesas Way/Via Marina Alignment

Sensitivity – Figure 5.12-1 shows the viewing positions used in this assessment. There are numerous highly sensitive viewing positions within and around Marina Del Rey, given its scenic, recreation and tourist-oriented attractions. Foremost among these are views from Via Marina, Admiralty Way and Fiji Way, which form a route designated as a scenic highway and also to be designated as a scenic drive (Scenic Highway Element, Los Angeles County General Plan; Coastal Plan Policies). Of specific importance to the proposed Project is Via Marina, from its intersection with Marquesas Way to where it turns sharply to the southwest to parallel the entrance channel for the marina. Along this stretch of road there would be cut-and-cover pipeline installation, as well as the construction of receive and push sites for micro-tunneling.

A number of recreation and tourist attractions are to be found in the marina: Burton Chace Park, Fisherman's Village, Admiralty Park, Mother's Beach, and the picturesque marina itself. Views from these locations, however, are not important to the analysis, as they do not include Project construction activities and sites. On the other hand, at the southeast end of Via Marina, where it turns to the southwest, there is a small park called Aubrey E. Austin Park. There, too, is the northeast end of the North Jetty Promenade, a popular walk along the scenic Marina Del Rey entrance channel. Views from Aubrey Park and the Promenade are also, by definition, highly sensitive, and the receive site for the micro-tunneling connection to the Marina Del Rey Alignment would be within full view of these recreation resources across Via Marina.

A moderately high-density multi-family residential area lines both sides of Marquesas Way and the west side of Via Marina. Both of these roads serve as the primary access to the residential areas flanking Ballona Lagoon and the Grand Canal to the west. The collective views from the residences on Via Marina and Marquesas Way are highly sensitive. Because these roads are part of the primary access to these residential areas, road-based views would be considered to be highly sensitive. As noted, Via Marina is also highly sensitive due to its scenic highway/scenic drive status.



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Viewing Positions Corresponding to Figures 5.12-2 - 15

Figure 5.12-1

Also, some aspects of the Project alternatives would be seen from boats passing along the entrance channel, and such views, being recreation oriented, are highly sensitive.

Critical Views – Critical views are partly defined as those that are the most sensitive, as described in the previous section. Where the public is considered to be potentially moderate to highly sensitive to changes in visual quality, there is likely to be a substantial concern over noticeably adverse visual impacts. An extensive, detailed account is provided in Appendix I.

Figures 5.12-2 and 5.12-3, show representative views of Marquesas Way and Via Marina, in the vicinity of the two optional push sites for micro-tunneling under Ballona Lagoon to the receive site opposite the VPP. Also shown in these figures are optional construction/laydown areas that would support the construction and operation of the two alternative push sites. Figure 5.12-4 shows the receive site at the VPP, which is in the vacant lot opposite the VPP, as well as push site Option 2, in the vacant lot on the east side of the canal. These sites would be within full view from the residences lining the east side of Ballona Lagoon/Grand Canal across from the plant, as well as those walking along the lagoon/canal or boating on it.

Figure 5.12-5 is a panoramic view from a residence along the east bank of the Grand Canal across from the VPP. This view shows the point where the canal becomes "Ballona Lagoon," which is at the left corner of the VPP, in the upper image. Recreationists walking along the canal and the lagoon, or boating on these waters, would be expected to be highly sensitive to visual impacts. As noted above, the receive site for the Marquesas Way/Via Marina alignment alternative would be in the vacant lot shown in Figure 5.12-5.

Figure 5.12-6 shows the view from Aubrey E. Austin Park, looking to the northwest along Via Marina. This view shows the location of one option for the receive site for the under-channel micro-tunneling construction alternative. The site is within the parking lot shown in the upper image, and the construction/laydown area would also be within this parking lot. The view shown also represents that from the North Jetty Promenade and Via Marina.

Figure 5.12-7 is a panoramic view from the entrance channel that includes the Via Marina receive site, as well as Aubrey E. Austin Park. Views from the channel would not be the most critical, as they would be comparatively distant, relative to views from Via Marina, Aubrey E. Austin Park, and the North Jetty Promenade. While boats may pass along the northwest side of the channel and be within about 240 feet of the nearest Project feature, the North Jetty would block such views. From points nearer the center of the channel but within the ocean-bound lane, points from which the Project could be seen; the viewing positions would be not closer than about 350 feet or more. By contrast, from Aubrey E. Austin Park and Via Marina, one is only about 80 - 90 feet from where the receive site may be within the parking lot northwest of the park. Consequently, views from the entrance channel would not be considered further, as the focus of the assessment is on the most critical views.



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Panorama Showing Site for Push Option 2 for
Marquesas Way/Via Marina Cut-and-Cover Alternative,
Seen from Marquesas Way/Via Dolce Intersection (VP 1).

Figure 5.12-2



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Views of Via Marina/Marquesas Way Intersection, the Site for Site Push Option 1 for Marquesas Way/Via Marina Cut-and-Cover Alternative, Seen from, and near, Marquesas Way/Via Dolce Intersection (VPs 2 and 3).

Figure 5.12-3





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(Top): View along the Grand Canal Showing Residences from Which Receive and Push Sites, Cut-and-Cover, or Extraction Shaft Construction Activities Would Be Seen (VP 4). **(Bottom):** Hurricane St. at the Venice Pumping Plant, Showing Receive and Alternative Extraction Shaft Sites (VP 5).

Figure 5.12-4



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View from Residence on East Side of Ballona Lagoon/Grand Canal Showing the Venice Pumping Plant, a Receive Site for Micro-Tunneling, and Optional Mined Tunneling Extraction Site (VP 6).

Figure 5.12-5



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Panoramic View from Aubrey E. Austin Park, Looking Northwest along Via Marina. **(Top):** The Receive Site and Cut-and-Cover Construction for the Via Marina/Marqesas Way Alignment Alternative would be in the Parking Lot (VP 7)

Figure 5.12-6



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A Panoramic View from the Marina del Rey Entrance Channel, Showing the Locations of the Receive Sites at Pacific Ave. and Via Marina, the Entrance to the Grand Canal, and Aubrey E. Austin Park (VP 8).

Figure 5.12-7

VENICE

Pacific Avenue Alignment

Sensitivity – In general, the Pacific Avenue Alignment Alternative would be within highly sensitive public views that include the collective residential views along the alignment, along Hurricane Street and Pacific Avenue, from Ballona Lagoon/Grand Canal, and those from a pedestrian trail lining the east side of the lagoon.

The collective residential views along Pacific Avenue and Hurricane Street are treated in this analysis as highly sensitive. Cut-and-cover activities would be visible from residences lining the east side of the Grand Canal across from the VPP and those along Hurricane Street Residents along Pacific Avenue south of Hurricane Street to Via Marina would view cut-and-cover construction activities while approaching their homes and from their residences as construction progresses along the street.

Recreational opportunities within the community of Venice occur to the north of the Project site, including the famous Venice Beach, bike path and Ocean Front Walk. In general, public recreation use of area of the Project is less intensive than that of the North Venice Beach portion. Uses are primarily sunbathing, swimming, picnicking, active recreational uses on the sand, and fishing from the Marina Channel jetty. The walkways and waterways along the Venice Canals and Ballona Lagoon provide opportunities for more passive recreational and educational uses, such as bird watching, nature study, strolling, and sightseeing. A Class II Bikeway runs along Pacific Avenue, and non-motorized boating is permitted in the Venice Canals. Potentially, the Project activities would be seen by boaters along the lagoon, those walking along the beach access trail in the vicinity, and bicyclists using Pacific Avenue. Also, where Pacific Avenue intersects with Via Marina, there is the North Jetty Promenade, a frequently used walkway featuring observation decks from which the entrance channel may be appreciated. Fishing is a popular activity below the Promenade.

The south terminus of the subject alignment may be seen from the numerous pleasure craft that use the entrance channel.

Critical Views – The critical views would be any of those from along the alignment from Ballona Lagoon/Grand Canal, pedestrian beach access, Hurricane Street and Pacific Avenue and their adjoining residences, the bikeway along Pacific Avenue, the North Jetty Promenade, and from the entrance channel.

Figure 5.12-4 shows the route for the Pacific Avenue Alignment along Hurricane Street, within view of residences lining this street. Figure 5.12-5 shows the proximity of Ballona Lagoon/Grand Canal to the VPP and the north end of the Pacific Avenue Alignment Alternative. Figure 5.12-8 shows the length of Pacific Avenue from the pedestrian bridge at Lighthouse Street southeast to Via Marina, as well as Ballona Lagoon flanking it on the northeast side. The latter figure also shows that residences line both sides of Pacific Avenue at its southeast end where it meets Via Marina.

Figure 5.12-7 discloses the view of the receive site area as seen from the entrance channel, while Figure 5.12-9 shows the southeast terminus of this alignment alternative and the receive site for micro-tunneling under the Marina Del Rey entrance channel and Ballona Creek. The receive site would be close to the observation platform overhanging the revetment (upper image).



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(Top): Looking Northwest along Pacific Ave. from the Intersection with Via Marina (VP 9). **(Bottom):** Looking Southeast along Ballona Lagoon and Pacific Ave. from the Pedestrian Bridge at Lighthouse St.(VP 10).

Figure 5.12-8



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(Top): View of Receive Site and Construction/Laydown Area from the Corner of Pacific Ave. and Via Marina, Looking Northeast (VP 9). **(Bottom):** View along the North Jetty Promenade from Observation Platform at End of Pacific Ave. and Via Marina (VP 11).

Figure 5.12-9

DOCKWEILER BEACH ALIGNMENT

The cut-and-cover method of construction for this alternative was considered in the EIR but was deemed not viable due to numerous construction-related impacts; therefore, it is not detailed in this assessment. However, the tunneling method of construction is analyzed in this section

WESTCHESTER/PLAYA DEL REY

Pacific Avenue/Vista Del Mar Alignment

Sensitivity – At the northerly end of this alignment, the alignment extends to a push site for micro-tunneling under the entrance channel to either the Pacific Avenue or the Via Marina Alternative Alignments on the north side of the entrance channel. Here there is a boat launch ramp that may be affected due to construction of the push site, a bicycle path, a fishing bridge, and a residential area. The construction/laydown area that would support the micro-tunneling activities would be in the parking lot along the southwest side of the bridge. Views from areas of recreation and residential land uses, including the associated access routes, are highly sensitive.

The parking lot for Del Rey Lagoon Park provides access not only to the park, but also to Dockweiler Beach via a path that leads from the parking lot. Views from Pacific Avenue, the residences along it, Del Rey Lagoon Park, the parking lot at the park, and the beach access path, are all highly sensitive.

Critical Views – All of the views noted would be considered critical, as they are of the highest sensitivity and would include the proposed Project construction activities within the foreground. Most critical of these along Pacific Avenue would be the ones from the bicycle path, the fishing bridge, the residential area along Pacific Avenue, Del Rey Lagoon Park, and the beach access path. Figure 5.12-10 shows views from the bridge over Ballona Creek, looking southeast. The upper image shows the push site area to the north of the bridge (left). The lower image is a better view of the residential area along Pacific Avenue. The bridge links the bicycle path, which is along the jetty separating the entrance channel and Ballona Creek and the stretch of Dockweiler Beach south of the channel and creek.

Figure 5.12-11 shows the scene from the intersection of 66th Avenue and Pacific Avenue, looking northwest and north, which includes the residential area along Pacific Avenue, with a glimpse of Del Rey Lagoon Park. Figure 5.12-12 presents two panoramas of this park, which abuts Pacific Avenue and from which details of Project construction activities would be visible. Along Vista Del Mar, there are multi-story residences, as seen in Figure 5.12-13, which presents photographs from the intersection at Waterview Street and a representative view from the Vista Del Mar. These street-based views are considered to generally represent those from the residences.

CHANNEL CROSSING

The launch shafts and the two alternative receptor sites, associated with micro-tunneling under the Marina Del Rey entrance channel and Ballona Creek, would be within public view. These sites are addressed relative to the cut-and-cover alternative alignments.



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Views from Pacific Ave. Bridge; **(Top):** Push Site in Parking Lot for Under-Channel Alignment; **(Bottom):** View to Southeast along Pacific Ave., Showing Bicycle Path in Foreground (VP 12).

Figure 5.12-10



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(Top) Pacific Ave. and 66th Ave. Looking Northwest, and **(Bottom)** Looking North (VP 13); Del Rey Lagoon Park is Seen to the Right.

Figure 5.12-11



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Panoramic Views of Del Rey Lagoon Park **(Top):** Looking to the Northwest, and **(Bottom):** Looking to the Southeast (VP 14).

Figure 5.12-12



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(Top) Vista del Mar and Waterview St. Looking Northwest to North; and **(Bottom)** Looking East to Southeast (VP 15).

Figure 5.12-13

LARGE-DIAMETER (MINED) TUNNELING ALIGNMENT ALTERNATIVES

There are four Mined-Tunnel Alignment alternatives, which would present noticeable disturbance above ground at the sites for the starter and extraction shaft sites. These sites are within highly sensitive views from beach recreation sites, residential areas, and a designated scenic highway (Vista Del Mar). Alternatives 1 and 2 call for cut-and-cover construction as well, which would also be within recreational oriented and/or residential views.

Alternative 2: LAX - Dockweiler Beach

Sensitivity – This alternative calls for a mined-tunnel connection from the LAX property launch shaft to the extraction shaft on Dockweiler Beach and cut-and-cover connections between the VPP and the extraction shaft. The views affected by starter shaft and associated laydown area would be from Vista Del Mar (scenic highway) and residences lining the northeast side of Napoleon Street. As noted earlier, residential views and those from designated scenic highways are highly sensitive. The sensitive views potentially affected by the extraction shaft and the cut-and-cover part of the alignment were described relative to Alternative 1.

Critical Views – Figure 5.12-14, upper image, shows the general area for the starter shaft and laydown area for this alternative. Foreground views from the designated scenic highway (Vista Del Mar) and residences shown are of the greatest sensitivity and are highly critical. Critical views including the extraction shaft site for this alternative and the cut-and-cover part of the alignment are the same as for Alternative 1.

Alternative 3: Direct Mined-Tunnel Connection from LAX Property to Venice Pumping Plant Via Dockweiler Beach

Sensitivity and Critical Views – This alternative alignment would be a mined-tunnel construction alternative from the starter shaft on the LAX property directly to the extraction shaft in the vacant lot northwest of Hurricane Street and opposite the VPP, via Dockweiler Beach. Views of the starter shaft have been discussed relative to Alternative 2. As for Alternative 2, there would be as much as 300 feet of cut-and-cover construction from the starter shaft to the junction with the existing CIS under Vista Del Mar to the southwest.

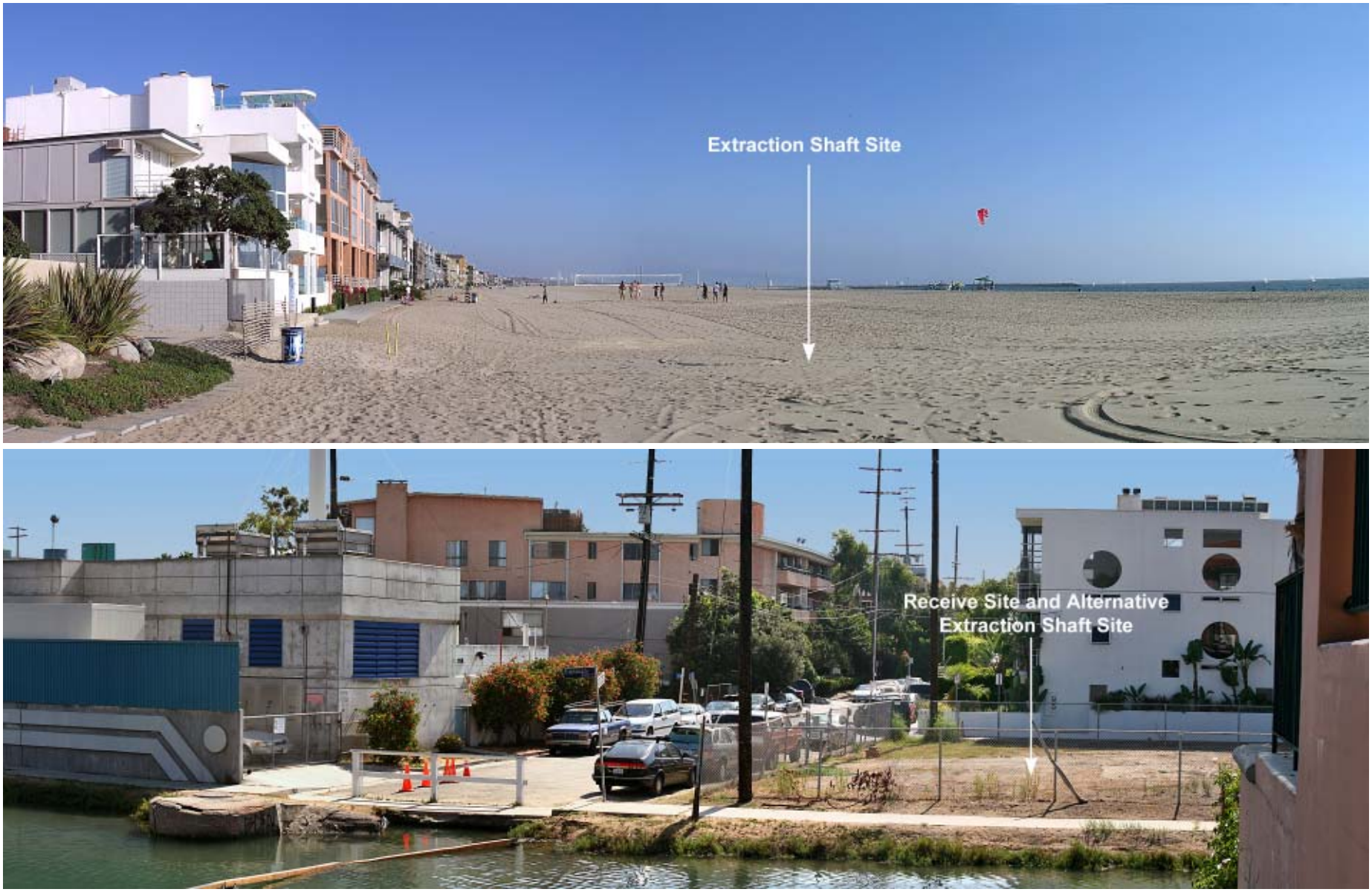
The extraction shaft would be in the vacant lot across Hurricane Street from the VPP, as shown in Figure 5.12-5. The sensitivity and critical nature of the affected views potentially affected by the extraction shaft have been discussed relative to the Via Marina/Marquesas Way cut-and-cover alignment alternative.



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Views from the Vista del Mar-Napoleon St. Intersection; **(Top):** LAX Site, Looking East to Southeast; and **(Bottom):** Dockweiler Beach and Vista del Mar, Looking Northwest (VP 16).

Figure 5.12-14



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(Top): Extraction Shaft Alternate Sites at Dockweiler Beach near Hurricane St. (VP 17); and **(Bottom)**: at Venice Pumping Plant (VP 6).

Figure 5.12-15

Alternative 4: Direct Mined-Tunnel Connection from LAX Property to Venice Pumping Plant Under Ballona Lagoon

Sensitivity and Critical Views – This alternative alignment would be a continuous mined-tunnel construction alternative from the starter shaft on LAX property to the extraction shaft in the vacant lot on the northwest side of Hurricane Street, across from the VPP. The tunnel would be inland from the beach and generally under Vista Del Mar, Pacific Avenue and Ballona Lagoon. The starter shaft site and associated laydown site areas are shown in Figure 5.12-14, and sensitive and critical views relative to it have been described regarding Alternatives 2 and 3. Figure 5.12-15 shows the area within which the extraction shaft would be constructed. The laydown area is also expected to be within this vacant lot. The sensitivity and criticality of views from residences and the Grand Canal have been discussed relative to the Marquesas Way/Via Marina Alignment and the Pacific Avenue Alternative alignments.

VISUAL CHARACTER

In conformance with CEQA, detailed descriptions of the existing visual character and quality of the Project vicinity are limited to those views deemed to be "critical," as defined in Section 2.1 of the Technical Study (provided in Appendix I). Accordingly, attention is directed primarily to those moderately to highly sensitive views that would be most affected by a Proposed Action. Where the greatest of impact intensity may occur, low sensitivity views will also be considered. The assessment of visual character serves as the baseline for the quality of Visual/Aesthetic Resources. The estimated visual impacts of the Project will be compared with the baseline conditions to assess the degree of adverse change (intensity) and significance of the potential impacts to the following:

- Inherent landscape features;
- Patterns; and
- Existing visual conditions.

Landscape character and existing visual conditions within critical public views are provided in Appendix I.

5.12.2 Thresholds of Significance

CEQA defines significant impacts as those having a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including … objects of … aesthetic significance" (Article 20, Section 15382).

Appendix G of CEQA (Environmental Checklist) more specifically identifies four areas of concern regarding a project's potential impact on aesthetics:

- Substantial, adverse effects on a scenic vista;
- Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within [view from] a state scenic highway;
- Substantial degradation of existing visual character or quality of a site and its surroundings; and
- Creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

A significant impact is, in accordance with the CEQA definition, a substantial, or potentially substantial, adverse change in the visual resources of the affected environment. An adverse "change," relative to

visual impact assessment occurs when features are changed, introduced, made less visible, or are removed, such that the resultant effect on public views is perceptibly incongruous with their inherent character. Changes that seem uncharacteristic are those that appear out of place, discordant, or distracting. The intensity of a visual impact depends upon how noticeable the adverse change may be. Noticeability is a function of project features and their context and viewing conditions (angle of view, distance, primary viewing directions, lighting, etc.). Four levels of visual impact intensity (noticeability) may occur. These are termed "Visual Modification Classes" (VM Classes) and are defined in Table 2, Attachment A of Appendix I. Significant (substantial) changes (significant visual impacts) are further defined as those that would:

- Result in an inconsistency with laws, ordinances, regulations, and standards (LORS) applicable to the protection of visual resources; or
- Cause a perceptible reduction of visual quality. The perception that visual quality has been reduced is partly a function of public sensitivity to adverse visual impacts. Table 2, Attachment A of Appendix I summarizes the relationship of impact intensity, sensitivity, and the perceived reduction in visual quality.

A third criterion is generally applied which stipulates that an impact must endure for greater than 1 year before it may be considered to be significant. However, in this assessment, no particular duration is stipulated because much of the sensitivity for the potentially affected views is due to recreation activities and sites in the vicinity of the Project.

The value to the public of a single peak-use season is assumed to be extremely important, and any substantial, adverse visual impacts on the aesthetics of the area during this period are considered to be significant, even if temporary or short term. Since no information is available regarding when Project construction would commence, it is assumed that construction would occur during the late spring and summer months.

According to CEQA, Threshold of Significance is that point where an adverse visual impact is deemed to be substantial (i.e., a perceptible reduction in visual quality). CEQA offers no specific criteria for what is deemed "substantial." Therefore, criteria from other sources have been used to provide a systematic approach to this issue, which is summarized in Table 3, Attachment A of Appendix I. The matrix in the table illustrates the relationship of public sensitivity, impact intensity, and what is considered to be a substantial visual impact. The criteria are based upon the principles common to the three primary federal systems for visual resource management and analysis (United States Department of Agriculture, Soil Conservation Service, 1995; United States Department of Interior, Bureau of Land Management, 1978; USDOT, Federal Highway Administration, 1981). This approach has been applied to numerous CEQA-compliant documents over a 15-year period.

CITY OF LOS ANGELES CEQA THRESHOLDS

The City of Los Angeles Draft CEQA Thresholds Guide offers a list of 12 areas of concern to consider in assessing the significance of an impact in accordance with the CEQA Checklist. However, no specific significance criteria accompany this guideline to use in making that determination. Moreover, the Marquesas Way/Via Marina Alignment Alternative is not within the City of Los Angeles, so the City Guidelines do not apply to this alignment alternative.

In the absence of specific significance criteria in the City of Los Angeles Draft CEQA Thresholds Guide or for projects within the County of Los Angeles, the methodology in Attachment A, specifically the matrix in Table 3 in Attachment A of Appendix I has been applied to the determination of significance. Note that all of the City of Los Angeles "Thresholds Guide" issues of concern are considered, as appropriate, in this assessment but are grouped relative to the four CEQA Checklist issues. An exception occurs for the City's concern over Project-caused shading. The current CEQA Checklist does not require consideration of shading. That notwithstanding, this City issue of concern is listed along with the CEQA-related issues.

AES-1: Would the proposed Project or its alternatives cause a substantial degradation of existing visual character or quality of a site and its surroundings?

The City of Los Angeles Draft Thresholds Guide directs that; "The determination shall be made on a case-by-case basis, considering the following factors:"

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood, community, or localized area, which would be removed, altered, or demolished;
- The amount of natural open space to be graded or developed;
- The degree to which proposed structures in natural open space areas would be effectively integrated into the aesthetics of the site, through appropriate design, etc;
- The degree of contrast between proposed features and existing features that represent the valued aesthetic image of an area;
- The degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setbacks, signage, or other physical elements; and
- The degree to which the project would contribute to the aesthetic value of an area.

AES-2: Would the proposed Project or its alternatives cause substantial, adverse effects on a scenic vista?

This CEQA issue of concern is interpreted in this assessment as addressing the degree to which Project-related features interfere with a scenic vista, either by obstructing it or interfering with access to it. The City of Los Angeles Draft CEQA Thresholds Guide is relevant to this CEQA issue as follows:

- The extent of obstruction (e.g., total blockage, partial interruption, or minor diminishment) of recognized or valued views (such as natural topography, settings, manmade or natural features of visual interest, and resources such as mountains or the ocean); and
- The extent to which the Project affects recognized views available from a length of a public roadway, bike path, or trail, as opposed to a single, fixed vantage point.

AES-3: Would the proposed Project or its alternatives cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within view from a state scenic highway ?

One issue expressed by the City of Los Angeles Draft CEQA Thresholds Guide is relevant to this CEQA issue:

- Whether the project affects views from a designated scenic highway, corridor, or parkway.

AES-4: Would the proposed Project or alternatives result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Relative to the City of Los Angeles Draft CEQA Thresholds Guide, the factors that are to be considered in determining whether the Project would have a significant impact through nighttime illumination are:

- The change in ambient illumination levels as a result of Project sources; and
- The extent to which project lighting would spill off the Project site and affect adjacent light-sensitive areas.

AES-5: Would the proposed Project or alternatives result in substantial negative shadow effects on nearby shadow-sensitive uses?

The City of Los Angeles Draft CEQA Thresholds Guide requires the consideration of the potential impact of shading by project-related structures. The current CEQA Checklist does not require consideration of shading; however, it did so at the time the Draft Thresholds Guide was prepared and is, therefore, listed here as an issue to be addressed. However, the analysis does not address this issue because the Project has no potential to create any shading impacts as defined by the City guidelines.

AES-6: Would the proposed Project or alternatives result in visual impacts that would not be consistent with applicable rules and regulations?

This impact is not expressed in the CEQA Checklist, but is listed in the City of Los Angeles Draft CEQA Thresholds Guide. As stated above, it is interpreted as asking whether the Project and its alternatives would result in any inconsistencies with applicable plans, policies, objectives, standards, ordinances, regulations or statutes.

5.12.3 Environmental Resources Impacts

The visible changes that would be brought about by the proposed Project and its alternatives, and their potential to create aesthetic impacts, are evaluated in detail in this section relative to each alignment alternative, as well as relative to the several construction alternatives to the propose Project (Mined-Tunneling Alignment alternatives). The significance of these visual impacts has been determined by applying criteria summarized is Section 5.12-2 (and detailed in Attachment A of Appendix I), and the guidelines developed by the City of Los Angeles.

Marina Del Rey Alternative: Marquesas Way/Via Marina

Critical sensitive public views and existing visual conditions are described in Sections 2.1 and 2.2 of this Technical Appendix. The methodology for the following impact assessment is presented in detail in Attachment A of Appendix I.

The critical sensitive viewing positions along this alignment alternative include those from:

- Via Marina, a scenic highway and scenic drive;
- Aubrey E. Austin Park;
- North Jetty Promenade, east end;
- Marina Del Rey entrance channel;
- Marquesas Way, Via Dolce, and adjoining residences;
- Residences along the Grand Canal near the VPP;
- Grand Canal; and
- Residences at the northeast end of Hurricane Street.

OVERVIEW: EXISTING VISUAL CONDITIONS RELATIVE TO PROPOSED PROJECT FEATURES

Via Marina, Aubrey E. Austin Park, North Jetty Promenade, and Entrance Channel

The existing visual conditions for these critical views are all VMC 1: from positions along or within these sensitive public roads and areas, features within view have not been noticeably modified unfavorably by past activities (see Section 2.2 of the Technical Study provided in Appendix I). That is, no noticeably incongruous features are in sight. These existing views are shown in Figures 5.12-2 – 5.12-7. The Project activities and equipment associated with cut-and-cover pipeline installation and the construction and operation of the push and receive sites along this alignment alternative would be industrial in visual character. As such, these Project features would be incongruous with the established settings for the several potentially affected views.

From Via Marina, at its intersection with Marquesas Way, for about 0.5 mile to the southeast, cut-and-cover construction would occur in one of the two lanes serving travel to the southeast. At end of the in-street construction, the alignment would angle to the south into a parking lot serving nearby residences and proceed for approximately 1,000 feet to the tie-in with the under-channel pipeline at the receive site. For the length of the in-street construction, motorists would be restricted to one lane of travel and pass close to the cut-and-cover construction activities in the second lane. Where the alignment crosses over into the parking lot, one or more mature trees would be removed due to trenching activities and the movement of equipment. In the parking lot mentioned, cut-and-cover construction would be within the immediate foreground of residences along the southwest side of the lot, as well as in the foreground of views from the scenic highway/drive. To a limited extent, such activity would also be noticed from Aubrey E. Austin Park and the east end of the North Jetty Promenade. However, it would not be visible from the entrance channel due to intervening structures and vegetation.

The construction activity associated with the receive site would be in the foreground of views from the park and promenade, the residences noted, Via Marina, and, to a lesser extent, from the northwest lane of the entrance channel.

Marquesas Way, Via Dolce, and Adjoining Residences

The existing visual conditions for views from Marquesas Way and the adjoining residences is VMC 1 (Section 2.2). No incongruous features are within view.

Under push site Option 1, there would be no construction along Marquesas Way or within the “island” at the intersection with Via Dolce. Here, micro-tunneling would occur from the push site northeast of the Via Marina/Marquesas Way intersection to the receive site in the vacant lot across from the VPP. A small part of the cut-and-cover construction at Via Marina would be briefly in view but would be at a distance and not within primary views from most of the residences or along much of the street. An exception would occur for motorists driving on Marquesas Way when approaching the stop light at Via Marina. Here in-street construction would be seen for a relatively short part of the alignment where it would tie in with the micro-tunneling from the nearby parking lot northeast of the intersection.

Under push site Option 2, however, construction/laydown site for this option would be in the foreground of views from Marquesas Way, Via Dolce, and their adjoining residences. It would be located in the island defined by the intersection of Marquesas Way and Via Dolce (Figure 5.12-2, lower image).

Moreover, a public beach access path starts near the construction/laydown site and runs along the east side of Ballona Lagoon to the south. From the beginning of this path, the construction/laydown site would be within the foreground. The push site shaft would be in the vacant lot shown in the upper image of Figure 5.12-4. The construction activities here would be in the foreground of residences along the northeast side of Via Dolce at its intersection with Marquesas Way.

The activities and equipment associated with cut-and-cover pipeline installation along Marquesas Way, the construction/laydown area, and the construction and operation of push site Option 2. The shaft site would be screened by an acoustic curtain from 20 – 30 feet tall on four sides. Cranes would be substantially in view above these curtains, and truck traffic to and from the sites would occur intermittently throughout the construction shifts. As such, these Project features would be incongruous with the established settings for these potentially affected views.

Grand Canal Residences, Grand Canal, and Hurricane Street Residences

From residences along the east side of the Grand Canal and the Grand Canal itself, the VPP dominates views and the existing visual condition is VMC 4. This would also be true for residences along the northeast end of Hurricane, for views to the east. Given the visual dominance of the plant, the existing visual conditions are rated VMC 4. This means that for the views from the residences noted and the canal the existing visual quality is at its lowest.

Push site Option 2 and the receive site, both shown in Figure 5.12-4, would be in the foreground of the residences lining the east side of the canal, the canal itself, and residences at the northeast end of Hurricane Street. The receive site, like the push site, would be screened by an acoustic curtain 20 to 30 feet tall. Cranes would be well in view above these curtains, and truck traffic to and from the sites would occur at different points of the day. The curtained construction area and visible equipment would appear industrial and be incongruous with the generally residential setting.

Impact Intensity, Significance and Duration

The visual impacts for this alignment are discussed and summarized below relative to the thresholds for significance noted in Section 5.12.2.

AES-1 The proposed Project or its alternatives would cause a substantial degradation of existing visual character or quality of a site and its surroundings. The impact would be significant but temporary as well as long term.

Concerning the six Los Angeles City Thresholds for Significance that are grouped under AES-1, the visual impacts are summarized as follows:

- One or more mature street trees, which contribute substantially to the value of the scenic highway/drive status of Via Marina, would be removed;
- No natural open space would be graded or developed;
- No structures are proposed for any natural open space;
- There would be a high degree of contrast between proposed features and existing features representing the valued aesthetic image of the area;
- No zone change is proposed; or
- There would be no positive contribution to the aesthetic value of the area.

Certain critical public views would affected by the Project to the point that the impact would be significant. However, the duration would be temporary. Elsewhere, the VPP has adversely affected the quality of critical public views to the point that the additional impact of the Project would not significantly affect these views. The impact would worsen the existing visual quality, but the current visual condition, due to the VPP, is already at the lowest rating. A more detailed analysis follows.

Via Marina and Adjoining Residences – As noted, the Existing Visual Conditions for views from this designated scenic highway/drive are VMC 1. From this road the following Project features would be within foreground views, proceeding from its intersection with Marquesas Way to where it turns to the southwest:

- The 10- 12,000 square feet construction/laydown area for push site option 1;
- The push site option 1 shaft construction area within the Via Marina/Marquesas Way intersection;
- Cut-and-cover construction along 0.5 mile of roadway and approximately 1,000 feet of parking lot;
- The receive site near the entrance channel.

These activities and their associated equipment and workforce would dominate views from this road and its flanking residences and would be industrial in character and incongruous with the setting. Note that the push site would occupy much of the Via Marina/Marquesas Way intersection and would be surrounded by an acoustic curtain 20 – 30 feet high. The equipment and activity within the curtains would be screened from view, but a crane would be substantially taller than the curtains. The site would have an apparent mass of a two- to three-story building due to the curtains.

The construction/laydown area, if square in configuration, would occupy an area 110 feet on a side. This storage of industrial equipment in a parking lot currently serving recreation and commercial uses within Marina Del Rey would appear discordant and dominate views.

Cut-and-cover construction along a 0.5-mile length of Via Marina would be immediately proximate to residences and motorists using this scenic highway. The associated activity and equipment would displace the current positive aesthetic features along the drive and dominate the views. A separate concern is the transition of the in-street construction to the parking lot, which would require the removal of one or more trees on the southwest side of Via Marina. This would be a noticeable loss of a valued visual resource.

From northwest end of Via Marina to the southeast where it passes by Aubrey E. Austin Park, the visual conditions would change from VMC 1 to VMC 4 (dominant), representing an Impact Intensity Level 3 (Table 3, Attachment A of Appendix I). Within a highly sensitive view, such an impact would be significant.

The loss of the street tree(s) would be long term, requiring many years to be mitigated by the maturation of new plantings. The duration of the other impacts is uncertain, as it is not known to what degree certain activities would occur concurrently. The cut-and-cover construction would last for about 3 months, and it is likely that most of the push and receive site construction would be completed concurrently. If not, the cumulative construction could last for about 5 months. In either case, the time frame would be considered to be temporary. *Conclusion: the impact would be significant and primarily temporary, except for the loss of mature street trees, which would be a long-term impact.*

Aubrey E. Austin Park, North Jetty Promenade, East End, and Marina Del Rey Entrance Channel – The Existing Visual Condition for views from this these critical public viewing areas is VMC 1. The most critical of these views is that from the park, followed by those from the promenade and the entrance channel. The only Project feature that would affect views from the park and promenade would be the 5,000 square feet construction/laydown area for receive site for the under-channel tunnel boring and the shaft site itself. The cut-and-cover construction would be largely obscured by the intervening street trees and hedges (see Figure 5.12-6).

The receive site would be surrounded by a 20- to 30-foot-tall acoustic curtain and would be peripheral to the primary views from the park. Given the parks proximity to the entrance channel, it is assumed that views most usually would be directed away from the receive site and toward the boating activity in the entrance channel and the ocean to the southwest. This would also be true for views from the North Jetty Promenade, which is proximate to the entrance channel. Also, views from the promenade toward the receive site are screened by mature trees within the park. Regarding views from the entrance channel, they would tend to be focused along the entrance channel either to the northeast or southwest, in the directions of travel.

The most critical of these views are those from the park. Although most viewing might be away from the receive site, the park is oriented for viewing to the northwest as well (toward the receive site). A conservative approach would be to assume that substantial attention is directed toward Via Marina and the receive site. Accordingly, the site would attract considerable attention to the point of competing with other features in view, if not dominating attention. The two- to three-story curtained area would appear out of place and discordant, not appearing to be an inherent feature of the largely residential area. The resulting visual condition would be VMC 3 (co-dominant). The change in visual conditions would be Intensity Level 2. *Within a highly sensitive view, such impact intensity would be considered to be significant, although the cumulative duration of construction activities at the receive site would be 7 weeks and, therefore, temporary.*

Due to the primary direction of views from the promenade and the entrance channel, coupled with screening by vegetation and attenuation by distance (for the Channel views), the affect of constructing the receive site at Via Marina is not expected to be substantial (not significant).

Marquesas Way, Via Dolce, and Adjoining Residences – The existing visual conditions for potentially affected views from these roads and residences is currently VMC 1. From these roads and residences, the following Project features would be within foreground views:

- The 10- to 12,000 square feet construction/laydown area for push site option 2;
- The push site option 2 shaft construction area;
- Cut-and-cover construction along Marquesas Way/Via Dolce that would connect with the push site Option 2 shaft site.

These activities and associated equipment and workforce would dominate views from the roads and residences noted. They would be industrial in character and incongruous with the setting. The construction/laydown area, if it were square in configuration, would occupy an area up to 110 feet long on each side, or an equilateral triangle up to 155 feet on a side (the available space is triangular). It would

appear that there is insufficient area in the designated "island" location at the intersection of these two streets, as there is less than 6,000 square feet of space there. Use of this space for a construction/laydown area is further complicated by the alignment of the cut-and-cover construction needed to bring the pipeline to push site Option 2. The alignment seemingly would need to traverse the laydown area in order to directly reach the push site, thereby diminishing the area available for laydown. Additional laydown space may be available in the vacant lot next to the push site construction area, but that space is limited as well. Consequently, some additional part of Via Dolce or Marquesas Way may have to serve as a construction/laydown area.

Using the island for a construction/laydown area would likely cause the damage and removal of the large, mature tree, as well as all of the landscape materials in the island. This island (see Figure 5.12-2) is an entry statement for residential area and the visual focus of traffic along both streets. The loss of the tree and other plantings would cause an irretrievable loss of visual quality.

The Option 2 push site, the 20 to 30-foot-tall acoustic curtained site would largely fill the vacant lot. This two- to three-story curtain wall would be on all four sides of the site, and would look like a featureless block structure incongruous with the setting. The crane inside the site would protrude well above the curtain walls, and the necessary truck traffic would be visible intermittently throughout the day.

The effect of cut-and-cover construction would be the same as described for the Via Marina views. Views from the roads would be dominated by the proximate construction. Additionally, since open-trench construction would need to proceed more or less straight to the push site in the vacant lot, the planted island area described above would be traversed by the alignment. The trench construction would unavoidably destroy plantings and cut the roots of the mature tree in the island. Using the area as a laydown site most likely would damage the tree, and trench construction would cause further damage. Together, the activities could cause the tree to be removed.

The visual impacts associated with the construction of the Option 2 push site, its operation, the use of the intersection island for a laydown site, and cut-and-cover construction would severally and together dominate views with features incongruous with the setting. The existing visual conditions would change from VMC 1 to VMC 4, representing and impact intensity of Level 3. Given the sensitivity of the views affected, the impact would be significant.

The duration of the construction activities note is as follows. The Option 2 push site shaft would be constructed within about 2 months, and the approximately 500 feet of cut-and-cover construction along Marquesas Way that would be required for this push site would take about 3 to 4 weeks. It is assumed that shaft construction and cut-and-cover activities would be concurrent, but at worst, if they were not, the duration would extend to 3 months instead of 2. *The impacts, while significant, would be temporary in duration.*

Grand Canal Residences, Grand Canal, and Hurricane Street Residences – The existing visual conditions for potentially affected views from these roads and residences is currently VMC 4 due to the presence of the VPP. From the residences and the canal, the following Project features would be within foreground views:

- The Option 2 push site; and
- The receive site in the vacant lot opposite the VPP.

These activities and equipment, activity, and workforce associated with the push site and receive site would be co-dominant with the VPP. The appearance of the acoustic curtain-enclosed sites, the protruding crane, and truck traffic have has been described relative to AES-1. These features would be industrial in character and incongruous with the generally residential setting. However, because the Existing Visual Conditions are VMC 4, the conditions could not substantially worsen and the impact, while adverse, would not be significant. This adverse impact would endure for six weeks of construction for the receive site, but this would be concurrent with the construction of the push site, which would last for about 2 months. The adverse impact would, therefore, be temporary.

AES-2 The proposed Project or its alternatives would cause substantial, adverse effects on scenic vistas. The impact would be significant, primarily temporary but to a limited extent long term.

The impacts of the Project, relative to the two Los Angeles City Thresholds for Significance that are grouped under AES-2, are summarized as follow:

- There would be a significant impact due to partial obstruction of recognized and valued views due roadside cut-and-cover construction, construction/laydown areas, and optional push sites.
- The impact would significantly affect the recognized views currently available from lengths of public roadways (Via Marina, Marquesas Way, and Via Dolce).

Via Marina is a designated scenic highway/drive, and the views from this road represent a continuous series of scenic vistas culminating in view of the entrance channel. Also, there are scenic vistas from Aubrey E. Austin Park and the North Jetty Promenade, which extend out across the entrance channel, but in the case of the park, also extend along Via Marina. Furthermore, the views from the residences lining the east bank of the Grand Canal near the VPP are highly scenic vistas, which include the canal and the Ballona Lagoon to the southeast. The adverse impact on the views noted has been assessed in detail relative to AES-1. That on views from Via Marina and Aubrey E. Austin Park would be significant and primarily temporary, excepting the loss of street trees, which would be a long-term impact. The impact on views from the Grand Canal residences, the Grand Canal, and Hurricane Street residences would be adverse but not significant due to the existing effect of the VPP.

AES-3 The proposed Project or its alternatives would cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within view from a state scenic highway. The impact would be significant and long term.

The Los Angeles City Threshold factor for significance that is under AES-3 is as follows:

- The Project would significantly impact views from a designated scenic highway. This has been discussed.

The Project would result in the loss of mature street trees along Via Marina, a designated scenic highway (designated by the County of Los Angeles) and one mature tree at the intersection of Via Dolce and Marquesas Way. The impact of the loss of these trees has been described relative to AES-1, and would be significant and long term.

AES-4 The proposed Project or alternatives would not result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

No nighttime construction would be required for construction activities along the subject alignment alternative. However, if there were, the acoustic curtains would shield such lighting from view. The Los Angeles City Threshold factors for AES-4 do not, therefore, apply.

AES-5 The proposed Project or alternatives would not result in substantial negative shadow effects on nearby shadow-sensitive uses.

There are no shadow-sensitive land uses in the vicinity of the proposed Project or its alternatives.

AES-6 The proposed Project or alternatives would result in visual impacts that would not be consistent with applicable rules and regulations. The impact would, therefore, be significant, but it would be temporary.

The applicable regulatory setting is the Los Angeles County LCP for Marina Del Rey, embodied in the Marina Del Rey LUP and discussed in Section 3.2. Policy "e-3" of the Plan established Via Marina as a scenic drive, and the Scenic Highway Element of the County General Plan identifies Via Marina as a scenic highway. It is assumed that unfettered and access to Via Marina and its continuous enjoyment by the public is implicitly a policy of the Plan, as would be the protection from adverse impacts the views from this road. The adverse impacts from Via Marina have been described and are deemed in this assessment not to be consistent with the Plan. The impact would be temporary, however.

Venice Alignment Alternatives: Pacific Avenue Alignment

The critical sensitive viewing positions along this alignment alternative include those from:

- Hurricane Street and adjoining residences;
- Pacific Avenue and adjoining residences;
- Bikeway along Pacific Avenue;
- Ballona Lagoon/Grand Canal;
- Public beach access path along easterly side of Ballona Lagoon; and
- The North Jetty Promenade.

OVERVIEW: EXISTING VISUAL CONDITIONS RELATIVE TO PROPOSED PROJECT FEATURES

Hurricane Street, Grand Canal at Hurricane Street, and Adjoining Residences

The existing visual condition for views from the northeast end of Hurricane Street, the Grand Canal in that immediate vicinity, and the residences nearby is VMC 4, as described in Section 2.2 of the Technical Study (Appendix I). As noted there, the views are dominated by the VPP. It and the chain-link fenced lot on the opposite side of the street are industrial in character. The VPP and lot are incongruous with the residential context, with the VPP being the subject of the view.

Cut-and-cover construction would occur in one of the two lanes of Hurricane Street and would be in the immediate foreground of motorists and residents along the street. Construction activities would also be noticeable from the residences lining the east side of the Grand Canal just northeast of the end of the street, as demonstrated in Figures 5.12-4 and 5.12-5.

Pacific Avenue and Residences, Southwest End of Via Marina, Bikeway, Ballona Lagoon, Beach Access Path and North Jetty Promenade

From these sensitive viewing positions, the existing visual conditions include no anomalous features incongruous with the character of the area and are rated VMC 1. Cut-and-cover construction would be within the foreground of views from the streets and residences listed, the bikeway, and the lagoon, but would be viewed at a distance of over 270 feet from the beach access path running along the easterly side of the lagoon. In addition, this alternative would require that a receive site be constructed along the North Jetty Promenade at the intersection of Via Marina and Pacific Avenue. To construct the receive site and the open-trench pipeline, one lane of Via Marina along the entrance channel and the adjoining public parking would be used for a construction/laydown area.

Impact Intensity, Significance and Duration

The visual impacts for this alignment are discussed and summarized below relative to the thresholds for significance noted in Section 5.12.2.

AES-1 The proposed Project or its alternatives would cause a substantial degradation of existing visual character or quality of a site and its surroundings. The impact would be significant but temporary.

Relative to the six Los Angeles City Thresholds for Significance that are grouped under AES-1, the impacts are summarized as follows:

- No features contributing to valued visual character or neighborhood image would be removed, altered, or demolished;
- No natural open space would be graded or developed;
- No structures are proposed for any natural open space;
- There would be a high degree of contrast between proposed features and existing features representing the valued aesthetic image of the area;
- No zone change is proposed; and
- There would be no positive contribution to the aesthetic value of the area.

Most of the critical public views would be affected by the Project such that the impact would be significant. However, the duration would be temporary. For views from Hurricane Street and residences at its northeast end, as well as the Grand Canal and residences close to this end of the street, the VPP has adversely affected the quality of critical public views to the point that the additional impact of the Project would not significantly affect these views. The impact would worsen the existing visual quality, but the current visual condition due to the VPP is already at the lowest rating. A more detailed analysis is available in Appendix I.

AES-2 The proposed Project or its alternatives would cause substantial, adverse effects on scenic vistas. The impact would be significant, primarily temporary but to a limited extent long term.

Relative to the two Los Angeles City Thresholds for Significance that are grouped under AES-2, the impacts may be summarized as follows:

- There would be a significant impact due to partial obstruction of recognized and valued views due to roadside cut-and-cover construction, construction/laydown areas, and a receive site; and
- The impact would significantly affect the recognized views currently available from lengths of public roadways (Via Marina and Pacific Avenue) and the bike path along Pacific Avenue.

Via Marina is a designated scenic highway/drive and the views from this road represent a continuous series of scenic vistas culminating in views of the entrance channel. Also, there are scenic vistas from the North Jetty Promenade, which extend out across the entrance channel. As well, scenic vistas of the Ballona Lagoon from the Class II bikeway along Pacific Avenue would be significantly impacted by cut-and-cover construction within the roadway. The potential adverse impact on the views noted has been assessed in detail relative to AES-1 and has been considered to be significant but temporary.

AES-3 The proposed Project or its alternatives would not cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within view from a state scenic highway.

The Los Angeles City Threshold factor for Significance relevant to this CEQA issue and is summarized as follows:

- The Project would significantly impact views from a designated scenic highway (see AES-1), but would not impact any specific scenic resources.

The Project would not directly damage features contributing to the visual aesthetics of the potentially affected views. Rather, the Project would introduce features into these views which are incongruous with the established setting and would block specific views (for instance, the receive site would interfere with views of the entrance channel from various viewing positions). These impacts have been addressed under AES-1 and AES-2.

Views from a designated scenic highway (Via Marina) would be adversely affected, but aesthetic features in view would not, as noted, be adversely impacted. A separate impact not specifically addressed by the City of Los Angeles Thresholds is that access to a designated scenic highway would be eliminated, temporarily (traffic would be restricted to local residence and controlled along one lane), as would access to the Promenade and the entrance channel views by the temporary elimination of public parking in the area. In essence, eliminating access to views represents an irretrievable loss of the resource (the scenic highway and public parking at least partly serving as access to scenic views) for the period of construction. This impact is addressed under AES-6 and would be temporary.

AES-4 The proposed Project or alternatives would not result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

No nighttime construction would be required for construction activities along the subject alignment alternative. However, if there were, the acoustic curtains would shield such lighting from view. The Los Angeles City Threshold factors for AES-4 do not, therefore, apply.

AES-5 The proposed Project or alternatives would not result in substantial negative shadow effects on nearby shadow-sensitive uses.

There are no shadow-sensitive land uses in the vicinity of the proposed Project or its alternatives.

AES-6 The proposed Project or alternatives would result in visual impacts that would not be consistent with applicable rules and regulations. The impact would, therefore, be significant, but it would be temporary.

The applicable regulatory documents are the Venice Community Plan and the Venice LCP LUP, as this alignment alternative lies entirely within the boundaries of Venice. Section 5.9 details the applicable plans

and policies. Coastal Resources Goal 18 of the Venice Community Plan calls for the preservation of the scenic and visual qualities of coastal areas. The policy is to assure that projects are visually compatible with the character of surrounding areas. Moreover, design principles set forth in the Venice LUP requires that views of distinctive visual resources not be significantly disturbed. As discussed relative to AES-1, the Project would introduce features into view that are visually incompatible with the character of the affected area. Also, views of the entrance channel would be directly impacted, and the entrance channel arguably presents a distinctive visual resource. Because the Project would not be consistent with the regulatory setting, the visual impacts described would be considered significant. They would, however, be short term, lasting for about 7 months.

Westchester/Playa Del Rey Alignment Alternatives: Pacific Avenue/Vista Del Mar Alignment

The critical sensitive viewing positions along this alignment alternative include those from:

- Pacific Avenue Fishing Bridge;
- Bikeway along Pacific Avenue Bridge;
- Pacific Avenue and 62nd Street, including adjacent residences;
- Del Rey Lagoon and adjacent parking area;
- Dockweiler Beach Access from Pacific Avenue; and
- Vista Del Mar (scenic highway) and adjacent residences.

OVERVIEW: EXISTING VISUAL CONDITIONS RELATIVE TO PROJECT FEATURES

Pacific Avenue Fishing Bridge, Bikeway, Boat Launch, Pacific Avenue and 62nd Street, Residences Along 62nd Street

The existing visual condition for these critical views is VMC 1, as described in Section 2.2 of the Technical Study (Appendix I). Within views from positions along the bridge and bikeway, in the vicinity of the boat launch, at the northwest end of Pacific Avenue, and along 62nd Street, there are no noticeably incongruous features in sight. The existing views are shown in Figure 5.12-10. In this vicinity, the activities and equipment associated with cut-and-cover construction, as well as the construction and operation of the push site, would be within the immediate foreground. Such equipment and activities would have a decidedly industrial appearance that would be incongruous with the recreation and residential land uses and character there.

Pacific Avenue and Adjoining Residential Area, Del Rey Lagoon Park, Beach Access Path

From these sensitive viewing positions, the potentially affected views include no anomalous features incongruous with the character of the area and are rated VMC 1. On Figures 5.12-11 and 5.12-12, the residential area along Pacific Avenue, the adjacent Del Rey Lagoon Park, and one of its parking lots are shown. Cut-and-Cover construction would be within the foreground of views from the street and residences listed, Del Rey Lagoon Park and its parking lot, and the beach access path. Cut-and-cover construction would occur in one of the two lanes of Pacific Avenue and would be in the immediate foreground for park users, local residents, and those using the beach access path leading from the parking area along Pacific Avenue that also serves the park.

Vista Del Mar and Adjacent Residences

As is the case for the other views from this alignment alternative, the existing visual conditions are VMC 1, there being no noticeably incongruous features within view. On Figures 5.12-13 and 5.12-14, the

terminus of the alignment where the new pipeline would tie in with the existing CIS, as well as the character of the residential area and the quality of the ocean views available from this road, are shown. Cut-and-cover construction would be within one lane of Vista Del Mar and, therefore, be in the immediate foreground of views from the street and residences noted.

Impact Intensity, Significance and Duration

The visual impacts for this alignment are discussed and summarized below relative to the thresholds for significance noted in Section 5.12.2.

AES-1 The proposed Project or its alternatives would cause a substantial degradation of existing visual character or quality of a site and its surroundings. The impact would be significant but temporary.

Relative to the six Los Angeles City Thresholds for Significance that are grouped under AES-1, the impacts are summarized as follows:

- No features contributing to valued visual character or neighborhood image would be removed, altered, or demolished;
- No natural open space would be graded or developed;
- No structures are proposed for any natural open space;
- There would be a high degree of contrast between proposed features and existing features representing the valued aesthetic image of the area;
- No zone change is proposed; and
- There would be no positive contribution to the aesthetic value of the area.

The critical public views noted would be affected by the Project such that the impact would be significant. The affected views are highly sensitive and Project construction activities would be within the immediate foreground of these views. Of particular importance is that Vista Del Mar is a scenic highway; and therefore, views from this road are especially important. However, the duration of the impacts noted would be temporary.

A detailed impact assessment follows:

Pacific Avenue Fishing Bridge, Bikeway, Boat Launch, Pacific Avenue and 62nd Street, Residences along 62nd Street

From these critical viewing positions, the following Project features would be within the foreground:

- The 10- to 12,000 square feet construction/laydown area for the push site;
- The push site; and
- Cut-and-cover construction at the northwest end of Pacific Avenue south of the entrance channel.

The activities, equipment, and workforce associated with these Project features would dominate these views and be incongruous with the setting, as noted. The push site would be located in the parking lot abutting the bridge on its northeast side. It would also have to accommodate some space for construction/laydown, as the primary location for this, the parking lot abutting the southwest side of the bridge, would be too small. Therefore, it is assumed that the push site would occupy the entire area between the boat launch and the bridge, including the northeast end of 62nd Street. The associated

construction/laydown site would occupy the entire parking lot flanking the southwest side of the bridge, as well.

As has been noted before, the push site (like the receive sites) would be surrounded by an acoustic screen that would be 20 to 30 feet high. A crane would be substantially higher than the curtain, so not all of the equipment would be shielded from view. Also, truck traffic required for the delivery of materials and supplies and muck hauling would be periodically within the subject views.

A limited stretch of cut-and-cover construction would affect the views noted, as this aspect of the Project terminates at the push site. Here the trenched pipeline would be tied in with the under-channel pipeline. Cut-and-cover construction would require a moveable construction/laydown area alongside of the open-trench construction, as well as a portion of the parking lots noted.

The existing visual conditions would change from VMC 1 to VMC 4 (dominant, incongruous features), representing an impact intensity of Level 3 (Table 3, Attachment A of Appendix I). Within a highly sensitive view, such an impact would be significant.

The duration of the impact on the subject views, the push site must be completed prior to tunnel boring and would require 2 months to construct. Tunnel boring would require from 1 to 2 months (Section 4.4, Project Description). Cumulatively, push site construction and boring would therefore be completed over a 4-month period. It is assumed that the short stretch of cut-and-cover construction within the subject views would occur within this time frame. Consequently, the visual impact of construction would be temporary.

Pacific Avenue and Adjoining Residential Area, Del Rey Lagoon Park, Beach Access Path

Relative to these critical viewing positions, it primarily would be cut-and-cover construction that would adversely impact the visual quality of the area. However, truck traffic required for the construction and operation of the push site, and for delivery of materials for open-trench construction, would also be within view and pose an adverse impact.

The activities, equipment, and workforce associated with pipeline installation, and the truck traffic noted, would occur within a few feet of the edge of Del Rey Lagoon Park, the nearby residences, parking for the residences and lagoon, and the beach access path. The scale, proximity, contrast, and movement of the equipment and workforce would unavoidably draw focused attention and dominate the scene. The existing visual conditions would change from VMC 1 to VMC 4 (dominant, incongruous features), representing an impact intensity of Level 3. Within the highly sensitive views noted, such an impact would be significant.

There would be about 2,000 feet of cut-and-cover construction along Pacific Avenue up to where it intersects with Vista Del Mar. At the rates of advance described in the summary Project Description in Section 4.4, construction along this road would be complete within about 3.5 months. Consequently, the visual impact of construction, while significant, would be temporary.

Vista Del Mar and Adjacent Residences

As would be the case for the Pacific Avenue stretch of the alignment, along Vista Del Mar, the primary aspect of the Project that would be within view would be cut-and-cover construction within one lane of the roadway. The impact of this construction would be as described earlier relative to other foreground views. There would be an impact of Level 3 intensity, and it would therefore be significant. The length of Vista Del Mar that would be affected would be about 1,600 feet long. At the rate of advance projected, it would take about 3 months to complete this part of the alignment. Therefore, the impact, while significant, would be temporary.

AES-2 The proposed Project or its alternatives would cause substantial, adverse effects on scenic vistas. The impact would be significant, primarily temporary but to a limited extent long term.

Relative to the two Los Angeles City Thresholds for Significance that are grouped under AES-2, the impacts may be summarized as follows:

- There would be a significant impact due to partial obstruction of recognized and valued views due to the construction and operation of a push site; and
- The impact would substantially affect recognized views currently available from a length of a public roadway and a portion of a bikeway.

Vista Del Mar is a designated scenic highway, and the views from this road represent a continuous series of scenic vistas of the Pacific Ocean and Dockweiler Beach. Also, there are scenic vistas from the bikeway along the South Jetty, the Pacific Avenue Fishing Bridge, and 62nd Street, which extend out across the entrance channel. The potential adverse impact on the views noted has been assessed in detail relative to AES-1 and has been considered to be significant but temporary.

AES-3 The proposed Project or its alternatives would not cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within view from a state scenic highway.

One Los Angeles City Threshold factor for Significance is relevant to this CEQA issue and the impact is summarized as follows:

- The Project would significantly impact views from a designated scenic highway (see AES-1 and -2), but would not impact any specific scenic resources within view of a scenic highway.

The Project would not directly damage features contributing to the visual aesthetics of the potentially affected views, particularly views from a scenic highway. Rather, the Project would introduce features into these views which are incongruous with the established setting. These impacts have been addressed under AES-1 and AES-2.

AES-4 The proposed Project or alternatives would not result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

No nighttime construction would be required for construction activities along the subject alignment alternative. However, if there were, the acoustic curtains would shield such lighting from view. The Los Angeles City Threshold factors for AES-4, therefore, do not apply.

AES-5 The proposed Project or alternatives would not result in substantial negative shadow effects on nearby shadow-sensitive uses.

There are no shadow-sensitive land uses in the vicinity of the proposed Project or its alternatives.

AES-6 The proposed Project or alternatives would result in visual impacts that would not be consistent with applicable rules and regulations. The impact would, therefore, be significant, but it would be temporary.

Section 5.9 details the applicable plans and policies. The applicable regulatory document is the Coastal Resources chapter of the Westchester-Playa Del Rey Community Plan. Objective 18-5 is relevant: "Preserve coastal visual resources by protecting and enhancing scenic views of the ocean and wetlands from designated Scenic Highways, and public view sites." Vista Del Mar is a designated scenic highway.

Policy 18-5.1 for this objective calls for the following relevant stipulations for siting and designing development in order to:

- Protect public views to and along the ocean and scenic coastal areas;
- Be visually compatible with the character of the surrounding area; and
- Retain existing views from designated public view areas and scenic highways.

Under this policy, "all new development in the Coastal Zone, including public works and recreational facilities, should be subordinate to its setting, and minimized in height and bulk to the extent feasible to accomplish view protection (emphasis added)." Siting the pipeline construction within a designated scenic highway is inconsistent with this policy. Doing so does not protect views to and long the ocean; the activities, equipment and workforce needed will be visually incompatible with the character of the surrounding area; and closing off one lane of this highway will substantially limit public enjoyment of this scenic highway.

Consequently, the impact of the Project is significant due to its inconsistency with Policy 18-5.1. The duration of the impact would be about 2 months, so, while significant, the impact would be temporary.

MINED-TUNNEL CONSTRUCTION ALTERNATIVES

The Mined-Tunnel Construction Alternatives comprise three viable alternative alignments. All require a starter shaft on LAX land southeast of the Napoleon Street/Vista Del Mar intersection. Alternative 2 requires an extraction shaft on Dockweiler Beach at the end of Hurricane Street and cut-and-cover construction to tie the pipeline to the VPP. Alternatives 3 and 4 entail direct, continuous tunneling from the LAX starter shaft to an extraction shaft in a vacant lot at the northeast end of Hurricane Street across from the VPP. Alternatives 3 and 4, relative to aboveground features, would be identical. Rather than by alternative, the impacts will be assessed relative to:

- The starter shaft;
- The extraction shaft at Dockweiler Beach;
- The extraction shaft at the VPP. and

To summarize, Alternatives 3 and 4 would have the potential for significant, but short-term visual impacts due to the starter shaft, but would affect primarily private, residential views. Alternative 2 would have same "starter shaft" impacts--significant, but short term—but would also have the potential for

significant—albeit temporary—"extraction shaft" impacts that would affect private residential views, but also public views from Dockweiler Beach. Additionally, Alternative 2 would have the potential for significant, temporary visual impacts due to cut-and-cover construction of the Hurricane Street part of the alignment.

There will be no detailed discussion of the Hurricane Street cut-and-cover construction, as the impact on residential views along this street has been discussed relative to the Pacific Avenue Alternative Alignment within Venice. For Alternative 2, cut-and-cover construction would extend from the southwest end of Hurricane Street about 785 feet to the VPP, whereas for the Pacific Avenue alignment, it would extend about 450 feet from Pacific Avenue to the Plant. The nature and intensity of the impact would be the same. The Existing Visual Conditions are VMC 1 until reaching the plant, where they are VMC 4. The construction activities, equipment and workforce would dominate views (VMC 4), representing a substantial reduction in visual quality for views from most of Hurricane Street (impact intensity Level 3). The impact would, therefore, be significant. The 785-foot alignment would be completed in less than 6 weeks, so it will be temporary in duration.

IMPACT INTENSITY, SIGNIFICANCE AND DURATION

AES-1 The proposed Project or its alternatives would cause a substantial degradation of existing visual character or quality of a site and its surroundings. The impact would be significant but short term.

Relative to the six Los Angeles City Thresholds for Significance that are grouped under AES-1, the impacts are summarized as follows:

- No features contributing to valued visual character or neighborhood image would be removed, altered, or demolished;
- Natural open space would be graded or developed;
- A Structures is proposed for a natural open space;
- There would be a high degree of contrast between proposed features and existing features representing the valued aesthetic image of the area;
- No zone change is proposed; and
- There would be no positive contribution to the aesthetic value of the area.

The critical public views noted would be affected by the Project such that the impact would be significant. The affected views are highly sensitive and Project construction activities would be within the foreground of these views. Of particular importance are views from nearby residences and Vista Del Mar, a scenic highway. However, the duration of the impacts noted would be short term, lasting for about 2 years.

A detailed impact assessment follows:

STARTER SHAFT

The critical sensitive viewing positions potentially affected by the construction and operation of the starter shaft are from:

- The residences lining the northeast side of Napoleon Street and facing the Site;
- The beach access path along Napoleon Street; and
- Vista Del Mar, a scenic highway.

The existing visual conditions are VMC 1 for these potentially affected views. The starter shaft site would require about 12,000 square feet of space, including space for a construction/laydown site, and would be enclosed by a 20- to 30-foot-tall acoustic curtain just as would the push and receive sites relative to the bored tunneling construction alternatives. There will be two cranes on site that will be taller than the curtains, so these would be visible. The remainder of the facilities within this site would be screened from view. However, the 15 daily truck round trips would be noticeable, and there would be as much as 300 feet of cut-and-cover construction to tie the pipeline to the existing CIS within Vista Del Mar.

Residences and Beach Access Path

The beach access path runs along the fence skirting the northerly side of the LAX property along Napoleon Street. Views from there are closely similar to those from the residence on the other side of Napoleon, except that the residences are multi-story and views from the upper stories would be more elevated. Figure 5.12-14 shows the vacant LAX land in which the starter shaft would be sited, seen from viewpoint (VP) 16 (see Figure 5.12-1). This land appears substantially natural; there are no structures, but there are several unobtrusive roads within this area. The location of the site is approximate in this photograph. If it were to be sited as shown in Figure 5.12-1, it would be over 700 feet away from the viewing position from which the photograph was taken. By way of contrast, the nearest residence on Napoleon Street would be about 224 feet from the center point of this site, as shown in Figure 1. If the configuration of the starter shaft site were to be square, the site would be about 110 feet on a side (12,000 square feet). This means that the edge closest to the residences would be at least 55 feet closer than the center of the site, or just 164 feet. Seen at that distance, which is about half the length of a football field, a 20- to 30-foot-tall "box" 110 feet on a side would attract considerable attention, particularly since the open land around the site is featureless and some of the residences are oriented directly toward the site. Stated differently, the shaft site would be as tall as the residences from which it would be viewed, but it would occupy substantially more square footage.

Given that the land around the starter shaft site is vacant and that the starter shaft site would command attention to the point of at least competing with the ocean views to the southwest. The acoustic curtained "box" would not be a feature that would be mistaken for a building. The presence of the cranes extending above the curtains and the truck traffic would, together with the screening, lend an industrial character to the site. Moreover, it is not clear that all equipment would be within the enclosure. For instance, with a construction crew of 20 to 25 persons, 20 to 25 vehicles may need to be parked on site in order to allow the pubic to park along Vista Del Mar. Were the site to compete for attention, the visual conditions would be rated VMC 3, a reduction by two ratings from the current VMC 1. The impact intensity would be Level 2. Given the sensitivity of residential views, the impact would be significant.

The length of time needed to construct the starter shaft is not known at this time. However, it would be in operation for up to about 28 months during the mined tunneling. It is assumed that from the start of construction to completion, the shaft would be within view for at least 2.5 years but not longer than 3 years. The significant impact noted, then, would be short term.

Vista Del Mar – Views from Vista Del Mar (scenic highway) would tend to be directed toward the scenic Pacific Ocean and the beach below the road. The site would be oblique to the directions of travel and

peripheral to the main views to the southwest. For most of the public, the starter shaft might have to be pointed out to be noticed, given the primary direction of viewing, either along the road (to safely operate the vehicle) or toward the ocean, away from the site. In views from this road, visual quality would likely not be substantially lessened.

EXTRACTION SHAFT—DOCKWEILER BEACH

The critical sensitive viewing positions potentially affected by the construction and operation of the starter shaft are those from:

- The residences lining the Dockweiler Beach; and
- Dockweiler Beach

The existing visual conditions are VMC 1 for these potentially affected views. The extraction shaft site would require about 5,000 square feet of space, including the construction/laydown area and would be enclosed by a 20- to 30-foot-tall acoustic curtain just as would the starter shaft, and the push and receive sites (bored tunneling). There would be a crane on site that would be taller than the curtains, so it would be visible. The remainder of the facilities within this site would be screened from view. However, the daily truck round trips would be noticeable.

Apart from the multi-story residences, there is "Ocean Front Walk," a pedestrian beach access running along the beach side of the residences. A few feet away from the extraction shaft site is a beach volleyball court, and passive beach uses may occur anywhere in the vicinity of the site. The extraction shaft site would be much smaller than the starter shaft site, being only 5,000 square feet in size. This would be a square 70 feet on a side. However, the site may be within 50 feet or less of the residences and pedestrian beach access path. It would inevitably dominate views from the residences with its industrial appearance, as it could be as tall as the residences (VMC 4). Moreover, the associated truck traffic would also be a distraction. The impact would be intensity Level 3, as the existing conditions are VMC 1. Relative to the highly sensitive views affected, the impact would be significant.

The period of its initial construction would be 10 weeks. After it is constructed, all equipment would be removed from the site and a steel plate would be placed over the shaft. It can be expected not to be especially noticeable at that point, as sand would naturally tend to cover the plate over time. The shaft would become operational at the point that the TBM needs to be extracted from the mined tunnel, which would be about 28 months later. The TBM would be extracted, and the pipeline tied into the pipeline installed with cut-and-cover construction, over a 1-week period. The cumulative 7-week period in which the shaft would be constructed and operated would be temporary.

EXTRACTION SHAFT—VENICE PUMPING PLANT

The critical sensitive viewing positions potentially affected by the construction and operation of the starter shaft are those from:

- The residences lining the east side of the Grand Canal near the VPP;
- The Grand Canal; and
- Residences along Hurricane Street at its northeast end.

The existing visual conditions are VMC 4 for these potentially affected views. The extraction shaft site has been described relative to the Dockweiler Beach extraction shaft site. It would appear industrial and be as large as the nearby multi-story residences. The visible part of the crane and truck traffic, coupled with the acoustic screened site, would attract considerable attention and compete for it with the existing VPP. However, the existing conditions are VMC 4, and while there would be and adverse visual impact, no substantial reduction in visual quality would occur. Moreover, the duration of the impact would be temporary, lasting cumulatively just 7 weeks.

AES-2 The proposed Project or its alternatives would not cause substantial, adverse effects on scenic vistas

The Los Angeles City Thresholds for Significance that are grouped under AES-2, the impacts may be summarized as follows:

- There would be no significant impact due to partial obstruction of recognized and valued views; and
- The impact would not substantially affect recognized views currently available from a length of a public roadway and a portion of a bikeway.

Alternatives 2, 3 and 4 would not have the potential to obstruct any recognized or valued views, nor would they substantially affect recognized views from a public roadway or bikeway.

AES-3 The proposed Project or its alternatives would not cause substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within view from a state scenic highway.

The Los Angeles City Threshold factor for Significance is relevant to this CEQA issue and the impact is summarized as follows:

- The Project would neither significantly impact views from a designated scenic highway (see AES-1 and -2) nor significantly impact any specific scenic resources within view of a scenic highway.

Alternatives 2, 3 and 4 would not significantly impact views from Vista Del Mar, the only scenic highway in the vicinity of these alternatives. Moreover, the construction of the starter and extraction shafts would not adversely affect any landscape features contributing to scenic quality.

AES-4 The proposed Project or alternatives would not result in a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

No nighttime construction would be required for construction activities along the subject alignment alternative. However, if there were, the acoustic curtains would shield such lighting from view. The Los Angeles City Threshold factors for AES-4, therefore, do not apply.

AES-5 The proposed Project or alternatives would not result in substantial negative shadow effects on nearby shadow-sensitive uses.

There are no shadow-sensitive land uses in the vicinity of the proposed Project or its alternatives.

AES-6 The Proposed Project or alternatives would result in visual impacts that would not be consistent with applicable rules and regulations. The impacts would, therefore, be significant, but they would be temporary and short term.

Section 5.9 details the applicable plans and policies. The applicable regulatory document is the Coastal Resources chapter of the Westchester-Playa Del Rey Community Plan, relative to the starter shaft site. Concerning the two alternate extraction shaft sites, both are in Venice; the relevant regulatory documents are the Venice Community Plan and the Venice LCP LUP.

The Westchester-Playa Del Rey Community Plan, Objective 18-5 is relevant: "Preserve coastal visual resources by protecting and enhancing scenic views of the ocean and wetlands from designated Scenic Highways, and public view sites." Vista Del Mar is a designated scenic highway. However, views from this scenic highway would not be significantly impacted.

Policy 18-5.1 for this objective calls for the following relevant stipulations for siting and designing development in order to:

- Protect public views to and along the ocean and scenic coastal areas;
- Be visually compatible with the character of the surrounding area; and
- Retain existing views from designated public view areas and scenic highways.

Under this policy, "all new development in the Coastal Zone, including public works and recreational facilities, should be subordinate to its setting, and minimized in height and bulk to the extent feasible to accomplish view protection (emphasis added)."

The starter shaft would not interfere with public views to and along the ocean. There are no public view areas in the vicinity, and the shaft site would not interfere with scenic highway-based views. However, the shaft site would not be visually compatible with the natural open space character of the LAX property. Consequently, the impact of the Project would not be entirely consistent with Policy 18-5.1 of the subject Plan. The impact, though, would be short term.

Coastal Resources Goal 18 of the Venice Community Plan calls for the preservation of the scenic and visual qualities of coastal areas. The policy is to assure that projects are visually compatible with the character of surrounding areas. Moreover, design principles set forth in the Venice LUP requires that views of distinctive visual resources not be significantly disturbed. As discussed relative to AES-1, the starter and extraction shafts would be visually incompatible with the character of the affected area. Because the Project would not be consistent with certain policies and goals of the Venice regulatory setting, the visual impacts described would be considered to be significant. They would, however, temporary and short term in duration, lasting for 7 weeks in the case of the extraction shaft sites, and less than 3 years in the case of the extraction shaft.

5.12.4 Mitigation Measures

As noted in Section 5.12.3, the cut-and-cover, micro-tunneling, and mined-tunneling alternative construction activities, and their associated equipment and workforce, would all have the potential to cause significant visual impacts, to varying degrees, that would primarily be temporary in duration. With one exception, the Project or its alternatives would cause no damage to scenic resources (features contributing to the positive visual quality of potentially affected views), no new source of light and glare, and no negative shadow effects. Instead, depending on the alternative, the impacts would variably be due to:

- The introduction to views of features not congruent with the existing visual character of the area;
- Partial obstruction of views, or the limiting of access to the views;
- Adverse effects on views from scenic highways or the temporary elimination of access to these highways; and
- Inconsistency with one or more regulatory goals, objectives or policies.

Mitigation measures either entail redesigning a project so as to site it in an area not within sensitive public views, screening the Project features from view with landscaping, or re-designing the Project features to mimic those that are characteristic of the area. In the case of the Project, the visual impacts are due to construction activities, equipment and the presence and movement of the workforce, and not because of its appearance once it is complete. Because the visual impacts of construction are all temporary or short term, they end with the completion of the Project. No feasible measures can mitigate the impacts of construction to a level that is less than significant, for it is assumed that, by definition, such measures must occur within the context of undertaking the Project. That is, construction activities must occur. Regarding re-siting the alignment of the Project, the alignments are constrained by the starting and ending points. The area in between is characterized by dense, residential development, the presence of scenic highways, and the attraction of recreation opportunities. It would not be possible to avoid sensitive views.

Where specific positive landscape features are damaged, obscured, or removed, direct mitigation may take the form of adjusting the siting of an aspect of the project to avoid the impact, or replacing the feature if it is damaged or removed. In the case of the Marquesas Way/Via Marina Alignment Alternative, several mature street trees will be removed by cut-and-cover construction and/or the use of an area as a construction/laydown site. Based on available information, a choice to re-align the pipeline to avoid crossing from Via Marina into the parking lot serving the receive site, and re-locating the Option 2 push site construction/laydown area at the Via Dolce/Marquesas Way intersection, are not viable. The only feasible mitigation measure is:

AES-1 Replace street trees destroyed by construction activities with very large-diameter, mature trees. Depending on the species, this may or may not be possible.

Where impacts may not be directly mitigated, they may be offset by actions taken elsewhere to compensate for the loss of visual quality. It would be speculative to definitively list specific offsetting actions at this time. However, such actions generally would include:

- Landscaping public areas within affected neighborhoods where open space is currently degraded and unsightly;
- Screening from public view existing features that are incongruous with the character of their surroundings (such as the VPP); and/or
- Creating public access to currently unavailable scenic vistas (new beach access routes, paths, bikeways, public parking.

During public scoping meetings, some suggested that the existing VPP could be made to be more aesthetically pleasing. Currently, this industrial facility has reduced visual conditions in its vicinity to VMC 4. One most obvious measure would be to paint the facility a color matching nearby residences and removing the art deco-like treatment of the wall facing the Grand Canal. Plantings which soften the VPP's profile or cover its walls with vines might be investigated, if there is the physical space available to

landscape the perimeter. A walkway abutting the blue wall fronting the Grand Canal (Figure 5.12-5, upper image) might be converted into a planter, or several large, decorative planters with tall shrubs or small trees might be installed along that part of the walk (since the walk ends here, the loss of this stretch of sidewalk would not be important to pedestrians). A small strip of fill at the northeast end of Hurricane Street could provide room for large trees that would block some views of the VPP. In the upper image of Figure 5.12-4, large trees are growing along the edge of the sidewalk. In the lower image in Figure 5.12-5, it is apparent that such plantings could be installed between the chain-link fence along the vacant lot and the sidewalk next to it. These trees, in time, would screen the lot and provide a more aesthetic edge to the Grand Canal. The residual impact of offsetting mitigations would be inversely proportional to the degree of public acceptance of the measures.

Regarding the improvement of the visual quality in public spaces, Figure 5.12-10 discloses, in the upper image, the opportunity to improve the appearance of the parking lot along the bridge in the vicinity of where the push site for under-channel tunneling would occur. The bank in the foreground might be planted to shield from view the parking lot and conceal or replace the jumbled chunks of concrete riprap. Similar plantings on the other side of the bridge along the parking area there (the site for the construction/laydown area) would aesthetically frame the bikeway's entrance into Playa Del Rey.

5.12.5 Unavoidable Adverse Impacts

All of the significant, temporary and short-term impacts described in Section 5.12.3 are unavoidable. These impacts will end, however, with the completion of construction. These impacts may be offset by actions taken elsewhere within the affected communities to improve the aesthetics of existing views. The acceptability of any measures contemplated are best addressed through public involvement.

The long-term impact of the destruction of mature street plantings along Via Marina and Marquesas Way might be improved to the point that the duration would be short term (less than 5 years in duration), if trees of a large size are planted. Several years of growth would be required for the trees to approach in height those that would be removed.

5.12.6 Cumulative and Secondary Impacts

Of the projects listed as related to the proposed Project in the Introduction, Section 1.0, Table 1.7-1, only two would be relevant. In neither case would there be significant cumulative impacts.

Marina Del Rey Tide Gates Project – This Project entails the removal, rehabilitation and improvement of portions of the existing outlet structure for the Grand Canal located at the southeast end of the Grand Canal where it passes under Via Marina, along with where portions of the proposed Project would also occur. The one aspect of construction that would be relevant to cumulative impacts is that the "Gates" project may require the closure of one lane of Via Marina Street during construction, with traffic controlled by a flagman. The proposed Project also calls for such closure and traffic control. At the time of this assessment, no specific time frames for construction of either project had been identified. It can only be said that if the projects do not occur simultaneously, sequential construction would result in a prolonged period during which views from a designated scenic highway/drive (Via Marina) are unavailable to the public; e.g., it would seem likely that traffic along Via Marina would be restricted to local residential access because there would be no public parking along the road and, therefore, no place

to stop and enjoy the view. The impact of closing one lane due to the proposed Project would, by itself, represent a significant, albeit, temporary visual impact. Lane closure due to the Gates project would also be a temporary but significant visual impact. If the two projects were to occur sequentially, the combined effect would solely be to lengthen the duration of the impact to the point of being short term (1 to 5 years' duration).

To mitigate the impact to visual resources, both projects should be completed within the same time frame if it is feasible to do so, thereby limiting the time during which the one lane of Via Marina would have to be closed.

Venice Pumping Plant Sluice Gate Replacement Project – This project involves the temporary diversion of sewer flows in order to bypass the VPP while the sluice gate within the VPP is rehabilitated. The bypass would be via a pipeline placed above ground along the Grand Canal from Driftwood Street to Hurricane Street along the Esplanade. The pumping mechanisms and pipeline would be in place for about 1 month. This project is relevant to the proposed Project in consideration of cumulative impacts because activities associated with the Project would occur in the same area as the southeast end of the "Sluice Gate" project (near the VPP).

The Initial Study for the Sluice Gate project found that there would be no significant visual impacts, based partly on their short duration. CEQA does not recognize specific time limits as thresholds of significance, nor does the City of Los Angeles Thresholds Guide. However, as noted, the existing visual condition for views potentially affected by the Sluice Gate project is VMC 4 due to the presence of the VPP. This industrial facility dominates the views from points in its vicinity. For that reason, not due to the duration of the impact, the Sluice Gate project would not be a significant impact, as the condition of the affected views cannot worsen. Likewise, together with the proposed Project, the Sluice Gate project would not cumulatively cause a significant impact, due to the existing condition of the area.

6.0 PROJECT ALTERNATIVES ANALYSIS

6.1 INTRODUCTION TO PROJECT ALTERNATIVES ANALYSIS

The Initial Study for this Project determined that the Project would not impose any long-term or lasting negative impacts or lasting effects to the environment, living species or human beings. All temporary impacts resulting from the Project are directly related to construction activities.

Because the estimated time duration to construct the Project is anticipated to last over an extended period of time (18 to 24 months) resulting in long-term interruption to the proposed alternatives locations, the impacts identified in this report represent IMPACTS WHICH MAY OCCUR AS A RESULT OF THE PROJECT DURING THE CONSTRUCTION PERIOD ONLY and are not to be confused with standard CEQA Guidelines covering the lifetime of the Project and its locations.

6.2 NO PROJECT ALTERNATIVE

The No Project alternative could result in potentially significant adverse effects to the environment due to the existing sewer force main's current lack of conveyance capacity and the current inability to perform regularly scheduled maintenance on the existing force main. An overflow of untreated wastewater into the Ballona Lagoon and areas surrounding the Project areas could result, causing harm to the environment.

Under this alternative, no new pipelines would be installed and the sewer system would continue to operate in the current manner.

6.3 SECOND NEW CONVEYANCE LINE (SECOND NEW FORCE MAIN)

A new force main would provide redundancy to the existing sewer, allowing for adequate conveyance in from the VPP to the Hyperion Treatment Plant in Playa Del Rey, and by providing the ability to conduct maintenance to the existing force main. The cut-and-cover/micro-tunneling method of construction is proposed for the following alignments, with the exception of the beachfront alignments. This method of construction was considered for those beachfront alignments, but deemed to be not viable. Each cut-and-cover alignment has either one or two shafts at either end for the purpose of entering and/or exiting the channel as required to install the sewer pipe under the channel.

MARQUESAS WAY/VIA MARINA WAY ALIGNMENT

This alignment and the micro-tunnel launching and receptor shafts associated with it are subject to impacts associated with construction staging of equipment, parking and related traffic throughout the 18- to 24-month duration of construction along Hurricane Street, Marquesas Way and Via Marina Way respectively. This alternative is within a designated segment of scenic highway requiring the preservation of scenic views which will be diminished and immitigable from construction activities during the tourist season. Unmitigatable impacts to parking and pedestrian traffic would result from tunnel activities on each side of the Grand Canal at the junction with Hurricane Street, and in the empty lot between residential housing west of Marquesas Way and leading to the sidewalk next to the Grand Canal.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. Although this proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

PACIFIC AVENUE ALIGNMENT ALONG HURRICANE STREET AND PACIFIC AVENUE

Impacts from this alternative would result from construction-related activities associated with cut-and-cover construction along Hurricane Street and Pacific Avenue and at a micro-tunnel receptor shaft at Pacific Avenue near Via Marina Way, and at a launching shaft located on the south side of the channel on the east side of the Pacific Avenue pedestrian bridge. The Project will impose significant unavoidable impacts to visual aesthetics of the vicinity and parking and traffic to residents and tourists, who live and visit the area. Access to parks and parking facilities for Dockweiler Beach, the pedestrian bridge and public parking facilities at Pacific Avenue on the south side of the channel will be reduced as a result of construction-related staging, vehicles and mobile equipment for a period of 18 to 24 months. Noise impacts associated with the proximity of construction-related equipment to residents and visual impacts due to equipment staging are anticipated.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. This proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

DOCKWEILER BEACH TO PACIFIC AVENUE ALIGNMENT

The cut-and-cover method of construction for this alignment has been considered, but deemed not viable; however, deep mined-tunneling construction alternatives are also proposed for the beachfront and are described in Section 4.0. Impacts at the launching shaft in Vista Del Mar would mostly impact traffic, and the receptor shaft at the intersect of Dockweiler Beach and Hurricane Street would impose noise, surface vibration, and increased human disturbance, as well as potentially attracting predators to the least tern nesting site (i.e., crows) located on Dockweiler Beach just north of the channel entrance and the west end of Via Marina Way. Construction activities may result in temporary effects on least terns (see Appendix D, Biological Technical Report). Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. This proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

PACIFIC AVENUE/VISTA DEL MAR ALIGNMENT

This southern extension of the Pacific Avenue alternative, located on the south side of the Via Marina channel, is listed as a scenic highway and is subject to site monitoring during the course of construction near the area where Pacific Avenue transitions to Vista Del Mar to mitigate the potential for impacts to historic/cultural/Paleo resources finds as described in the Cultural Resource section (Section 5.5) of this EIR. No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. Although this proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

DOCKWEILER BEACH ALIGNMENT

This southern extension of Dockweiler Beach alternative is located on the south side of the Via Marina Channel. The cut-and-cover method of construction for this alignment has also been considered, but deemed not viable; however, deep-mined tunneling construction alternatives are also proposed for the beachfront and are described in Section 4.0. Impacts at the launching shaft in Vista Del Mar would mostly impact traffic, and the receptor shaft at the intersect of Dockweiler Beach and Hurricane Street would impose noise, surface vibration, and increased human disturbance, as well as potentially attracting predators to the least tern nesting site (i.e., crows) located on Dockweiler Beach just north of the channel entrance and the west end of Via Marina Way. Visual impacts associated with potential construction equipment and activities methane venting.

DEEP MINED-TUNNEL ALTERNATIVES

Each starter shaft and receptor shaft for the deep mined-tunnel construction alternatives have their own numeric identifier, shown in Section 4.0 on Figure 6.3-1.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the outcome of the impact analysis for this project, it has been determined that the environmentally superior alternative is the mined tunnel Alternative #4 (Inland Alignment, LAX to VPP). This alternative would impose the least number of impacts to environmental resources, and would significantly reduce construction related impacts such as traffic and parking congestion and noise and vibration. The proposed alignment as shown on figure 4.3-10, would begin at launch shaft #2 located in Vista Del Mar and run due north toward the pumping plant on Hurricane Street and tie in at the #10 receptor shaft. Although the deep mined tunnel would run directly under existing dwellings and facilities in some locations, great care would be taken to insure that wherever possible, the alignment would follow existing rights of way. For those portions of the alignment that would require tunneling under existing dwellings and/or facilities, the city would work with those who are within the proposed alignment to fully understand the construction methodology, to secure proper right of way access, and to provide compensation for the right of way.

ALTERNATIVES IMPACT ANALYSIS TABLE

The following Table reflects the results of the studies and analysis devoted to each alternative (As indicated, Construction method +Alignment/or shaft = Alternative). Each alternative location/area that may be impacted is identified with a unique number representing its location and type (see Figures 4.2-2). The alternatives are located in the column on the left hand side of the table. All resources, which may be impacted, are listed in the column along the top of the table. The overall impact to each resource, at each location, is rated with a symbol located at the intersection of each location/resource. The ratings are as follows:


Insignificant or no impact


Impact that can be mitigated to a level of insignificance


Impact that cannot be mitigated to a level of insignificance

Impact Area's in the Project Analysis

Micro Tunnel Alternatives

Alternative	Impact Area/Associated Shaft Locations
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9, 10

Cut and Cover Alignment Alternatives

Alternative	Impact Area/ Associated Shaft Locations
Marquesas Way/Via Marina Way	8, 10, 11, 12, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	7, 10, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment
Dockweiler Beach Alignment	1, 3, 5, 6, 9

Large Diameter (Mined) Tunnel Alternatives

Alternative	Impact Area/ Associated Shaft Locations
1. Mined-Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined-Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined-Tunnel - Beach Alignment (LAX to Hurricane)	2, 9, 10, Mined-Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined-Tunnel - Beach Alignment (LAX to VPP)	2, 10, Mined-Tunnel - Beach Alignment (LAX to VPP)
4. Mined-Tunnel - Inland Alignment (LAX to VPP)	2, 10, Mined-Tunnel - Inland Alignment (LAX to VPP)

Table 6.3-1 Impact Analysis Table

Impact Analysis

Legend:

✓ Insignificant or no impact

⚠ Impact that can be mitigated to a level of insignificance

⚠ Impact that cannot be mitigated to a level of insignificance

Alternatives/ Impact Areas	Air Quality	Biology	Circulation and Traffic	Cultural Resources	Geology	Hazardous Waste	Hydrology	Land Use	Noise	Paleontology	Public Facilities and Services	Visual and Aesthetics	Water Quality
Marquesas Way/Via Marina Way													
8	✓	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
10	✓	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
11	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
12	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	✓	⚠
Marquesas Way/Via Marina Way	⚠	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
Pacific Avenue Alignment													
7	✓	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
10	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
Pacific Avenue	⚠	⚠	⚠	⚠	⚠	⚠	⚠	✓	⚠	⚠	⚠	⚠	⚠
Pacific Avenue/Vista Del Mar													
1	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	✓	✓	✓	⚠	⚠
3	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
4	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	⚠	⚠	⚠	⚠	⚠
5	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	⚠	⚠	⚠	⚠	⚠
Westchester/Playa Del Rey Alignment	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	⚠	⚠	⚠	⚠	⚠
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)													
2	✓	✓	⚠	⚠	⚠	⚠	⚠	✓	✓	⚠	⚠	✓	⚠
9	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
Mined Tunnel - Beach Alignment (Waterview to Hurricane)	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)													
2	✓	✓	⚠	⚠	⚠	⚠	⚠	✓	✓	⚠	⚠	✓	⚠
9	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠

Alternatives/ Impact Areas	Air Quality	Biology	Circulation and Traffic	Cultural Resources	Geology	Hazardous Waste	Hydrology	Land Use	Noise	Paleontology	Public Facilities and Services	Visual and Aesthetics	Water Quality
10	⚠	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
Mined Tunnel - Beach Alignment (LAX to Hurricane)	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
3. Mined Tunnel - Beach Alignment (LAX to VPP)													
2	✓	✓	⚠	⚠	⚠	⚠	⚠	✓	✓	⚠	⚠	✓	⚠
10	⚠	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
Mined Tunnel - Beach Alignment (LAX to VPP)	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
4. Mined Tunnel - Inland Alignment (LAX to VPP)													
2	✓	✓	⚠	⚠	⚠	⚠	⚠	✓	✓	⚠	⚠	✓	⚠
10	⚠	✓	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
Mined Tunnel - Inland Alignment (LAX to VPP)	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
Dockweiler Beach to Pacific Avenue Alignment													
4	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
6	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
9	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠
10	⚠	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	✓	✓	⚠
Dockweiler Beach Alignment													
1	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
3	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
5	✓	⚠	⚠	⚠	⚠	⚠	⚠	✓	⚠	⚠	⚠	⚠	⚠
6	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	✓	✓	⚠	⚠	⚠
9	✓	⚠	⚠	✓	⚠	⚠	⚠	✓	⚠	✓	⚠	⚠	⚠

Legend:

✓ Insignificant or no impact

⚠ Impact that can be mitigated to a level of insignificance

⚠ Impact that cannot be mitigated to a level of insignificance



MICRO-TUNNEL/DEEP-TUNNEL ALTERNATIVES NUMERIC IDENTIFIERS

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure 6.3-1

6.3.1 Impact Analysis

6.3.2 Marina Del Rey

Air Quality

Insignificant or no impact

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	10, 11, 12, 8
Pacific Avenue Alignment	10
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The use of construction equipment on site would potentially result in localized air quality impact. Emissions from construction equipment generated from site grading activities were calculated using emission factors provided in the SCAQMD's Since the TBM is electrically driven, micro-tunneling is anticipated to produce minimal emissions if the TBM can be powered directly from the City's electrical grid.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10, 9
Marquesas Way/Via Marina Way	Marquesas Way/Via Marina Way

Due to the close proximity of housing to the shaft area, extended periods of running construction related equipment could pose impacts to localized air quality.

Biology

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2
Marquesas Way/Via Marina Way	10, 8, Marquesas Way/Via Marina Way

Noise and other activities associated with Project construction would affect least tern nesting if construction during the nesting season is located less than 1,000 linear feet from

the least tern nesting area. However, even though this site is located less than 1,000 linear feet from the least tern nesting area, it is separated by a housing development. Therefore, the alignment would not be expected to result in temporary (and no permanent) effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach Alignment	1
Marquesas Way/Via Marina Way	11, 12
Pacific Avenue Alignment	10, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

1. Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the Grand Canal during construction, although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area.

2. Temporary impacts to water quality and marine resources at launching and receiving sites associated with the submarine canal erosion could occur through the unintentional release of excavated sediments and water into the local environment.

3. Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance. Furthermore, those least terns using the nesting site will be affected if open-cut excavation, jacking pit, or micro-tunneling is used, within 500 feet of the nesting site. Additionally, the increased human disturbance may attract tern predators (i.e., American crow).

Circulation

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	1, 3
Dockweiler Beach to Pacific Avenue Alignment	6
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	1, 3, Westchester/Playa Del Rey Alignment

Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Marquesas Way/Via Marina Way	10, 11, 12

1. The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way.

2. Temporary closure of the eastbound right-turn only lane on Marquesas Way and the outer southbound lane on Via Marina south of the Marquesas Way would be necessary. Vehicles on Marquesas Way intending to make eastbound right-turn maneuvers would have to make wide turning movements to go around the shaft site to travel southbound on Via Marina.

pedestrian access would be impacted at Via Marina/Marquesas Way because of the temporary closure of the west and south legs of the pedestrian crosswalks

Temporary closure of the outer southbound lane on Via Marina would be necessary to provide space for the open-trench construction zone during the 3-week cycle

The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way, Tahiti Way, and Captain's Row Drive for MTA Lines 108 and 358 and LADOT Commuter Express Line 437.

temporarily displace approximately 24 parking spaces, leading to increased competition for available beach parking and affecting pedestrian movement to the waterfront at the marina entrance for up to 2 months.

Cultural Resources

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7

It is the Archaeologists' opinion that there is insufficient evidence that a cultural resource is present. Therefore, no impact is expected.

Geology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)

2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The geology and subsurface conditions of the site have been evaluated in terms of their impact on the proposed Project. The impact of the proposed Project on the existing geologic condition of the site. The Project alternatives are suitable for the proposed construction with proper mitigation.

Hazardous Waste

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Based on reports and files reviewed at the California Division of Oil, Gas, and Geothermal Resources (CDOGGR), the proposed Project alignments lie within an area of oil well field development known as the Playa Del Rey Field. Several abandoned oil wells lie either within, or within proximity of, the proposed alignments (refer to Figure G-1 in Appendix G and also see Figure 5.7-1 for locations). In addition, other hazardous substances, such as methane and other hazardous materials may be present in the project area.

Mitigation measures prior to and during construction will insure less than significant impacts during construction for the project.

Hydrology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)

(LAX to VPP)	
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Perched groundwater, may be encountered during the excavation operation of construction. Dewatering during construction could also lower local groundwater levels and potentially result in subsidence of the immediate area adjacent to the proposed Project alignment (reference design material). However, construction dewatering would not result in a loss of groundwater from a producing aquifer. Impacts will be less than significant during construction with proper mitigation.

Land Use

✔ **Insignificant or no impact**

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Because this is a municipal project providing improvements to public facilities through the City of Los Angeles Department of Public Works, this Project will adhere to all local and regional regulatory requirements necessary for the construction of the sewer. Additionally, this Project is not a land use, nor does it require a change/variance in land use; therefore, there are no impacts to land uses within the Project areas.

Noise

✔ **Insignificant or no impact**

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 6
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	12
Pacific Avenue/Vista Del Mar	1, 3

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	5
Dockweiler Beach to Pacific Avenue Alignment	9
Marquesas Way/Via Marina Way	Marquesas Way/Via Marina Way
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	4, 5, Westchester/Playa Del Rey Alignment

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach Alignment	9
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11, 8

Construction noise emissions from micro-tunneling would be dominated by stationary equipment. Assuming five pieces of heavy equipment operating simultaneously (the power unit for the TBM, a crane, a supply truck and two air compressors), the typical noise level from micro-tunneling activity would be approximately 88 dBA at a distance of 50 feet, as shown in Table 5.10-7. Noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact during construction.

Paleontology

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7
Pacific Avenue/Vista Del Mar	1, 3

There have been no Paleontological findings within this portion of the project area and no impacts are anticipated as a result of construction related activities to the project in this area.

Public Facilities and Services

Insignificant or no impact

Alternative	Impact Area
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11
Pacific Avenue/Vista Del Mar	1

Impacts to these areas may be mitigated to levels of less then significant with appropriate mitigation as defined in Section 8 of this document.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9

2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9
Dockweiler Beach Alignment	5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9
Marquesas Way/Via Marina Way	12, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	4, 5

Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

There would be adverse impacts of existing recreational activities and use of public recreational resources during Project construction, however there will be no long term adverse affects.
• Sightseeing from the Via Marina (a scenic highway/drive) would be affected; and
• The existing parking for the marina at the intersection of Marquesas Way and Via Marina will be eliminated and used for a pipe laydown area. Access to the marina would be affected.
• Pipe laydown activities associated with Push Site 2 would interrupt access to the public trail along the east side of Grand Canal that starts at Via Dolce;
• All or most of the parking along Via Marina at the entrance channel would be removed;
• Access to a designated scenic highway/drive would be eliminated for a period of about 7 months. Via Marina along the entrance channel would be closed to public traffic (one lane would be closed and, along with the parking area, one would be used for a construction/laydown site);
• The Class II Bike Trail along Pacific Avenue would be closed during construction;
• Beach access at Hurricane Street would be affected by the extraction shaft, and cut-and-cover-construction along Hurricane Street. This area is used for passive recreation and volleyball;
• Fishing from the North Jetty would be restricted due to laydown area and receive site. No parking would be available in this area; and
• Construction activities on the beach and reduced parking could interfere with scheduled recreational events on the beach such as volleyball tournaments. The parking lot at Del Rey Lagoon Park would be used by the Project. The construction activity would affect the recreation experience for this park;
• The bike path at Pacific Avenue bridge and along the la-down area at 62nd Street would be adversely affected;
• Access to the beach would be adversely affected, as parking would be removed along 62nd Street and along Pacifica Avenue at the park; and
• The Napoleon Street residential foot path could be interrupted by construction activities.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Marquesas Way/Via Marina Way	8
Pacific Avenue Alignment	7, Pacific Avenue

Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

Visual/Aesthetics

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment	2

(LAX to Hurricane)	
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11, 12

Visual impacts are less than significant at this location.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The visual sensitivity of these areas indicate that any construction related equipment and activity during construction will adversely affect these areas. Please see section 5.12 for detailed impact information.

Water Quality

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Impact to Water Quality in this area can be reduced to less than significant by implementing mitigation measures as defined in Section 8 of this document.

6.3.3 Playa Del Rey

Air Quality

Insignificant or no impact

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	10, 11, 12, 8
Pacific Avenue Alignment	10
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The use of construction equipment on site would potentially result in localized air quality impact. Emissions from construction equipment generated from site grading activities were calculated using emission factors provided in the SCAQMD's Since the TBM is electrically driven, micro-tunneling is anticipated to produce minimal emissions if the TBM can be powered directly from the City's electrical grid.

Biology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach Alignment	1
Marquesas Way/Via Marina Way	11, 12
Pacific Avenue Alignment	10, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

1. Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the Grand Canal during construction, although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area.

2. Temporary impacts to water quality and marine resources at launching and receiving sites associated with the submarine canal erosion could occur through the unintentional release of excavated sediments and water into the local environment.

3. Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance. Furthermore, those least terns using the nesting site will be affected if open-cut excavation, jacking pit, or micro-tunneling is used, within 500 feet of the nesting site. Additionally, the increased human disturbance may attract tern predators (i.e., American crow).

Circulation

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2

Dockweiler Beach Alignment	1, 3
Dockweiler Beach to Pacific Avenue Alignment	6
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	1, 3, Westchester/Playa Del Rey Alignment

Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10, 9
Pacific Avenue Alignment	7
Pacific Avenue/Vista Del Mar	4, 5

1. The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way,

2. Temporary closure of the eastbound right-turn only lane on Marquesas Way and the outer southbound lane on Via Marina south of the Marquesas Way would be necessary. Vehicles on Marquesas Way intending to make eastbound right-turn maneuvers would have to make wide turning movements to go around the shaft site to travel southbound on Via Marina.

pedestrian access would be impacted at Via Marina/Marquesas Way because of the temporary closure of the west and south legs of the pedestrian crosswalks

Temporary closure of the outer southbound lane on Via Marina would be necessary to provide space for the open-trench construction zone during the 3-week cycle

The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way, Tahiti Way, and Captain's Row Drive for MTA Lines 108 and 358 and LADOT Commuter Express Line 437.

temporarily displace approximately 24 parking spaces, leading to increased competition for available beach parking and affecting pedestrian movement to the waterfront at the marina entrance for up to 2 months.
Pacific Avenue Alignment

localized construction impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways,

leading to reductions in roadway capacity.

Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue
The open-trench construction of the Pacific Avenue segment could temporarily affect the transit system by requiring the relocation of transit bus stops on Pacific Avenue northbound in the immediate vicinity of the construction areas.

Pacific Avenue is designated a Class II Bikeway by the City of Los Angeles. Increased safety risks for vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to streets. Pedestrian access to the bridge across Ballona Lagoon at Lighthouse Street would also be affected during the daytime construction period.

Dockweiler Beach to Pacific Avenue Alignment

The temporary localized impacts on the transportation system would occur due the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.
Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be required for MTA Lines 108 and 358 and LADOT Commuter Express Line 437 would be necessary

Pedestrian and bike movement in the vicinity would also be affected by construction on Hurricane Street.

Construction of the beach alignment would have possible conflicts with the walking path adjacent to the jacking pit at the oceanfront.

Construction of the entire North Dockweiler Beach alignment in combination with either of the two Playa Del Rey alignments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments north of the Marina Del Rey Channel in Marina Del Rey.

Pacific Avenue/Vista Del Mar Alignment

Localized construction related impacts on the transportation system would occur as a result of a reduction in roadway capacity due to construction traffic and the closure of roadway travel lanes.

During the tunnel-boring and open-trench construction, 62nd Avenue east of Pacific Avenue would be temporarily closed and would result in the temporary loss of approximately 15 parking spaces in the public parking lot.

Non-motorized transportation would be temporarily affected by establishment of the laydown area of the tunnel-boring construction. Pedestrian pathways to Back Bay Place and the Del Rey

During the in-street construction on Pacific Avenue between 66th Avenue and Culver Boulevard, temporary removal of street parking on one side of the would be required to allow two-way traffic to safely travel through this segment of Pacific Avenue.
The Lagoon waterfront would need to be diverted around the construction laydown area.

Dockweiler Beach Alignment

Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be necessary.

Construction traffic (both worker and truck trips) generated from both the tunnel construction and the cut-and-cover activities on both ends of the alignment would result in adverse construction-period impacts at two of the nine analyzed study intersections and 1 of the 23 study segments:

- Pacific Avenue at Washington Boulevard
- Nicholson Street at Culver Boulevard
- Culver Boulevard east of Nicholson Street (p.m. peak hour)

Mined Tunnel Construction

Project impacts at the shaft would result in unavoidable localized impacts on the vehicular and non-motorized transportation on Hurricane Street west of Grand Canal during construction.

Cultural Resources

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	5
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The proposed development of the sewer alignment has the potential to cause a significant impact on unknown cultural resources. There is only one site alternative that may be impacted by the Project located at the Viista Del Mar alignment. Mitigation monitoring to insure no disturbance to potential cultural resources in the area will reduce potential impacts.

Geology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The geology and subsurface conditions of the site have been evaluated in terms of their impact on the proposed Project. The impact of the proposed Project on the existing geologic condition of the site. The Project alternatives are suitable for the proposed construction with proper mitigation.

Hazardous Waste

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Based on reports and files reviewed at the California Division of Oil, Gas, and Geothermal Resources (CDOGGR), the proposed Project alignments lie within an area of oil well field development known as the Playa Del Rey Field. Several abandoned oil wells lie either within, or within proximity of, the proposed alignments (refer to Figure G-1 in Appendix G and also see Figure 5.7-1 for locations). In addition, other hazardous substances, such as methane and other hazardous materials may be present in the project area.

Mitigation measures prior to and during construction will insure less than significant impacts during construction for the project.

Hydrology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Perched groundwater, may be encountered during the excavation operation of construction. Dewatering during construction could also lower local groundwater levels and potentially result in subsidence of the immediate area adjacent to the proposed Project

alignment (reference design material). However, construction dewatering would not result in a loss of groundwater from a producing aquifer. Impacts will be less than significant during construction with proper mitigation.

Land Use

✔ **Insignificant or no impact**

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Because this is a municipal project providing improvements to public facilities through the City of Los Angeles Department of Public Works, this Project will adhere to all local and regional regulatory requirements necessary for the construction of the sewer. Additionally, this Project is not a land use, nor does it require a change/variance in land use; therefore, there are no impacts to land uses within the Project areas.

Noise

✔ **Insignificant or no impact**

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 6
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	12
Pacific Avenue/Vista Del Mar	1, 3

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	5
Dockweiler Beach to Pacific Avenue Alignment	9
Marquesas Way/Via Marina Way	Marquesas Way/Via Marina Way
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	4, 5, Westchester/Playa Del Rey Alignment

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Paleontology

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7
Pacific Avenue/Vista Del Mar	1, 3

There have been no Paleontological findings within this portion of the project area and no impacts are anticipated as a result of construction related activities to the project in this area.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	5
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	4, 5, Westchester/Playa Del Rey Alignment

Paleontologic resources of the coastal deposits that would result from earth-moving activities at and near the surface probably would be considered to be of low significance because the coastal deposits probably are too young at and near the surface to contain remains old enough to be considered fossilized.

The paleontologic resources of the coastal deposits that would result from earth-moving activities at the project site would be considered to be of high paleontologic significance at depth because there probably is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities.

There have been no recorded paleontologic recordings in the project area except for the LAX Dunes. Monitoring by a qualified paleontologist in this area should be conducted to insure proper evaluation and handling of any potential findings.

Public Facilities and Services

Insignificant or no impact

Alternative	Impact Area
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11
Pacific Avenue/Vista Del Mar	1

Impacts to these areas may be mitigated to levels of less then significant with appropriate mitigation as defined in Section 8 of this document.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2, Mined Tunnel - Beach Alignment (LAX to Hurricane)

3. Mined Tunnel - Beach Alignment (LAX to VPP)	2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3
Pacific Avenue Alignment	10
Pacific Avenue/Vista Del Mar	3, Westchester/Playa Del Rey Alignment

Impacts to this area will be less than significant with proper mitigation as defined in Section 8 of this document.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9
Dockweiler Beach Alignment	5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9
Marquesas Way/Via Marina Way	12, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	4, 5

Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

There would be adverse impacts of existing recreational activities and use of public recreational resources during Project construction, however there will be no long term adverse affects.

• Sightseeing from the Via Marina (a scenic highway/drive) would be affected; and
• The existing parking for the marina at the intersection of Marquesas Way and Via Marina will be eliminated and used for a pipe laydown area. Access to the marina would be affected.
• Pipe laydown activities associated with Push Site 2 would interrupt access to the public trail along the east side of Grand Canal that starts at Via Dolce;
• All or most of the parking along Via Marina at the entrance channel would be removed;
• Access to a designated scenic highway/drive would be eliminated for a period of about 7 months. Via Marina along the entrance channel would be closed to public traffic (one lane would be closed and, along with the parking area, one would be used for a construction/laydown site);
• The Class II Bike Trail along Pacific Avenue would be closed during construction;
• Beach access at Hurricane Street would be affected by the extraction shaft, and cut-and-cover-construction along Hurricane Street. This area is used for passive recreation and volleyball;
• Fishing from the North Jetty would be restricted due to laydown area and receive site. No parking would be available in this area; and
• Construction activities on the beach and reduced parking could interfere with scheduled recreational events on the beach such as volleyball tournaments. The parking lot at Del Rey Lagoon Park would be used by the Project. The construction activity would affect the recreation experience for this park;
• The bike path at Pacific Avenue bridge and along the la-down area at 62nd Street would be adversely affected;
• Access to the beach would be adversely affected, as parking would be removed along 62nd Street and along Pacifica Avenue at the park; and
• The Napoleon Street residential foot path could be interrupted by construction activities.

Visual/Aesthetics

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The visual sensitivity of these areas indicate that any construction related equipment and activity during construction will adversely affect these areas. Please see section 5.12 for detailed impact information.

Water Quality

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Impact to Water Quality in this area can be reduced to less than significant by implementing mitigation measures as defined in Section 8 of this document.

6.3.4 Venice

Air Quality

Insignificant or no impact

Alternative	Impact Area
Pacific Avenue Alignment	7

No Air Quality impacts due to mined tunneling activities are anticipated at this location.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2

Air Quality impacts are not anticipated at this location.

Insignificant or no impact

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	10, 11, 12, 8
Pacific Avenue Alignment	10
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The use of construction equipment on site would potentially result in localized air quality impact. Emissions from construction equipment generated from site grading activities were calculated using emission factors provided in the SCAQMD's Since the TBM is electrically driven, micro-tunneling is anticipated to produce minimal emissions if the TBM can be powered directly from the City's electrical grid.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10, 9
Marquesas Way/Via Marina Way	Marquesas Way/Via Marina Way

Due to the close proximity of housing to the shaft area, extended periods of running construction related equipment could pose impacts to localized air quality.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Pacific Avenue Alignment	Pacific Avenue

No Air Quality impacts due to mined tunneling activities are anticipated at this location.

1. Construction activities produce combustion emissions from various sources such as site grading, generators, worker's vehicles, on-site heavy-duty construction vehicles, and trucks hauling materials to and from the site. Exhaust and fugitive dust emissions from construction activities on site would vary daily as construction activity levels change. The use of construction equipment on site would potentially result in localized air quality impacts. The combination of open trench and micro-tunneling construction is expected to have a significant impact on air quality, unless mitigation measures for NO_x are implemented.

2. Fugitive dust emissions are generally associated with demolition, land clearing, exposure, and cut and fill operations. Dust generated during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions.

3. Depending on construction schedules of all the projects in the area, fugitive dust and pollutant emissions generated during construction may result in substantial short-term increases in air pollutants, which would contribute to short-term cumulative air quality impacts.

4. Construction activities produce combustion emissions from various sources such as site drilling, generators, worker's vehicles, on-site heavy-duty construction vehicles, and trucks hauling materials to and from the site.

5. Exhaust and fugitive dust emissions from construction activities on site would vary daily as construction activity levels change. The use of construction equipment on site would potentially result in localized air quality impacts. The combination of open trench and micro-tunneling construction is expected to have a significant impact on air quality, unless mitigation measures for NO_x are implemented.

6. Dust generated during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions.

7. Depending on construction schedules of all the projects in the area, fugitive dust and pollutant emissions generated during construction may result in substantial short-term increases in air pollutants, which would contribute to short-term cumulative air quality impacts.

Biology

Insignificant or no impact

Alternative	Impact Area
Pacific Avenue Alignment	7

The Via Marina at Pacific Avenue is located 600 linear feet from the least tern nesting area. Noise and other activities associated with Project construction would affect least tern nesting if construction during the nesting season is located less than 1,000 linear feet from

the least tern nesting area. However, even though this site is located less than 1,000 linear feet from the least tern nesting area, it is separated by a housing development. Therefore, the alignment would not be expected to result in temporary (and no permanent) effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2
Marquesas Way/Via Marina Way	10, 8, Marquesas Way/Via Marina Way

Noise and other activities associated with Project construction would affect least tern nesting if construction during the nesting season is located less than 1,000 linear feet from the least tern nesting area. However, even though this site is located less than 1,000 linear feet from the least tern nesting area, it is separated by a housing development. Therefore, the alignment would not be expected to result in temporary (and no permanent) effects on the nesting site. No other temporary impacts on least tern foraging habitat are expected to occur.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach to Pacific Avenue Alignment	9

Temporary impacts to water quality and marine resources at launching and receiving sites associated with the submarine canal erosion could occur through the unintentional release of excavated sediments and water into the local environment.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
Dockweiler Beach to Pacific Avenue Alignment	10

Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance. Furthermore, those least terns using the nesting site will

be affected if open-cut excavation, jacking pit, or micro-tunneling is used, within 500 feet of the nesting site. Additionally, the increased human disturbance may attract tern predators (i.e., American crow).

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach Alignment	3, 5, 6, 9

1. Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the Grand Canal although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area. 2. Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance within 500 feet of the nesting site. Although the shaft is over 500 feet from the Least Tern area, proper mitigation should be implemented for worker related activity on the beach near the construction site.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach to Pacific Avenue Alignment	4, 6

1. The proposed project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area during construction with proper mitigation as defined in section 5.3. 1. Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance within 500 feet of the nesting site. Although the shaft is over 500 feet from the Least Tern area, proper mitigation should be implemented for worker related activity on the beach near the construction site.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach Alignment	1
Marquesas Way/Via Marina Way	11, 12
Pacific Avenue Alignment	10, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

1. Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the Grand Canal during construction, although the proposed Project is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat in the area.

2. Temporary impacts to water quality and marine resources at launching and receiving sites associated with the submarine canal erosion could occur through the unintentional release of excavated sediments and water into the local environment.

3. Any construction activities conducted during the least tern nesting season when terns are present, may impose significant temporary impacts in the form of noise, surface vibration, and increased human disturbance. Furthermore, those least terns using the nesting site will be affected if open-cut excavation, jacking pit, or micro-tunneling is used, within 500 feet of the nesting site. Additionally, the increased human disturbance may attract tern predators (i.e., American crow).

Circulation

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)

Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	1, 3
Dockweiler Beach to Pacific Avenue Alignment	6
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	1, 3, Westchester/Playa Del Rey Alignment

Construction traffic (both worker and truck trips) generated from both the tunnel construction would not adversely impact any of the study roadway segments but would result in an adverse impact at one of the nine analyzed study intersections:

- Pacific Avenue at Washington Boulevard (p.m. peak hour)

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10, 9
Pacific Avenue Alignment	7
Pacific Avenue/Vista Del Mar	4, 5

1. The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way,

2. Temporary closure of the eastbound right-turn only lane on Marquesas Way and the outer southbound lane on Via Marina south of the Marquesas Way would be necessary. Vehicles on Marquesas Way intending to make eastbound right-turn maneuvers would have to make wide turning movements to go around the shaft site to travel southbound on Via Marina.

pedestrian access would be impacted at Via Marina/Marquesas Way because of the temporary closure of the west and south legs of the pedestrian crosswalks

Temporary closure of the outer southbound lane on Via Marina would be necessary to provide space for the open-trench construction zone during the 3-week cycle

The open-trench construction of this Via Marina segment could temporarily affect the transit system by requiring the relocation of transit bus stops in the vicinity of the construction areas on Via Marina southbound at Marquesas Way, Tahiti Way, and Captain's Row Drive for MTA Lines 108 and 358 and LADOT Commuter Express Line 437.

temporarily displace approximately 24 parking spaces, leading to increased competition for available beach parking and affecting pedestrian movement to the waterfront at the marina entrance for up to 2 months.
Pacific Avenue Alignment

localized construction impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue
The open-trench construction of the Pacific Avenue segment could temporarily affect the transit system by requiring the relocation of transit bus stops on Pacific Avenue northbound in the immediate vicinity of the construction areas.

Pacific Avenue is designated a Class II Bikeway by the City of Los Angeles. Increased safety risks for vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to streets. Pedestrian access to the bridge across Ballona Lagoon at Lighthouse Street would also be affected during the daytime construction period.

Dockweiler Beach to Pacific Avenue Alignment

The temporary localized impacts on the transportation system would occur due the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.
Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be required for MTA Lines 108 and 358 and LADOT Commuter Express Line 437 would be necessary

Pedestrian and bike movement in the vicinity would also be affected by construction on Hurricane Street.

Construction of the beach alignment would have possible conflicts with the walking path adjacent to the jacking pit at the oceanfront.

Construction of the entire North Dockweiler Beach alignment in combination with either of the two Playa Del Rey alignments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments north of the Marina Del Rey Channel in Marina Del Rey.

Pacific Avenue/Vista Del Mar Alignment

Localized construction related impacts on the transportation system would occur as a result of a reduction in roadway capacity due to construction traffic and the closure of roadway travel lanes.

During the tunnel-boring and open-trench construction, 62nd Avenue east of Pacific Avenue would be temporarily closed and would result in the temporary loss of approximately 15 parking spaces in the public parking lot.

Non-motorized transportation would be temporarily affected by establishment of the laydown area of the tunnel-boring construction. Pedestrian pathways to Back Bay Place and the Del Rey

During the in-street construction on Pacific Avenue between 66th Avenue and Culver Boulevard, temporary removal of street parking on one side of the would be required to allow two-way traffic to safely travel through this segment of Pacific Avenue.
The Lagoon waterfront would need to be diverted around the construction laydown area.

Dockweiler Beach Alignment

Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be necessary.

Construction traffic (both worker and truck trips) generated from both the tunnel construction and the cut-and-cover activities on both ends of the alignment would result in adverse construction-period impacts at two of the nine analyzed study intersections and 1 of the 23 study segments:

- Pacific Avenue at Washington Boulevard
- Nicholson Street at Culver Boulevard
- Culver Boulevard east of Nicholson Street (p.m. peak hour)

Mined Tunnel Construction

Project impacts at the shaft would result in unavoidable localized impacts on the vehicular and non-motorized transportation on Hurricane Street west of Grand Canal during construction.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Pacific Avenue Alignment	10, Pacific Avenue

Localized construction impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue
The open-trench construction of the Pacific Avenue segment could temporarily affect the transit system by requiring the relocation of transit bus stops on Pacific Avenue northbound in the immediate vicinity of the construction areas.

Pacific Avenue is designated a Class II Bikeway by the City of Los Angeles. Increased safety risks for vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to streets. Pedestrian access to the bridge across Ballona Lagoon at Lighthouse Street would also be affected during the daytime construction period.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach to Pacific Avenue Alignment	4

The temporary localized impacts on the transportation system would occur due the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity.

Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be required for MTA Lines 108 and 358 and LADOT Commuter Express Line 437 would be necessary

Pedestrian and bike movement in the vicinity would also be affected by construction on Hurricane Street.

Construction of the beach alignment would have possible conflicts with the walking path adjacent to the jacking pit at the oceanfront.

Construction of the entire North Dockweiler Beach alignment in combination with either of the two Playa Del Rey alignments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments north of the Marina Del Rey Channel in Marina Del Rey.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Dockweiler Beach Alignment	5, 6, 9

Temporary relocation of bus stops at the northwest and northeast corner of the Pacific Avenue/Hurricane Street intersection would be necessary.

Construction traffic (both worker and truck trips) generated from both the tunnel construction and the cut-and-cover activities on both ends of the alignment would result in adverse construction-period impacts at two of the nine analyzed study intersections and 1

of the 23 study segments:

- Pacific Avenue at Washington Boulevard
- Nicholson Street at Culver Boulevard
- Culver Boulevard east of Nicholson Street (p.m. peak hour)

Cultural Resources

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7

It is the Archaeologists' opinion that there is insufficient evidence that a cultural resource is present. Therefore, no impact is expected.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	5
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The proposed development of the sewer alignment has the potential to cause a significant impact on unknown cultural resources. There is only one site alternative that may be impacted by the Project located at the Viista Del Mar alignment. Mitigation monitoring to insure no disturbance to potential cultural resources in the area will reduce potential impacts.

Geology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)

2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The geology and subsurface conditions of the site have been evaluated in terms of their impact on the proposed Project. The impact of the proposed Project on the existing geologic condition of the site. The Project alternatives are suitable for the proposed construction with proper mitigation.

Hazardous Waste

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Based on reports and files reviewed at the California Division of Oil, Gas, and Geothermal Resources (CDOGGR), the proposed Project alignments lie within an area of oil well field development known as the Playa Del Rey Field. Several abandoned oil wells lie either within, or within proximity of, the proposed alignments (refer to Figure G-1 in Appendix G and also see Figure 5.7-1 for locations). In addition, other hazardous substances, such as methane and other hazardous materials may be present in the project area.

Mitigation measures prior to and during construction will insure less than significant impacts during construction for the project.

Hydrology

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)

(LAX to VPP)	
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Perched groundwater, may be encountered during the excavation operation of construction. Dewatering during construction could also lower local groundwater levels and potentially result in subsidence of the immediate area adjacent to the proposed Project alignment (reference design material). However, construction dewatering would not result in a loss of groundwater from a producing aquifer. Impacts will be less than significant during construction with proper mitigation.

Land Use

✔ **Insignificant or no impact**

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Because this is a municipal project providing improvements to public facilities through the City of Los Angeles Department of Public Works, this Project will adhere to all local and regional regulatory requirements necessary for the construction of the sewer. Additionally, this Project is not a land use, nor does it require a change/variance in land use; therefore, there are no impacts to land uses within the Project areas.

Noise

✔ **Insignificant or no impact**

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3, 6
Dockweiler Beach to Pacific Avenue Alignment	4, 6
Marquesas Way/Via Marina Way	12
Pacific Avenue/Vista Del Mar	1, 3

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2

Residences would experience less-than-significant vibration levels from these construction activities. No significant vibration impacts from large-diameter tunneling activities are predicted for this alternative.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	5
Dockweiler Beach to Pacific Avenue Alignment	9
Marquesas Way/Via Marina Way	Marquesas Way/Via Marina Way
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	4, 5, Westchester/Playa Del Rey Alignment

A construction related noise would constitute a short-term but significant impact unless mitigation measures are implemented throughout this alignment.

Based upon the construction noise data, noise levels on the construction site could exceed federal Occupational Safety and Health Act (OSHA) and California Department of Industrial Relations, Division of California Occupational Safety and Health Administration (Cal-OSHA) regulations (8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.) for worker noise exposure. Compliance with Cal-OSHA regulation will ensure that construction personnel are adequately protected from potential noise hazards.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach Alignment	9
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11, 8

Construction noise emissions from micro-tunneling would be dominated by stationary equipment. Assuming five pieces of heavy equipment operating simultaneously (the power unit for the TBM, a crane, a supply truck and two air compressors), the typical noise level from micro-tunneling activity would be approximately 88 dBA at a distance of 50 feet, as shown in Table 5.10-7. Noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant impact during construction.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Pacific Avenue Alignment	10, 7

Construction noise emissions from micro-tunneling would be dominated by stationary equipment. Assuming five pieces of heavy equipment operating simultaneously (the power unit for the TBM, a crane, a supply truck and two air compressors), the typical noise level from micro-tunneling activity would be approximately 88 dBA at a distance of 50 feet, as shown in Table 5.10-7. Noise levels at residences adjacent to the launch and receiving pit work areas would be of a magnitude that would constitute a short-term but significant.

Paleontology

Insignificant or no impact

Alternative	Impact Area
Dockweiler Beach Alignment	1, 3

paleontologic resources of the coastal deposits that would result from earth-moving activities at and near the surface probably would be considered to be of low significance because the coastal deposits probably are too young at and near the surface to contain remains old enough to be considered fossilized.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)

3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7
Pacific Avenue/Vista Del Mar	1, 3

There have been no Paleontological findings within this portion of the project area and no impacts are anticipated as a result of construction related activities to the project in this area.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9

The paleontologic resources of the coastal deposits that would result from earth-moving activities at the project site would be considered to be of high paleontologic significance at depth because there probably is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities.

There have been no recorded paleontologic recordings in the project area except for the LAX Dunes. Monitoring by a qualified paleontologist in this area should be conducted to insure proper evaluation and handling of any potential findings.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach Alignment	5
Pacific Avenue Alignment	Pacific Avenue
Pacific Avenue/Vista Del Mar	4, 5, Westchester/Playa Del Rey Alignment

Paleontologic resources of the coastal deposits that would result from earth-moving activities at and near the surface probably would be considered to be of low significance because the coastal deposits probably are too young at and near the surface to contain remains old enough to be considered fossilized.

The paleontologic resources of the coastal deposits that would result from earth-moving activities at the project site would be considered to be of high paleontologic significance at

depth because there probably is a high potential for the loss of scientifically important fossil remains, unrecorded fossil sites, and associated specimen data and corresponding geologic and geographic site data as a result of these activities.

There have been no recorded paleontologic recordings in the project area except for the LAX Dunes. Monitoring by a qualified paleontologist in this area should be conducted to insure proper evaluation and handling of any potential findings.

Public Facilities and Services

Insignificant or no impact

Alternative	Impact Area
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11
Pacific Avenue/Vista Del Mar	1

Impacts to these areas may be mitigated to levels of less then significant with appropriate mitigation as defined in Section 8 of this document.

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3
Pacific Avenue Alignment	10
Pacific Avenue/Vista Del Mar	3, Westchester/Playa Del Rey Alignment

Impacts to this area will be less than significant with proper mitigation as defined in Section 8 of this document.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9
Dockweiler Beach Alignment	5, 6, 9
Dockweiler Beach to Pacific Avenue	4, 6, 9

Alignment	
Marquesas Way/Via Marina Way	12, Marquesas Way/Via Marina Way
Pacific Avenue/Vista Del Mar	4, 5

Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

There would be adverse impacts of existing recreational activities and use of public recreational resources during Project construction, however there will be no long term adverse affects.

- Sightseeing from the Via Marina (a scenic highway/drive) would be affected; and
- The existing parking for the marina at the intersection of Marquesas Way and Via Marina will be eliminated and used for a pipe laydown area. Access to the marina would be affected.
- Pipe laydown activities associated with Push Site 2 would interrupt access to the public trail along the east side of Grand Canal that starts at Via Dolce;
- All or most of the parking along Via Marina at the entrance channel would be removed;
- Access to a designated scenic highway/drive would be eliminated for a period of about 7 months. Via Marina along the entrance channel would be closed to public traffic (one lane would be closed and, along with the parking area, one would be used for a construction/laydown site);
- The Class II Bike Trail along Pacific Avenue would be closed during construction;
- Beach access at Hurricane Street would be affected by the extraction shaft, and cut-and-cover-construction along Hurricane Street. This area is used for passive recreation and volleyball;
- Fishing from the North Jetty would be restricted due to laydown area and receive site. No parking would be available in this area; and
- Construction activities on the beach and reduced parking could interfere with scheduled recreational events on the beach such as volleyball tournaments. The parking lot at Del Rey Lagoon Park would be used by the Project. The construction activity would affect the recreation experience for this park;
- The bike path at Pacific Avenue bridge and along the la-down area at 62nd Street would be adversely affected;
- Access to the beach would be adversely affected, as parking would be removed along 62nd Street and along Pacifica Avenue at the park; and
- The Napoleon Street residential foot path could be interrupted by construction activities.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
Marquesas Way/Via Marina Way	8
Pacific Avenue Alignment	7, Pacific Avenue

Some laydown and staging areas would adversely affect local recreation resources throughout the construction period. Cut-and-cover activities along the pipeline corridor would affect specific areas for periods of approximately 3 weeks in any 1,000-foot segment.

Visual/Aesthetics

Insignificant or no impact

Alternative	Impact Area
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10
4. Mined Tunnel - Inland Alignment	10

(LAX to VPP)

The visual sensitivity of these areas indicate that any construction related equipment and activity during construction will adversely affect these areas. Please see section5.12 for detailed impact information.

Insignificant or no impact

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	2
3. Mined Tunnel - Beach Alignment (LAX to VPP)	2
4. Mined Tunnel - Inland Alignment (LAX to VPP)	2
Dockweiler Beach to Pacific Avenue Alignment	10
Marquesas Way/Via Marina Way	10, 11, 12

Visual impacts are less than significant at this location.

Impact that cannot be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)
2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	4, 6, 9
Marquesas Way/Via Marina Way	8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

The visual sensitivity of these areas indicate that any construction related equipment and activity during construction will adversely affect these areas. Please see section 5.12 for detailed impact information.

Water Quality

Impact that can be mitigated to a level of insignificance

Alternative	Impact Area
1. Mined Tunnel - Beach Alignment (Waterview to Hurricane)	2, 9, Mined Tunnel - Beach Alignment (Waterview to Hurricane)

2. Mined Tunnel - Beach Alignment (LAX to Hurricane)	10, 2, 9, Mined Tunnel - Beach Alignment (LAX to Hurricane)
3. Mined Tunnel - Beach Alignment (LAX to VPP)	10, 2, Mined Tunnel - Beach Alignment (LAX to VPP)
4. Mined Tunnel - Inland Alignment (LAX to VPP)	10, 2, Mined Tunnel - Inland Alignment (LAX to VPP)
Dockweiler Beach Alignment	1, 3, 5, 6, 9
Dockweiler Beach to Pacific Avenue Alignment	10, 4, 6, 9
Marquesas Way/Via Marina Way	10, 11, 12, 8, Marquesas Way/Via Marina Way
Pacific Avenue Alignment	10, 7, Pacific Avenue
Pacific Avenue/Vista Del Mar	1, 3, 4, 5, Westchester/Playa Del Rey Alignment

Impact to Water Quality in this area can be reduced to less than significant by implementing mitigation measures as defined in Section 8 of this document.

7.0 GROWTH-INDUCING AND CUMULATIVE IMPACTS

7.1 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires a discussion of the growth-inducing impacts of proposed projects. Growth-inducing impacts are secondary, or indirect, impacts that could occur as a result of the project that are manifested as changes in land use patterns, population density and growth rates; and related effects on traffic, public services, air, water, biological and other environmental resources.

Over the past several decades, the Bureau of Engineering has designed and constructed numerous wastewater conveyance system projects. The issue of potential growth inducement resulting from an increase in sewer conveyance capacity has been raised in the past by various individuals and organizations. The primary issue is whether the provision of sewer capacity induces growth, which would otherwise not occur. This section addresses the role that wastewater conveyance capacity plays in the growth of the City.

The primary types of growth that occur in the City are land use development and population. Because these types of growth are distinct, and interrelated, this section examines the relationship of sewer conveyance capacity with each type of growth.

LAND USE DEVELOPMENT AND WASTEWATER CONVEYANCE

The development of land in the City is governed by the land use and zoning designations of particular parcels. Unless conditional use permits, density transfers or variances are obtained from the Planning Department, development must conform to the type and density designated for that parcel. Zoning reflects the land use policies contained in the General Plan.

The decision of a land owner to develop a single parcel or numerous parcels of land may be based on personal or economic reasons. Whether personal, economic or both, the availability of wastewater conveyance capacity is not likely to be a consideration in the decision to develop. Once the decision to develop a parcel has been made, permission to connect to the wastewater collection system must be obtained as part of the building permit process. A sewer connection permit can only be obtained if adequate capacity to serve the proposed development is available. Sewer connection and other building permit fees are charged in proportion to the density of development proposed. The high sewer connection fees and other building permit fees associated with the most intensive levels of development increase the costs of developing land in the City and can be considered economic disincentives to development.

In a mature urbanized area such as Los Angeles, the provision of wastewater conveyance capacity would not induce land development that would not otherwise occur.

POPULATION GROWTH AND WASTEWATER CAPACITY

Population within southern California and the City of Los Angeles is anticipated to grow significantly over the next 20 years and further into the future. The projected increase in population will come from two sources, natural increases and in-migration. SCAG predicts that approximately 60 percent of

projected future population growth would occur from natural causes (births minus deaths) and 40 percent would come from the in-migration of people from other areas.

Wastewater conveyance capacity is required to accommodate the increases in wastewater flows associated with the population increases. The provision of wastewater conveyance capacity will not induce either natural population growth or in-migration. SCAG has established the policy that conveyance systems, including interceptors, are not subject to its air quality conformity procedures, because of the absence of effects on population growth.

GROWTH MANAGEMENT IN LOS ANGELES

SCAG, which includes the City of Los Angeles among its member jurisdiction, has prepared the Regional Comprehensive Plan and Guide and the Growth Management Plan. These plans address regional growth and related issues. In addition, the City of Los Angeles' General Plan governs land use development within its jurisdiction.

The Regional Comprehensive Plan and Guide (March 1996) serves as a comprehensive overview of the issues and opportunities facing the region. This plan consists of three sections, core chapters, ancillary chapters, and bridge chapters. Core chapters include plans such as the Growth Management Plan, the Regional Mobility Plan, Air Quality Plan, and other documents that SCAG is required to produce (by federal and/or state mandates). Ancillary chapters address such issues as the economy, housing, and reflect other plans but serve only an advisory purpose for member governments. Bridge chapters link the core and ancillary chapters for other areas of concern.

The Growth Management Plan presents forecasts and policies for anticipated growth to the year 2020. The Growth Management Plan is based upon the amount of growth that is likely to occur and recognizes that there are no viable ways in which to control total growth. The Plan, however, seeks to control the distribution of growth in order to improve the balance between jobs and housing by encouraging housing growth in job rich areas and vice-versa.

The City's General Plan (comprised of the 35 Community Plans) governs the location and density of land use in the City through the zoning process. The Los Angeles City Planning Department revised the General Plan and the new plan, termed the "General Plan Framework," is intended to balance land use development, transportation, projected future population and projected future employment within the City of Los Angeles. The General Plan Framework's options include areas of targeted growth with higher land use designations and densities around commuter rail stations and along transportation corridors.

The planned growth of population along corridors would result in higher demands on infrastructure. There would be a need to accommodate greater quantities of wastewater that would be generated. Consequently, new wastewater conveyance facilities must be constructed, or existing facilities must be improved or upgraded.

CONCLUSIONS REGARDING GROWTH INDUCEMENT

Wastewater conveyance capacity is an infrastructure component of the urban environment that is necessary to safely accommodate the needs of existing and future populations. The provision of wastewater conveyance capacity, in and of itself, will not induce population growth or land use

development. Rather, wastewater conveyance capacity would allow population growth to occur within the General Plan Framework while minimizing sewage spills and the associated environmental, health and safety problems. Future land uses would generally not occur in densities higher than those allowed by the land use planning process. Any development projects beyond the scope of the City's General Plan would undergo individual environmental analysis (including impacts to the wastewater system) and would have to be approved by the City Council.

In wastewater planning, the sizing of collection and treatment facilities, as well as the overall system configuration, is dependent on the future system-wide flow and the distribution of that flow within the system. Since the timing of necessary improvements is partly a function of growth, a realistic estimate of the future population to be served is fundamental to effective wastewater system planning.

The VPP Dual Force Main Project would not induce growth in population or changes in land use which would not otherwise occur. No significant growth-inducing impacts are therefore associated with the project.

7.2 CUMULATIVE IMPACTS

Cumulative impacts assessment is required under Section 15130 of the CEQA Guidelines when such impacts are potentially significant. Cumulative impacts, defined in Section 15355 of the CEQA Guidelines, refer to two or more individual effects, that when considered together, are considerable or that increase other environmental impacts. Cumulative impact assessment must consider not only the impacts of the proposed Project, but also the impacts from other City and private projects, which would occur during the period of performance and geographic area of the proposed Project.

There would likely be construction activities occurring in the vicinity of the VPP Dual Force Main Project as a result of other projects being built in the same general time frame. These related projects are described in Section 1.0. Some of these projects have the potential for ongoing construction at the same time and within the same general vicinity as the VPP Dual Force Main construction. Should this be the case, the VPP Dual Force Main Project, along with other construction projects, could contribute to temporary cumulative noise and vibration effects that would not otherwise occur.

However, the VPP Dual Force Main Project would have long-term beneficial cumulative effects with regards to improvements to the City of Los Angeles' wastewater collection system. The proposed Project would result in cumulative public health benefits by minimizing or eliminating the potential for the public to be exposed to wastewater that could overflow onto streets during rainy weather and flow into area channels and the Pacific Ocean. Public safety, in the short and long-term, would be improved by minimizing the potential for sewer and street collapses associated with deteriorated sewers.

The VPP Dual Force Main Project is an integral part of the City of Los Angeles' overall wastewater improvement program. The program includes major improvements to the City's wastewater treatment and water reclamation plants, as well as improvements to the vast array of smaller conveyance and collection systems. As these various improvements are completed, substantial improvements to the City's water quality will be realized. When taken together, these collective improvements will result in full secondary treatment of all wastewater collected by the City of Los Angeles, the minimization of dry and wet weather

overflows that currently occur and the provision of adequate handling capacity to serve the wastewater needs of the City's service areas for the future.

As a major element of the City's overall wastewater program, the VPP Dual Force Main Project would provide much needed corrections for deficiencies that exist. Currently, during wet weather, peak flows to the VPP have exceeded the capacity of the existing force main, which carries wastewater away from the plant to the Hyperion Treatment Plant. All of the wastewater from the VPP is carried in one sewer. As a result, that sewer cannot be shut down for maintenance.

The benefits of construction and operating the VPP Dual Force Main to work in conjunction with the existing force main would include the following:

For the reasons above, the VPP Dual Force Main Project is judged to have long-term beneficial cumulative effects with regard to the City of Los Angeles' long-term wastewater treatment and handling objectives, in terms of long-term water quality objectives of the City of Los Angeles and the Southern California region, and in terms of the public's health and safety.

Construction activities may result in cumulative effects of the following nature:

Noise and Vibration – Local residents in the near vicinity of construction activities would be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple VPP Dual Force Main construction sites, and in the context of other related projects, are not considered significant due to the temporary nature of noise increases.

Air Quality – The VPP Dual Force Main Project will produce additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during construction. Emission of criteria pollutants resulting from the Project's construction would exceed the thresholds established by the SCAQMD, and therefore the Project, in conjunction with all other construction activity, would cumulatively contribute to the region's non-attainment status during the construction period. The SCAQMD prepared the AQMP (2003) to bring the region into compliance with the National Ambient Air Quality Standards as set by the EPA under the Clean Air Act Amendments (1990). The AQMD is essentially designed to address the cumulative air pollutants released into the SCAB. Because these construction-related emissions are temporary (18-24 months, depending on the construction method) and because the AQMD addresses cumulative air pollution in the SCAB, the Project would not result in long-term significant cumulative air quality impacts. In the short term, cumulative impacts could be significant if the combined emissions from the projects exceed the threshold criteria for the individual pollutants.

Transportation and Circulation – The VPP Dual Force Main Project would involve construction activities occurring simultaneously at a number of surface sites along the Project alignment. Construction of the VPP Dual Force Main Project may be occurring in the same general time and space as other related projects. In these instances, surface construction activities from both sets of Project could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity (see Traffic-Related Project Construction Schedule in Table 4.2-1). Special coordination efforts

may be necessary to reduce the combined effects to an acceptable level. Overall, significant cumulative impacts are not anticipated.

Public Services – The cumulative effects on public services in the VPP Dual Force Main study area would be limited to traffic inconveniences discussed above. These effects are not considered significant.

Aesthetics – Construction activities associated with other related projects may be ongoing in the vicinity of one or more VPP Dual Force Main construction sites. To the extent that combined construction activities do occur, there would be temporary adverse visual effects of less-than-significant proportions.

8.0 MITIGATION MEASURES

Table 8.0-1 Mitigation Monitoring Program

	Environmental Issue/Action	Mitigation Measure
	Air Quality	
AIR 1	To minimize NO_x emissions in construction areas.	Extend timeline for construction, thereby utilizing less equipment on a daily basis
		Utilize newer construction equipment that meet tier emissions standards
		Use of alternative fuel such as biodiesel, liquid natural gas, and propane
		Adjust engine timing to reduce NO_x emissions
	Biological Resources	
BIO 1	If the Venice Beach/Dockweiler Beach alignment is selected and construction is to be aboveground, or if tunneling is used and the jacking and/or receiving pit is within 500 feet of the nesting site, and any construction activities are to occur during the least tern nesting season (April 1 through August 31)	A biological monitor with experience observing and documenting disturbance to least terns shall be present during all construction activities within 500 feet of the nesting site to ensure that construction activities do not adversely affect least terns using the nesting site. In addition, the monitors will ensure that work crews properly dispose of all garbage in covered containers.
BIO 2	If any tunneling activities are to occur during the least tern nesting season (April 1 through August 31)	A water quality specialist or biological monitor shall conduct surveys at tunneling locations a minimum of once daily to ensure that tunneling does not increase water turbidity.
	If any turbidity from the tunneling activities is discovered in least tern foraging areas	The tunneling activities shall cease until the leak from the tunnel that is resulting in turbidity is repaired or managed.
BIO 3	Existing and potential values in environmentally sensitive habitat areas shall be protected, enhanced, and where feasible, restored. If any habitat is disturbed	Based on the City of Venice LUP and LCP, restore to ESHAs to previous undisturbed condition.
	Marine resources shall be maintained, enhanced, and where feasible, restored. If any marine resources are disturbed	Based on the City of Venice LUP and LCP, restore to previous undisturbed condition.
	Circulation, Traffic and Parking	
TRA 1	To coordinate with the city to ensure adequate traffic signals and controls are in place prior to and during times of construction	For each construction site, a construction traffic management plan shall be prepared and submitted to the City for review and approval prior to the start of any construction work.
TRA 2	To adequately control traffic to ensure compliance with all local and state safety standards and specifications	A site-specific construction worksite traffic control plan shall be prepared for each construction site and submitted to the City for review and approval prior to the start of any construction work. This plan shall include such elements as the location of any lane closures, restricted hours during which lane closures would not be allowed, local traffic detours, protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, temporary traffic signals, warning signs), access to abutting properties, and provisions to maintain emergency access through construction work areas. Coordinate with emergency service providers (police, fire, ambulance and paramedic services) to provide advance notice of any lane closures, construction hours and changes to local access and to identify alternative routes where appropriate.
TRA 3	To reduce traffic congestion	Fully utilize available street space to minimize lane reductions on affected streets, including elimination of on-street parking where necessary. Implement left-turn restrictions as appropriate on re-striped street segments to facilitate the movement of through traffic. Only eliminate travel lanes when absolutely necessary.
TRA 4	To protect pedestrian and recreational traffic	Provide signage indicating alternative pedestrian and bicycle access routes where existing facilities would be affected.
TRA 5	To ensure ingress/egress to all properties adjacent to the project and surrounding areas	Provide advance notice to any affected residents, businesses and property owners in the vicinity of each construction site and, where existing property access will be reduced, identify alternative means of access.
TRA 6	To avoid impacts to public transportation	Coordinate with pubic transit providers (MTA, LADOT Commuter Express, Culver City Bus) to provide advance notice of any lane closures, construction hours and, where necessary, to identify sites for temporary bus stops within a reasonable walking distance of any displaced bus stops.

	Environmental Issue/Action	Mitigation Measure
Cultural Resources		
CR 1	To avoid impacts to areas where cultural resources are known to exist	A qualified cultural monitor shall be on site in areas of known cultural finds where grading is to occur.
CR 2		When avoidance cannot be achieved, alternate measures such as surface collection and/or subsurface data recovery of significant sites must be implemented;
CR 3	In the event of the discovery and subsequent recovery of fossil remains	A qualified monitor should halt construction temporarily while remains are analyzed prior to resuming construction.
CR 4	At CA-LAN –66 location	Monitor all construction in the vicinity of the CA-LAN-66 site located in Vista Del Mar by an Archaeologist qualified to recognize and assess both prehistoric and historical resources
CR 5	If new discovery is encountered	Develop a contingency plan for addressing unanticipated new discoveries of cultural resources in the project area, evaluate and report any findings
CR 6	If significant cultural resources are found during construction	Those significant cultural resources found shall be recovered from the project site, curated by an archaeologist recommended by the city and offered to an area museum whose collection is available for the viewing by the public
PAL 1	The discovery of paleontologic resources may be present in specific project areas where grading and other excavation activities are to occur	Prior to construction, the services of a qualified vertebrate paleontologist approved by the City of Los Angeles and LACMVP will be retained to implement the mitigation program during earth-moving activities at the project site.
PAL 2		The paleontologist will develop a formal agreement with a recognized museum repository, such as the LACMVP or LACMIP, regarding the final disposition and permanent storage and maintenance of any fossil remains and the archiving of associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the mitigation program, and the level of treatment (preparation, identification, curation, cataloguing) of the remains that would be required before the entire mitigation program fossil collection would be accepted by the repository for storage.
PAL 3		The paleontologist or monitor will coordinate with the appropriate construction contractor personnel to provide information regarding lead agency requirements for the protection of paleontologic resources. Contractor personnel also will be briefed on procedures to be followed in the event that a fossil site or remains are encountered by earth-moving activities, particularly when the monitor is not on site. The briefing will be presented to new contractor personnel as necessary. Names and telephone numbers of the monitor and other appropriate mitigation program personnel will be provided to the appropriate contractor personnel.
PAL 4		Earth-moving activities will be monitored by the monitor only in those areas of the project site where these activities will disturb previously undisturbed strata. Monitoring will be conducted on a full-time basis in areas underlain by the Palos Verdes Sand and, once the activities have reached a depth 5 feet below grade, on a full-time basis in areas underlain by the coastal deposits and on a half-time basis in areas underlain by the dune sand. If fossil remains are encountered by these activities, monitoring will be increased to full time, if appropriate, at least in the vicinity of the fossil site where the area is underlain by the fossil-bearing rock unit. If no fossil remains are found once 50 percent of earth-moving activities have been completed in an area underlain by a particular rock unit, with City of Los Angeles approval, monitoring can be reduced or suspended in that area.
PAL 5		All fossil specimens recovered from the project site as a result of the mitigation program, including those recovered as the result of processing fossiliferous rock samples, will be treated (prepared, identified, curated, catalogued) in accordance with designated museum repository requirements. Small rock samples from the Palos Verdes Sand, dune sand, and coastal deposits will be submitted to commercial laboratories for microfossil, pollen, or radiometric (carbon-14) dating analysis.
PAL 6		Monitoring will consist of visually inspecting debris piles and freshly exposed strata for larger fossil remains, and periodically dry test screening sediment, rock, and debris for smaller fossil remains. As soon as practicable, the monitor will recover all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that can be recovered easily. If recovery of a large or unusually productive fossil occurrence is warranted, earth-moving activities will be diverted temporarily around the fossil site and a recovery crew will be mobilized as necessary to remove the occurrence as quickly as possible. If not on site when a fossil occurrence is uncovered by these activities, the activities will be diverted temporarily around the fossil site and the monitor called to the site to evaluate and, if warranted, recover the occurrence. If the fossil site is determined too unproductive or the fossil remains not worthy of recovery, no further action will be taken to preserve the fossil site or remains, and earth-moving activities will be allowed to commence.
Geology/Soils/Seismicity		
GEO 1	Project improvements would be subject to earthquake ground shaking	The components of the proposed project will be designed and constructed to the seismic design requirements for ground shaking specified in the UBC for Seismic Zone 4 at a minimum.
GEO 2	Liquefaction and differential seismic settlement may occur on the project	Design and construction of the proposed project will include mitigation measures, such as flexible connections that can accommodate differential settlement, compaction grouting to densify the soils, or structural anchors to secure the pipeline.
GEO 3	Subsidence may occur to the project area	Design and construction of the proposed project will include mitigation measures, such as a watertight excavation support system to minimize groundwater pumping or construction the pipeline in a “wet” excavation.

	Environmental Issue/Action	Mitigation Measure
GEO 4	Methane gas may be detected along the project alignments	Design and construction of the proposed project will include active or passive mitigation systems for methane gas hazards, if necessary.
GEO 5	Tsunami could strike the project area	To mitigate erosion of surficial soils covering the proposed pipeline in the event of a tsunami, proper design and construction of the project components could include erosion control measures or choosing an alternate alignment off of the beach.
	Hazardous Waste and Materials	
HAZ 1	Well abandonment may occur in the marina channel areas and in various alignment areas	For any wells that may need to be re-abandoned, well abandonment should be done in accordance with applicable regulations; other subsurface structures may be encountered during development work. The soils may contain methane or other gases from previous oil well field development. Site chemicals must be handled and disposed in accordance with applicable regulations. Hazardous materials would be used and waste generated during the construction and operation of the project.
HAZ 2	Employees may be exposed to hazardous materials during construction	Exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.
HAZ 3	Storage of hazardous materials will occur on the project sites	As required in SWPPP and project specifications.
HAZ 4	Methane gas may be located in alignment areas where tunneling activity is to occur along the project alignment	A surface sweep is a method for measuring combustible vapors which may be emitted from the ground surface. When conducting the surface sweep, more attention can be taken in areas where underground gas would tend to exit the surface, such as at cracks in the ground.
HAZ 5	To ensure public safety where methane may be present along the project alignments	The City of Los Angeles Building Code requires that methane mitigation be implemented when construction occurs at these sites to ensure public safety. These measures include the installation of membrane barriers and vent piping as well as trench dams and electrical seal-offs for each of these properties.
	Hydrology	
HYDRO/ WQ 1	Runoff may occur from the project site during construction activities	A SWPPP shall be submitted for review and approval. The SWPPP shall recommend interim and permanent improvements to existing drainage features to prevent uncontrolled runoff during construction and to accommodate any temporary increase in runoff associated with construction activities.
		Compliance with the SWPPP shall be demonstrated by obtaining a NPDES construction permit for all construction activities including clearing, grading, or excavation that result in the disturbance of at least 1-acre of total land area or activity which is part of a larger common plan of development of 1 acre or greater. Copies of said NPDES permit(s) and related SWPPP shall be available for inspection at the City and at the construction site prior to land disturbing activity. Total disturbance area includes the staging and material storage areas. Although this project may not total over one acre of actual disturbance area, because of the highly sensitive habitat areas within the project, a SWPPP should be a required mitigation element.
HYDRO/ WQ 2	Dewatering discharge is expected to occur during the initial phase of pit construction,	Hydraulic isolation of the pits can be accomplished by the contractor by various methods of his choice, including interlocking sheet pile walls, soil cement walls constructed with Deep Mixing Methods, or slurry diaphragm walls. Water removed from the pits will be discharged to the storm drain system after proper treatment in accordance with local regulations Solid particles will be removed by using sedimentation tanks and filtration. If petroleum contamination is encountered, free product, if any, will be skimmed off the surface and oil/water separators will be used to remove the remaining contamination. Granular activated carbon could be used to remove any dissolved organic or other contaminants. Alternatively, discharged water will be shipped to authorized vendors for treatment and disposal.
	Noise and Vibration	
NOI 1	Construction noise levels that exceed city and county standards may be created during project construction activities.	All construction activities shall be limited to the hours of 7:00 a.m. to 9:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. No construction or construction-related activities shall take place on any Sunday or national holiday.
NOI 2		Heavy trucks engaged in the removal of muck from tunneling operations off site via heavy trucks shall be limited to major arterial streets and away from residential roadways, to the extent practicable.
NOI 3		All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for such type of equipment.
NOI 4		All mobile or fixed noise-producing equipment used on the project, and that is regulated for noise output by a local, state, or federal agency, shall comply with such regulation while in the course of project activity.
NOI 5		The erection of temporary soundwall barriers shall be considered where project activity is unavoidably close to noise-sensitive receptors.
NOI 6		Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment where feasible.
NOI 7		Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.

	Environmental Issue/Action	Mitigation Measure
NOI 8		Construction site and haul-road speed limits shall be established and enforced during the construction period.
NOI 9		The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only.
NOI 10		No project-related public address or music system shall be audible at any adjacent receptor.
NOI 11		The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.
NOI 12		The contractor shall develop a project noise control plan, which shall have been approved by the owner or designated noise control professional and implemented prior to commencement of any construction activity.
VIB 1	Vibration may occur in the project area during construction activities	Installation of instruments throughout a sensitive building, to be used in monitoring and recording building behavior (movements, vibrations) due to adjacent tunneling activities.
VIB 2		Any physical, chemical or biological method, or any combination of such methods, used to increase the bearing capacity or decrease the permeability of soils under the foundation of existing buildings.
VIB 3		A specialized form of grouting used to compensate for movements and settlements caused by tunneling adjacent to or beneath existing buildings.
Recreational Resources and Facilities		
REC 1	Construction-related activities may impact areas and facilities used by the public for sporting events and recreational activities	Provide advanced notice to the public, businesses, sports/ recreation groups and property owners indicating time and duration of non-use or partial use of facilities/areas to be impacted by construction.
Visual/Aesthetics		
AES 1	Where impacts may not be directly mitigated, they may be offset by actions taken elsewhere to compensate for the loss of visual quality. It would be speculative to definitively list specific offsetting actions at this time.	The city shall consider landscaping public areas within affected neighborhoods where open space is currently degraded and unsightly. The city shall consider screening from public view existing features, which are incongruous with the character of their surroundings (such as the VPP). The city shall consider creating public access to currently unavailable scenic vistas (new beach access routes, paths, bikeways, public parking.

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APPENDICIES

08-0504

BPW 005-08

VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT

FINAL ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER: 2003031001

VOLUME II

City of Los Angeles
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December 2007

URS

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VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT

EXECUTIVE SUMMARY FINAL ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER: 2003031001

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1.0 INTRODUCTION

1.1 PURPOSE OF THE EIR

An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effect and describe reasonable alternatives to the project[1] .

This EIR the evaluates the environmental impacts which could occur if the City of Los Angeles constructs and operates a new two-mile long, 54-inch diameter force main sewer pipeline from the existing Venice Pumping Plant (VPP) in the community of Venice to a junction structure on the Coastal Interceptor Sewer in the community of Playa Del Rey on Vista Del Mar near Waterview Street (the proposed Project). The new force main would supplement the existing 48-inch force main between the two locations. From the Coastal Interceptor Sewer, effluent would be carried through an existing line to the Hyperion Treatment Plant. The EIR provides mitigation measures to avoid or reduce the severity of the identified significant impacts. It considers alternatives to the project which could reduce environmental impacts while meeting the project objectives. The no project alternative is evaluated and the environmentally superior alternative is identified.

This Executive Summary briefly summarizes the Final EIR and describes areas of controversy and issues to be resolved by the decisionmakers including the choice among the project alternatives.

1.2 LEAD AGENCY AND DOCUMENT FORMAT

The City of Los Angeles is the lead agency for the EIR[2] and has supervised its preparation. The City of Los Angeles City Council has primary responsibility for the certification of the Final EIR and adoption and implementation of the proposed Project.

This EIR is organized into four volumes:

Volume I. Draft Environmental Impact Report
Volume II. Final Environmental Impact Report
Appendices Part One: A through E
Appendices Part Two: D through I

The EIR contains all of the components required by the CEQA Guidelines. These requirements and their location in the EIR are listed in Table 1.2-1. During the course of the EIR preparation, the City of Los Angeles' Department of Public Works consulted with affected agencies and organizations. Responses to the City's Notice of Preparation (NOP) are provided in Appendix A in the Draft EIR. Within the 45-day public review and comment period on the Draft EIR, the City conducted one public comment meeting

[1] Section 15121(a) of the State Guidelines for the implementation of the California Environmental Quality Act (CEQA) California Code of Regulations (CCR), Title 14, Division 6, Chapter 3 "Guidelines"
[2] Section 21067 of CEQA

(see Appendix J). Agency and public comments on the Draft EIR and the City's written responses to these comments are provided in the Final EIR, Section 11, Responses to Comments.

Table 1.2-1. Required Contents of an EIR – CEQA Guidelines

Required Analysis (CEQA Guidelines Section Number)	In Draft EIR
Table of Contents (Section 15122)	TOC
Summary (Section 15123)	1
Project Description (Section 15124)	2
Environmental Setting (Section 15125)	3 and 5
Environmental Impacts (Section 15126)	5
Significant Environmental Effects of Proposed Project [Section 15126.2(a)]	5
Unavoidable Significant Environmental Effects [Section 15126.2(b)]	5
Mitigation Measures Proposed to Minimize Significant Effects [Section 15126.4]	5
Alternatives to the Proposed Project [Section 15126.6]	4 and 6
Significant Irreversible Environmental Changes Resulting From Implementation of the Proposed Project [Section 15126.2(c)]	5
Growth Inducing Impacts of the Proposed Project [Section 15126.2(g)]	7
Effects Found Not to Be Significant (Section 15128)	5
References, Persons Contacted and Preparers of the Draft EIR (Section 15129)	9 and 10
Cumulative Impacts (Section 15130)	5 and 7

Required Analysis (CEQA Guidelines Section Number)	In Final EIR
Comments and Recommendations on Draft EIR [Section 15132(b)]	11
List of persons, organizations, and public agencies commenting on the draft EIR [Section 15132(c)]	11
Lead Agency Responses to significant environmental points raised in the review and consultation process. [Section 15132(d)]	11

Technical studies were prepared to provide substantial evidence to support this EIR and are provided in the appendices to the Draft EIR. Appendix D, Biological Resources is reprinted in full in the Final EIR. Other technical reports and studies providing substantial evidence in support of the EIR and its appendices are listed in the Draft EIR, Section 10.0: References and Persons Contacted, and are available for public review at the City of Los Angeles' Bureau of Engineering, Department of Public Works at 1149 South Broadway, Los Angeles, 90015-2237.

1.3 FOCUS OF THE EIR

This is a "project" level EIR[3] for the construction and operation of the proposed new force main sewer. The EIR is focused on the expected environmental effects that may occur with the approval of and the subsequent implementation of the proposed force main sewer project: air quality, biological resources, circulation, traffic and transportation, cultural resources, geology, soils and seismicity, hazardous waste and materials, hydrology, water quality/stormwater runoff, land use plans, noise and vibration, public facilities and services, and visual and aesthetic resources. These issues were identified in the Initial Study prepared by the City of Los Angeles (included in Appendix A to the Draft EIR) and reconfirmed after considering the comments received on the Draft EIR. Fiscal issues and impacts are not addressed in the EIR as such analysis is not required by CEQA.

[3] Section 15180 of the CEQA Guidelines

1.4 INTENDED USE OF THE EIR

The City of Los Angeles City Council, as Lead Agency under CEQA, will consider the Final EIR and must certify it prior to considering approval of the Venice Force Main Sewer Project. Other state, regional, and local agencies will also use the Final EIR prior to their consideration of any subsequent discretionary approvals (see Section 1.6 below).

1.5 REVIEWING AGENCIES

The following agencies will review this Project:

- Los Angeles County (various departments);
- California Coastal Commission (CCC);
- California Department of Fish and Game (CDFG);
- Department of Conservation;
- Department of Parks and Recreation;
- Native American Heritage Commission;
- State Lands Commission;
- California Department of Transportation (Caltrans), District 7;
- National Marine Fisheries Service;
- United States Fish and Wildlife Service (USFWS);
- Regional Water Quality Control Board (RWQCB), Region 4;
- South Coast Air Quality Management District (SCAQMD);
- United States Army Corps of Engineers (USACOE); and
- Others as determined.

1.6 PERMITS AND APPROVAL REQUIREMENTS

Table 1.6-1 identifies the names of agencies responsible for review and approval of the proposed Project and the permits required. Others not listed may also apply:

Table 1.6-1. Permit Requirements

Agency	Permit/Requirement	Issues of Concern
Los Angeles County	▪ Geotechnical/Grading/Hauling Permits ▪ Dept. of Beaches and Harbors; Right-of-Entry Permit ▪ Right-of-Way (ROW)/Easements for construction and future maintenance and operations	▪ Impacts from dewatering, tunneling ▪ Staging areas and additional easement

Agency	Permit/Requirement	Issues of Concern
Regional Water Quality Control Board, Los Angeles Region	▪ National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Pollution Prevention Plan (SWPPP) Permit ▪ 401C Section Certification	Water Quality and placement of discharges associated with dewatering activities. No permit required for discharges to sewer. General Permit saves time with RWQCB.
United States Defense Department, Army Corps of Engineers	Section 10 or Section 404 Permit required if excavated material discharged to waters and construction permit.	▪ Location, placement and depth of pipeline ▪ Obstruction of navigation or other channel activities ▪ Channel safety ▪ Impacts to wildlife ▪ Dredging/filling activities
California Department of Fish and Game	1600 et seq. (Streambed Alteration)	Impacts to fish habitat
California Coastal Commission	Coastal Development Permit	▪ Obstruction of recreation and beachfront facilities ▪ Impacts to animal species and habitat ▪ Impacts to parking and traffic
California State Lands Commission	Possible lease requirement	Verification of jurisdiction
National Marine Fisheries Service	Consultation notification	Impacts to aquatic and marine life
California Department of Conservation, Division of Oil, Gas and Geothermal Resources	A construction notification form should be submitted to the Division prior to any activity.	Project is inside administrative bounds of the Playa Del Rey Oil Field containing numerous plugged and abandoned oil wells
State of California Department of Health Services	Project Review for compliance with Title 22, Section 64630 (Conducted through County Environmental Services Division)	Separation of water and sewer mains
United States Fish and Wildlife Service	Notification	Impacts to habitat (i.e., least tern)

Source: URS Corporation

1.7 RELATED PROJECTS

This EIR evaluates the cumulative impacts of the proposed Project. "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts[4]. Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts[5]. Table 1.7-1 provides a list of related projects in the City and County of Los Angeles within an approximate 2-mile radius of the project site at the time of the Notice of Preparation of the EIR. The list includes 15 projects of various land uses, including residential, retail, general commercial, and mixed uses.

Table 1.7-1. Related Projects

Project No.	Jurisdiction	Location	Type of Project	Status
1	County of Los Angeles	Bora Bora Way	120 D.U.s; Net decrease of 271 slips; Demolish 4 KSF offices	10/18/2000 (approval date)

[4] CEQA Guidelines Section 15355
[5] CEQA Guidelines Section 15130(b)(1)(A).

Project No.	Jurisdiction	Location	Type of Project	Status
2	County of Los Angeles	Tahiti Way	Remodel existing apartments (no increase in D.U.s)	10/18/2000 (approval date)
3	County of Los Angeles	Marquesas Way	Net increase of 282 D.U.s; 354 senior apartments; Net decrease of 3.6 KSF retail; Net decrease. of 237 slips	12/6/2000 (approval date)
4	County of Los Angeles	Panay Way	68 D.U.s; 60 Congregate Care units	6/13/1996 (approval date)
5	County of Los Angeles	Panay Way	Net increase of 250 D.U.s; 47 senior apartments; Net decrease of 41 slips; Demolish 4.4 KSF restaurant	12/6/2000 (approval date)
6	County of Los Angeles	Panay Way	99 D.U.s; Net increase of 4.94 KSF Yacht Club; 2.3 KSF Office; Transfer of 97 D.U.s from DZ1 to DZ4	10/2/2000 (approval date)
7	County of Los Angeles	Palawan Way/ Beach Ave	450 s.f. net retail increase	6/25/2003 (approval date)
8	County of Los Angeles	Palawan Way/ Beach Ave	Net increase of 115 D.U.s	12/10/2003 (approval date)
9	County of Los Angeles	Admiralty Way	Library expansion – 2,454 S.F.	3/5/1997 (approval date)
10	County of Los Angeles	Mindanao Way	4.7 KSF retail increase	To Be Announced (TBA)
11	County of Los Angeles	Via Marina	11.4 KSF net retail increase, 288 restaurant seats, 1.3 KSF reduction in office	6/16/2004 (approval date)
12	County of Los Angeles	Marina Del Rey Tide Gates	Tide Gate Rehabilitation	11/2007 (permits pending)
13	County of Los Angeles	Hotel at Via Marina	TBA	TBA
14	City of Los Angeles	Grand Canal	Gates at Washington Street	TBA
15	City of Los Angeles	Grand Canal	Between Driftwood Street and Hurricane Street Temporary VPP bypass pipeline for sluice gate replacement in VPP	11/2007 (permits pending)

Sources: City of Los Angeles Planning Department; County of Los Angeles Department of Regional Planning, Bureau of Engineering and Los Angeles County Department of Public Works.

1.8 AREAS OF PUBLIC CONCERN OR KNOWN CONTROVERSY

A community meeting was held on May 31, 2005, at the Westchester Community Center, to discuss the scope of the Draft EIR. The scoping meeting participants were introduced to the EIR process and the proposed Project and were invited to provide information and/or comments regarding potential impacts to the environment resulting from construction of the proposed Project (see Appendix J, Public Participation). During the preparation of the Draft EIR, the City of Los Angeles considered the comments received in response to the Notice of Preparation and during the public meeting. The Draft EIR was released for a 45-day public review period on February 1, 2006 and a public comment meeting was conducted on February 23, 2006. The public comment period closed on March 17, 2006. Substantive comments received on the Draft EIR along with written responses are provided in the Final EIR, Section 11, Responses to Comments.

The primary issues and areas of concern identified by the public regarding the proposed Project, which are addressed in the EIR, are:

- Noise impacts during project construction;
- Limited on-street parking availability during construction;
- Aesthetic and visual impacts during construction;
- Air quality impacts during construction;
- Possible impacts to the Least Tern and other wildlife during and after construction;
- Potential impacts to recreational facilities and public events on the beachfront;
- Staging and operation of construction equipment on existing bike paths, walking trails and bridges;
- Impacts to water quality in both the Marina Del Rey Channel and Ballona Creek Channel;
- Impacts to traffic circulation and emergency access during construction;
- Impacts to residential access to and from housing during construction; and
- Impacts to structural foundations resulting from construction-related activities.

1.9 EIR PARTICIPANTS AND PUBLIC REVIEW

This EIR has been prepared in conformance with the local and state CEQA Guidelines, as amended. URS Corporation provided environmental consultation services to the City for the EIR. The City of Los Angeles proposed responses to agency comments on the Draft EIR are being provided to public agencies and private organizations prior to City of Los Angeles consideration of certification of the Final EIR and project approval.

The City of Los Angeles circulated an NOP for this EIR to responsible agencies on May 2, 2005, to solicit comments on issues relevant to their agency or jurisdiction, and for subsequent consideration of the proposed Project. The City considered all comments received during the scoping period in the preparation of the Draft EIR. The Notice of Availability of the Draft EIR was issued on February 1, 2006 [see Final EIR Appendix J, Public Outreach]. The Draft EIR was made available for a 45-day public review period ending on March 17, 2006. The document was made available to the public at the City of Los Angeles Bureau of Engineering, Environmental Management Division and at the City of Los Angeles Central Library, Venice Branch Library, Westchester Library, and Playa Vista Public Library. The City conducted one public community meeting on the Draft EIR February 23, 2006 at the Westchester Municipal Building in Westchester, CA. The City provided written responses to all comments received on the Draft EIR in the Final EIR (see Final EIR, Section 11.0, Responses to Comments).

1.10 PROJECT LOCATION

The proposed project is in the City of Los Angeles in the communities of Venice and Playa Del Rey (see Figure ES-1, Regional Project Location Map). The City of Los Angeles is proposing to construct and operate a new force main sewer extending from the existing Venice Pumping Plant at 140 Hurricane Street and the westerly bank of the Grand Canal and the northerly bank of the Ballona Lagoon in the community of Venice, and extends southerly under both the Grand Canal and Ballona Creek, to a junction



REGIONAL PROJECT LOCATION MAP

URS	Project No.: 29870322	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure ES-1

The project's intent is to construct a second force main sewer (54-inch diameter) to be used in tandem with the existing force main sewer. The City's three key project objectives include 1) Sewage Conveyance Capacity, 2) Pipeline Redundancy, and 3) Ability to Perform Maintenance. These are summarized below.

Sewage Conveyance Capacity

The Venice Pumping Plant is the largest pumping plant in the City of Los Angeles. It collects sewage from the coastal areas of the City through an existing 48-inch pipeline and transports it to the Hyperion Treatment Plant in Playa Del Rey (see Figure ES-2). Over the years, the existing pipeline has gradually approached maximum capacity placing substantial strain on the system forcing the water level in the wet-well of the Venice Pumping Plant basement to rise.

The City of Los Angeles first identified the need for additional sewer capacity during the heavy storms of 1995 when sewage and infiltrated stormwater in the sewage system exceeded the capacity of the existing 48-inch line, creating a potentially serious human and environmental health risk. Although the pumping plant had all five pumps running during peak rainfall, the existing downstream sewer force main that runs along the beach could only handle approximately 60 percent of the flows that would otherwise run through the pumps – the pipeline was serving as a bottleneck in the system. The amount of sewage and infiltrated stormwater in the sewage system exceeded its capacity, forcing the water level in the wet-well of the Venice Pumping Plant to rise. In an effort to prevent potential sewage spillage as a result of an overload situation, the City proposes to install an additional 54-inch pipeline to convey the sewage and infiltrated stormwater flows. The new force main would be used in tandem with the existing force main; together, the two force mains would provide the necessary capacity to meet current and future peak wet weather flow demands.

Pipeline Redundancy

The new force main would provide force main redundancy in the case where either one of the pipelines was taken out of service for any reason. This redundancy is not provided by the current single force main pipeline. The installation of the proposed 54-inch force main bypass capability would also allow repair and maintenance of the existing pipeline as described below.

Ability to Perform Maintenance

The existing 48-inch pipeline was built in 1958 and has been in continuous operation since then. Development of the new 53-inch would allow the first opportunity for rehabilitation of the existing force main and future reciprocal cleaning of each force main during dry weather periods. One of the two force mains would be taken out of service for maintenance while the second force main would continue to convey sewage wastewater to the Hyperion Treatment Plant.

2.0 PROPOSED PROJECT AND ALTERNATIVES

The Initial Study for the proposed Project determined that the Project would not result in significant effects to the environment during the operations phase of the project. Temporary significant impacts resulting from the Project would be directly related to construction activities. This EIR considers a range of reasonable alternatives that would meet the project objectives and would also avoid or substantially reduce the significant effects of the proposed Project.

The EIR considers four (4) route alignment alternatives, and three (3) alterative construction methods in order to balance their ability to meet the project objectives and avoid or substantially reduce the significant environmental impacts of the proposed Project. The No Project Alternative is also evaluated in the EIR.

2.1 ROUTE ALIGNMENT ALTERNATIVES

The EIR considers three primary alternative pipeline route alignments between the Venice Pumping Plant and the Coastal Interceptor Sewer in the community of Playa Del Rey (see Figure ES-2, Alignment Alternatives):

- Via Marina / Pacific Avenue
- Pacific Avenue
- Dockweiler Beach

Via Marina/Pacific Avenue

From the existing Venice Pumping Plant on Hurricane Street, the alignment would proceed east under the Grand Canal and along Marquesas Way, then southeasterly on Via Marina to the Marina Del Rey entrance channel. The route crosses the channel to Pacific Avenue. From there, the alignment continues south along Pacific Avenue to Vista Del Mar to the Coastal Intercept Sewer junction connection near Waterview Street. This alignment is about 10,400 feet long.

Pacific Avenue Alignment

From the pumping plant on Hurricane Street, the alignment would proceed westerly to Pacific Avenue, then turn southeast and proceed along Pacific Avenue, cross under the Marina Del Rey and Ballona Creek channels, and continue southeast within Pacific Avenue and Vista Del Mar to the junction structure under Vista Del Mar near Waterview Street.

Dockweiler Beach Alignment

From the pumping plant on Hurricane Street, the alignment would proceed westerly to the existing 20-foot wide sewer easement in Venice Municipal Beach and Dockweiler State Beach, then turn southeast and cross under the Marina Del Rey and Ballona Creek channels, and continue south along the Dockweiler Beachfront to a point west of the junction structure in Vista Del Mar near Waterview Street. From this point, the line runs easterly to the junction structure under Vista Del Mar near Waterview



Street. If the mined large-diameter tunnel construction method is used, the construction shaft and staging area could be on the Los Angeles Airport property (LAX) slightly further to the southeast.

CHANNEL CROSSING

As noted above each of the alignments under consideration crosses the Marina entrance channel and Ballona Creek and would require approximately 1,800 feet of tunneling under the two channels.

SHAFTS AND LAYDOWN AREAS

Boring and tunneling operations and pipeline staging and laydown areas would also be required. Boring shaft locations along the three alternative routes (that is, locations where construction equipment would be used on the surface and visible during the construction of the particular alignment) may be located at any of the numbered locations shown on Figure ES-2).

2.2 CONSTRUCTION METHODS

The City's project objectives can be achieved by using one or more of three construction methods considered in this EIR. These are:

(1) Cut-and-cover,

(2) Small-Diameter Micro-tunneling ("Boring"), and

(3) Large-diameter ("Mined") tunneling.



CUT-AND-COVER CONSTRUCTION METHOD

URS | Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR | Figure ES-3

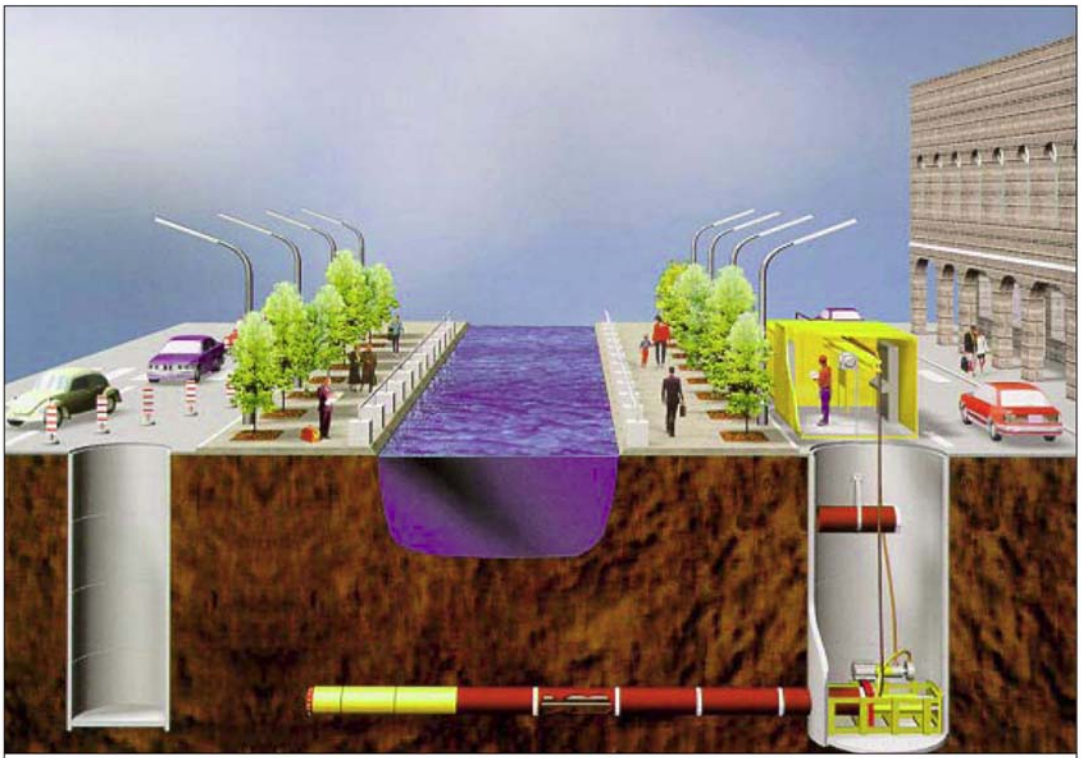
Each method could provide both benefits and issues of concern for the project. A combination of construction methods could be used for each of the alternative routes described in Section 2.1 above. The construction methods are described below.

2.2.1 Cut-and-Cover Construction

Cut-and-cover construction is a very common method of linear pipeline construction (see Figure ES-3, Cut-and-Cover Construction Method). The contractor would not work in all areas of the pipeline corridor at the same time, but would open relatively short segments of the corridor (about 1,000 feet), install the pipeline, and proceed with back-filling, finishing and restoring the segments. Underground utilities that conflict with the surface trenched construction would be temporarily relocated as necessary. With this approach, major construction activities could be limited to within the relatively short corridor segments. During the preparation of this EIR, the cut-and-cover method of construction was considered and determined to be not viable for the Dockweiler Beach Alignment because the method would result in a relatively shallow sewer, which could be vulnerable to damage from future coastal erosion processes.

2.2.2 Small-Diameter Micro-Tunneling (Boring)

Boring is a trenchless construction method, which uses hydraulic jacks located in surface pits to drive pipes through the ground behind a remotely operated Tunnel Boring Machine (TBM) (see Figure ES-4,



SMALL-DIAMETER MICRO-TUNNELING (BORING) METHOD

URS	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure ES-4

Small-Diameter Micro-Tunneling (Boring) Method). Drive lengths are generally limited to about 1,000 feet, depending upon ground conditions and pipe size; but intermediate jacking stations can be used to extend the drive length. Unlike conventional cut-and-cover trenching techniques that require excavation for the entire length of pipeline as described in Section 2.2.1 above, excavation for micro-tunneling is limited to the endpoints of each drive within designated launching (jacking) and receiving pits. The launching pit contains the hydraulic jacks used to push the pipes, and the receiving pit is used to recover the TBM at the end of each drive. Tunneling can proceed intermittently; although, it is often necessary to proceed continuously, particularly on long drives through sticky soils, to prevent the pipe from getting stuck short of the receiving pit. Tunnel advance rates are typically between 30 and 50 feet per 8-hour work shift, depending on soil conditions and pipe size.

2.2.3 Large-Diameter (Mined) Tunneling

In contrast to small-diameter micro-tunnels, which are constructed by remote-controlled TBMs and pipe-jacking, large-diameter tunnels (i.e., minimum excavated diameter = 10 to 12 feet) can be constructed with staffed TBMs) (see Figure ES-5, Large Diameter (Mined) Tunnel Method). In addition to the difference in tunnel diameter, the most important difference between these larger TBMs and the micro-tunneling machines discussed in Section 2.2.2 above is that the concrete tunnel liner is erected in segments immediately behind the TBM. This type of tunnel liner does not need to be continuously pushed (jacked) forward, and there is no length limitation due to frictional resistance building up with increasing tunnel length. For tunneling below the groundwater level without the need for dewatering, pressurized-face TBMs are used to stabilize the tunnel face and prevent the water from entering the TBM.



LARGE-DIAMETER (MINED) TUNNEL METHOD

URS	Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR	Figure ES-5

3.0 ENVIRONMENTAL IMPACT ANALYSIS

As stated above, the Initial Study for the proposed project concluded that there would be no significant environmental impacts during the operations phase of the project. All potential significant impacts would be associated with the construction phase of the project. The summary environmental impact analysis below addresses the alternative route alignments and alternative construction methods. The environmental effects of the No Project Alternative are summarized. The Environmentally Superior Alternative is also identified.

3.1 SUMMARY OF PROJECT ALTERNATIVES

The potential project alternatives analyzed in the EIR are briefly described in Sections 3.1.1 and 3.1.2 below. The summary of the comparative environmental analysis follows Section 3.2 below.

3.1.1 New Force Main Sewer Line Alternatives

A new force main would provide redundancy to the existing sewer, allowing for adequate conveyance from the Venice Pumping Plant to the Hyperion Treatment Plant in Playa Del Rey, and would provide the ability to periodically shut-down and conduct maintenance on the existing 48-inch force main.

- Micro-tunneling could be used along the Dockweiler Beach alignment, Via Marina/ Pacific Avenue alignment and the Pacific Avenue Alignment (see Figure ES-2 Alignment Alternatives).

- The cut-and-cover/micro-tunneling method of construction may be used for the Via Marina/ Pacific Avenue alignment and the Pacific Avenue Alignment. Each cut-and-cover alignment also involves micro-tunneling under the Marina Del Rey Channel and includes shafts on either side of the channel for the purpose entering and/or exiting the tunnel as required to install the sewer pipe under the channel. Note that cut-and-cover construction was considered for the beachfront alignment initially, but deemed to be not viable because the method would result in a relatively shallow sewer, which could be vulnerable to damage from future coastal erosion processes.

- The Large-diameter tunneling method could be used for the Dockweiler Beach alignments. Under this alignment option, the large tunnel could terminate either on the beach west of the Waterview Street Junction Structure or at Los Angeles Airport (see Figure ES-2). From these large tunnel termination points, cut-and-cover or boring would be used to tie-in to the junction structure.

Table 3.1, Project Alternative Impact Areas, lists the project areas (streets) subject to environmental impact during project construction. The numbers in the table refer to the associated shaft locations for tunneling construction along each route depicted on Figure ES-2, Alignment Alternatives.

Table 3.1-1. Project Alternative Impact Areas

Cut and Cover Alternatives	Impact Areas/ Associated Shaft Locations
• Via Marina/ Pacific Avenue	Marquesas Way, Via Marina Way, Pacific Ave., Vista del Mar, and Sites10, 11, 12, 8, 4, 3
• Pacific Avenue	Hurricane Street, Pacific Ave, Vista del Mar, and Sites 10, 7, 4, 3
Micro Tunnel Alternatives	**Impact Areas/ Associated Shaft Locations**
• Dockweiler Beach Alignment	Sites 10, 9, 6, 5, 3
• Via Marina/ Pacific Avenue	Sites 10, 11, 12, 8, 4, 3
• Pacific Avenue	Sites 10, 7, 4, 3
Large Diameter Alternatives	**Impact Areas/ Associated Shaft Locations**
• Beach Alignment	Sites 10, 2, and Beach Alignment
• Beach Alignment (with cut and cover ends)	Hurricane Street, Site 9, Beach Alignment, Site 1
• Inland Alignment	Sites 10, 2, and Inland Alignment

The EIR provides sufficient analysis of the project alternatives to determine which of the alternatives would meet the City's objectives while substantially avoiding or reducing significant environmental impacts. The Lead Agency is not required to select the environmentally superior alternative identified in this EIR but must provide findings of fact explaining its decision not to select this alternative.

3.1.2 No Project Alternative

Under this alternative, no new sewer force main would be constructed and the existing sewer system would continue to operate in its current configuration.

The No Project alternative could result in potentially significant adverse effects to the environment due to the lack of conveyance capacity of the existing 48-inch sewer force main downstream of the Venice Pumping Plant and the current inability to perform regularly scheduled maintenance on this pipeline. If inflows to the Venice Pumping Plant exceed the capacity of the force main leaving the plant, an overflow of untreated wastewater into the Ballona Lagoon and other areas in the vicinity of the Venice Pumping Plant Force Main corridor could result, causing significant harm to the environment.

3.2 SUMMARY ENVIRONMENTAL IMPACT ANALYSIS

3.2.1 Comparative Impact Analysis

The environmental impacts of each alternative project configuration are summarized in Table 3.3-1. The alternatives are listed in the row along the top of the table. The first column on the left hand side of the table identifies each impact category. A text summary of each alternative's environmental impacts follows the table.

Table 3.3-1. Environmental Impacts Summary Table

	Cut-and-Cover		Small-Diameter Micro-Tunneling (Boring)			Large-Diameter Tunneling (Mined)		
Impact	Pacific	Via Marina	Beach	Pacific	Via Marina	Beach	Beach w/ cut & cover ends	Pacific
Air Quality	Significant Short-term	Significant Short-term	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant
Biological Resources	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity; Temporary risk to Least Tern	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity	Secondary impact if construction causes turbidity
Parking	Temporary loss of 55 parking spaces	Temporary loss of 52 parking spaces	Temporary loss of 27 parking spaces	Temporary loss of 55 parking spaces	Temporary loss of 52 parking spaces	none	Temporary loss of 37 parking spaces	none
Circulation	Temporary impact to 4 street segments	Temporary impact to 3 street segments	none	Temporary impact to 4 street segments	Temporary impact to 3 street segments	Temporary impact to 1 street segment	Temporary impact to 2 intersections & 1 street segment	Temporary impact to 1 intersection
Cultural Resources	Not Significant with mitigation	Not Significant with mitigation	none	Not Significant with mitigation	Not Significant with mitigation	none	none	none
Paleontological Resources	Not Significant with mitigation	Not Significant with mitigation		Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation
Geology, Soils	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation	Not Significant with mitigation
Seismicity/liquifaction	Significant	Significant	Significant	Significant	Significant	Significant	Significant	Significant
Subsidence	Risk from dewatering	Risk from dewatering	If dewatering	If dewatering	If dewatering	If dewatering	If dewatering	If dewatering
Nearby Oil/Gas Wells	14 wells	12 wells	41 wells	14 wells	12 wells	41 wells	41 wells	14 wells
Nearby contamination	5 sites	2 sites	2 sites	5 sites	2 sites	2 sites	2 sites	5 sites
Hydrology, Water Quality / Stormwater Runoff	Dewatering Required	Dewatering Required	Dewatering not required	Dewatering not required	Dewatering not required	Dewatering not required	Dewatering not required	Dewatering not required
Land Use Plans	no effect	no effect	no effect	no effect	no effect	no effect	no effect	no effect
Noise And Vibration Disturbance Factor[6]	120	82	21	17	40	3	21	7
Public Facilities & Services	Temporary impacts to: Ballona Creek & Dockweiler Beach Bike Path, Del Rey Lagoon Park parking, Napoleon Street foot path	Temporary impacts to: Esplanade East access, parking at Marquesas Way and Via Marina, Via Marina scenic highway, Aubrey E. Austin Park, Marina Channel viewpoint, Parking, Ballona Creek & Dockweiler Beach Bike Path,	Temporary impacts to: Beach access & use, Napoleon Street foot path	Temporary impacts to: Ballona Creek & Dockweiler Beach Bike Path, Del Rey Lagoon Park parking, Napoleon Street foot path	Temporary impacts to: Esplanade East access, parking at Marquesas Way and Via Marina, Via Marina scenic highway, Aubrey E. Austin Park, Marina Channel viewpoint, Parking, Ballona Creek & Dockweiler Beach Bike Path,	Temporary impacts to: Napoleon Street foot path	Temporary impacts to: Beach access & use, Napoleon Street foot path	Temporary impacts to: Napoleon Street foot path

[6] Approximation of relative amount of disturbance to residents computed as the sum of the number of addresses within 200 feet of construction multiplied by the duration of the activity at that location.

Impact	Cut-and-Cover		Small-Diameter Micro-Tunneling (Boring)			Large-Diameter Tunneling (Mined)		
	Pacific	Via Marina	Beach	Pacific	Via Marina	Beach	Beach w/ cut & cover ends	Pacific
		Del Rey Lagoon Park parking, Napoleon Street foot path			Del Rey Lagoon Park parking, Napoleon Street foot path			
Degrade existing visual character	Significant but temporary from Construction activities	Significant but temporary from Construction activities; Significant long term from loss of mature trees	Significant but temporary from Construction activities	Significant but temporary from Construction activities	Significant but temporary from Construction activities; Significant long term from loss of mature trees	Significant but temporary from Construction activities	Significant but temporary from Construction activities	Significant but temporary from Construction activities
Impact scenic vista	Significant but temporary from Construction activities; Significant long term from loss of mature trees	Significant but temporary from Construction activities; Significant long term from loss of mature trees		Significant but temporary from Construction activities; Significant long term from loss of mature trees	Significant but temporary from Construction activities; Significant long term from loss of mature trees	none	Significant but temporary from Construction activities	none
Damage scenic resource	not significant	Significant long term from loss of mature trees		not significant	Significant but temporary from Construction activities; Significant long term from loss of mature trees	none	Significant but temporary from Construction activities	none
Add light or glare	none	none		none	none	none	none	none
Shade/shadow	none	none		none	none	none	none	none
Inconsistent with regulations	Significant temporary from construction in Scenic Hwy	Significant temporary from construction in Scenic Hwy		Significant temporary from construction in Scenic Hwy	Significant temporary from construction in Scenic Hwy	Significant temporary	Significant temporary	Significant temporary

MARQUESAS WAY/VIA MARINA WAY SEGMENT OF THE VIA MARINA ALIGNMENT

This alignment and the channel micro-tunnel launching and receptor shafts associated with it are subject to impacts associated with construction staging of equipment, parking and related traffic throughout the 18- to 24-month duration of construction along Hurricane Street, Marquesas Way and Via Marina Way respectively. This alternative is within a designated segment of a scenic highway requiring the preservation of scenic views, which would be infeasible resulting in a significant and unavoidable impact from construction activities during the tourist season. Unavoidable impacts to parking and pedestrian traffic would result from micro-tunnel activities on each side of the Grand Canal at the junction with Hurricane Street and in the empty lot between residential housing west of Marquesas Way and leading to the sidewalk next to the Grand Canal.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities, although this alignment is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

HURRICANE STREET/PACIFIC AVENUE SEGMENT OF THE PACIFIC AVENUE ALIGNMENT

Impacts from this alternative would result from construction-related activities associated with cut-and-cover construction along Hurricane Street and Pacific Avenue and at a micro-tunnel receptor shaft at Pacific Avenue near Via Marina Way, and at a launching shaft located on the south side of the channel on the east side of the Pacific Avenue pedestrian bridge. This alternative would cause significant unavoidable impacts to visual aesthetics of the vicinity and parking and traffic impacts to residents and tourists, who live and visit the area. Access to parks and parking facilities for Dockweiler Beach, the pedestrian bridge and public parking facilities at Pacific Avenue on the south side of the channel would be reduced as a result of construction-related staging, vehicles and mobile equipment for a period of 18 to 24 months. Noise impacts associated with the proximity of construction-related equipment to residents and visual impacts due to equipment staging are also anticipated.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. This alternative is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

HURRICANE STREET/DOCKWEILER BEACH SEGMENT OF THE BEACH ALIGNMENT

The cut-and-cover method of construction for this beach alignment has been considered, but deemed not viable; however, deep mined-tunneling construction alternatives are also considered for the beachfront. Impacts at the launching shaft in Vista Del Mar would mostly impact traffic, and the receptor shaft at the intersection of Dockweiler Beach and Hurricane Street would result in noise, surface vibration, and increased human disturbance, as well as potentially attracting predators to the least tern nesting site (i.e., crows) located on Dockweiler Beach just north of the channel entrance and the west end of Via Marina Way. Construction activities may result in temporary effects on least terns (see Appendix D, Biological Technical Report). Temporary impacts to water quality and marine resources could occur through the

unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. This alternative is not likely to result in a long-term reduction in water quality or the loss of individuals or habitat.

DOCKWEILER BEACH ALIGNMENT

This southern extension of Dockweiler Beach alternative is located along the beach of the south side of the Via Marina Channel. The cut-and-cover method of construction for this alignment has also been considered, but deemed not viable; however, deep-mined tunneling construction alternatives are also proposed for the beachfront and are described in Section 4.0. Impacts at the launching shaft in Vista Del Mar would mostly impact traffic, and the receptor shaft at the intersection of Dockweiler Beach and Hurricane Street would impose noise, surface vibration, and increased human disturbance, as well as potentially attracting predators to the least tern nesting site (i.e., crows) located on Dockweiler Beach just north of the channel entrance and the west end of Via Marina Way. Visual impacts associated with potential construction equipment and activities methane venting.

PACIFIC AVENUE/VISTA DEL MAR SEGMENT OF THE VIA MARINA AND PACIFIC AVENUE ALIGNMENTS

This is the southern extension of both the Pacific Avenue alternative and the Via Marina alternative, located on the south side of the Marina del Rey and Ballona Creek channels. Construction along Vista del Mar, a scenic highway, would have temporarily visual/aesthetic impacts. Monitoring during the course of construction would be required to mitigate the potential for impacts to historic/cultural/paleontological resources as described in the Cultural Resource section (Section 5.5) of this EIR. No permanent impacts on least tern foraging habitat (Marina Del Rey Channel, Ballona Creek, and Grand Canal) in the Project area are expected.

Temporary impacts to water quality and marine resources could occur through the unintentional release of excavated sediments and water into the channel as a result of micro-tunnel activities. Although this alternative is unlikely to result in a long-term reduction in water quality or the loss of individuals or habitat.

LARGE-DIAMETER (MINED) TUNNEL ALTERNATIVES

Each starter shaft and receptor shaft for the deep mined-tunnel construction alternatives have their own numeric identifier, shown on Figure ES-2. Construction impacts would be as described above and summarized in Table 3.3-1.

3.2.2 Growth-Inducing Impacts

Growth-inducing impacts are secondary, or indirect, impacts that could occur as a result of the project that are manifested as changes in land use patterns, population density and growth rates; and related effects on traffic, public services, air, water, biological and other environmental resources[7].

[7] Section 15126.2(d) of the CEQA Guidelines

The VPP Dual Force Main Project would not induce growth in population or changes in land use which would not otherwise occur. As summarized below and more fully discussed in Section 7.0 of the Draft EIR, no significant growth-inducing impacts are associated with the proposed Project. This section of the Executive Summary addresses the role that wastewater conveyance capacity plays in the growth of the region. The primary types of growth that occur in the City and vicinity are land use development and population. Because these types of growth are distinct, and interrelated, this section examines the relationship of sewer conveyance capacity with each type of growth.

LAND USE DEVELOPMENT AND WASTEWATER CONVEYANCE

The development of land in the City is governed by General Plan and Zoning land use designations of particular parcels. Zoning implements the land use policies contained in the General Plan and is consistent with the General Plan. Unless conditional use permits or density transfers are obtained from the Planning Department, development must conform to the use type and density designated for that parcel. The decision of a land owner to develop a single parcel or numerous parcels of land may be based on personal or economic reasons. Whether personal, economic, or both, the availability of wastewater conveyance capacity is not likely to be a consideration in the decision to develop. Once the decision to develop a parcel has been made, permission to connect to the wastewater collection system must be obtained as part of the building permit process. A sewer connection permit can only be obtained if adequate capacity to serve the proposed development is available. Sewer connection and other building permit fees are charged in proportion to the density of development proposed. The high sewer connection fees and other building permit fees associated with the most intensive levels of development increase the costs of developing land in the City and can be considered economic disincentives to development.

In a mature urbanized area such as Los Angeles with sufficient wastewater treatment capacity, the provision of wastewater conveyance capacity would not induce land development that would not otherwise occur.

POPULATION GROWTH AND WASTEWATER CAPACITY

Population within southern California and the City of Los Angeles is anticipated to grow significantly over the next 20 years and further into the future. The projected increase in population will come from two sources, natural increases and in-migration. SCAG predicts that approximately 60 percent of projected future population growth would occur from natural causes (births minus deaths) and 40 percent would come from the in-migration of people from other areas.

Wastewater conveyance capacity is required to accommodate the increases in wastewater flows associated with the population increases. The provision of wastewater conveyance capacity will not induce either natural population growth or in-migration. SCAG has established the policy that conveyance systems, including interceptors, are not subject to its air quality conformity procedures, because of the absence of effects on population growth.

GROWTH MANAGEMENT IN LOS ANGELES

The Southern California Association of Governments, which includes the City of Los Angeles among its member jurisdiction, has prepared the Regional Comprehensive Plan and Guide and the Growth

Management Plan. These plans address regional growth and related issues. In addition, the City of Los Angeles' General Plan governs land use development within its jurisdiction.

The Regional Comprehensive Plan and Guide (March 1996) serves as a comprehensive overview of the issues and opportunities facing the region. This plan consists of three sections, core chapters, ancillary chapters, and bridge chapters. Core chapters include plans such as the Growth Management Plan, the Regional Mobility Plan, Air Quality Plan, and other documents that SCAG is required to produce (by federal and/or state mandates). Ancillary chapters address such issues as the economy, housing, and reflect other plans but serve only an advisory purpose for member governments. Bridge chapters link the core and ancillary chapters for other areas of concern.

The Growth Management Plan presents forecasts and policies for anticipated growth to the year 2020. The Growth Management Plan is based upon the amount of growth that is likely to occur and recognizes that there are no viable ways in which to control total growth. The Plan, however, seeks to control the distribution of growth in order to improve the balance between jobs and housing by encouraging housing growth in job rich areas and vice-versa.

The City's General Plan (comprised of the 35 Community Plans) governs the location and density of land use in the City through the zoning process. The Los Angeles City Planning Department revised the General Plan and the new plan, termed the "General Plan Framework," is intended to balance land use development, transportation, projected future population and projected future employment within the City of Los Angeles. The General Plan Framework's options include areas of targeted growth with higher land use designations and densities around commuter rail stations and along transportation corridors.

The planned growth of population along corridors would result in higher demands on infrastructure. There would be a need to accommodate greater quantities of wastewater that would be generated. Consequently, new wastewater conveyance facilities must be constructed, or existing facilities must be improved or upgraded.

CONCLUSIONS REGARDING GROWTH INDUCEMENT

Wastewater conveyance capacity is an infrastructure component of the urban environment that is necessary to safely accommodate the needs of existing and projected future populations. The provision of wastewater conveyance capacity, in and of itself, will not induce population growth or land use development. Rather, wastewater conveyance capacity would allow population growth to occur within the General Plan Framework while minimizing sewage spills and the associated environmental, health and safety problems. Future land uses would generally not occur in densities higher than those allowed by the land use planning process. Any development projects beyond the scope of the City's General Plan would undergo individual environmental analysis (including impacts to the wastewater system) and would have to be approved by the City Council.

In wastewater planning, the sizing of collection and treatment facilities, as well as the overall system configuration, is dependent on the future system-wide flow and the distribution of that flow within the system. Since the timing of necessary improvements is partly a function of growth, a realistic estimate of the future population to be served is fundamental to effective wastewater system planning.

The VPP Dual Force Main Project would not induce growth in population or changes in land use which would not otherwise occur. No significant growth-inducing impacts are therefore associated with the project.

3.2.3 Cumulative Impact Analysis

Cumulative impacts refer to two or more individual effects, that when considered together, are considerable[8]. Cumulative impact assessment considers not only the impacts of the proposed Project, but also the impacts from other City and private projects, which would occur during the period of performance and geographic area of the proposed Project. There would likely be construction activities occurring in the vicinity of the VPP Dual Force Main Project as a result of other projects being built in the same general time frame. These related projects are listed in Table 1.7-1 above. The VPP Dual Force Main Project, along with other construction projects, could contribute to temporary cumulative noise and vibration effects. Construction activities may result in cumulative effects of the following nature:

Noise and Vibration – Local residents in the near vicinity of construction activities would be exposed to noise and possible vibration. The cumulative effects, both in terms of added noise and vibration at multiple VPP Dual Force Main construction sites, and in the context of other related projects, are not considered significant due to the temporary nature of noise increases and the recommended mitigation measures.

Air Quality – The VPP Dual Force Main Project will produce additional emissions of criteria pollutants and slightly elevated levels of carbon monoxide during construction. Emission of criteria pollutants resulting from the Project's construction would exceed the thresholds established by the SCAQMD, and therefore the Project, in conjunction with all other construction activity, would cumulatively contribute to the region's non-attainment status during the construction period. The SCAQMD prepared the Air Quality Management Plan (2003) to bring the region into compliance with the National Ambient Air Quality Standards as set by the EPA under the Clean Air Act Amendments (1990). The Air Quality Management Plan is essentially designed to address the cumulative air pollutants released into the South Coast Air Basin. Because these construction-related emissions are temporary (18-24 months, depending on the construction method) and because the Air Quality Management Plan addresses cumulative air pollution in the South Coast Air Basin, the Project would not result in long-term significant cumulative air quality impacts. In the short term, cumulative impacts could be significant if the combined emissions from the projects exceed the threshold criteria for the individual pollutants. Mitigation measures are in place to reduce impacts on air quality.

Transportation and Circulation – The VPP Dual Force Main Project would involve construction activities occurring simultaneously at a number of surface sites along the Project alignment. Construction of the VPP Dual Force Main Project may be occurring in the same general time and space as other related projects. In these instances, surface construction activities from both sets of Project could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity (see Traffic-Related Project Construction Schedule in Table 4.2-1 of the EIR). Special

[8] Section 15355 of the CEQA Guidelines

coordination efforts may be necessary to reduce the combined effects to an acceptable level with the adoption of mitigation measures. Overall, with implementation of mitigation measures, significant cumulative impacts are not anticipated.

Public Services – The cumulative effects on public services in the VPP Dual Force Main study area would cause traffic and circulation inconveniences in some locations due to reduce parking, lane closures and potential schedule adjustments to public transportation as discussed in the EIR; however, these impacts would be temporary and would be limited to traffic inconveniences discussed above.

Aesthetics – Construction activities associated with other related projects may be ongoing in the vicinity of one or more VPP Dual Force Main construction sites. To the extent that combined construction activities do occur, there would be temporary adverse visual effects during construction in some locations. However, these impacts would be temporary.

Beneficial Effects – The VPP Dual Force Main Project would also have long-term beneficial cumulative effects with regards to improvements to the City of Los Angeles' wastewater collection system. The proposed Project would result in cumulative public health benefits by minimizing or eliminating the potential for the public to be exposed to wastewater that could overflow onto streets during rainy weather and flow into area channels and the Pacific Ocean. Public safety, in the short and long-term, would be improved by minimizing the potential for sewer and street collapses associated with deteriorated sewers.

3.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Following consideration of public comments on the Draft EIR, the analysis of the various construction and alignment alternatives was finalized and the environmentally superior alternative was identified (see Section 3.2).

Based upon the comparative impact analysis for this project and as shown in Table 3.3-1, it has been determined that the environmentally superior alternative is the large-diameter (mined) tunnel along the inland (Pacific Avenue) alignment from LAX to Venice Pumping Plant (identified as mined tunnel alternative 4 in the DEIR). This alternative would impose the least number of impacts to environmental resources, and would significantly reduce construction related impacts such as traffic and parking congestion, noise and vibration. The proposed alignment as shown on Figure 4.2-2, would begin at launch shaft #2 located in Vista Del Mar and run due north toward the pumping plant on Hurricane Street and tie in at the #10 receptor shaft. Although the deep mined tunnel would run directly under existing dwellings and facilities in some locations, great care would be taken to insure that wherever possible, the alignment would follow existing rights of way. For those portions of the alignment that would require tunneling under existing dwellings and/or facilities, the City would provide community outreach to work with those who are within the proposed alignment to fully understand the construction methodology, to secure proper right of way access, and to provide compensation for the right of way.

3.4 MITIGATION MEASURES

The EIR describes mitigation measures which are expected to avoid or substantially reduce the significant environmental impacts of the proposed Project. Table 3.4-1 presents the impacts, recommended mitigation measures, and the level of significance after mitigation.

Table 3.4-1. Environmental Impacts and Mitigation Measures

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
		Air Quality	
AIR 1	NO_x emissions in construction areas.	Extend timeline for construction, thereby utilizing less equipment on a daily basis.	Less than Significant
		Utilize newer construction equipment that meet tier emissions standards	Less than Significant
		Use of alternative fuel such as biodiesel, liquid natural gas, and propane.	Less than Significant
		Adjust engine timing to reduce NO_x emissions.	Less than Significant
		Biological Resources	
BIO 1	If the Venice Beach/Dockweiler Beach alignment is selected and construction is to be aboveground, or if tunneling is used and the jacking and/or receiving pit is within 500 feet of the nesting site, and any construction activities are to occur during the least tern nesting season (April 1 through August 31)	A biological monitor with experience observing and documenting disturbance to least terns shall be present during all construction activities within 500 feet of the nesting site to ensure that construction activities do not adversely affect least terns using the nesting site. In addition, the monitors will ensure that work crews properly dispose of all garbage in covered containers.	Less than Significant
BIO 2	a: If any tunneling activities are to occur during the least tern nesting season (April 1 through August 31)	A water quality specialist or biological monitor shall conduct surveys at tunneling locations a minimum of once daily to ensure that tunneling does not increase water turbidity.	Less than Significant
	b: If any turbidity from the tunneling activities is discovered in least tern foraging areas	The tunneling activities shall cease until the leak from the tunnel that is resulting in turbidity is repaired or managed.	Less than Significant
BIO 3	a: Existing and potential values in environmentally sensitive habitat areas shall be protected, enhanced, and where feasible, restored. If any habitat is disturbed, restore to previous undisturbed condition.	Based on the City of Los Angeles LUP and LCP, restore to ESHAs to previous undisturbed condition.	Less than Significant
	b: Marine resources shall be maintained, enhanced, and where feasible, restored. If any habitat is disturbed, restore to previous undisturbed condition.	Based on the City of Los Angeles LUP and LCP, restore to previous undisturbed condition.	Less than Significant
		Circulation, Traffic and Parking	
TRA 1	To coordinate with the city to ensure adequate traffic signals and controls are in place prior to and during times of construction	For each construction site, a construction traffic management plan shall be prepared and submitted to the City for review and approval prior to the start of any construction work.	Less than significant
TRA 2	To adequately control traffic to ensure compliance with all local and state safety standards and specifications	A site-specific construction worksite traffic control plan shall be prepared for each construction site and submitted to the City for review and approval prior to the start of any construction work. This plan shall include such elements as the location of any lane closures, restricted hours during which lane closures would not be allowed, local traffic detours, protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, temporary traffic signals, warning signs), access to abutting properties, and provisions to maintain emergency access through construction work areas. Coordinate with emergency service providers (police, fire, ambulance and paramedic services) to provide advance notice of any lane closures, construction hours and changes to local access and to identify alternative routes where appropriate.	Less than significant

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
TRA 3	To reduce traffic congestion	Fully utilize available street space to minimize lane reductions on affected streets, including elimination of on-street parking where necessary. Implement left-turn restrictions as appropriate on re-striped street segments to facilitate the movement of through traffic. Only eliminate travel lanes when absolutely necessary.	Less than significant
TRA 4	To protect pedestrian and recreational traffic	Provide signage indicating alternative pedestrian and bicycle access routes where existing facilities would be affected.	Less than significant
TRA 5	To ensure ingress/egress to all properties adjacent to the project and surrounding areas	Provide advance notice to any affected residents, businesses and property owners in the vicinity of each construction site and, where existing property access will be reduced, identify alternative means of access.	Less than significant
TRA 6	To avoid impacts to public transportation	Coordinate with pubic transit providers (MTA, LADOT Commuter Express, Culver City Bus) to provide advance notice of any lane closures, construction hours and, where necessary, to identify sites for temporary bus stops within a reasonable walking distance of any displaced bus stops.	Less than significant
		Cultural Resources/ Paleontology	
CR 1	To avoid impacts to areas where cultural resources are known to exist	A qualified cultural monitor shall be on site in areas of known cultural finds where grading is to occur.	Less than significant
CR 2		When avoidance cannot be achieved, alternate measures such as surface collection and/or subsurface data recovery of significant sites must be implemented;	Less than significant
CR 3	In the event of the discovery and subsequent recovery of fossil remains	A qualified monitor should halt construction temporarily while remains are analyzed prior to resuming construction.	Less than significant
CR 4	At CA-LAN –66 location	Monitor all construction in the vicinity of the CA-LAN-66 site located in Vista Del Mar by an Archaeologist qualified to recognize and assess both prehistoric and historical resources	Less than significant
CR 5	If new discovery is encountered	Develop a contingency plan for addressing unanticipated new discoveries of cultural resources in the project area, evaluate and report any findings	Less than significant
CR 6	If significant cultural resources are found during construction	Those significant cultural resources found shall be recovered from the project site, curated by an archaeologist recommended by the city and offered to an area museum whose collection is available for the viewing by the public	Less than significant
PAL 1	The discovery of paleontology resources may be present in specific project areas where grading and other excavation activities are to occur	Prior to construction, the services of a qualified vertebrate paleontologist approved by the City of Los Angeles and LACMVP will be retained to implement the mitigation program during earth-moving activities at the project site.	Less than significant

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
PAL 2		The paleontologist will develop a formal agreement with a recognized museum repository, such as the LACMVP or LACMIP, regarding the final disposition and permanent storage and maintenance of any fossil remains and the archiving of associated specimen data and corresponding geologic and geographic site data that might be recovered as a result of the mitigation program, and the level of treatment (preparation, identification, curation, cataloguing) of the remains that would be required before the entire mitigation program fossil collection would be accepted by the repository for storage.	Less than significant
PAL 3		The paleontologist or monitor will coordinate with the appropriate construction contractor personnel to provide information regarding lead agency requirements for the protection of paleontologic resources. Contractor personnel also will be briefed on procedures to be followed in the event that a fossil site or remains are encountered by earth-moving activities, particularly when the monitor is not on site. The briefing will be presented to new contractor personnel as necessary.	Less than significant
PAL 4		Earth-moving activities will be monitored by the monitor only in those areas of the project site where these activities will disturb previously undisturbed strata. Monitoring will be conducted on a full-time basis in areas underlain by the Palos Verdes Sand and, once the activities have reached a depth 5 feet below grade, on a full-time basis in areas underlain by the coastal deposits and on a half-time basis in areas underlain by the dune sand. If fossil remains are encountered by these activities, monitoring will be increased to full time, if appropriate, at least in the vicinity of the fossil site where the area is underlain by the fossil-bearing rock unit. If no fossil remains are found once 50 percent of earth-moving activities have been completed in an area underlain by a particular rock unit, with City of Los Angeles approval, monitoring can be reduced or suspended in that area.	Less than significant
PAL 5		All fossil specimens recovered from the project site as a result of the mitigation program, including those recovered as the result of processing fossiliferous rock samples, will be treated (prepared, identified, curated, catalogued) in accordance with designated museum repository requirements. Small rock samples from the Palos Verdes Sand, dune sand, and coastal deposits will be submitted to commercial laboratories for microfossil, pollen, or radiometric (carbon-14) dating analysis.	Less than significant
PAL 6		Monitoring will consist of visually inspecting debris piles and freshly exposed strata for larger fossil remains, and periodically dry test screening sediment, rock, and debris for smaller fossil remains. As soon as practicable, the monitor will recover all vertebrate fossil specimens, a representative sample of invertebrate or plant fossils, or any fossiliferous rock sample that can be recovered easily. If recovery of a large or unusually productive fossil occurrence is warranted, earth-moving activities will be diverted temporarily around the fossil site and a recovery crew will be mobilized as necessary to remove the occurrence as quickly as possible. If not on site when a fossil occurrence is uncovered by these activities, the activities will be diverted temporarily around the fossil site and the monitor called to the site to evaluate and, if warranted, recover the occurrence. If the fossil site is determined too unproductive or the fossil remains not worthy of recovery, no further action will be taken to preserve the fossil site or remains, and earth-moving activities will be allowed to commence.	Less than significant
Geology/Soils/Seismicity			

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
GEO 1	Project improvements would be subject to earthquake ground shaking	The components of the proposed project will be designed and constructed to the seismic design requirements for ground shaking specified in the UBC for Seismic Zone 4 at a minimum.	Less than significant
GEO 2	Liquefaction and differential seismic settlement may occur on the project	Design and construction of the proposed project will include mitigation measures, such as flexible connections that can accommodate differential settlement, compaction grouting to densify the soils, or structural anchors to secure the pipeline.	Less than significant
GEO 3	Subsidence may occur to the project area	Design and construction of the proposed project will include mitigation measures, such as a watertight excavation support system to minimize groundwater pumping or construction the pipeline in a "wet" excavation.	Less than significant
GEO 4	Methane gas may be detected along the project alignments	Design and construction of the proposed project will include active or passive mitigation systems for methane gas hazards, if necessary.	Less than significant
GEO 5	Tsunami could strike the project area	To mitigate erosion of surficial soils covering the proposed pipeline in the event of a tsunami, proper design and construction of the project components could include erosion control measures or choosing an alternate alignment off of the beach.	Less than significant
		Hazardous Waste and Materials	
HAZ 1	Well abandonment may occur in the marina channel areas and in various alignment areas	For any wells that may need to be re-abandoned, well abandonment should be done in accordance with applicable regulations; other subsurface structures may be encountered during development work. The soils may contain methane or other gases from previous oil well field development. Site chemicals must be handled and disposed in accordance with applicable regulations. Hazardous materials would be used and waste generated during the construction and operation of the project.	Less than significant
HAZ 2	Employees may be exposed to hazardous materials during construction	Exposure of construction workers to contaminated materials can be minimized by implementing the measures required by federal, state, and local laws and regulations. As such, potential impacts associated with the excavation of contaminated materials would be less than significant.	Less than significant
HAZ 3	Storage of hazardous materials will occur on the project sites	As required in SWPPP and project specifications.	Less than significant
HAZ 4	Methane gas may be located in alignment areas where tunneling activity is to occur along the project alignment	A surface sweep is a method for measuring combustible vapors which may be emitted from the ground surface. When conducting the surface sweep, more attention can be taken in areas where underground gas would tend to exit the surface, such as at cracks in the ground.	Less than significant

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
HAZ 5	Methane may be present along the project alignments	The City of Los Angeles Building Code requires that methane mitigation be implemented when construction occurs at these sites to ensure public safety. These measures include the installation of membrane barriers and vent piping as well as trench dams and electrical seal-offs for each of these properties.	Less than significant
		Hydrology/ Water Quality	
HYDRO/	Runoff may occur from the project site during construction activities	A SWPPP shall be submitted for review and approval. The SWPPP shall recommend interim and permanent improvements to existing drainage features to prevent uncontrolled runoff during construction and to accommodate any temporary increase in runoff associated with construction activities.	Less than Significant
WQ 1		Compliance with the SWPPP shall be demonstrated by obtaining a NPDES construction permit for all construction activities including clearing, grading, or excavation that result in the disturbance of at least 1-acre of total land area or activity which is part of a larger common plan of development of 1 acre or greater. Copies of said NPDES permit(s) and related SWPPP shall be available for inspection at the City and at the construction site prior to land disturbing activity. Total disturbance area includes the staging and material storage areas. Although this project may not total over one acre of actual disturbance area, because of the highly sensitive habitat areas within the project, a SWPPP should be a required mitigation element.	Less than Significant
HYDRO/ **WQ 2**	Dewatering discharge is expected to occur during the initial phase of pit construction	Hydraulic isolation of the pits can be accomplished by the contractor by various methods of his choice, including interlocking sheet pile walls, soil cement walls constructed with Deep Mixing Methods, or slurry diaphragm walls. Water removed from the pits will be discharged to the storm drain system after proper treatment in accordance with local regulations Solid particles will be removed by using sedimentation tanks and filtration. If petroleum contamination is encountered, free product, if any, will be skimmed off the surface and oil/water separators will be used to remove the remaining contamination. Granular activated carbon could be used to remove any dissolved organic or other contaminants. Alternatively, discharged water will be shipped to authorized vendors for treatment and disposal.	Less than Significant
		Noise and Vibration	
NOI 1	Construction noise levels that exceed city and county standards may be created during project construction activities.	All construction activities shall be limited to the hours of 7:00 a.m. to 9:00 p.m. Monday through Friday, and 8:00 a.m. to 6:00 p.m. on Saturday. No construction or construction-related activities shall take place on any Sunday or national holiday.	Less than significant
NOI 2		Heavy trucks engaged in the removal of muck from tunneling operations off site via heavy trucks shall be limited to major arterial streets and away from residential roadways, to the extent practicable.	Less than significant

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
NOI 3		All noise-producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for such type of equipment.	Less than significant
NOI 4		All mobile or fixed noise-producing equipment used on the project, and that is regulated for noise output by a local, state, or federal agency, shall comply with such regulation while in the course of project activity.	Less than significant
NOI 5		The erection of temporary soundwall barriers shall be considered where project activity is unavoidably close to noise-sensitive receptors.	Less than significant
NOI 6		Electrically powered equipment shall be used instead of pneumatic or internal combustion powered equipment where feasible.	Less than significant
NOI 7		Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.	Less than significant
NOI 8		Construction site and haul-road speed limits shall be established and enforced during the construction period.	Less than significant
NOI 9		The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only.	Less than significant
NOI 10		No project-related public address or music system shall be audible at any adjacent receptor.	Less than significant
NOI 11		The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.	Less than significant
NOI 12		The contractor shall develop a project noise control plan, which shall have been approved by the owner or designated noise control professional and implemented prior to commencement of any construction activity.	Less than significant
VIB 1	Vibration may occur in the project area during construction activities	Installation of instruments throughout a sensitive building, to be used in monitoring and recording building behavior (movements, vibrations) due to adjacent tunneling activities.	Less than significant
VIB 2		Any physical, chemical or biological method, or any combination of such methods, used to increase the bearing capacity or decrease the permeability of soils under the foundation of existing buildings.	Less than significant
VIB 3		A specialized form of grouting used to compensate for movements and settlements caused by tunneling adjacent to or beneath existing buildings.	Less than significant

Impact ID	Environmental Impact	Mitigation Measure	Post Mitigation Level of Impact
		Recreational Resources and Facilities	
REC 1	Construction-related activities may impact areas and facilities used by the public for sporting events and recreational activities	Provide advanced notice to the public, businesses, sports/ recreation groups and property owners indicating time and duration of non-use or partial use of facilities/areas to be impacted by construction.	Less than Significant
		Visual/Aesthetics	
AES 1	Where impacts may not be directly mitigated, they may be offset by actions taken elsewhere to compensate for the loss of visual quality. It would be speculative to definitively list specific offsetting actions at this time.	The city shall consider landscaping public areas within affected neighborhoods where open space is currently degraded and unsightly. The city shall consider screening from public view existing features, which are incongruous with the character of their surroundings (such as the VPP). The city shall consider creating public access to currently unavailable scenic vistas (new beach access routes, paths, bikeways, public parking.	Significant short term

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11.0 RESPONSES TO COMMENTS

This section of the Final EIR includes comments received by the City of Los Angeles on the Draft EIR, and responses to these comments. The comments include both written comments received by the City and oral comments presented to the City at a public hearing on the Draft EIR held on February 23, 2006. As required by the California Environmental Quality Act (CEQA), responses to comments are provided for the written and oral comments received by the City.

A complete list of commenting public agencies and private individuals is provided below. Written comment letters and comments made during the public comment meeting on the Draft EIR are provided in Sections 11.3 and 11.4 of this Chapter. Section 11.3 provides copies of all written letters submitted to the City, and Section 11.4 provides a complete transcript of the public hearing conducted by the City on the EIR. Written responses to the comments are provided in Section 11.5 of this Chapter (see page 11-100).

11.1 LIST OF PUBLIC AGENCIES AND INDIVIDUALS PROVIDING WRITTEN COMMENTS

STATE AGENCIES

Department of Transportation ..... Page 11-9
District 7, Regional Planning
IGR/CEQA Branch
Attn: Cheryl J. Powell
100 Main Street, MS #16
Los Angeles, CA 90012-3606
Letter dated: 02/22/06

California Coastal Commission ..... Page 11-10
South Coast Area Office
Attn: Pam Emerson
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
Letter dated: 03/16/06

LOCAL AGENCIES

County of Los Angeles ..... Page 11-13
Department of Public Works
Attn: Ms. Clarice Nash
900 South Fremont Avenue
Alhambra, CA 91803-1331
www.ladpw.org
Letter dated: 03/15/06

PRIVATE INDIVIDUALS

Brett W. Hawkins, Jr. ..... Page 11-14
President & Founder
Global Gaming League
brett@ggl.com
Letter dated: 02/09/06

Carol Kapp ..... Page 11-15
127 Rees Street
Playa Del Rey, CA 90293
Letter dated: 02/20/06

Gene Haberman..... Page 11-19
genehabe@yahoo.com
Later dated: 03/04/06

John B. Kilroy ..... Page 11-20
5306 Pacific Ave.
Marina Del Rey, CA 90292
JBKMDR@AOL.COM
Letter submitted: 03/14/06

Attachment 1 to John B. Kilroy Letter ..... Page 11-23
Marina Peninsula Neighborhood Association
Attn: Lowell Safire
11 Mast Street
Marina Del Rey, CA 90292
Letter dated: 04/09/03

Attachment 2 to John B. Kilroy Letter ..... Page 11-26
John S. Perkins
5209 Ocean Front Walk #101
Marina Del Rey, CA 90292
Letter dated: 11/27/02

Don Hollands..... Page 11-29
6400 Pacific Ave., #304
Playa Del Rey, CA 90293
don-hol@comcast.net
Letter dated: 03/16/2006

Mark Van Gessel, P.E. ..... Page 11-31
vangessel@comcast.net
Letter dated: 03/16/06

COMMENT CARDS FROM PUBLIC MEETING
Madeline Dinonno ..... Page 11-49
Comment dated: 02/23/06

Susan Papadakis ..... Page 11-50
Grass Roots Venice Neighborhood Council
Los Angeles, CA 90291
Comment dated: 02/23/06

Phil Raider ..... Page 11-51
Grass Roots Venice Neighborhood Council
Comment dated: 02/23/06

FEBRUARY 23, 2006 PUBLIC MEETING TRANSCRIPT ..... Page 11-52

11.2 SUMMARY OF COMMENTS

Table 11-1, below, provides a summary of comments received from the public and private agencies on the adequacy of the EIR. Many of the comments relate to the same issue, although sometimes in different ways or with a slightly different emphasis. Nonetheless, there are redundancies or overlapping of the comments. In summary, the comments relate to forty-four (44) environmental issues described in Table 11-1. Responses to these comments are provided in section 11.5 and are presented and identified by the comment identification number shown in Table 11-1.

Table 11-2 notes the comment issue areas raised in the eleven (11) written responses received by the City from public agencies and the general public. Finally, Table 11-3 notes comment issue areas raised in the oral and written comments received by the City at the February 23, 2006 public hearing. Tables 11-2 and 11-3 show that many letters and oral comments addressed the same issue: for example, three written letters commented on construction-related parking impact, which is comment "CON-1"; this issue was also raised by two people at the public hearing.

Table 11-1: Comments on Draft EIR

Comment ID	Comment Name	Comment Description
ALGN-1	Preferred Alignment - Beach	The beach alignment of the project is preferred because it is the least disruptive to local residents.
ALGN-2	Preferred Alignment - Non-beach	The beach alignment of the project is not preferred because of potential environmental impacts to the coast.
ALT-1	Alternative - No Project Analysis	The no-project alternative is preferred because it would limit development and growth.
ALT-2	Alternative - New Alternative	The EIR should consider additional alternatives.
ALT-3	Alternative - Alternative Bias	The City has a bias for the Pacific Avenue alignment, and an independent review is necessary.
ALT-4	Alternative - New Beach "Cut and Cover"	Consider a new beach "cut and cover" alternative.
AQ-1	Air Quality - Odor	Will the project cause sewage odors?
BIO-1	Biology	What are the construction-related impacts to biological species such as the El Segundo Blue Butterfly, Least Tern, and California Brown Pelican?
CLI-1	Climate Change	Rising sea level and beach erosion need to be addressed.
CON-1	Construction - Parking	Where will construction equipment be parked during construction of the project?

Comment ID	Comment Name	Comment Description
CON-2	Construction - Schedule	Can the project construction schedule be met?
CON-3	Construction - Traffic	Which streets will be closed and how will traffic be impacted due to construction? Specifically, will the intersection of Pacific and Via Marina be closed during construction?
CON-4	Construction - Beach access	How will construction of the project impact beach access?
CON-5	Construction - Timing	What is the construction schedule and how much time will it take for project completion?
CON-6	Construction - Noise	What are the noise impacts due to construction?
CON-7	Construction-Management	How will construction practices and mitigation measures be enforced? Can financial penalties be imposed if the construction contractor fails to implement the mitigation measures?
CON-8	Construction - Vibration	What are the vibration impacts due to construction?
CON-9	Construction - Trench Covering	Add a “bullet item” requiring trench covering during construction of pipeline.
EIR-1	EIR - Recirculation	Recirculation of the EIR has been requested due to lack of sufficient analysis.
EIR-2	EIR - Extend Review Period	The review period for the EIR should be extended because of insufficient time to review the document.
EIR-3	EIR - Piecemeal CEQA Analysis	This is a piecemeal CEQA analysis of a larger project: 3-4 story development in Venice.
EIR-4	EIR - Mitigation Measures	Do not allow “or equivalent” mitigation measures.
EMG-1	Emergency Access	During construction of the project, how will emergency services be provided given street closures and construction on streets?
FLD-1	Flooding	How will the project handle storm water and other flooding events?
GEO-1	Geology - Settling/ Dewatering	Construction of the project may result in on- or off-site landslides.
GEO-2	Geology - Liquefaction	The project is being constructed in an area where liquefaction may occur.
GEO-3	Geology - Seismic	Seismic events may impact the project.
GRWTH-1	Growth Inducing Impacts	How will the project induce growth in the local area?

Comment ID	Comment Name	Comment Description
GRWTH-2	Growth Inducing Impacts - Hyperion Plant	Can the Hyperion Plant handle the increased flows of the sewer line in addition to the large expansive housing projects that the City continues to approve?
NOI-1	Noise - Noise Curtain	Provide more specificity concerning the noise curtain mitigation measure.
NOI-2	Noise - New Mitigation Measure	Suggest new Noise mitigation measure, NOI-10, for Pacific Avenue project alignment.
OS-1	Open Space – Mitigation	Dedicate City owned drill site for public open space.
PRMT-1	Permitting	Several permits are necessary to proceed with the Pacific Avenue alignment.
PROJ-1	Project Related - Project Life	What is the lifespan of the project, and when will renovation of the project be required?
PROJ-2	Project Related - Capacity of Force Main	Is the pipeline adequate to serve the projected population?
PROJ-3	Project Related - Sewage Spill Plans	Will the project include plans for shutdown and containment in the event of sewage spill?
PROJ-4	Project Related - Sewer Capacity	Will the project release untreated sewage into the ocean during heavy rain?
PROJ-5	Project Related - Project Updates	Regular community updates of the project status are requested.
PROJ-6	Project Related - Safety	Which project alternative is the safest over the long-term?
PROJ-7	Project Related - Project Cost	Request more detailed project and alternatives cost information.
PROJ-8	Project Related - Impact to County Facilities	The project has the potential to impact Los Angeles County facilities.
TAX-1	Tax Reduction	Request tax reduction for property owners who are affected by project.
TRA-1	Traffic Impacts	Construction of the proposed project will cause disruption to the traffic flow in the area.
WQ-1	Water Quality	Is the pumping plant sending untreated sewage into the ocean; and will the plant adversely affect groundwater supply?

Table 11-2: Comment Letters

	CA. Dept. of Transportation (2/22/06)	CA. Coastal Commission (3/16/06)	County of L.A. Dept. of Public Works (3/15/06)	Perkins, John (11/27/02)	Marina Peninsula Neighborhood Assn. (4/9/03)	Kapp, Carol (2/20/06)	Haberman, Gene (3/7/06)	Kilroy, John (3/14/06)	Hollands, Don (3/16/06)	Van Gessel, Mark (3/16/06)	Van Gessel, Mark (Report)
ALGN-1				●	●		●	●		●	
ALGN-2		●									
ALT-1											
ALT-2				●	●					●	
ALT-3					●						
ALT-4											
AQ-1											
BIO-1		●									●
CLI-1		●									●
CON-1					●			●			
CON-2								●	●		
CON-3									●		
CON-4		●									
CON-5		●									
CON-6								●		●	
CON-7							●	●			
CON-8									●		
CON-9									●		
EIR-1											
EIR-2									●		
EIR-3											
EIR-4											
EMG-1									●		
FLD-1											
GEO-1					●				●	●	
GEO-2		●			●		●		●	●	
GEO-3										●	
GRWTH-1								●			
GRWTH-2								●			
NOI-1									●		
NOI-2									●		
OS-1											
PRMT-1	●									●	
PROJ-1		●									
PROJ-2						●			●		
PROJ-3		●									
PROJ-4									●		
PROJ-5					●						
PROJ-6							●				
PROJ-7									●		
PROJ-8			●								
TAX-1											
TRA-1							●				
WQ-1		●									

Table 11-3: Public Meeting Comments

	Dinonno, Madeline (Written Comment)	Papadakis, Susan (Written Comment)	Raider, Phil (Written Comment)	Audet, DeDe (Oral Comment)	Hanscom, Marcia (Oral Comment)	Kapp, Carol (Oral Comment)	Krauch, Bob (Oral Comment)	Sharkey, Dan (Oral Comment)	Van de Hoek, Roy (Oral Comment)	Van Gessel, Mark (Oral Comment)
ALGN-1			●							●
ALGN-2										
ALT-1									●	
ALT-2									●	
ALT-3										
ALT-4						●				
AQ-1										●
BIO-1					●				●	
CLI-1										
CON-1	●					●		●		
CON-2										●
CON-3	●									
CON-4										
CON-5										●
CON-6								●		●
CON-7								●		●
CON-8										●
CON-9										●
EIR-1					●	●				
EIR-2										
EIR-3									●	
EIR-4										●
EMG-1										
FLD-1				●						
GEO-1						●				●
GEO-2					●					
GEO-3										
GRWTH-1					●				●	
GRWTH-2										
NOI-1										
NOI-2										
OS-1					●					
PRMT-1										
PROJ-1						●				
PROJ-2				●						
PROJ-3										
PROJ-4						●				
PROJ-5		●			●					
PROJ-6						●				
PROJ-7										
PROJ-8										
TAX-1					●					
TRA-1										
WQ-1										●

11.3 *Annotated Letters Received by the City on the Adequacy of the EIR*

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-3747
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

IGR/CEQA No. 060208AL, DEIR
IGR/CEQA No. 030308AL
Venice Pumping Plant Dual Force Main
Vic. LA-01 / PM 30.16
SCH#: 2003031001

February 22, 2006

Mr. James E. Doty
Los Angeles Bureau of Engineering
200 N. Spring Street, M165
Los Angeles, CA 90012

Dear Mr. Doty:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. This is a wastewater conveyance project to increase the capacity of the City's sanitary sewer system by placing a new sewage pipeline in parallel with the existing force main that conveys flow from the Venice Pumping Plant to the Hyperion Treatment Plant.

Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects need to be designed to discharge clean run-off water. WQ-1

Any transportation of heavy construction equipment and/or materials which requires the use of oversized-transport vehicles on State highways will require a Caltrans transportation permit. We recommend that large size truck trips be limited to off-peak commute periods. In addition, a truck/traffic construction management plan is needed for this project. Thank you for the opportunity to have reviewed this project. PRMT-1

If you have any questions, please feel free to contact me at (213) 897-3747 or Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 060208AL.

Sincerely,

CHERYL J. POWELL
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

"Caltrans improves mobility across California"

STATE OF CALIFORNIA - THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

March 16, 2006

Jim Doty
City of Los Angeles
Bureau of Engineering
Department of Public Works
650 South Spring St.
Suite 11000
Los Angeles, CA 90014-1918

Subject: Draft EIR, Venice Pumping Plant Dual Force Main Project 2003031001

Dear Mr. Doty,

Staff of the California Coastal Commission would like to provide the following initial comments on the Venice Pumping Plant Dual Force Main Project. The project would replace an existing sewer main that connects the existing Venice pumping plant at Hurricane Avenue and the Grand Canal with the Hyperion Treatment Plant. The City has provided three alternative routes and three alternative methods of construction. The staff provided comments on the initial study several years ago. We understand that the various routes could be combined if the City found a combination of two routes would have less environmental impact.

In general, the staff agrees with the City's assessment of the risks and potential impacts of the various routes, with one exception. Placement of a major sewer line on the beach raises significant issues because, in a situation of rising sea level and increased coastal erosion, the sewer line could, in a few years be attacked by waves and require a revetment or other coastal protection structure. Section 30253 of the Coastal Act requires that new development shall minimize risks to life and property in areas of high geologic, flood and fire risk. New projects must be able to demonstrate that they have minimized risks over the foreseeable life of the development, which, for public works projects can be at least 30 to 40 years. During the next 30 to 40 years a combination of beach erosion and rising sea levels could result in the proposed line being within the wave run up zone and at great risk from both flooding and erosion hazards. Also, the Commission has found it becomes more and more difficult to establish new utility corridors through upland areas. As a result, even though the proposed sewer line may have only a 30- to 40-year expected life, the corridor itself may have a much longer expected life. Use of the beach route now, without any future plans to develop safer routes in the future, may greatly reduce options for safe and efficient management of sewer service in the future. ALGN-2

The City's assessment of the various routes needs to consider the safety of the sewer line under the worst case conditions that can be foreseen for the proposed sewer line. For the beach route, that would be a 100-year storm event (similar to the 1982-83 storms, or the 1988 storms), occurring when the beach is eroded due to both seasonal beach loss and long-term erosion, and when the oceanic conditions are most conducive to wave impacts and scour (a combination of high tide, atmospheric forcing and long-term sea level rise). Since the long-term beach change has been influenced of historic beach nourishment, the beach conditions should be extrapolated for both conditions of continued beach CLI-1

Venice Pumping Plant Dual Force Main Project Draft EIR Comments
Page 2 of 3

nourishment and conditions of no additional nourishment. Key points of vulnerability to the line should be considered, such as the higher elevation portions of the line, the channel crossing and transitions to the crossing, and situations where the line may have little or no flow and thus could be excessively buoyant. Also, the sewer line is a critical facility and it should be examined for risk from some extreme events, such as a tsunami with drawdown that would likely be focused in the channel area. CLI-1

In addition to potential risks from beach erosion, staff would want the EIR to consider fully the following potential impacts that can result from construction, maintenance, or routine operation:

1) Impacts on beach access. The three proposed routes are along roads that are used for beach access or are located on the beach. Several staging areas are located on the sand or in the case the Marquesas/Via Marina route on a public parking lot. Methods of construction which require long term closing of beach access routes or occupancy of recreation areas will reduce the ability of the public to get to the beach. The beach and recreation areas in question are: CON-4

a) Dockweiler State Beach (both north and south of the Marina Entrance channel)
b) The County parking spaces adjacent to the Marina Entrance Channel at the southern ends of Pacific Avenue and Via Marina.
c) County Parking Lot 13 located on Via Marina.
d) Pacific Avenue in both Venice and Playa del Rey
e) Vista del Mar Boulevard, which provides principal access to Dockweiler State Beach.

2) Impacts on the Least Tern nesting colony. The staging area shown for the Venice Beach small diameter tunnel is located close to the Least Tern nesting area. We would be concerned about impacts of noise and foot traffic on this site. BIO-1

3) Visual and noise impacts during construction. While such impacts are temporary, the level of impact varies among the methods chosen for construction and the location of the route chosen. The Marquesas/Via Marina route would have little impact on beach views or on major public access routes. All of the alternatives in Playa del Rey would have impacts. The tunneling alternatives would seem from your analysis to have the least impact on beach access routes. CON-6 CON-7

4) Water quality impacts can potentially occur with any major construction project; it will be necessary to design and schedule the project to minimize potential water quality impacts, require the use of Best Management Practices as well as to impose strict mitigation measures. WQ-1

5) All three routes would traverse liquefiable soils. This geologic hazard needs to be considered in the analysis of all route and construction alternatives. GEO-2

Venice Pumping Plant Dual Force Main Project Draft EIR Comments
Page 3 of 3

6) Plans for shut-off and containment in the event of a sewerage spill should be provided for each proposed route. Special care should be taken for the channel crossing, areas less than 100 feet from Ballona and Del Rey Lagoons, and with the entire beach route. PROJ-3

7) There is some finite life to all sewer projects. There should be some consideration in the EIR as to the eventual disposal of the sewer line once it reaches the end of its economic line. While staff is not recommending the beach route alternative, should the City choose this alternative, there should be some identified triggers that would provide sufficient time to plan, finance and construct a replacement line before the beach line would be threatened. Triggers indicative of a future need to replace the line or to install shore protection to avoid damage from wave attack include beach width change, increased damage during storm conditions, or back beach elevation changes. PROJ-1

Some of the impacts may be mitigated either by locally imposed mitigation measures, or by special conditions imposed by local government or the Coastal Commission. However, coastal staff would urge the City to chose a route and a construction method that 1) avoids the beach, 2) minimizes disruption of public access to and use of the beach and other coastal recreation resources, 3) and does not disturb the Least Tern nesting area during nesting season (mid-March to late August). ALGN-2

When the final project is submitted to the Commission for a coastal development permit, the staff will undertake a more through analysis, and if necessary, impose special conditions to assure its consistency with the California Coastal Act. Thank you for allowing us the opportunity to comment on this project at the early stages of planning.

Sincerely

Pam Emerson
Los Angeles Area Supervisor

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

DONALD L. WOLFE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

March 15, 2006

IN REPLY PLEASE
REFER TO FILE: LD-0

Mr. James E. Doty
City of Los Angeles
Public Works Engineering
c/o Public Affairs Office
200 North Spring Street, Room M165
Los Angeles, CA 90012

Dear Mr. Doty:

REVIEW OF DRAFT ENVIRONMENTAL IMPACT REPORT
VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT
CITY OF LOS ANGELES

Thank you for the opportunity to review the Draft Environmental Impact Report (DEIR) for the Venice Pumping Plant Dual Force Main project. Based on the DEIR, this project has the potential to impact Los Angeles County facilities. Specifically, we are concerned that two of the proposed alignments could have significant construction related impacts to County residents, roadways, and facilities. Public Works recommends considering the Pacific Avenue alignment as the preferred alignment since it creates the least amount of impact to the County. PROJ-8

Also, it should be noted that any operational impacts to the County infrastructure will need to be reviewed and permitted by Public Works.

If you have any questions regarding these comments, please contact Ms. Clarice Nash at (626) 458-5910.

Very truly yours,

DONALD L. WOLFE
Director of Public Works

ROSSANA D'ANTONIO
Assistant Division Engineer
Land Development Division

CRN:jmw P:\CEQA\CLARICE\VENICEPPDEIR

From: Brett Hawkins <brett@ggl.com>
To: <environment@eng.lacity.org>
Date: Thu, Feb 9, 2006 11:36 AM
Subject: Venice Duel Force Main

I¹m all for getting this overflow and repair problem fixed!

Thanks,

Brett W. Hawkins Jr.
President & Founder
Global Gaming League
+1 310 828 5252
³Stop Playing With Yourself!²
www.GGL.com

127 Rees Street
Playa del Rey, Ca. 90293
Feb. 20, 2006

Dear James Doty, Environmental Group
L A City Public Works

Re: Venice Pumping Plant Force Main Project EIR

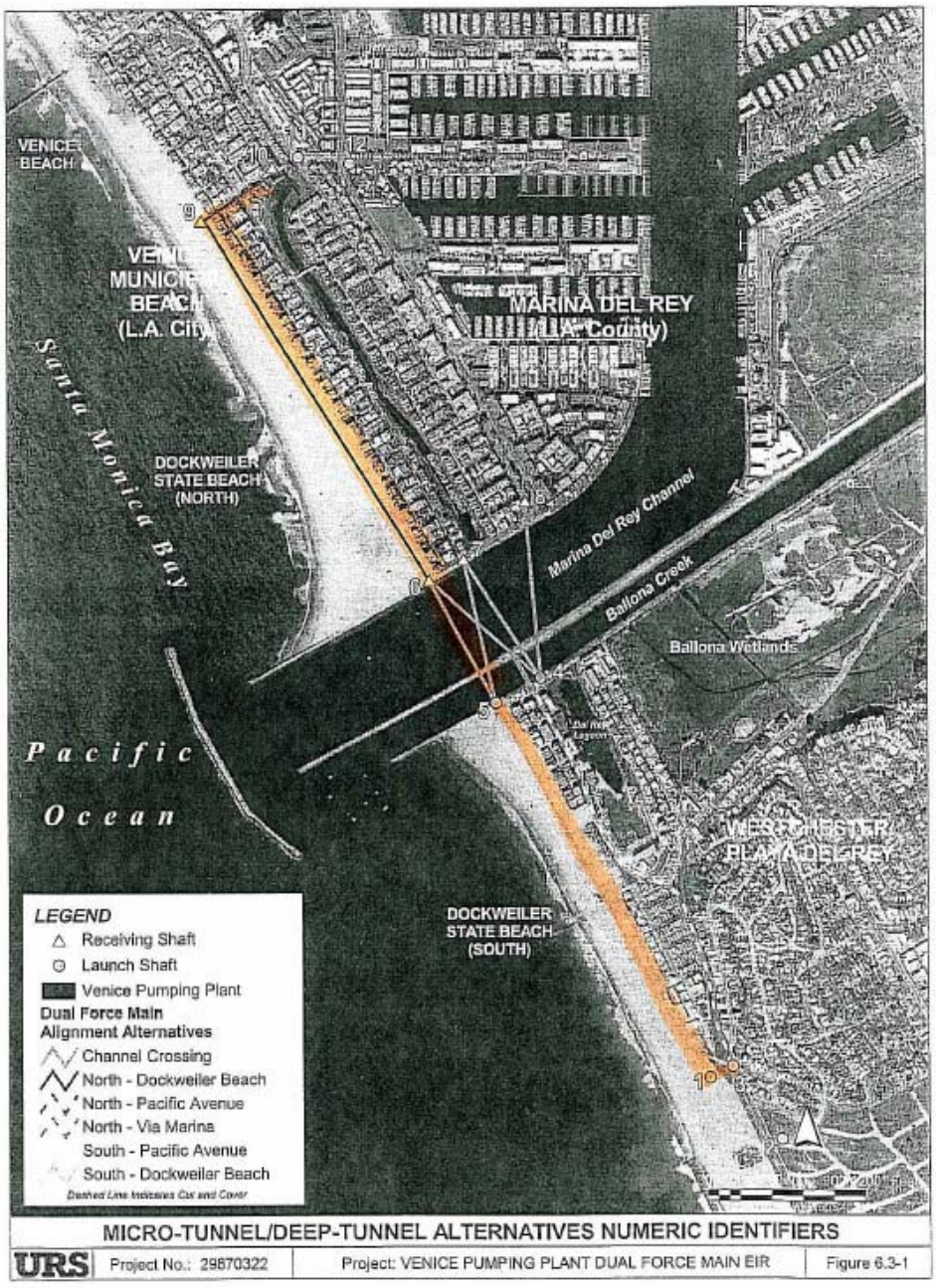
I want to compliment you and the staff. I have read the entire EIR . You were very thorough!!

I am supporting the route which I believe is described,in the EIR,but I feel that it should be put in writing so that there is no confusion. Using Fig. 6.3-1 I want to support the most straight forward way to complete the project. Begin at # 11 go west to #10, west to # 9 and south to #6 cross under Marina channel , under Ballona Creek to #5 continue on the beach tunneling to #1 east to #3 south to #2 and tie into Hyperion plant.

The route I support would use the Lay down areas to store equipment in the existing parking area adjacent 62nd Ave. and the parking east of Pacific in the Lagoon area.

The Lagoon and Jungle areas of Playa del Rey can not FUNCTION If the roads are reduced. Using the beach for tunneling will disrupt the least of local Residents. We all lived with the Thompson Pumping Plant Fiasco in 1998!!!! We can not and will not live with or through another Public Works Project that is not neighborhood friendly. We come before the Least Tern or any other bird or lower species!!! ALGN-1

The original 1958 pipe is laid in the beach. The new pipe can be laid next to or in close proximity employing tunneling or open trench method. Traffic disruption would be of a minimum. The Dockweiler(North and South) Alignment would eliminate traffic and parking issues as described for the "Pacific And Vista del Mar" Inland route. The residents should not have to live with the negative


VENICE BEACH
MARINA DEL REY (L.A. County)
Santa Monica Bay
DOCKWEILER STATE BEACH (NORTH)
Marina Del Rey Channel
Ballona Creek
Ballona Wetlands
Pacific Ocean
DOCKWEILER STATE BEACH (SOUTH)
LEGEND
Receiving Shaft
Launch Shaft
Venice Pumping Plant
Dual Force Main Alignment Alternatives
Channel Crossing
North - Dockweiler Beach
North - Pacific Avenue
North - Via Marina
South - Pacific Avenue
South - Dockweiler Beach
MICRO-TUNNEL/DEEP-TUNNEL ALTERNATIVES NUMERIC IDENTIFIERS
URS
Project No.: 29870322
Project: VENICE PUMPING PLANT DUAL FORCE MAIN EIR
Figure 6.3-1

impacts associated with a project of this magnitude. Please put the project on the beach for as much as is possible.

By using the beach route, the pipes can be tied together for future use. As the demand increases, both pipes can be used. If there is a big storm, the old pipe can be used so that "nasty" spillage does not wash down our beaches. ALGN-1

By using the beach route, the parking in the Lagoon would be preserved for those using the Park, Basketball courts or Grand Parents attending Little League games, and residents who do not have a garage. Parking is at a premium and must be maintained at the current level.

Please note that we recognize the need for the project. We want to maintain the current quality of life. The ingress and egress for residents, businesses and LAPD and LAFD, and Lifeguards' equipment during the short 18-24 month project.
The beach route would be further away from the bluffs along Vista del Mar. Vibrations from equipment could trigger land slides. The hill properties to the immediate east of Vista del Mar and those in the Jungle to the immediate west of Vista del Mar appear on the City Earthquake maps as being in a liquification zone. The project could potentially result in on or off site slides, lateral spreading, liquification or collapse. Good planning and engineering can not predict a land slide. The La Conchita, in Ventura, 2005 and The June, 2005, Blue Bird Canyon ,La Guna Beach Slides give us all reason to pause and Plan very carefully. Planning is the key. Does The City have enough Liability Insurance to cover similiar happenings??? The seismic shaking and vibrations would be greatly reduced if the Beach route were used. GEO-1 GEO-2

Throughout the EIR there were references to moving equipment and workers. Arrangements could be made with LA City for workers to park at empty areas along Pershing or open the section of Sandpiper that was shutoff after the 2001 Terrorists attacks. The Sand Piper area could be used for parking and a shuttle bus could run employees as needed. LA County operates parking on the west side of Vista del Mar slightly south of Waterview-Napoleon. There are CON-1

County lots inthe Marina that could be used for workers. The parking in Venice, Marina and Playa del Rey is precious. Careful Consideration should be given to ways to preserve parking in all areas affected!!!! CON-1

To make it very clear----The Jungle is a high density residential area. The parking area located westerly adjacent Vista del Mar, f rom Montreal South to Surf Alley can not be used in any manner at any time during this project. This area allows Beach access for visitors during the day and provides residential parking in the evening.

I would like to suggest that this Project have an ongoing update bi-weekly in The Argonaut Newspaper.
This is a local free paper that is widely read in the affected area. Additionally, Before the Project really starts, A community meeting should be held at the Council office at night and so that the last minute changes could be made public. The LAPD, LAFD, Lifeguards, and local hospital should be invited. PROJ-5

Representatives of West Beach Playa del Rey Property Owners Association will be available to meet with you at night with some notice.

Lastly, Contingency plans must be in place so that our Community does not live through a repeat of the Thompson Pumping Plant fiasco. The City owes this neighborhood a well planned project without any glitches.

Sincerely,
Carol Kapp

Carol Kapp Property Owner, Board of directors WB PdR POA

From: Gene Haberman <genehabe@yahoo.com>
To: <environment@eng.lacity.org>
Date: Tue, Mar 7, 2006 5:20 PM

Dear Mr. Doty,

I am a Marina del Rey resident involved in reviewing a Draft EIR on the Shores Project proposed to be built on Via Marina, North of Marquesas Way. Over 300 additional resideential units are being proposed. It is part of over 2000 residential units now being build or in the planning cycle on the west side of the Marina. Are these units served by the Venice Pumping Plant?

GRWTH-1

If they are served by the VPP is there enough capacity. The reason for my concern is the information you furnished regarding the proposed Venice Pumping Plant Dual Force Main Sewer appears to indicate that the sewer system is over capacilty during wet weather. Therefore you are proposing to add a sewer to ensure continuous safe flow during projected wet weather and to help prevent sewer spillage onto city streets and adjacent surface waters. Based on information from your office, the sewer would be completed in 2011. The Shores Project, if approved, would begin occupancy in 2008. Some of the other additional residential units are currrently under construction.

Please answer this inquiry at your earliest convenience. The Shores Project is in the Regional Planning Commission hearing process.

Thanks you.

Sincerely,

Eugene Haberman

Marina del Rey

JOHN B. KILROY

March 14, 2006

Attn: James E. Doty
City of Los Angeles
Department of Public Works Bureau of Engineering
c/o Public Affairs Office
200 N. Spring Street
Room M165
Los Angeles, CA 90012

Re: Draft EIR – Venice Pumping Plant Dual Force Main

The matter of this Dual Force Main has previously been discussed with the Department of Public Works in writing and verbally in the 2002 and 2003 period – during public hearings and private meetings.

We call to your attention such correspondence which should be on file with the City of Los Angeles Department of Public Works and also enclose letters from Marina Peninsula Neighborhood Association to the following dated April 9, 2003:

- Mr. Christopher Westhoff, City Attorney's Office, City of Los Angeles
- Councilwoman Cindy Miscikowski, City of Los Angeles, District 11
- Mr. Vitaly Troylan, City Engineer, City of Los Angeles
- Commissioner Ronald Low, Dept. of Public Works, City of Los Angles
- Russell Ruffing, Department of Public Works, City of Los Angeles

These letters and other letters from Marina Peninsula Neighborhood Association and the undersigned, John B. Kilroy, provided foundational documents, facts and objections to installation of such a Dual Force Main on Pacific Avenue.

5306 PACIFIC AVE.
MARINA DEL REY, CA 90292
JBKMDR@AOL.COM

A current review of Pacific Avenue shows the following additional facts which would have tremendous impact upon construction cost, construction time, traffic flow and the standard of living and convenience of all owners and renters within the area from the Canal to the Ocean Beach.

The count of driveways which enter off Pacific Avenue to single-family or multi-family residence totals 38.

The count of streets which enter Pacific Avenue between Galleon Street to Via Marina totals 18. These streets serve hundreds of more driveways which primarily are multi-family home driveways and the driveways on Pacific Avenue represent residences with underground sewer, water, gas, cable and other services, all of which interfere with rapid construction, substantially increasing cost of such a Dual Force Main.

Pacific Avenue is the primary access street to Speedway, which also serves hundreds of residences, garages and related parking with underground installation.

ALGN-1
TRA-1

Pacific Avenue is a loop access road to Washington Boulevard and Via Marina for busses, school busses, trucks, service vessels and cars, heavily used during daylight hours.

A review and study of the impositions and traffic flow will significantly interrupt access and living conditions should construction be considered on Pacific Avenue, as well as substantially increasing cost and construction time.

Neither the Via Marina proposed site nor the proposed beach installation impose such adverse or costly installation upon the residents and upon the construction itself for such a lengthy time as Pacific Avenue.

There are virtually no obstructions to rapid and low-cost construction, nor is there such a serious potential and likely problem of liquefaction as there is on Pacific Avenue.

GEO-2

Contrary to prior presentation by a consultant to the City, the width of the beach at this area for a sewer line has been accretive for many years since installation of the breakwater and erosion is highly unlikely. Environmentally, there should be only a temporary construction impact, much less than the Pacific Avenue site.

5306 PACIFIC AVE.
MARINA DEL REY, CA 90292
JBKMDR@AOL.COM

The Via Marina site is also a highly favorable site as compared to Pacific Avenue, a short tunnel under the canal, a short distance on Via Dolce, then along the south two-lane of a four-lane divided roadway with no driveways to multi-family dwellings, and little, if any, sewer connections, water lines, telephone, gas or other lines obstructing rapid and low-cost construction along the south side of Via Marina.

Traffic management on the Via Marina four-lane divided roadway is relatively easy, particularly in view of the lack of driveways, garages, and utilities obstructive to high speed construction.

It is simply illogical, structurally unsafe, with a high increase of cost in money and time to consider Pacific Avenue as a site for the Venice Plant Dual Force Main. PROJ-6

All of this is aside from the tremendous imposition upon living and environmental conditions during construction of Pacific Avenue if selected as the construction site. CON-7

Sincerely,

John B. (Jim) Kilroy

Encl.

cc: *Mark VanGessell*
Commissioner Ronald Low, Dept. of Public Works
Cindy Miscikowski, City of Los Angeles District 11
John S. Perkins
Russell Ruffing, Bureau of Engineering
Al Sackler
Lowell Safire, MPNA President
Vitaly Troyan, City Engineer
Christopher Westhoff, City Attorney

5306 PACIFIC AVE.
MARINA DEL REY, CA 90292
JBKMDR@AOL.COM

Marina Peninsula Neighborhood Association

April 9, 2003

Mr. Vitaly Troyan, City Engineer
Lead City Agency
City of Los Angeles
Bureau of Engineering
650 S. Spring Street, Rm 574
Los Angeles, CA 90014
Attn: Russell Ruffing

Re: Venice Pumping Plant -Dual Force Main
1. **CEQA – Notice of Preparation**
2. **Initial Study – Article IV Letter dated Feb. 25, 2003**
3. **Attachment – Issues: Pages 5 –17 inclusive**

Dear Mr. Troyan:

We have received the attached documents and have studied the City's proposed responses to the Issues Section in detail.

Proposed Routes for EIR
To date, we are aware of five proposed locations for the construction of the Venice Pumping Plant Dual Force Main. These are listed below with the source of the information:

Community News Bulletin – October 2002

1. Pacific Avenue Alternative – Preferred by the City and apparently the subject of considerable effort by the Public Works Department having prepared detailed and possibly final plans for placement. Also, the route used as the basis of the Initial Study baseline dated 25 February, 2003.

2. Beach Alternative – Alignment near the existing Force Main on Venice Beach. Apparently rejected by the City due to some potential Coastal Commission requirements. This route is preferred and supported by numerous local residents.

Community Meeting at the Marriott Hotel – 15 October 2002

3. Alternative #1 – Presented in a vu-graph presentation as a route around the Marina staying completely on Los Angeles City right of way. Rejected by the Public Works Department as technically unsound due to pressure drops in the sewer line without the construction of additional pump stations.

4. Alternative #2 – Presented in a vu-graph presentation as a route second route around the Marina staying completely on Los Angeles City right of way. Rejected by the Public Works Department as technically unsound

11 Mast Street
Marina del Rey, CA 90292

due to pressure drops in the sewer line without the construction of additional pump stations.

Letter to Commissioner Low from John Perkins – 27 November 2002

5. Via Marina Alternative – Proposed as a solution that would be less disruptive to Marina traffic, may be shorter in total length, would allow more rapid completion, and possibly less expensive.

We believe another location should also be considered. That the proposed force main be constructed by micro tunneling below the right of way of the Ballona Lagoon Canal. The canal is immediately adjacent to the pumping plant and extends to the Marina del Rey Channel.

We believe that either the beach location or the canal location provides the least disruptive location, the safest locations; and the most environmentally sound locations, and the lowest cost locations. Further, that the Via Marina location is the third most responsible location and the Pacific Avenue location is the most disruptive, the most costly, the worst environmentally, as well as exposing the City to the greatest potential for serious ongoing liability in connection with vibration damage to homes and other issues.

For the purpose of the Initial Study, we believe that the staff should be directed to prepare the study around four of the above named routes. These are:

1. Ballona Lagoon Micro Tunnel Alternative
2. Beach Alternative
3. Pacific Avenue Alternative
4. Via Marina Alternative

Impartial Objective Study

As we read the documents provided, it is obvious that the City has a strong bias toward the Pacific Avenue designed installation. It is also obvious that the answers provided are, in many cases, incorrect and misrepresented known facts.

The City has prepared final or near final plans for the Pacific Avenue Alternative. It is customary that the design team for such near final or final plans be restricted from involvement in the CEQA process due to the probability of bias towards their design.

We believe that such bias is clearly evident. We recommend a new team be assigned to complete the EIR.

We also recommend that a qualified Independent Oversight Board be formed to assure that such bias does not continue.

Clarity of Initial Study Matrix/EIR Report

Further, it is impossible to set forth specifically related issues for each proposed location in the single format proposed by the City.

Mr. Vitaly Troyan
Page 3 of 3

A response by the City to specific issues for each of the four proposed locations should be provided. This is essential for an equitable determination of the respective benefits and liabilities for each location.
We have attached a marked up copy of the issues sections, which more clearly represents appropriate responses to the issues.

We again emphasize the importance of accuracy and facts and that a separate list of issues and responses should be prepared for each proposed location.

Recommendations
In summary, we request that you assure:

1. the routes to be studied are specifically identified
2. the assignment unbiased staff to prepare the EIR
3. Form an Independent Oversight Board to assure a bias free study
4. Prepare a specific issues study for each site

We look forward to your response. Thank you for your cooperation.

Sincerely,
Marina Peninsula Neighborhood Association

Lowell Safire, President

John B. Kilroy
5306 Pacific Ave.
MDR, CA 90292

Mark VanGessell

John S. Perkins

Al Sackler

cc: Cindy Miscikowski, City of Los Angeles District 11
Commissioner Ronald Low, Dept. of Public Works, City of Los Angeles
Russell Ruffing, Bureau of Engineering, Environmental Group, City of Los Angeles
Christopher Westhoff, City Attorney, City of Los Angeles

John S. Perkins

5209 Ocean Front Walk #101
Marina del Rey, CA 90292
(310) 301-8018

27 November 2002

Commissioner Ronald Low
City of Los Angeles
Board of Public Works
200 North Spring Street; Suite 361
Los Angeles, CA, 90012

RE: Venice Dual Force Main Project

Dear Commissioner Low:

The purpose of this letter is to make sure that you are aware that other reasonable alternatives exist for the Venice Dual Force Main Project other than those currently proposed and that the additional alternatives are explored prior to submission to the community for comment.

I am a Marina del Rey Peninsula community resident and attended the 15 October 2002 meeting held in the Marina del Rey Courtyard by Marriott Hotel. At the conclusion of that meeting I discussed another alternative with the City's Project Manager, Sean Zahed, in addition to the four alternatives he presented.

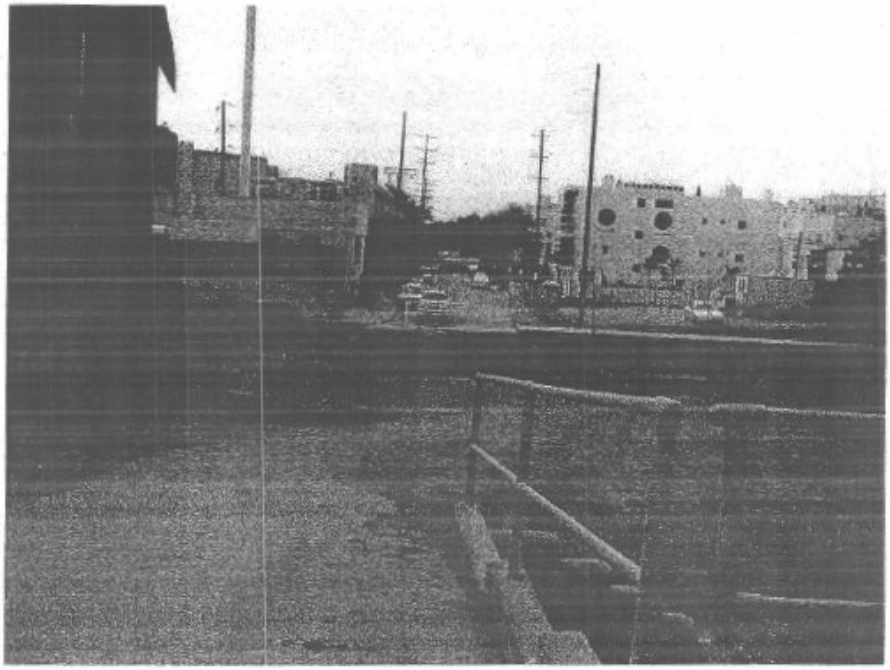
The Alternative (Reference Attachment 1)
Instead of exiting the existing pumping station and going west on Hurricane, I would suggest that the sewer line should go east, under the small canal and then cross Via Dolce and continue along Marquesas Way. It would then turn south and run under the west side of Via Marina to the channel. From there it could continue across and run on the east side of the currently developed area, or turn and follow either of the two plans presented for crossing the channel in this area.

While the construction along Via Marina would be on County right-of-way, instead of solely in the City, the County should be able to support this path since the sewer carries waste from the marina area (i.e. County property). Some of the benefits of this alternate route are:

- The disruption of traffic on the peninsula would be greatly reduced.
- Residences on the west side of Via Dolce do not front on the street. Access to the properties is from other streets, in contrast to the numerous residences on Hurricane and Pacific Avenue whose front doors and driveways are on the street.
- The divided roadway of Via Marina would allow the project to be accelerated while still allowing two way travel along the east side of the road while each of the four major sections of road were under construction. This area also affords alternative streets for residents to leave the area.

Attachment 2: View West across empty lot, small channel and down Hurricane. (Currently proposed route).

Venice Pump Station across channel on left.



Attachment 3: View East across Via Dolce down Marquesas Way.



From: "Don Hollands" <don-hol@comcast.net>
To: "Environment" <environment@eng.lacity.org>
Date: 3/16/2006 11:40:26 AM
Subject: Venice Dual Force Main

Venice Pumping Plant: Dual Force Main Project.

Observations:

The peak flows to the Venice Pumping Plant exceeding its capacity is a result of poor City planning; allowing large expansive housing developments prior to having the required infrastructure in-place.

All large expansive housing developments should be put on hold (stopped) until the infrastructure is in-place that can support the increased capacity they require. These large housing developers should provide significant funds with upfront payments to the City for expansion of existing infrastructure. Current tax-payers should only be responsible for repairing and maintaining original infrastructure. GRWTH-1 GRWTH-2

The proposed project for expanding the capacity of the pipeline will not resolve the larger problem; the Hyperion Sewerage Treatment Plant is currently unable to deal with the increasing capacity, which has already resulted in untreated waste being released into the sea in 'emergency situations'.

Comments:

1. Firstly, it is important to reconsider the benefits for existing residents and tax payers for a 'No Action Alternative'.

2. In the event that a second pipe line is installed; as a condominium homeowner, located on Pacific Ave., I favor the Dockweiler Beach alternative being used as the construction site for south of the Marina Inlet. This choice will reduce the impact and risks to both homeowners and properties. The Draft EIR understates the impact and the major risk to properties, which is the potential for damage to property foundations e.g. impacts, subsidence, and vibration. The Dockweiler Beach alternative reduces health hazards, dust, etc. and the potential interruption of utility services, which occurs when a channel, or tunnel construction is in the streets e.g. Pacific Ave. This alternative is far safer for the general public and will have the least negative affect for accessing the area, e.g. emergency services. ALGN-1

3. The Draft Report refers to potential impacts to recreational facilities and public events on the beachfront, however, the Dockweiler Beach alternative for south of Marina Inlet: ALGN-1

a) Only impacts a mile of beachfront and bike path - we have many, many more miles of beaches and bike paths available for our recreation.

b) Will allow normal use by the general public of the recreational facilities in the Playa Del Rey Lagoon Park (parks, barbeques, basketball court, baseball park, etc.).

c) This alternative has the least negative effect for residents and the general public with fewer street closures, lower noise, lower vibration and allows for better residential access and emergency access during the construction period.

ALGN-1

4. RE: Operation of Construction equipment, Equipment laydown, Construction Workers parking, Dust containment, Safety.

a) Strong Contract terms should be used to control how the construction company operations are undertaken and managed, thereby to ensure the least amount of disturbance to local residents. Special Assessments (fines) should be applied for violations by the construction company, or its workers.

b) Trucks carrying loose materials, sand, dirt, etc. should be required to use covers.

c) There are many unused roadways, near Sandpiper Street, which should be made available for construction workers parking, equipment laydown, etc. this will help avoid our local streets becoming choked by construction vehicles and equipment.

CON-1
CON-2
CON-6
CON-7

Thank you for your considerations,

Don Hollands: 310 306 8522. Organization - HOA - Laguna Del Mar Assn Inc.

6400 Pacific Ave. #304, Playa Del Rey, CA 90293.

From: "mark van gessel" <vangessel@comcast.net>
To: <environment@eng.lacity.org>, <carol.armstrong@lacity.org>, <jim.doty@lacity.org>
Date: 3/16/2006 8:56:08 PM
Subject: Venice Dual Force Main - Comments to the EIR

Attached are my comments on the Venice Dual Force Main project.

Sincerely

Mark Van Gessel

Mark Van Gessel's
Comments on Dual Force Main EIR Page 1 of 7

Comments to EIR

1. General Comment
   a. In the alignment for the North area (north of Marina channel to pumping plant) you are showing the following alignments
      i. Deep Tunnel Pacific
      ii. Deep Tunnel Beach
      iii. Cut and Cover Pacific
      iv. Cut and Cover Marquesas
   b. You should have a cut and Beach alignment
   c. Below is my opinion on alignments when considering all the factors (environment, money, impacts, time, feasibility) in order
      i. Cut and cover beach
      ii. Cut and cover Marquesas
      iii. Cut and cover Pacific
      iv. Deep tunnel beach
      v. Deep Tunnel pacific
2. The EIR is a very large document (with appendices) it is several 3 inch 3 ring binders. The law requires a minimum review period, which is what you are providing. It took the City over 1 year on a fulltime basis to write this document and the City is only providing a very short (minimum) review period. The City should not use the minimum duration for such a large project. EIR-2
   a. I request that the City extend the review period to allow enough time to review the entire package.
3. Add to list shown in 1.8
   - Impacts to structures and the permanent settlement of ground due to dewatering GEO-1
   - Access to homes if cut and cover is the chosen method of construction on the Venice peninsula CON-3
4. In 2.2 Please clarify that the VPP has never had a spill due to capacity issues.
5. In 2.2 please clarify that the VPP has been upgraded over the years so that the pumping capacity now exceeds the pipe capacity. PROJ-2
   a. As part of the EIR the EIR should provide a detailed analysis of the number of times that the VPP is anticipated to exceed the capacity of the pipe so that people can have a realistic understanding of the damage that can be done to the environment. PROJ-4
   b. It should also be made very clear that the plant was near (but never release wastewater) releasing wastewater in 1992 and 2004 that the wastewater was very diluted compared to normal wastewater.
   c. Please also clarify if other City sewage facilities released wastewater during these storms. This is critical in evaluating the no-build option. If the report shows that all that would happen is that the increased capacity would just pump most wastewater to a facility that than does not have the capacity all one has done is shift the problem and not really solved it. If anything one ahs created a large problem by concentrating and increasing the wastewater discharge. PROJ-2

Mark Van Gessel's
Comments on Dual Force Main EIR Page 2of 7

6. In 2.3 (Page 2-9) the cut and cover construction. The construction duration is to short for construction on Pacific the duration would be more in the range of 14 to 18 months. CON-2
    a. For a detailed discussion please see other sections of comments.
7. In 2.3 (page2-9) under starter tunnel
    a. Please revise the sentence regarding acoustic curtain. To read NOI-1
        i. "To minimize the transmission of noise, the contract will require the installation of an acoustical curtain that is at least 25 feet high and surrounds the entire site, and be closed when any construction activities occur."
8. In 2.3.1 Project alternatives:
    a. Why is the cut and cover not a feasible alternative for the beachfront areas and is a feasible alternative for the street alignment.
    b. By not including a cut and cover construction method for the beachfront alternative you are not providing an alternative that may be the least environmentally friendly and cost effective.
    c. If the initial construction used to build the 48" line was a cut and cover construction method what has changed to make that construction method not viable. ALT-2
    d. I also believe that when the project was first proposed (several years ago) the construction method for the beach alternative was a cut and cover. The City speaker at the time said that they were refusing to consider the beach alternative because they did not want to deal with the coastal commission.
    e. A cut and cover alternative on the beach would be a more environmentally friendly and cost effect solution than the street alternative for the Venice peninsula portion of the project.
    f. Please make a clear chart showing the options so they can easily be understood. Since to the chart shown in the presentation that showed all the 6 alternatives. This gets expanded since the cut and cover beach alterative should be included.
9. In 4.1.1 –
    a. The estimated durations are to short. After 80 feet of trench is opened the mud mat is placed. That has to cure (several days) than the gravel bedding is placed (this is at least a 2 day process. 1 day to place another day to set grade and compact. The backfill process again is several days (at least a week) especially since the there is no adjacent property to store any material and trucks have to work only from one end not along the side of the trench. There is no time for installing the shoring. There is no time for removing the shoring. You also have no inspection time by City inspection forces. City has to inspect bottom of trench (1Day) City has to inspect mud slab (1 day) City has to inspect gravel bed (1 day). Once the trench is backfilled you have to make sub-grade City has to inspect. City requires that back can only be in 8" lifts so that takes time. Then the AC has to be placed and the City has to inspect. You are requiring the street to be paved in very short sections and this is very time consuming. CON-2

b. The production rate should be in the range of 10 feet a day or less. That would equate to approximately 500 working days or 700 calendar days (1.92 years). I am civil engineer with over 10 years in pipeline design and construction and believe that my estimate is very accurate I could be considered and expert witness on the subject. I can go over your detailed work schedule if necessary. CON-2
c. The other street construction alignment Marquesas / Via Marina way I believe is longer than necessary. This area has a larger street and can allow construction access adjacent to the trench making construction quicker and easier and cheaper.

10. In section 4 page 4-5 you provide cost estimates. In order to have a public process on the cost estimates detailed information on how the costs were arrived at need to be included. Please provide a detailed cost estimate for each alignment so the costs can be publicly discussed.
    a. More detailed costs analysis of all alignments are required as part of the EIR in order for the public to comment properly. Please provide.
    b. You show the Marquess way/via marina way alignment having the same cost as the Pacific Avenue alignment. This is not correct. From a simple oversight review and a ROM estimate the Marquess way alignment is more expensive than the Pacific Alignment by at least 15%. Please provide the detailed backup data so that I can show where you are off in the estimate. PROJ-7
    c. There is no cost estimate for a cut and cover alignment along the beach. In the revised document this needs to be include. From a ROM estimate the cut and beach alignment should be less expensive than the Pacific avenue alignment.
11. I believe that the Marina del Rey and also the beach alignment (cut and cover) would be less costly than the Pacific Avenue alignment.
12. In the cut and cover alignment along Pacific Avenue you should discuss that the pipeline would require the shutting down of the corner of Pacific and Via Marina. In a previous detailed review the plans that have been generated for this alignment I held a meeting and showed the City staff that this alignment would have to shut down the street in order for it to be completed. I can have a meeting to go over this. Also the Bus or large vehicle traffic (Moving van or other large trucks) will not be able to make the turn when the pipeline is constructed in this area. Fire trucks would also not be able to make the turn when the pipe is under construction at this location. It is anticipated that this construction would be for at least a 1 month if not longer. CON-3 EMG-1
    a. I have not seen the fire department comment on this issue. The Fire Department should be contacted about this issue if this alignment is taken and have input on construction and access restrictions.
    b. In the event that a fire occurs in the neighborhood and fire response is limited and extra damage occurs would the City pick up the additional cost?

c. The contractor should be required to post signs at specific locations coordinated with the communities that large vehicles can not exit and make the turn at Pacific and Via Marina

13. Previously mentioned in the past public hearing prior to the City realizing an EIR was required it was discussed that if the beach alignment was chosen additional costs and improvements to the area would have to be incurred driving up costs. Other City department should not impose additional un-necessary improvements to one alignment and not the others this appear to make the City look as if they are forcing one alignment to be chosen over another. If other city departments or agencies are requesting improvements for one alignment over another such improvements should be required for all alignments.
14. On page 4-6
    a. All construction durations appear short could the person have converted working days directly into calendar days. Meaning 5 working days = 1 calendar week. Unless the City plans on having this work be performed 7 days a week and that is not stated in the EIR.
    b. The duration of Hurricane to Pacific 3 weeks in short it should be at least 9 weeks.
    c. The length of the pacific alignment is approximately 5,000
    d. The duration for the pacific alignment is to short and should be 95 weeks based upon the restriction you state in the EIR

CON-2

15. On Page 4-6
    a. Please detail which are receiving pits and which are the tunneling shafts.

CON-2

16. In 5-1 (page 5-1) you state that there are no significant environmental impacts once this project is built. This needs to be revised.
    a. If you built the Pacific avenue alignment that alignment has numerous air vacuum valves. These valves will release tapped air from the system into the environment. The air from sewage has methane and hydrogen sulfide in it and also other gases with odors. The wind pattern will have these vapors go immediately into the air of the Ballona reserve. This could impact the wildlife. The air could also impact the residents in the area as smell and gas.
    b. Please revise the EIR to state that there permanent environmental impacts for the pacific avenue alignment.
    c. The Marquesas / Via Marina way alignment can be placed deeper and there are less pipes and other utilities to cross. The marquesas alignment may not require any air/vac valves but if it does they would be less and not impact the wildlife reserve.

AQ-1

17. On page 5-128 you provide clear mitigation measures.

18. Please include similar bullets for other sections;
    a. Vibration
        i. Have a clear vibration specification similar to MTA's vibration specification. (see attached)
        ii. Have the Contractor assessed (see attached language) damages if he exceeds the vibration limits
        iii. For the Pacific alignment please have a detailed vibration limit. Se attached specification

CON-8

    b. For other areas such as dust and operation hours hove clear bullet points that he is required to meet
        i. Operation hours. As stated in the meeting for the Pacific avenue alignment:
            1. No excavation prior to 10:00 am
            2. No plate remove of open trenches prior to 10:00 am
            3. All trenches shall be plated at end of the shift and than open to evening and morning traffic
            4. All excavation shall stop by 3:00 pm.
        ii. These were verbal statements made during the presentation regarding the pacific avenue alignment Please incorporate these as bullet items in the EIR so that the community will be assured that if the pacific avenue alignment is chosen these are part of the contract.
        iii. Please include special assessment language(see attached) if the above items are not adhered to by the contractor.

CON-9

    c. There is no discussion on the dewatering and settlement of adjacent homes for the Pacific ave alignment. Please expand on this issue on the previous documents it stated that dewatering is required to build the pacific ave alignment and that settlement is likely with dewatering.

GEO-1

19. In the EIR for the Marquesas / Via Marina way alignment you require that a tunnel be required to cross the canal.
    a. In order to allow for easy of construction the EIR should allow this to be open cut with a requirement that the contractor should not impact the water flow. The contractor could construct an cut and cover and divert the water around the excavation. This would allow the construction contractor alternatives and help reduce costs.
20. I believe that the Venice coastal specific plan and/or the Venice Land use Plan shows the building at Ironside (building shaped like a ship. Is a historic building. The Pacific avenue alignment could damage that building. Nether the beach alignment or the Marquesas alignment would impact that building during construction.

21. For the Pacific avenue alignment at Pacific and Via Marina (page 5-43) you assume that jacking will be the construction method used to avoid traffic.
    a. Jack is not feasible for this portion of the alignment. In pervious meeting (2002) on the pacific avenue alignment the city engineering group conceded that the corner area of pacific and via marina would have to be completely closed to make the pipe turn. This would have to be an open cut construction. This would greatly impact traffic and access.
    b. For a period of time (weeks) no access be allowed through pacific and via marina.
    c. Please revise and discuss in detail this impact.
        i. Please get specific input from fire department regarding this
        ii. Please get specific input from the police department regarding this
        iii. Please get specific input from the MTA regarding bus routes
        iv. Please get specific input from the City Transit system (Express service) regarding this.
    d. If your response is that this corner will not be closed a detailed meeting is required to explain what changed from 2002.
    e. If you hold that con be constructed without closing the corner, please make is a specific bullet item in the EIR and state that if a construction breaks such a rule they will get assessed damages for closing the corner.

CON-3

22. For the Pacific alignment please include in the EIR that you have resident parking only in the neighborhood during construction to make it possible for residents to park due to all the parking that is being removed during construction. Please see page 5-43 where you discuss all the parking you are temporarily removing to build this alignment.
    a. If the Beach or the Marquesas alignment is chosen this is not an issue, since those alignments do not impact parking.
23. On page 5-128:
    a. NOI-8 This is not adequate for any alignment. This should be revised to read:
        i. "The contract shall have detailed noise specification which will provide maximum noise levels (instantaneous and 8 hour averages) Violations of the contract shall result in monetary assessments to the Contractor."
    b. Add a NOI-10 for pacific avenue alignment
        i. "Truck hauling shall start no earlier than 9:00 am and end no later than 3:00 pm
        ii. Truck hauling shall be limited to Monday through Friday.
        iii. Truck staging shall no occur on the Marina peninsula
        iv. Only 2 truck may be permitted on the project site at on time. A in the operation of being filled or depositing material and a truck preparing for such operation.
        v. A contract clause shall be included in the construction contract that each item above that is not complied to, each time, shall be special assessment to the contractor.

NOI-2

Mark Van Gessel's
Comments on Dual Force Main EIR Page 7of 7

24. On page 5-129
    a. Add similar bullets for vibration like on the previous page
    b. For the Pacific avenue alignment please revise the EIR to allow the community to understand the vibration that they will expect and provide maximum vibration limits for this area. This alignment is different than any other alignment since the cut and cover alignment is going to be with 50 feet of residential homes. The EIR needs to revised and recirculated so the community can understand the vibration impacts that could occur if this alignment is chosen. CON-8
25. On page 5-72
    a. If the Pacific avenue alignment is chosen liquefaction is an issue for the pipeline. The pipe will sit immediate adjacent to a slope that can liquefy and undermine the pipe and cause it to break and spill waste into the wildlife reserve. No other alignment has such issues. A portion of the pacific avenue alignment has city owned property that will not be developed and as such the property will erode with time making erosion and liquefaction a major issue for the pacific avenue alignment. GEO-2
        i. If the City proposed to reinforce this section this will drive up costs and increase construction time. This makes the Marquesas alignment a better alternative.
26. I have attached a past report that discusses several items regarding the pacific avenue alignment. These issues do not appear to have been covered in the EIR. Please address.
    a. Page 5 of report on regarding seismic
    b. Page 5 of report on Liquefaction
    c. Page 6 of report on Groundwater and settlement
    d. Page 6 of report on Vibration and noise
    e. Page 7 of report on Receiving pit
    f. Page 8 of the report on the corner of Pacific and Via Marina
    g. Page 8 and 9 of the report on the construction along Pacific

REPORT ON THE PROPOSED SEWER PIPELINE IN THE VENICE PENINSULA

By
Mark Van Gessel, P.E. – Civil & Ocean Engineer

October 15, 2002



Report on Proposed Sewer Pipeline in the Venice Peninsula

By

Mark Van Gessel, P.E. – Civil & Ocean Engineer

EXECUTIVE SUMMARY

This report has been generated to discuss the different alignment options for a proposed 54 inch future sewer line. Presently only two alignments have been proposed: A Pacific Avenue alignment and a beach alignment adjacent to the existing sewer line.

After a detailed review of the available information (Moffatt & Nichol report and Dames & Moore Geotechnical report) this report provides conclusive evidence that a beach alignment is a preferable alignment.

A beach alignment is the preferred alignment when you compare the alignment options for the following issues: environmental protection, safety, effects to neighbors, cost, and time.

The City should consider revising their preferred alignment option to a beach alignment, which is environmentally better, cost effective and easier to construct and maintain.

AUTHOR'S BACKGROUND

Mark Van Gessel holds a Bachelors of Science in Ocean Engineering and is also a Licensed Civil Professional Engineer. He has worked in the field of pipeline/tunnel design and construction for over 18 years. He has worked on numerous projects with varying sizes of pipes from 4 inches to as large as 144 inch pipelines and numerous size tunnels and pipe-jacking projects up to 16 feet in diameter. This technical background and actual work experience allows him to provide an expert opinion on the proposed project.

COMMENTS ON THE MOFFATT & NICHOL REPORT

Below are general comments and concerns regarding the Moffatt & Nichol report prepared by Russell H Boudreau. A review of this report show that it contains fundamental errors as well as incorrect and incomplete information. I have cataloged the comments into groups; project location, permits, beach erosion, and sea level predictions. It is the author's opinion that the Moffatt & Nichol report contains so much incorrect and missing information that it needs to be completely rewritten and cannot be used to make any decision to eliminate a beach pipeline alignment option.

Project Location:

This report specifies the location as adjacent to the existing 48" sewer. The actual location of a future pipeline has not been finalized and a specific location should not be analyzed but a general alignment with possible locations should be discussed. While the alignment, adjacent to the 48" line, may have been dictated by others the author has the professional obligation to discuss the ability to shift the alignment if such a shift mitigates concerns.

The ability to locate the proposed pipeline is not limited to the stated alignment and can be located anywhere within the sand zone. By shifting the alignment East just 23 feet would remove the erosion concern (which is an incorrect concern). By shifting the pipeline location 100 feet (± 20 feet) East of the existing pipeline numerous issues outlined in the paper would be avoided. This shifting of the alignment would have far less impact to the beach and will provide better construction access making the project cheaper and quicker to build plus provide easier access for future service.

Permits:

Several very critical permits were not listed in the M&N report. It should be noted that this report makes it appear that only the beach alignment will require the permits discussed in the report. This is incorrect. All the permits that are listed in the report are required for any alignment.

There are several additional permits that are required for the Pacific Avenue Alignment that are not mentioned and are critical in evaluating the different alignments. Below are several permits that were missed and required for this project.

Permit	Agency	Issue
CEQA	City of LA	This project requires a full Environmental Impact Report (EIR) report to be prepared in order to proceed. It must be filed and also allow for public input and review. Any present meetings or discussion do not substitute for public review once the report has been prepared. Additionally all public comments must be addressed.
NEPA	Federal Government	This project shall require a federal clearance. Similar to the above report and can potentially be combined. But never the less a NEPA Clearance is required.
Police Noise Variance	City of LA	For the Pacific Avenue alignment the project will exceed the allowable noise levels and potentially the hours of construction and shall require a variance. * This permit is only required for the pacific avenue alignment.
Street Easement Permit	City of LA	A permit to work in the street is required. Additionally the City of Los Angeles has also added a special clause to require the City to be reimbursed for cutting and patching streets based upon damage done to the street. Based upon past experience the amount of pavement being removed in the Pacific Avenue alignment it is more economical to remove and replace the entire street, including subgrade, than to pay the fee associated with the cutting and patching. It has been stated, by the City, that other City agencies are not exempted from this requirement. * This permit is most likely only required for the pacific avenue alignment.

Beach Erosion:

While the report discussed, in very generic terms, the concept of beach erosion it generalizes and claims that all beaches are sooner or later going to be eroded. This is incorrect.

The Army Corp of Engineers (Corps.) has performed a detailed report of this specific area and the associated beach as part of the Marina del Rey Dredging project. This report discusses the problem that is occurring along this stretch of beach, which is increased sediment, not beach erosion. If the author of the Moffatt & Nichol report had reviewed the Corps. report they would have been able to properly indicate that the beach for this proposed sewer project is actually growing and will continue to do so.

Where the report discusses other areas of Venice Beach that are eroding the report neglected to state the specific reasons why the erosion was occurring. All of the features that are causing the erosion elsewhere do not exist at the specific Marina del Rey site.

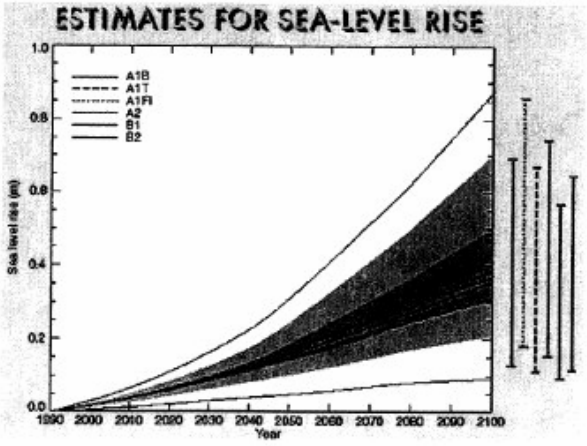
If the M&N author had used the bible in beach design; "The Shore Protection Manual" the beach area where this proposed project is located would be shown to be a stable or expanding beach rather than a contracting beach.

The report needs to be updated to properly reflect the state if this beach.

Sea Level Rising:

In the Moffatt & Nichol report several documents regarding sea level estimates were quoted. These documents are not current industry standard or what is presently being used in the professional environment to estimate future sea level elevations. The numbers provided and are based upon unrealistic variables.

Just recently, 2001, there was a conference on ocean issues where sea level predictions were presented. At that conference the numerous estimates were combined and the chart showing that information is presented below. As one can see the experts in the field all agree that the sea level elevation is increasing but no where near the erroneous levels stated in the Moffatt & Nichol report.



Estimates for sea-level increase from the IPCC Climate Change 2001

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The Moffatt & Nichol report needs to be revised to accurately reflect what is being used in the professional industry for future sea level elevation increases.

A review of the worst-case scenario shown in the char is a sea level elevation increase of less than 0.9 meters (less than 3 feet). If the report used such proper information the stated beach alignment would be feasible.

If the report is correct, which in my professional opinion it is not, the proposed project could be moved just 23 feet East and avoid the erosion problem. It would also require the Sanitation District to perform some kind of relocation or protection project for the existing 48 inch line. The report also neglects to take into account the depth of the pipeline and the protection (concrete encased) being proposed for the pipeline, both of which would allow a beach pipeline alignment. Additionally the report fails to discuss the positive attributes of allowing for the rehabilitation of the existing sewer line.

The Moffatt & Nichol report needs to be revised to accurately reflect that the rise in the sea level elevation is not a concern for any proposed beach alignment.

COMMENTS ON THE DAMES & MOORE GEOTECHNICAL REPORT

The Dames & Moore geotechnical report provides even further evidence that a Pacific Avenue alignment is not a practical, cost effective, or realistic alignment. Within the report numerous items are discussed that are major concerns only to a Pacific Avenue alignment that are not a concern with a beach alignment.

Due to the seismic concerns, liquefaction, dewatering, settlement and vibration issues a Pacific Avenue alignment should be abandoned. The correct alignment based upon the Dames & Moore report should be a beach alignment.

Seismic issues:

The Dames & Moore report clearly states, in Section 8.1, that seismic activities are a concern to the structural integrity of the pipeline. In the event of a seismic event large enough to damage the pipeline so many negative effects to the environment and the community would occur with a Pacific Avenue that it should be not be considered. An actual pipe rupture would release raw sewage into the local community and also the Ballona Lagoon killing the wildlife and permanently contaminating the lagoon.

Depending upon where a rupture occurs along the Pacific Avenue alignment the ability to repair the pipeline would take longer to repair. This again is critical because while the pipeline is under repair raw sewage could be released from the pumping station. This means that a future pipeline needs to be easily accessible to repair in case of a rupture so as not to cause damage to the wildlife of the lagoon.

When considering seismic concerns a beach alignment is the preferable alignment.

Liquefaction:

The Dames & Moore report states in Section 8.2 that liquefaction is a major concern when designing and selecting the alignment for this pipeline. This report does not compare the two alignments but a review shows that a Pacific Avenue alignment has far more engineering problems in the event of a liquefaction event. Since the Pacific Avenue alignment is adjacent to the canal and lagoon a liquefaction event along has the potential to collapse a portion of the street and cause the pipeline to become exposed and rupture. The East side of the Pacific Avenue alignment has an exposed slope

that would fail and provides no support in a liquefaction event. This potential does not exist for a beach alignment.

Recommended mitigation measures discussed in the report include compaction grouting. What is not discussed with compaction grouting is the environmental impact of grouting. Grout will migrate through the soil and will containment the groundwater and also flow into the lagoon contaminating the environment. Specialized grout such as ultrafine or polyurethane grout may be required to control liquefaction. Such specialized grouts have an even greater impact on the environment and needs to analyzed. Grouting should not be required for a beach alignment.

When considering liquefaction concerns a beach alignment is the preferable alignment.

Groundwater and Settlement:

The Dames and Moore report, Section 9, clearly states that a Pacific Avenue alignment has numerous problems when compared to a beach alignment.

Dewatering is required to be performed and the water is required to be treatment and disposal of. This is a major issue and has not been addressed. Proper treatment of groundwater and the installation of wells is not covered or discussed in any documents provided. The equipment necessary requires a large space and easy access, none of which is not available in a Pacific Avenue alignment but is available for a beach alignment.

The other major issue with dewatering is settlement. Section 9 states that settlement is usually associated with dewatering activities. In the soils located within this area major settlement should be expected. When the water is removed from the soils the material will consolidate and settle. It should be anticipated that effects from settlement would extend beyond the street too the adjacent properties on both sides of the street. This settlement issue is a major concern especially with properties adjacent to the Lagoon in that such settlement could cause the slopes to become unstable and collapse. A major slope failure could impact the street, the existing water line and the proposed sewer line, in addition to structures.

Settlement will occur with a Pacific Avenue alignment and the City needs to properly plan for settlement.

Groundwater and settlement is not an issue with a beach alignment.

When considering groundwater and settlement a beach alignment is the preferable alignment.

Vibration and noise due to construction activities:

In Section 9 of the Dames & Moores report it clearly states that the Pacific Avenue alignment construction will create noise and vibration that will impact the neighbors. What the report fails to discuss is the noise impact to the environment.

Due to the proximity of construction site to the lagoon the construction impacts of a Pacific Avenue alignment will require environment mitigation. Such restrictions are most likely going to be far more onerous than the environmental mitigation measures and restrictions associated with a beach alignment.

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The vibration will also impact the adjacent properties. Construction activates so close to properties have similar concerns as for settlement and seismic issues. Due to vibration the Pacific Avenue alignment has a high potential for slope failure, damage to adjacent building, and streets.

Such concerns do not exist for a beach alignment.

When considering vibration and noise the beach alignment is the preferable alignment.

COMMENTS ON THE PACIFIC AVENUE ALIGNMENT AND COMPARISON WITH BEACH ALIGNMENT

Based upon the information that has been provided to me I have enough information to provide expert opinion that the Pacific Avenue alignment as presently proposed is not a constructible project and is substantially more expense and time consuming than a beach alignment and impacts the environment far more than a beach alignment.

Receiving Pit:

The Pacific Avenue alignment presently shows a receiving pit for the tunneling operation under the marina channel. From the information provided, it is obvious that the person who proposed this pit has never constructed or worked on a tunneling project.

Pacific Avenue Pit:

- A receiving pit is rectangular, not a circular.
- The size of the pit is too small to allow for a tunnel machine to be retrieved. The pit must be twice that size. Based upon experience with similar projects a minimum of a 100-foot pit would be need.
- The location of the Pit is to close to the breakwater. An analyzes of the underlying material needs to be performed. From drawings of the breakwall design, that I have seen, there is a high likelihood that boulders will be present in this location. A pit can be located in such an area and needs to be moved further back to ensure that the break-wall is safe.
- Having two turns in the pipe at the pit is not constructible, practical or advisable. The pit would needs to extend even further back beyond the elbows, as a minimum, to allow for construction of the pipeline.
- A proper pit would require the entire corner area to be shut to through traffic.
- The drawing forgets to show where all the dewatering facilities will be located. They need to be located adjacent to the pit and require additional space that is not available.
- This location cannot be enlarged to allow for it to be a tunneling pit. There is just not enough room for a tunneling pit at this site. Tunneling from this side is not possible. This limits the construction options. This will lead to an oversized machine costing more money to construct.
- An analysis of the ability for Ductile Iron Pipe of this size to make all of the turns as shown and at the pressures proposed needs to be provided so that the community and the environment is protected from a breaking and leaking pipe.
- No details on the concrete encased for this portion a critical item.

Beach Pit:

- A receiving pit for a beach alignment can be located in the proper location to ensure that it avoids the boulders that make up the break-wall and also be located far enough back to provide proper safety to the break-wall.
- The open space allows for proper area to provide the necessary dewatering and water treatment facilities that are required for such a pit.
- The pit would only have a single angle pipe and not the double curve making the pit smaller and the construction easier.
- By having a pit on the beach the Contractor will not be forced to tunnel from only one direction and could have the option to tunnel from either side.

It should be noted that the location of the pit, either at Pacific or on the beach does not effect where the tunnel ends at the other side. The alignment can stay where the City believes is best on the South side of the Marina channel. Thus any costs south of the channel are equal.

Construction at the corner of Pacific and Via Marina:

Pacific Avenue Alignment

- You have not provided a detailed discussion of the construction sequencing at this corner.
- Based upon the alignment that that you propose the construction at this corner will require that entire street to be closed in order to complete. This construction cannot be accomplished without shutting down the intersection for some time. This is in contradiction with your statements on the project.
- It will be impossible to allow buses to travel past the construction site. This is in contradiction with your statements on this project.

Beach Alignment

- Not problems

Construction Along Pacific Alignment:

There are so many problems and difficulties that have not been addressed that make this alignment impractical compared to the beach alignment that it is impossible to justify a pacific avenue alignment over a beach alignment. Below are items that exist in the pacific alignment that are not present for the beach alignment.

- The Pacific Avenue site is requiring a concrete encasement as I would guess would a beach alignment. The big difference is that due to narrow trench for the Pacific Avenue alignment a grout mix would be required to ensure that the material could get underneath the pipe. This would not be required to a beach alignment because the trench width is not restricted. Grout is 3 times more expense than concrete. This cost is not reflected in the present design or cost analysis.
- Traffic issues are numerous compared to the beach alignment. There are so many that it would take several pages to list them all.
    - The biggest is that the based upon the drawings that you provided there is not enough room for buses to travel down the street.
    - You have not shown the dewatering equipment or the water treatment facility.
    - You have not provided enough trench width to place concrete around pipe nor build a proper and safe trench
    - You have not addressed existing utilities and how they are handled
    - You have not provided enough space for a crane that is capable of lifting and placing the pipes.

- You have not provided enough width for the trucks that deliver the pipe pieces.
- You have not discussed the fact that the area slated as temporary parking is sand and sloped and unsuitable for parking and needs to be improved and such improvement will have effects on the Ballona Lagoon.
- The Section view is incorrect in that the pipe at Pacific and Via Marina is substantially deeper. This is especially important when you consider the impacts of a pit and the depth of a trench at the above corner.
- A profile of the pipeline is needed.
- The section does not show the concrete encased discussed in the drawings.
- The drawings do not show how the K rail impacts the traffic and makes the travel lane to narrow.
- You neglect to provide details of construction sequences between Topsail and Via Marina and how access to the East side property owners will be provided.
- You neglect to state how you are going to enforce residential parking only requirements a restriction that will not be possible to enforce.
- You neglected to discuss the impact to the birds and other wildlife in the ballona lagoon and potential construction restrictions due to migrating birds causing extended construction duration.
- Discussion of potentially contaminated soil under Pacific Avenue compared to the beach alignment. This area was a major oil construction site in its past and most likely contains contaminated soils whereas the beach alignment does not have such a problem.

- Existing material at both sites is exactly the same thus any solid stabilization requirements for the beach option would also be required to the Pacific avenue location. Any claims piles are required to the beach site but not required for the Pacific site are incorrect.

All of these are issues exist for a Pacific Avenue alignment and do not exist for a beach alignment. The beach alignment can be done with a cut and cover V trench construction method that is substantially less money.

BEACH ALIGNMENT ALONG THE VENICE PENINSULA

While issues exist for different alignments a proposed beach alignment has far fewer issues than any other alignment. Any concerns with an alignment along the Venice peninsula beach are all mitigatable whereas that is not the cause for a Pacific Avenue alignment. Based upon my expert opinion this alignment is also economically far less costly than compared to the pacific avenue alignment. A Pacific Avenue alignment would be at least twice as expensive as a beach alignment to construct.

This makes a beach alignment thorough in the Venice peninsula the preferred alignment.

Constructability:

There are several construction methods that could be used depending upon the temporary and permanent easements that could be obtained. They could include a non-shored trench, partially shored trench or completely shored trench. Even with the most expense method of completely shored trench, it would far more economical that building a trench within the street right-of-way. Construction along the beach is better because; there are no existing utilizes to work with, no minimum open trench restrictions, easier construction if shoring is required.

Easement:

While an easement must be obtained, from my personal experience in obtaining easements for similar projects, an easement is obtainable and could easily be obtained to support any construction schedule. The easement that would be required could be started during the permitting process and be available immediately after the permitting process has been completed and thus would not impact any construction schedule.

From past experience the costs for such an easement are not nearly as expense as the City is stating. As a matter of fact, City and County agencies usually work together and only charge actual time incurred if they charge any costs.

Concerns about Least Tern Refuge:

While there is a concern about least tern, such a concern is easily mitigatable by putting construction restrictions on the contractor so that the contractor only constructs within a specified distance of the least tern refuge during non-mating season. Since the construction is far easier and quicker that in the pacific alignment this would not cause any real cost impact to the construction. Any reasonable contractor would not put any additional money for such a restriction but would just make sure to schedule the work correctly so construction would not occur in that area during that time. In today's modern construction industry this is a normal construction restriction. It would also be advisable to design the alignment outside of the actual fenced off area of the least turn refuge thus not disturbing the habitat.

Requiring an entire beach alignment if the Venice peninsula alignment in used:

This requirement is not a proper design nor should such a requirement be imposed. Any discussion of fixing an alignment or having a Venice peninsula beach alignment incur more costs for a southern portion are not correct need to be deleted.

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City of Los Angeles Department of Public Works

Venice Pumping Plant Dual Force Main Project

ENGINEERING

COMMENTS

Please use this page to submit your comments regarding the Draft Environmental Impact Report (EIR) for the Venice Pumping Plant Dual Force Main Project. You may comment on any aspect of the report. Your input will become part of the public record and will be responded to in the Final EIR, **if received by 5:00 p.m. on March 17, 2006** (the end of the public comment period).

When making your comments, please be as specific as possible:

- Where will the equipment be stored if the project begins at Hurricane & Pacific? CON -1
- Where will trash receptacles & porta-potties be located?
- Will access to Pacific Ave (N & S of Hurricane be open - if only 1 way access? CON -3

(If necessary, please use the reverse side of the paper.)

Please complete the information below and print clearly to ensure that your comments are addressed in the Final EIR.

Name: Madeline DiNonno Phone: 310-305-1958

Organization (if any): _____

Address: _____

City: _____ State: _____ Zip: _____

You may drop your comments in the comment box at the Comments station or mail them to the following address. All comments must be received no later than 5:00 p.m. on March 17, 2006.

James E. Doty
City of Los Angeles
Department of Public Works Bureau of Engineering
C/o Public Affairs Office
200 N. Spring Street, Room M165
Los Angeles, CA 90012
environment@eng.lacity.org
Subject heading should read "Venice Dual Force Main".

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

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City of Los Angeles Department of Public Works

Venice Pumping Plant Dual Force Main Project

ENGINEERING

COMMENTS

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When making your comments, please be as specific as possible:

Notify residents on a monthly basis of the construction schedule and street and alley closures

PROJ-5

(If necessary, please use the reverse side of the paper.)

Please complete the information below and print clearly to ensure that your comments are addressed in the Final EIR.

Name: Susan Papadakis Phone:

Organization (if any): GRUNC

Address: District 2

City: LA (Venice) State: Zip: 90291

You may drop your comments in the comment box at the Comments station or mail them to the following address. All comments must be received no later than 5:00 p.m. on March 17, 2006.

James E. Doty
City of Los Angeles
Department of Public Works Bureau of Engineering
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Venice Pumping Plant Dual Force Main Project

ENGINEERING

COMMENTS

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When making your comments, please be as specific as possible:

BEACH ROUTE!

ALGN-1

(If necessary, please use the reverse side of the paper.)

Please complete the information below and print clearly to ensure that your comments are addressed in the Final EIR.

Name: PHIL NADON Phone: 310.399.4449

Organization (if any): GRVNC

Address:

City: State: Zip:

You may drop your comments in the comment box at the Comments station or mail them to the following address. All comments must be received no later than 5:00 p.m. on March 17, 2006.

James E. Doty
City of Los Angeles
Department of Public Works Bureau of Engineering
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11.3. ANNOTATED TRANSCRIPT OF FEBRUARY 23, 2006 PUBLIC HEARING CONDUCTED BY THE CITY OF LOS ANGELES ON THE ADEQUACY OF THE EIR

CITY OF LOS ANGELES -- DEPARTMENT OF PUBLIC WORKS

VENICE PUMPING PLANT DUAL FORCE MAIN PROJECT

PUBLIC HEARING

FEBRUARY 23, 2006 AT 6:00 P.M.

-oo0oo-

-oo0oo-

MS. DURRELL: Good evening. My name is Tonya Durrell. I'm with the Department of Public Works, Public Affairs. I am your official public hearing officer for the evening. I want to point out that you are here attending a public hearing for the Venice Dual Force Main Sewer Environmental Impact Report.

And please excuse my notes, but I want to be sure to cover everything this evening. I hope that everyone has had an opportunity to sign in tonight, and if you haven't, please be sure to do so at the table in the back.

Also, we have an agenda at the table. We will be making project team member introductions in just a few minutes. We also have speaker cards available if you wish to be heard tonight. And if you need one throughout the presentation, please just raise your hand and one of our representatives will be sure to get one to you.

You obviously can be heard tonight so that all of your comments are part of an official record that will be a part of the final EIR, and everything that is being said tonight will be recorded by our court reporter who is here with us

tonight.

I'd like to start, then, with our team introductions. We'll start with Mr. Doty.

MR. DOTY: Welcome. I'm glad you took time out of you regularly scheduled events to come help us out on this project. It's very good to see you here.

The project we're talking about tonight is a project that's needed because we need additional capacity for the Venice Pumping Plant.

MS. DURRELL: We're going to do other instructions, and then we'll come back to you, Jim.

MR. DOTY: I'm Jim Doty. I am the manager for the Environmental Impact Report that we're discussing tonight.

MR. DELKHASTE: And I'm Jon Delkhaste, and I'm the project engineer.

(Additional member introductions.)

MS. DURRELL: As I said before, all of the comments will be recorded tonight by a court reporter and will be part of the final EIR. As with any project of this magnitude, the Venice Force Main Project must follow the California Environmental Quality Act Guidelines, and as part

of that process, we obviously want to hear back from you, the community.

We want to share our expertise, disclose analysis, and we want to discover the public concerns and also solicit counter proposals. So, obviously, we welcome all of your comments. Just so you know, it is helpful when your comments suggest additional specific alternatives or mitigation measures. Be sure that your comments include your name, your organization, if you're representing an organization, and any other information including a phone number.

This public hearing is your opportunity to be heard. We are going to be listening tonight to your concerns. We will not be responding to any questions, but please be assured that all of your concerns will be on record, and we will be responding in writing to your questions and concerns.

And with that, I'd like to now introduce Jim Doty to begin tonight's presentation.

MR. DOTY: Okay. The reason that we called you out and the reason that we're doing this is that we need to provide additional capacity for the Venice Pumping Plant, and the project engineer

will go into that in greater detail.

The plant is fine. It has plenty of capacity, but the line that leads from the plant down southward towards the Hyperion Treatment Plant does not have sufficient capacity. And also, we would like to provide redundancy for that line, because right now all of the sewage coming out of that plant goes through one single line. We cannot take it out of service to inspect it. And if something untoward should happen, we have no alternative way to handle the sewage.

The goals of CEQA are to make sure that when your decision makers make a decision whether to construct a project or how to construct a project, that they are informed of what the environmental consequences of that decision will be.

They also need to know what mitigation measures are available to reduce the effects of a project or what alternatives would have lesser effects than the originally proposed project. And all of that is so that we can maintain a quality environment for the people of California.

The reason we're coming to you is because we want to disclose to you what our analysis is,

what we have found. We're hoping that if you have expertise, you will share that with us so that that can improve the quality of the work going into this project. We want you to check our work, make sure that it's accurate, make sure that it's complete. If there's something missing, let us know about it.

If you have a counter proposal, most importantly, we need to know what your concerns are. There is no way we can tell what your concerns are other than to come to you and ask you. You know your neighborhoods best, and we need to know what you know. So that's why we've asked you to come tonight.

What we've looked at so far and in a very large masterful work are three potential alignments connecting the dots between the Venice Treatment Plant and the southern connection point, where we need to go, and three different construction techniques. So the EIR is rather large because we have this matrix of possibilities that we have looked at.

With that, John.

MR. DELKHASTE: Thank you. Basically, what you see here is a map showing all the major sewers in the city. Here, what you see is a map of

all the major sewers in the City of Los Angeles, and here's the valley and here we are.

Now, all these sewers around the coast -- these are the sewers -- go here to Hyperion -- I mean, to the Venice Pumping Plant at this point. Because up to this point, it is a gravity flow. It goes down to that point.

Now, to get it from here, from Venice to Hyperion Treatment Plant before being discharged into the ocean, we have a slope going up, and that's why we need the Venice Pumping Plant, which is the largest pumping plant in the City of Los Angeles.

This is something you guys are all familiar with -- Venice Pumping Plant. And as you can see, one of the alternatives -- we are going to be going over the alternatives later on, but this is the area of one of the shafts. If you choose one of the routes, that's where it's going to go. And this is Hurricane Street as you all are familiar.

To give you a very brief -- those people who haven't been here -- briefly, in 1928 Venice Force Main was built, and at that time it was a 36-inch line. Population increased, and the demand

went up. Then in 1958, the Venice Force Main was -- it went up to 48-inch line, and we added one more pump to it. It was four pumps at the time.

And in 1987, again, due to population increase and the need for more capacity, we have another pump, which is the fifth pump we added. However, at that time they didn't think there was a need for extra capacity in terms of the pipe, so they kept it as a 48-inch line.

Now, what happened is in 1995, due to El Nino, we have heavy rain. And last year, again, due to heavy rain, what we discovered was that the amount of sewer that we were carrying, at the same time the rain was infiltrating into our sewers, which happens a lot of times during rain.

But this time, since it was heavy rain, it increased it to the point that they had all the five pumps working to push the sewer up the hill to Hyperion, and what happened is they found out it was like a bottleneck. The 48-inch line was not capable to carry all that sewer, so it was carrying maybe about 60 percent of it.

The rest of it started backing up into our manholes, and we were really close to disaster. We were really minutes away from the sewer

overflowing and going to the Grand Canal and onto the streets. So we were lucky then, and we were lucky last year. That's the reason we really need what we are proposing, a 54-inch sewer.

Now, this is going to give us -- the good thing about having the sewer is going to give us the capacity to be able -- during the wet season that we had, as I mentioned, we are going to have the capacity to have the sewer going to Hyperion without fearing about the overflow.

And the other thing that we have to remember is in 1958 -- that's when this was built -- the sewers were -- the capacity wasn't really -- it was great for the time, but it's been 1958 until now. It's, like, 48 years old, and these are old. The pipe is old, and I don't know how long it's going to last.

So we need to perform some maintenance work maybe, but we need to do inspection first. In order to find out if it really needs rehab or not -- and we cannot perform any inspection as long as the line is in operation.

So now, what we came up with so far, before we get any comments from you -- so far what we have is three alignments, and I'm sure all of

you are with EIR, so you are very familiar with this. Here is Venice Pumping Plant. So from Hurricane Street, one is going to go on Via Marina and then going down here. From here we are going to have -- and then it goes under the channel, Pacific, and it's going to continue on Vista Del Mar.

Then we have alternate alignment going west on Hurricane Street, going south on Pacific, under the channel, and continuing to go to Vista Del Mar. And all of them end up the same place, which is the CIS. That's where they're all going to go.

And the third alternative that we have is going to go to the beach. From there, down the Dockweiler, under the channel, and continue. And eventually it's going to end up in the same place.

These are the three alignments that we have. To do this, we have three construction methodologies set which we are considering. And one of them is open cut.

As you can see, it's an open trench, and that's the easiest way for contractors to do the job. Normally, it is the least expensive way to do it. That's what it's going to kind of look like in

your neighborhood. And this is the construction you're going to see from outside.

And here you can see the advantage and disadvantage of this. Primarily, the shortest construction time, and the cost is going to be the cheapest -- the least expensive, I should say. And another thing is, this open cut, it always moves. It is in front of someone's home for a few days. It can vary every week.

It can move about 200, 250 feet or more depending on the conditions we are going to have, which means they are going to be laying the pipes. As they lay the pipe, they are going to come back, fill it, and then they are going to put asphalt right after that. So it's not going to be in front of your house for more than only a few days. Now, the thing is, your neighbor is going to have it, but it's going to move on. So that's the good thing about it.

Now, the problem with this is, I know that if I'm living there, I don't want work in front of my house. I don't care for it too much, but most of the impact is going to be on the surface street in terms of traffic and all the other environmental issues that I don't need to go

over.

Now, this one is a small tunnel method. This one is going to have much less interruption on the surface street. Primarily what it does is we have pits here, and then we are going to have jacking and the pipes -- as you can see we have a machine that is digging under the surface street. And then as it is going, we have jacking that is going to be pushing the pipes in.

And as you can see, we are not going to be cutting the street here; however, if your house is here, this pit is going to be in front of your house for maybe a couple of months. But if your house is in between, that can be about 1,000 feet, so you are not going to have problems. So that's the good thing about this method.

The depths of it is going to vary; for example, in this case we are going to go -- on the street surface is going to be lower. When we get under the channel, we are going to be at least 25 feet below the channel. So what happens is this method -- the drawback of that is, we cannot keep going. We have to have 1,000 feet, and then you need another pit, so we are not going to be totally disrupting the traffic flow.

Now, the good thing about it, as I said, we are going to be avoiding a lot of surface impact. It's great for the intersection, and the minuses is duration of impact is longer at the pit locations.

Now, the last construction methodology that we are using is deep tunnel. And for deep tunnel, we have different alternatives; for example, this is under Pacific -- can go this route. Or from here, Venice Pumping Plant, we go down by the beach and from here going all the way down here.

Now, to explain to you a little bit about deep tunnel, basically, what deep tunnel is, is we're going to have a starting shaft at this point or maybe it is going to be farther here. We don't want to be close to the neighborhood because we are going to be there for a long time, actually, almost during the whole entire operation. We don't want to be close to the neighborhood, so right now it is here, but it is possible to push it a little farther back.

Now, this pit here, the shaft is going to take a few months to build. After they build it, the beauty of this is, then they can go all the way

to this point, and from here, they can either go large tunneling or small tunneling or they can have open cuts and get to Venice Pumping Plant or they can just go all the way to this point without having any interruption on the surface street.

This is how it's going to look under the ground. We are talking about activity 80 feet under the ground, so you won't really feel anything. But that's what the machine looks like. And this is showing the location from outside. This is how the operation is going to look from outside.

The good thing is, this is the construction site during the whole project. Now, as I said, fewer construction sites. And then the minuses of this are impacts at the insertion shaft for entire duration of the construction, rights-of-way, and the cost. Of course, the cost is one of the factors, and duration of the construction is the longest than the rest of the projects.

Those are the alternative methods; however, when we have the alternatives, I have to add that you see three alignments, but we can have different kinds of alternatives; for example,

tunneling can be combined with open cut or other methods. So altogether, we can have seven or eight kinds of alternatives.

Thank you very much. Jim?

MR. DOTY: Thank you. So here we are back to that table we introduced at the beginning. And just in gross math permutations, there would be nine alternatives, but the EIR really concentrates on six because the cut and cover construction method down the beach alignment, we believe may be infeasible for environmental reasons.

It's not something that we feel comfortable coming out strongly for, but we have -- in during the public comment period, we have received some public comment in favor of that alignment.

The small tunnel method down Pacific Avenue, because of the size of footprint needed for the shaft site for driving those tunnels, we believe may be infeasible for environmental reasons. And we did not look into detail in a large tunnel going under the Via Marina alignment because it offered no advantages over the other possible alignments for the large tunnel, so there was no reason to go into that.

This is what the EIR finds in one page. First of all, no operational long-term impact. That's kind of a no-brainer. Once we finish the tunnel and restore the surface to its preexisting condition, we're out of there. There are construction impacts, and we've gone over them a couple of times already.

Normally, in a typical project, you usually find construction impacts -- short-term impacts as insignificant because they're short term in duration. Because of the magnitude of this project, short term is no longer a couple of weeks or something. It, although temporary, will be there for a while.

And because of the sensitivities of the project area, we are calling those temporary construction impacts significant. This project is not going to affect your land use or planning. We're not going to turn an environmentally sensitive area into a Wal-Mart or something.

A whole bunch of mitigated impacts that can be mitigated to an acceptable level. Air quality: Here we're talking mostly about the air emissions from construction vehicles and dust caused by handling the soils and so on.

Cultural resources and paleontological resources: We have done surveys of the area. There are no known resources in the areas that we're looking at, but you just never know because they're under ground.

Geology and soils: As you know, there's sand out there. There's oil wells. We know about these things, and we can take care of it. We're pretty experienced at that.

Since I've mentioned oil wells, we'll get to hazards and hazardous materials. We know the area is likely to be gassy, and we know there are lots of abandoned oil wells. We know that there are a few that are not on the map. We have tunneled through such area before successfully -- knock, knock. We can mitigate that to an acceptable level.

Biological resources: We know we're in a sensitive area, and the EIR identifies measures to avoid a biological impact, such as having knowledgeable monitors checking to make sure that sensitive species do not have an adverse response to what we're doing.

And hydrology and water quality: There are a whole lot of standard measures that we do in

public works projects to address and avoid pollution of surface waters. Even with that, there are a few subject areas where we cannot avoid a significant impact, and those are aesthetics.

Even though there are people that really enjoy big machines doing big boy stuff and just love to come down to our construction sites and watch things happen, most people who are used to looking out to the beach would probably think that our construction sites are not a positive. So we're calling that a significant impact. We will be out of there when we're down.

Noise is another. We will reduce noise, but, ultimately, we cannot eliminate noise. We put up a noise wall to reduce noise; however, then you run into the old aesthetics impact. People who liked looking at the beach and the sailboats going in and out of the marina channel are now looking at what looks like a three-story tall building.

They can sleep at night, but they're not getting to see the boats. Either way, those two will run against each other and we'll have to do what we can to mitigate them, but we can't promise to make them go away.

Public services: Access to the beach,

public recreation events at the beaches and parks and so on, there may be some access problems while we're in the area. And that brings us right to transportation and traffic.

Interestingly enough, most of the alternatives we looked at will have a relatively small impact on traffic and transportation -- much less than what we anticipated when we developed the scenario and then went to our experts and said, "What do you think?" But, nonetheless, there will be a significant impact on transportation and traffic while we are constructing the project.

Back to our table. These flowers here are just kind of a graphic way -- there is no way in these environmental impacts that you can just add up numbers and then come back and identify this as your best alternative.

For instance, as we said before, if we choose a tunneling method and you're in the middle of the project and the tunnel is passing by you, you know, 50 feet below ground, you love that alternative. But if you're living next to the tunnel driving shaft or the tunnel retrieving shaft, you're not as happy with it. You just can't -- it's not a mathematical thing.

So that's why we've just got spots here. We've got flowers. The more flowers, the more environmentally superior, the more environmentally friendly that particular alternative is. And the EIR identifies a large tunnel roughly along the Pacific Avenue alignment as the environmentally superior alternative, although the beach alignment would be a close second.

I want to take this opportunity to point out that this is identified as the environmentally superior alternative. It is not the recommended alternative. At this point we do not have a recommended alternative. There is no project that we're hiding in our pocket that we're going to come out with after we go through our show here and tell the council people, "Yeah, we told the public."

No. Really, we don't have a preferred alternative. We will have to develop one, but we need to hear from you first because the information we're going to get from you is important to developing the alternative that we're going to recommend. We do eventually have to build something, so we do have to come up with a recommendation.

Okay. Money: This is a subject that I

have to admit I'm very uncomfortable with, because in environmental analysis, we don't like to get tied up with dollars. Tonight's meeting is about protecting the environment. There will be other meetings about protecting the bank account, but tonight's meeting is about protecting the environment.

But during the notice of preparation and the scoping phase of this EIR, we got several strong comments saying we want to know what the relative cost of your alternatives are. That's why we've got this in here, and you notice there are no hard numbers. There are some concept level numbers in the EIR, actual dollar amounts, but we stress these are concept level.

They are not based on a design. They will change. But their relative size should not change. In other words, the one we're identifying as cheapest in the EIR should not later turn out to be the most expensive. So there you are. One dollar sign means cheaper, and three dollar signs means a lot more expensive.

And then here's the summary of the period of time we would be out there. Notice that the first two construction methods, cut and cover and

small tunnel -- small tunnel being either jacking or microtunnel or a combination -- both of those would involve small tunneling under the marina channel.

We are not proposing an open cut method across the marina channel. I have seen it done. You don't actually hold back the water, but you dig a trench in the bottom. But it's messy and not really worth it.

Cut and cover: Overall project, 12 months. It goes very fast. Up to five days passing any particular point along the route, like, your house. It can vary, because it depends on the precise conditions in that location. Cut and cover would mean, then, that we would have a small tunnel shaft on the one side of the marina entrance channel and a receiving pit on the other side of the channels.

Small tunnel would take longer, about 14 months with up to four months in a particular location. Again, if you're lucky enough to be away from that shaft, it's a good deal. If you're at that shaft -- and of course, we would try to pick shafts that are the most friendly -- but if you're the nearest one to that shaft, four months and

you're really glad when we're out of there.

The large shaft takes a little longer -- 36 months. A large portion of that is actually setting up the construction as opposed to the actual process of driving the big steel digging worm through the soil. And we would be up to seven months at the receiving shaft, which would be up in the vicinity of the Venice Pumping Plant, so neighbors close by. The payback we get with a large tunnel is no surface presence in between the points.

So what do we do next? We're going to launch right into a period where we listen to your thoughts and comments, but you don't have to say it all tonight. Think about it. You can write to me by March 17th.

I'm giving my address as c/o Public Affairs Office. I'm not trying to dodge you. Our offices, including the design office -- we're busy in a move. We're moving out of our leased space downtown to a newly purchased building. The City bought one of those towers for the Department of Public Works. Today I spent getting all my stuff out of the boxes, but right now I don't have e-mail or anything, and I wanted to make sure that your

comments got to the right place.

So send your comments c/o Public Affairs Office. If you'd like to e-mail, there's the e-mail address. And it would be helpful if you put in the subject line, Venice Dual Force Main, because we have a little sorting program that will look, and if it sees that, it will send it directly to me. It will get to me immediately.

Otherwise, every few days we go into that account and we manually look at that. But it will save a little time if you put that in there. It's not critical. You won't be sent to Mars or anything if you forget to do that.

So that's all. Thank you very much.

MS. DURRELL: Okay. Thank you, Jim. And as Jim stated, we are going to get started with our official public comment period. I did want to mention that we do, of course, have copies of the draft EIR at the table in the back. We also have a computer here, so if you'd like to submit your comments electronically, you can do that as well.

I just want to tell you about the ground rules. We're going to be working from speaker cards, and Julia will call out your name. You can come here to the microphone, and please speak

clearly. Please state your name and any organization that you are representing.

Also, we have three minutes per speaker, so please try to adhere to that. So we'll get started with our public comment period and get the first person up here.

MS. BROWN: Carol Kapp, please.

MS. KAPP: Hi. I want to compliment Jim Doty and his team. I can tell from the EIR that some of our comments from the May 24th scoping meeting did show up in the EIR. That's probably one of the first times in the city that our thoughts actually made it to paper. So kudos to you on that.

I do want to say that my name is Carol Kapp. I live on Rees Street in Playa Del Rey, which is adjacent to Vista Del Mar. And because of that, I want to support the beach alignment all the way.

I also want to talk about the fact that the reason I'm in favor of the beach is because the part of Vista Del Mar that we live in has a palisade, and I certainly do not want to see a repeat performance of slides, such as La Conchita in Ventura or Blue Bird Canyon, which we all saw

GEO-1

how horrible that was. And I believe that the vibrations from this project could trigger those kind of lateral slides. GEO-1

There are references in the EIR to moving equipment and staff. I would like to tell you that there is a street called Sandpiper, and it has been closed since 2001 or a little thereafter because of the terrorist attacks. I think that this could be opened up. You can have your workers park there, and you could buy a second-hand shuttle bus and run them back and forth to wherever they're doing their work.

Also, Los Angeles County beaches and harbors have parking lots in the marina, and you could probably get parking permits from your staff there and, again, use some sort of a shuttle bus. So I think that might help with some of those concerns. Also, the county runs a parking lot on Vista Del Mar south of Napoleon Street, and that's another place to look for parking for your staffing. CON-1

I don't know what the time is looking like, so the last thing that I want to make a big emphasis on is that there is a parking strip adjacent to Vista Del Mar from Surf Alley north to

Montreal. And that is used for beach access parking during the day and local residential parking at night.

There has been no discussion of using it. I just want to go on record and say there is no way you can look at that for equipment lay down or anything. So thank you very much.

MS. BROWN: Next we have Mark VanGessel.

MR. VANGESSEL: I think the community first really appreciates the fact that you actually did an EIR rather than try to push through a project previously in 2002.

Quick question that I think needs to be addressed to the public tonight is right now, [illegible] going to have comments. And it appears to me that it's not really complete and needs to be revised. Do we get another chance to review this, or is the City going to give us this one chance for us to review, then make a decision, say that they had public comment, and go forward? That way we do not know what your preferred alternative is. So we really need to understand that from the City tonight.

In looking at this, you claim that you have six different alternatives; I've read it in

the summary. You really only discussed three. It got pointed out a little later that there were six. We'll all be realistic. You're saying that it's $68 million to do a tunnel versus $45 million to do cut and cover.

The City is under a budget crisis; we all know that. The tunnel is not going to be a viable option. Let's all realize that. So the City is going to go with the cheaper method and do some impacts.

Previously in 2002, the City had only two alignments. One was a cut and cover along the beach, and the second was going down Pacific Avenue with cut and cover. In this EIR, for some reason with no explanation at all, it just says the cut and cover method along the beach is not viable. That, to me, does not provide an explanation why in 2002, in 1957, and in 1938, cut and cover was the way to go. ALGN-1

Now all of a sudden, it's no longer allowed. To me, that makes no sense whatsoever. Cut and cover along the beach is one of the quickest ways possible.

I'd like to pcint out, I -- will run out the time -- but the slices they showed you on the

trenching are incorrect to go down Pacific. They have slides there showing trucks going down the side. That is not going to be possible for Pacific and most likely for the Vista Del Mar area either.

Discuss overflow: This is an important item. People should realize that right now during the last heavy rain of last year, Hyperion had to dump water, overflow, which means that right now, this Venice plant did not. All it's doing is literally dumping more of it into the ocean.

So while they're increasing capacity here, the Hyperion plant still couldn't handle it anyway, and it would dump into the ocean anyway. So the no-build alternative actually, to me, seems like a potential viable solution until such time that the location where you're going to send everything can actually handle it. First, you build a location, and then you do the upstreet areas. WQ-1

Next thing is, you say that there is no environmental impact after the project is built. For the Pacific Avenue alignment, cut and cover, that is absolutely false.

People should realize who live in the marina area, whether you live on the beach side or

the canal side, after this project is built, they will have big air-vac valves once every three streets to go underneath utilities. Those air-vac valves will release hazardous gases into the environment. I hope Jim Doty will explain that. I can actually show you the drawings that show it will occur.

So the EIR is incorrect. Hazardous gases, smelly gases -- who's been by Hyperion? What does it smell like? We all know. What is this pipe pumping? That same material. The gases that get trapped in the pipe have to be released. They're going to blow right across the creek to all of the residents who live on the other side. And anybody who's living next it will actually smell it, too. AQ-1

A few days in front of the houses when they trench -- absolutely incorrect. I used to be construction manager in the valley. Putting 12-inch line in front of somebody's house took over a week. The City has to do inspection after inspection after inspection. A 12-foot deep trench will require at least -- at least two weeks for the City to physically inspect it. CON-5

And if we want, I could go through it,

because the City has to inspect things. They have to inspect the concrete that goes down. That takes a day. They have to inspect the gravel road that goes down. That is what their own document says. CON-5

I'm a manager for MTA Construction. I've watched this. I know what the inspection does. It says when you backfill, for every 6-inches, it has to come up. So if this is in front of your house, you will be impacted especially along Pacific. If you go along Pacific and do a cut and cover, they will have to de-water that trench. So if you live adjacent to that, your house will settle. GEO-1

I will say that I most likely ran out of the three minutes, and I will let other people go, but I have numerous comments, and I will submit them in writing. And I just hope that the City will give us a second round to look at this and show us what the preferred alternative is.

MR. DELKHASTE: Just for the record, a lot of comments that you made, I totally disagree with you. I think a lot of them were inaccurate. It was an incorrect representation.

MS. BROWN: Bob Krauch.

MR. KRAUCH: I do defer my three minutes except for the underground large pipe or anything

that goes deeper. Is that more difficult and as secure to get the material that's in there back up to level? That's my concern.

PROJ-6

Which of the three methods is the longest range, safe way to do it? Is there any reference to that?

MS. BROWN: Your comment is going to be included in the final.

MR. KRAUCH: The infrastructure always wears out. You're talking about 40 years. Is there any method that is more long range that's proposed here than any of the others?

PROJ-1

MS. BROWN: The next person is Dan Sharkey.

MR. SHARKEY: I'm Dan Sharkey. I live within maybe 200 meters of all of these people. I'd like to echo Carol Kapp's comment. Regardless of what happens, it's easy to make promises and it's sincere, but once you hire a contractor, we're the victims.

Let's talk about parking. We don't have it, and it doesn't help when the City drives a truck that says "contract administration" around every month. Whatever you decide, you need to stick with it. We don't have parking. We're a

CON-1

very tiny area. If you drop a pin on the beach, we have a 250-foot bluff that acts like nothing more than a large speaker and echo chamber.

CON-6

We're a very unique geological neighborhood. And whatever you do, we just asking that you come up with the plan, stick with the plan, and more importantly, force your contractors to stick with the plan, and all those points about which Carol spoke. But primarily, it's parking. That's it.

CON-7

MS. BROWN: Marcia Hanscom.

MS. HANSCOM: My name is Marcia Hanscom. I live in Playa Del Rey near the Del Ray Lagoon, and I'm also with the Wetlands Action Network and the Sierra Club Restoration Committee.

I have a few comments related to -- I haven't actually reviewed the draft EIR yet, but based on some of the things that were said, I have some concerns. One is related to whether or not we need this and it is sufficient capacity -- you're saying that Venice pumping station is already at sufficient capacity, but the line may not be in the future.

So the question I have is how does the EIR analyze whether this is a growth inducing plan

GRWTH-1

and if so, how much new development is going to be handled by this. And one of the reasons I have this concern is I know, like, the Grassroots Venice Neighborhood Council has made development requests to the councilman.

There's a lot of concern of over development on this side of town, and right now there's sort of an assumption that more development will happen. And all of that, of course, will affect the traffic and quality of life and, of course, the natural resources. GRWTH-1

And I would suggest that the city council needs to have a discussion and a conscious decision about that and a discussion about how much growth and development we do want in the future and how much we can really handle with public input, so it's not just saying that it's going to happen, but that we actually have a real conscious decision about how much and that stuff.

And if you don't do that, you're really eliminating your no-action alternative, which is required under the California Environmental Quality Act. Somebody said it is going to happen no matter what, but if you eliminate the no-action alternative, that's a violation of the law.

Secondly, liquefaction is a concern. I'm wondering how the construction on this is going to be impacted by that. Thirdly, it was talked about on the south end that you might move the site further into the El Segundo Dunes -- the construction site, and I would want to make sure that the El Segundo Blue Butterfly habitat is not being looked at. That is an endangered species, and it's something that you have to look at in terms of this. GEO-2 BIO-1

I can tell you that the coastal commission has been very concerned about that, and they've required LAX to take out some palm trees that were not allowed there. So the kind of construction impacts you're talking about, they might be very concerned about that.

On the north end, I think it's important to note when you determine each of these alternatives that you're going to have a preferred one. And I do agree that the draft EIR does have to be recirculated to show which one of those is preferred before you go to the final EIR. EIR-1

On the north end, not only is the California lease term of concern because it feeds right in that channel where you're talking about BIO-1

having the longer term impacts, right by the Venice pumping station, but also the California brown pelican, which is also an endangered species, feeds in that channel. And that species, for some reason, is never thought about or considered. Please remember the pelicans as well. BIO-1

So you asked for some specific mitigations because obviously, no matter what thing you choose -- if you do choose one of these and not the no-action alternative -- you will have obvious disruptions to the community and to the environment, et cetera.

Some of the mitigations that I would suggest need to be looked at is that extraction shaft site on Hurricane. That is a city parcel of land. If you do this project, and when you're done, that parcel of land ought to be rezoned into open space. Don't sell it for more development. OS-1

That area is highly overdeveloped already. They need some open space, and the habitat there at the lagoon needs open space around it as well. There are two underdeveloped lots which also could be likewise rezoned for open space. They're also owned by the City.

And in the Playa Del Rey neighborhood,

you obviously are going to be causing some major disruptions. One of the biggest concerns we have there is Toes Beach Dunes, which is threatened by development, and the Patriot Homes Site. Perhaps the City could have some mitigation by helping put some money towards the purchase of those sites.

Thank you.

MS. BROWN: DeDe Audet.

MS. AUDET: Thank you. My name is DeDe Audet, and I live in Venice, California. I think what has been mentioned by Marcia and alluded to by Mark, we need to know in considering environmental impacts exactly what density the current pipe size and pumping is designed for and what density the items you are proposing will provide for. PROJ-2

I think it's very important information in order for people to make decisions. If we're going to open up streets or the beach or whatever it is, let's make sure we're doing it right, and we don't have to come back in 20 years and open it up again. So let's try to look ahead and give these people that information so that they know, because they're the ones that are going to have to pay for it. And let them know exactly what they're going

to get.

And on the issue of flooding, I don't know how long you fellas have been around here, but I can tell you I have seen rowboats on Washington Street. We get some pretty darn good floods. And there's some very important people living down there off of the speedway on both sides of the channel, and I'm sure that I will hear from them at the Grassroots Venice Neighborhood Council. FLD-1

So please, try to get comprehensive information. That's what we need. Comprehensive. Because I just don't see how people can understand the environmental impact without knowing what you intend to serve. Thank you.

MS. BROWN: Roy Van de Hoek.

MR. VAN DE HOEK: I support what she just said and your other speakers who all seem to have an opinion of being generally opposed to the project. My name is Roy Van de Hoek for the record. I'm a citizen and resident on Vista Del Rey Avenue and will be very close to the routes. I'm also a biologist and EIR expert-in-process.

I would like to see you do no-action alternative that is twice as long -- written twice as many words, twice as much text as your preferred ALT-1

alternative. And what I want you to focus on in your no-action alternative is how doing no changing of the pipes will have to cause politicians to address no growth, more density of population of people.

Doing a no-action alternative that shows the limit of how much sewage can go, will show that you can't go anymore to three-story, four-story, five-story buildings anymore around the marina; that you can't think about 20 years from now doubling the population or tripling the population on the west side, because that's what this is facilitating by having such a large sewage line there.

ALT-1
GRWTH-1

It's a piecemealing. And to define what "piecemealing" is, when we first sent troops in the '50s with Eisenhower to Vietnam, that was just a few advisors. Then Kennedy sent more; that was the second piecemealing. Then Johnson expanded; that was piecemealing. Now we have 100,000-plus troops and 70,000 killed. That's all part of piecemealing.

EIR-3

And what you're doing here is earlier on before you started approving the towers in the marina and started approving more and more

high-rises all over, that's causing you now to want to do this project. You should have done this at the time when you were approving that. And that's how you piecemealed it, and now you have a mess. And now you're going to have an even bigger mess. EIR-3

If you do this, the only route I see feasible for travel and other reasons is to go down Via Marina, get rid of that city tree of Los Angeles in that median and that grassy lawn, and run it right down the middle of that. Do a cut and fill, cheaper route, and you won't affect traffic. The cars will still be able to go back and forth.

If you have to go down to one lane each way, it needs to have an impact on traffic. If you try to go down Pacific, you're only going to have the width of one lane and cars won't be able to go. Once your route hits the marina, it should go at whatever angle is required and then hit the beach. ALT-2

But that doesn't mean I'm advocating that as a preferred alternative. I think the no-action alternative is my opinion. I think there will be an abundance of biological impacts, and I think you haven't anticipated all of them.

There is going to be a lot of other

federal listed, state listed, state sensitive, federal sensitive, other animals and plants that are proposed for listing in the future. And I'll give you more written comments later.

MR. DELKHASTE: Thank you very much.

MS. DURRELL: Thank you all. Do we have any more comment cards?

MR. VANGESSEL: If you do a cut and cover method, they said they could do 50 feet a day excavation. I did the calculations for you, and I can run them through. That's 22 construction trucks that they have to get in between 9:00 a.m. and 3:30. Can't be possible.

So they're saying they can do 50 feet of excavation a day with cut and cover. Technically, physically, that's not possible, at least along Pacific. The alternative along Via Marina, it's absolutely possible because there is a lot more room. So I could, again, explain in detail.

So one of the other comments that I'd like to point out is you have the Via Marina and Pacific Avenue cut and cover at the same exact costs. Well, I don't know anything that costs exactly the same out there. Via Marina is definitely a cheaper method to go.

CON-2

You have it required to do boring underneath Hurricane to get across the street -- the channel. Why you can't do a cut and cover to make that less expensive, unknown to me. You can cut off that canal, have it float around, cut the other half. We do it all the time in construction.

CON-7

Couple items: If you do cut and cover, couple of things that should be required. As a minimum, cover all vehicles after they're filled with dirt. They're driving through this neighborhood. Right now that is not a requirement.

Once you go, they use this document to write the technical specs. So we want that, and we don't want it -- as it says here, "or do something else." We want it standard. No "or" allowed.

EIR-4

You have on page 5-128 a whole bunch of line items. We should make these very clear so the people that write the technical specs, they should do this. Everyday the trenches have to be covered. Right now that is not in there as a requirement. Everyday, have your trucking operation, as you mention and discuss, in your construction method. Make it a requirement.

CON-9

Make it a bullet item, like you said -- like you said in your construction thing. 9:00 to

3:30 so it will not impact the residents in the neighborhood. That's what you discussed that you'd like to see happen, but you don't make it a requirement by making it a bullet item. Make it a bullet item. We all know in the EIR, it becomes a requirement. CON-9

The City does and different organizations have such things as special assessments so that if a contractor breaks any of these rules, he gets fined. If you want to make sure, put it in here as a requirement in the EIR that you will have special assessment language put into the contract so that if the contractor breaks any of these rules -- doesn't have his truck covered, works outside the proper hours, doesn't park in the right location -- he gets a fine. CON-7

Another one is similar things for such things as noise and vibration to disturb the residents. The City may argue that such things have never been done. I can guarantee you -- I work for MTA. We put it in our jobs because we want to make sure when we build things that the resident is happy. We did this on the project to build the orange line. We had assessments of over $200,000 to our contractor when he was annoying the CON-8 CON-8

neighbors. I hope the City does the same thing.

MS. DURRELL: Thank you. We are going to conclude our public comment period. I'm sorry that I strayed away from the rules.

MR. VAN DE HOEK: You allowed him to speak, and he got the longest amount of time. I appreciate that you were nice to do that.

MS. DURRELL: I did lay out the ground rules at the beginning that you had to fill out the comment card, and you had that opportunity. We are taking comments through March 17th.

MR. VAN DE HOEK: I don't believe this is fair. This process needs to start all over again. If you're going to allow one person to have a second comment, I deserve and earn a second comment.

To add and supplement to doing a negative or no-action alternative and making it twice as long, I want you to, in that twice as long, have ten pages about how our piece of mind will be heightened by not doing the project; that we will enjoy no new noise. ALT-1

We will -- all these positive things that will happen under no-action that none of the other alternatives can compare to -- how it will be

quiet, how we will be able to continue our lives the way they are right now, that we won't have to think about more people coming, that we'll have nature and the sunrises and dusk, that everything will be so much more beautiful and just give it -- you call it the no-action alternative, which makes it sound negative, but the no-action alternative needs to be written maybe five times longer than all the other alternatives together. ALT-1

And just talk about how beautiful it's going to be if this project doesn't happen. We now have the highest number of pelicans anywhere in California, from the Mexican border to San Luis Obispo -- 2,200 pelicans. We have -- you add up all the other pelicans in Southern California, and for six months of the year, Playa Del Rey and Marina Del Rey have the highest number of pelicans anywhere on the west coast. And that might be harmed. BIO-1

So please do 30 pages of the brown pelicans ecology. And have a team of five brown pelican experts who aren't paid by you, but volunteer to step forward and write independent reports from the Federal government to say that it would be better not to have the project and how

good it would be for nature and for all of us.

MR. DELKHASTE: Thank you.

MS. DURRELL: Anyone else have comments?

MS. KAPP: My name is Carol Kapp. I would like to ask about cut and cover being used along the beach. Then I would like to make a couple of housekeeping suggestions, because I know that something is going to happen. ALT-3

I like Mark's idea and Mr. Van de Hoek's about maybe nothing, but I believe that the Argonaut newspaper serves our community quite well. And I believe that the staff from this project should have to make, at the minimum, a bi-weekly report to the community about what's going on, about what the contractor did or did not do, and how contractual issues are being resolved, and just really keep us up to date. I think that would be really good. PROJ-5

I also think that we need to have another community meeting in this room at night so that whatever the last-minute changes are -- unless we get a whole nother EIR -- could be made public. And also, that the LAPD, the LAFD, life guards, and hospital should be invited so that all these safety providing people know what they're going to need to EIR-1

possibly come up with at any time during the three to five-year program that's going to be going on. EIR-1

And then I would also like to ask that if this does go by people's homes, that these people have a tax break. Yes, I think that they should not have to pay taxes, at least prorated for the months that they're put through whatever hell is going on. And I am being very serious about it. TAX-1

Thank you.

MS. DURRELL: Okay. I think everyone has had a second opportunity to be heard. We appreciate that. Again, this -- I'm sorry. You're going to make a statement?

MR. KRAUCH: I'd like to take my three minutes that I earlier relinquished. Carol Kapp mentioned the Argonaut. Twice in the last 25 years, the Argonaut, because of excessive rains, I have read this. And I want somebody up here, maybe Doty, to verify this.

At Farragut Avenue in Culver City, legally, when it's raining excessively, there's a legal right for the sewer system, which comes from the valley through the Hollywood tunnel -- they put that in in the '50s. They can release anything. PROJ-4

If the Hyperion reaches an over-capacity

of so much, they open that up, and all the sewage from the valley comes right down. Is that true? Can you explain what is true on that subject?

PROJ-4

MS. DURRELL: Okay. We will be on hand. Again, we have an EIR copy here if you'd like to review it. We have all kinds of handouts for you.

Again, the deadline for your comments and writing would be March 17th by the close of business. We appreciate you coming out. We know how important this is to you, and we appreciate your feedback. Thank you very much.

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11.5 RESPONSES TO COMMENTS

Responses were developed by the Lead Agency (City of Los Angeles) in accordance with Section 15088 of the CEQA Guidelines. They address environmental issues in the comments and follow the comment identification convention found in Table 11-1.

Response to Comment ALGN-1: Preferred Alignment - Beach

Several residents in the area of the proposed project indicate their support for the beach alternative as the environmentally superior alternative.

As required by CEQA, the EIR identifies an environmentally superior alternative (see Section 6.0, page 6-3 of the Draft EIR). The Draft EIR concludes that:

> "Based upon the outcome of the impact analysis for this project, it has been determined that the environmentally superior alternative is the mined tunnel Alternative #4 (Inland Alignment). This alternative would impose the least number of impacts to environmental resources, and would significantly reduce construction related impacts such as traffic and parking congestion and noise and vibration. The proposed alignment, as shown on Figure 4.3-10, would begin at launch shaft #2 located in Vista Del Mar and run due north toward the pumping plant on Hurricane Street and tie in at the #10 receptor shaft. Although the deep mined tunnel would run directly under existing dwellings and facilities in some locations, great care would be taken to insure that wherever possible, the alignment would follow existing rights of way. For those portions of the alignment that would require tunneling under existing dwellings and/or facilities, the City would work with those who are within the proposed alignment to fully understand the construction methodology, to secure proper right of way access, and to provide compensation for the right of way."

This conclusion is based on an objective analysis based on the documentation and analysis provided in the EIR and does not support a preference for the beach alignment.

CEQA does not require decision-makers to approve the environmentally superior alternative identified in the EIR, but does require the decision-maker to determine findings that support any decision not to approve the environmentally superior alternative identified in the EIR. As noted in the EIR, the City's Department of Public Works has not identified a preferred alignment; rather, the Department is relying on the Draft and Final EIR, including public comments on these documents, to provide the City's decision makers (the Board of Public Works and the City Council) with information sufficient to weigh the effects of each alternative alignment prior to making a final decision on the project alignment.

In conclusion, the analysis provided in the EIR provides a detailed description of the impacts of alternatives, including the beach alignment. No additional analysis or research is necessary regarding impacts due to the beach alignment to the project area.

Response to Comment ALGN-2: Preferred Alignment – Non-beach

The California Coastal Commission stated that its concern with the beach alignment is due to the potential for erosion caused by a rising sea level over the life of the project. As noted more specifically in response to comment CLI-1, Climate Change, the EIR analyzes the potential impacts caused by beach erosion and the potential risk to the force main if it is constructed along the beach. The EIR evaluates the potential alignments without a recommendation for the selection of one alignment over another. Specifically, section 2.3.1 (page 2-10 of the EIR) notes that:

> "A preferred alternative for the project has not been determined at this time. Equal analysis has been given to each alternative associated with the Project, allowing for a decision to be made in accordance with CEQA Guidelines, which states that sufficient information must be provided to allow meaningful evaluation, analysis, and comparison of the proposed Project."

However, as required by CEQA, the EIR identifies an environmentally superior alternative, which is not the beach alignment, but the mined tunnel Alternative #4 (Inland Alignment); see Section 6.2, page 6-3 in the Draft EIR which states:

> "This alternative would impose the least number of impacts to environmental resources, and would significantly reduce construction related impacts such as traffic and parking congestion and noise and vibration. . . . Although the deep mined tunnel would run directly under existing dwellings and facilities in some locations, great care would be taken to insure that wherever possible, the alignment would follow existing rights of way. For those portions of the alignment that would require tunneling under existing dwellings and/or facilities, the city would work with those who are within the proposed alignment to fully understand the construction methodology, to secure proper right of way access, and to provide compensation for the right of way."

The concerns of the Coastal Commission are reasonable and consistent with the impact analysis provided in the EIR. The City's decision-makers, the Public Works Commission and the City Council, will consider the EIR and weigh the comments of the Coastal Commission, the public and other agencies in selecting which alternative alignment to approve.

In conclusion, the analysis provided in the EIR provides a detailed description of potential impacts from all alternatives, including non-beach alignments. No additional analysis or research is necessary regarding impacts of this alternative to the project.

Response to Comment ALT-1: Alternative – No Project Analysis

The comment asserts that the No Project Alternative would limit future development and growth in the area served by the Venice Pumping Plant Dual Force Main Project (VPP).

Under the No Project Alternative, no new pipelines would be installed and the sewer system would continue to operate in the current manner. Neither the No Project Alternative nor the other alternatives under consideration and evaluated in the EIR would either induce or limit growth. As noted in the EIR, analysis of the No Project Alternative (see Section 6.2 of the Draft EIR), the No Project Alternative could result in potentially significant adverse effects to the environment due to the existing sewer force main's current lack of conveyance capacity and inability to perform regularly scheduled maintenance on the existing force main. In addition, an overflow of untreated wastewater into the Ballona Lagoon and areas surrounding the project could result from the No Project Alternative because of the age and condition of the existing main from the VPP which, in turn, could cause substantial harm to the environment. The proposed new force main is not designed to accommodate increased development in the areas served by the VPP, beyond that contained in approved land use plans; the objective of the proposed new force main is to ensure that the outflow from the VPP can be safely conveyed to the City's Hyperion Treatment Plan by having a new force main that is less likely to leak and/or break which would result in untreated sewage in the area's underground environment and, perhaps, the local ocean waterfront and creeks, lagoons, and other surface waterways. Finally, the amount of sewage that would flow in the proposed new force main would be largely determined by the capacity of the VPP. There are no plans to increase the capacity of the VPP and therefore, the potential growth-inducing impacts of the project are limited.

In conclusion, the analysis provided in the EIR provides a detailed description of a range of project alternatives and notes existing conditions, conditions during construction of each alternative, and conditions following project completion. No additional analysis or research is necessary regarding impacts to the project area from project alternatives.

Response to Comment ALT-2: Alternative – New Alternative

Three comments were received requesting consideration of additional alternatives.

The Department of Public Works has considered and compared a reasonable range of alternatives in the EIR. The Department did conduct a preliminary analysis of a larger number of alternatives that were screened prior to selection of alternatives for detailed analysis in the EIR. These additional alternatives were rejected for various reasons including: substantial increased construction costs; non-availability of right-of-way for construction; and the need to acquire additional land. The preliminary analysis prepared by the City for the project, as presented in the Initial Study, (and provided as Appendix A to the Draft EIR), focused on and was limited to feasible alternatives in terms of cost, right-of-way, and technical or engineering characteristics. The EIR evaluates and compares the alternatives identified in the Initial Study and the EIR scoping process. The alternatives analysis in the EIR allows for a decision to be made in accordance with CEQA Guidelines, which states that sufficient information must be provided to allow meaningful evaluation, analysis, and comparison of alternatives to the proposed project. Based upon the analysis conducted of the alternatives identified in the EIR, the cut-and-cover method of construction for two of the proposed alignments was deemed not viable; therefore, a detailed impacts analysis is not provided for them. The environmentally

superior alternative is identified as required by CEQA. A matrix displaying the major characteristics and significant environmental effects of each alternative is provided in Section 8.0 of the Draft EIR, which may be used by the public and decision-makers to make comparisons prior to selecting the preferred alternative alignment for the VPP dual force main sewer.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions, conditions during construction of the project alternatives, and impacts following project completion. No additional analysis or research is necessary regarding impacts from project alternatives, and an additional alternative is not required.

Response to Comment ALT-3: Alternatives – Alternatives Bias

The Department of Public Works has no bias for one alternative over another. As stated in the Draft EIR, there is no preferred alternative at the present time. The purpose of the alternatives analysis provided in the EIR is to analyze the impacts of alternatives to provide a basis by which the public and decision-makers can compare feasible project alternatives that would achieve the project objectives described in the EIR; (see Section 2.2, page 2-1, of the Draft EIR). The process prescribed by CEQA for the preparation of a Draft EIR, and ultimately the Final EIR, provides for review by objective experts within local, regional, state, and federal agencies and the public to ensure that the Draft EIR and Final EIR provide accurate, current, and applicable data, as well as ensure that the impact analysis is accurate and consistent with state-of-the-art environmental analysis methodologies. As noted in other written comments received by the City in response to the Draft EIR, these agencies did not find any bias in the analysis, nor did they negatively comment on the conclusions reached in the EIR's impact analysis. Finally, as prescribed by CEQA, the Initial Study, Draft EIR, and Final EIR are subject to public review and comment. The purpose of this public review is to ensure that the documents provide answers to substantive comments by the public and that issues of concern to the public are not overlooked and are given due consideration. As noted in several public comments, the Department of Public Works' EIR process provides an opportunity for the public to offer their comments and raise questions. The Department of Public Works has seriously considered the comments made during the EIR scoping process and the comments made on the Draft EIR. Public concerns have been seriously considered both in the preparation of the Draft EIR as well as in the preparation of these responses to comments.

Responses to Comment ALT-4: Alternative – New Beach "Cut and Cover" Alternative

An additional alternative is requested – specifically, the use of the cut-and-cover construction method for the beach alignment of the new force main. As noted in the Draft EIR (see Section 4.1.1 and Alternatives, Section 6.0), cut-and-cover construction is a very common method of linear pipeline construction and replacement. However, with the cut-and-cover approach, major construction activities could be limited to within relatively short segments of about 1,000 feet at any given time (see Figure 4.1-1, Cut-and-Cover Construction). This alternative was determined to be not viable for the

Dockweiler Beach Alignment because the method would result in a relatively shallow sewer, which could be vulnerable to damage from future coastal erosion processes. This alternative, therefore, is not addressed in the EIR and its inclusion would not result in a reduction of project-related impacts.

In conclusion, the analysis provided in the EIR provides a detailed description of alternatives to the project. No additional analysis or research is necessary regarding impacts to the environment in the project area.

Response to Comment AQ-1: Air Quality – Odor

Based on the operational characteristics, the proposed project is not likely to impede the progress of the SCAQMD in complying with federal and state ambient air quality standards, expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors. A significant air quality impact is not expected due to air releases from force main valves because they are expected to be rare, involve only small quantities of trapped air, and would dissipate quickly. The existing force main in Dockweiler Beach, which has been in continuous operation since it was built in 1960, has two air release valves (one opposite Culver Boulevard and another opposite Yawl Street). These have not caused any significant air quality impact. As noted in Section 5.2.3.2 of the Draft EIR (Air Quality Operational Impacts), the proposed project is anticipated to emit minimal odors. Once operational, the proposed project would operate with minimal need for on-site maintenance under normal conditions. The total amounts of emissions from maintenance worker vehicle exhaust are considered negligible and would not have a significant impact on air quality.

In conclusion, the analysis provided in the Draft EIR provides a detailed description of current conditions and conditions during construction of the project and following project completion. No additional analysis or research is necessary regarding project-related air quality impacts in the project area.

Response to Comment BIO-1: Biology

Section 5.3.3 (see pages 5-20 through 5-25 of the Draft EIR) provides substantial discussion of the plant and animal communities in the project area, including an analysis of the habitat for both the least tern and the El Segundo Blue butterfly. The identification and analysis of potential impacts describes the proximity of their habitat to the construction areas of each alternative (including alternative alignments and alternative construction methods). Recognizing potential environmental impacts during construction of these habitats, a series of mitigation measures are identified to reduce the impacts to a less than significant level (see Section 5.3.5 which states that if the mitigation measures are implemented successfully, “no unavoidable adverse impacts on biological resources are expected as a result of the proposed project.”). The City’s mitigation monitoring program, as a requirement of CEQA, would provide the means to ensure the implementation of mitigation measures.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions, and conditions during construction of the project and following project completion. No additional analysis or research is necessary regarding impacts to biological resources in the project area.

Response to CLI-1: Climate Change – Rising Sea Level

The Coastal Commission expressed concern that "in a situation of rising sea level and increased coastal erosion, the sewer line could, in a few years, be attacked by waves and require a revetment or other coastal protection structure." The City acknowledges this possible impact to the beach and the potential impact on both the existing force main and the potential alignment of the new force main on the beach. Such beach erosion would be comparable to that resulting from a tsunami. The Draft EIR (page 5-74) notes the potential beach erosion could result from a tsunami:

> "It is well known that a tsunami can cause substantial erosion and scour on the shore. For example the 1960 Chilean tsunami scoured out the port entrance by more than 30 feet at Kesen-numa Port in Japan. Although the pipeline would be buried at depths no shallower than 10 feet below the surface, the possibility of damage to the proposed pipeline cannot be disregarded. A catastrophic tsunami could result in erosion of the surficial soils covering the proposed pipeline, primarily along the proposed Dockweiler Beach Alignment alternative."

The potential short-term impact to the beach from a tsunami would be comparable to the potential long-term effects from a rise in sea level. The existing line has been in use for nearly 50 years (since 1958) and the proposed new force main is expected to have a comparable life-span. If sea levels do rise in the next 30 to 50 years, the City would take necessary steps to develop a new route for the force main. The Coastal Commission's concerns are addressed in the Tsunami Analysis in the EIR. As noted in the Draft EIR (see Section 5.6.4, page 5-77), the potential damage to the proposed force main cannot be disregarded and mitigation measure GEO-5 is recommended:

> "**GEO-5 Tsunami –**A tsunami could result in erosion of the surficial soils covering the proposed pipeline, primarily along the proposed Dockweiler Beach Alignment. Proper design and construction of the Project components, including erosion control measures or choosing an alternate alignment off of the beach, would reduce impacts from a tsunami to less than significant levels."

In addition, consideration of potential beach erosion contributes to the conclusion in the EIR that the Beach Alignment Alternative is not the environmentally superior alternative. In conclusion, the analysis provided in the EIR provides a detailed description of current conditions, and conditions during construction of the project and following project completion. No additional analysis or research is necessary regarding impacts from beach erosion in the project area.

Response to Comments CON-1: Construction – Parking

The EIR includes an analysis of construction-phase parking impacts for each alternative alignment. For example, on page 5-43 of the Draft EIR the analysis states that "During construction, two-way traffic could be maintained along Hurricane Street by displacing parking along Hurricane Street (approximately 17 spaces on the north side and 10 spaces on the south side) and northbound traffic would be detoured to Speedway Avenue where necessary. One-way traffic would be maintained along the west side of Pacific Avenue (southbound movement). Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue."

The identified impacts would be mitigated to less than significant levels by the measures identified in the Draft EIR (see page 5-52). The mitigation measures relating to the identified potential parking impacts include:

> **"TRA-1**: For each construction site, a construction traffic management plan shall be prepared and submitted to the City Department of Transportation for review and approval prior to the start of any construction work. This plan shall include such elements as the designation of haul routes for construction-related trucks, the location of access to the construction site, any driveway turning movement restrictions, temporary traffic control devices or flagmen, travel time restrictions for construction-related traffic to avoid peak travel periods on selected roadways, **and designated staging and parking areas for workers and equipment** (emphasis added). Where construction would occur within a public street ROW, including during the open-trench construction activities for all six combinations of Marina Del Rey and Playa Del Rey alignment alternatives and at the short cut-and-cover portion on both ends of the two full-length tunnel alternatives (Dockweiler Beach alignment and Dockweiler Beach to LAX Shaft alignment), the following mitigation measures would also apply:"

With the implementation of these mitigation measures, the parking-related impacts of the project's construction would be reduced to less than significant levels.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions, future conditions during construction of the project and following project completion. No additional analysis is necessary regarding construction-related parking impacts.

Response to Comment CON-2: Construction – Schedule

The construction schedule (again, as provided in the Draft EIR in Table 4.2-1) has been developed by the City's Department of Public Works and reflects the complexity of the project. The schedule is a realistic projection of the time to complete each phase of construction. Specifically, as noted in the Draft EIR (see page 4-6), "In an effort to provide accurate information regarding the length of time associated with these impacts, Table 4.2-1 outlines the estimated duration of time it would take to install the sewer for each of the proposed alignment alternatives.

As presented in the Draft EIR (page 7-4), the "VPP Dual Force Main Project would involve construction activities occurring simultaneously at a number of surface sites along the Project alignment. Construction of the VPP Dual Force Main Project may be occurring in the same general time and space as other projects in the area. In these instances, surface construction activities from both sets of projects could produce cumulative traffic effects which may be significant, depending upon a range of factors including the specific location involved and the precise nature of the conditions created by the dual construction activity (see Traffic-Related Project Construction Schedule in Table 4.2-1). Special coordination efforts may be necessary to reduce the combined effects to an acceptable level. Overall, significant cumulative impacts are not anticipated."

In conclusion, the analysis provided in the EIR provides a detailed description of construction schedules under for the proposed project and no additional analysis is necessary regarding construction schedules.

Response to Comment CON-3: Construction - Traffic

The information requested in this comment is provided in the Draft EIR. Regarding Pacific Avenue, the Draft EIR notes that "construction of the proposed (3,000-foot-long) Pacific Avenue alignment would involve both open-trench construction and tunnel-boring. As noted in the Draft EIR (see Section 5.4.3.3, page 5-43), the temporary localized impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity. The open-trench construction method would be performed to construct the Pacific Avenue alignment, including the intersection of Pacific Avenue and Via Marina. As further described in the EIR, during construction one-way traffic would be maintained along the west side of Pacific Avenue (southbound movement). Temporary closure of the northbound lane on Pacific Avenue would require northbound traffic to use Outrigger Street or another parallel east-west roadway to reach Speedway Avenue.

The City's Initial Study, provided as Appendix A to the Draft EIR, identified impacts related to street closure for construction of the new force main, regardless of alignment; such impacts include short-term rerouting of traffic around construction sites. Specifically, as noted in the Draft EIR (see Section 5.4.3.3, Project Impacts) "the construction-period impacts for each of the build alternatives are assessed in this section. This analysis includes general traffic impacts caused by construction traffic and reduction of roadway segment capacities, if any, and localized impacts related to access, pedestrian movement, bus routes and stops, and on- and off-street parking in the vicinity of each of the construction sites." The identification and analysis of impacts included evaluation of impacts related to alternative force main alignments and alternative construction methods.

The following summarizes the impact analysis provided in the Draft EIR for each alignment and for each construction method; see Section 5.4.3 for the full text of the impact analysis:

Marquesas Way/Via Marina Alternative Alignment: It was assumed that the entire Marquesas Way/Via Marina alignment would be performed simultaneously by two teams of construction workers (for trench and tunneling) as the worst-case scenario, resulting in peak trip generation estimates of 45 worker trips and no construction truck trips during the morning and afternoon peak hour. The projected incremental change in V/C ratio during construction of the Marquesas/Via Marina alignment for the nine analyzed intersections and 23 analyzed roadway segments are identified in Appendix E of the Draft EIR. Project trips generated by the construction of the entire Marquesas Way/Via Marina alignment in combination with either of the two Playa Del Rey alignments would not result in an adverse impact at any of the four study intersections north of the Marina Del Rey Channel in Marina Del Rey, but adverse impact could occur at Via Marina south of Tahiti Way (one of the 23 analyzed roadway segments) in Marina Del Rey with a southbound lane closure.

Pacific Avenue Alternative Alignment: Similar to the development of project trip generation estimates for the other two alternative Marina Del Rey alignments, the projected incremental change in V/C ratio during construction of the beach alignment for the nine analyzed intersections and the 23 analyzed roadway segments would not result in adverse construction-period impacts at any of the analyzed study intersections or roadway segments north of the Marina Del Rey Channel in Marina Del Rey.

Channel Segment: The Marina Del Rey and Ballona Creek channels would be crossed using the tunnel-boring method. For any combination of north and south alignments, the launching shaft would be on the southern shore of the channel, while the receiving shaft would be located on the northern shore. Depending on which combination of north and south alignments is selected, the channel crossing would be about 1,300-1,900 feet long. As the tunnel-boring would occur at the same time as the open-trench construction, a discussion of the project impacts for the channel segments is included in the discussion above and in the Draft EIR's discussion of the two project alignment alternatives in the Playa Del Rey segment.

Regarding the traffic impacts associated with the alternative construction methods, the analysis provided in the Draft EIR, beginning on page 5-49, addresses each alternative and concludes the following:

(1) Cut-and-Cover Construction – A discussion of the project impacts due to the cut-and-cover construction method is included in the Draft EIR for each of the three project alignment alternatives in the Marina Del Rey area and for each of the two Project alignment alternatives in the Playa Del Rey area. This method would be used in conjunction with the tunnel-boring method in several project alternatives and would result in greater circulation impacts than the large-diameter tunneling alternatives.

(2) Tunnel-boring – A discussion of the project impacts due to the tunnel-boring construction method is included in the EIR for each of the three project alignment alternatives in the Marina Del Rey area and for each of the two project alignment alternatives in the Playa Del Rey area. This method would be used in conjunction with the cut-and-cover method in several project alternatives and would result in greater circulation impacts than the large-diameter tunneling alternatives.

(3) Large-Diameter Tunneling – A discussion of the project impacts due to the use of large-diameter tunneling is included in the alternatives in the EIR for each of the four proposed larger tunnel alignment alternatives. These alternatives would result in fewer circulation impacts than those employing cut-and cover and tunnel-boring methods. Based on this analysis, the project alternatives are not expected to result in significant impacts to the transportation system upon completion of the proposed sewer facilities. The construction of the sewer facilities, however, could result in temporary adverse impacts on traffic and parking, the introduction of temporary bicycle, pedestrian, or vehicular safety hazards, and the temporary relocation of access points to public transit. During the various construction phases of each project alignment, travel by construction workers and truck hauling of supplies and disposal would generate trips on the regional and local transportation system surrounding each construction shaft site or zone. These trips would represent a temporary increase during defined phases of construction and, upon completion of construction, would cease. Adverse short-term impacts could result, but because they would be of limited duration, they are not considered to be significant. In addition, temporary lane closure due to open-trench construction activities for the six project combinations of Marina Del Rey and Playa Del Rey alignment alternatives and the short open-and-cut section for the Dockweiler Beach full-length tunnel alternative and the Dockweiler Beach-LAX Shaft full-length alternative would result in adverse impacts on up to four streets. Surface construction, however, would result in only temporary transportation disruption, which while adverse, would not be considered significant. Similarly, during the construction period at locations where construction activity would occur within public street Right of Way (ROW) or in areas accessible to the public (i.e., locations other than within the site of the VPP), increased safety risks to vehicles, bicyclists and pedestrians could result from open-trench construction activities within or adjacent to affected sites due to narrowed lanes, altered travel patterns, and temporarily obstructed sidewalks. Adverse short-term impacts could result, but because they would be of limited duration, they are not considered to be significant for any of the 10 project alignment alternatives. Finally, construction of 8 of the 10 proposed alignment alternatives involving the open-trench method and tunnel-boring method would result in temporary loss of parking spaces either at the public parking lot adjacent to the channel or at on-street locations. This would be considered adverse, but not significant because of the temporary nature of the impact.

As shown above, the EIR presents a detailed analysis of traffic impacts of the proposed project. For each of the impacts identified in the analysis, the mitigation measures

provided in Section 5.4.4 would reduce potential significant impacts to less than significant levels. Key mitigation measures to reduce impacts to less than significant levels are summarized as follows (the full text of the mitigation measures is provided in the Draft EIR, page 5-50):

TRA-1 For each construction site, a construction traffic management plan shall be prepared and submitted to the City Department of Transportation for review and approval prior to the start of any construction work. This plan shall include such elements as:

- the designation of haul routes for construction-related trucks;
- the location of access to the construction site;
- any driveway turning movement restrictions, temporary traffic control devices or flagmen;
- travel time restrictions for construction-related traffic to avoid peak travel periods on selected roadways; and
- designated staging and parking areas for workers and equipment.

Where construction would occur within a public street ROW, including during the open-trench construction activities for all six combinations of Marina Del Rey and Playa Del Rey alignment alternatives, and at the short cut-and-cover portion on both ends of the two full-length tunnel alternatives (Dockweiler Beach alignment and Dockweiler Beach to LAX Shaft alignment), the following mitigation measures would also apply:

TRA-2 A site-specific construction work site traffic control plan shall be prepared for each construction site and submitted to the LADOT for review and approval prior to the start of any construction work. This plan shall include such elements as:

- the location of any lane closures;
- restricted hours during which lane closures would not be allowed;
- local traffic detours;
- protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, temporary traffic signals, warning signs); and
- access to abutting properties, and provisions to maintain emergency access through construction work areas.

TRA-3 Fully utilize available street space to minimize lane reductions on affected streets, including elimination of on-street parking where necessary. Implement left-turn restrictions as appropriate on restriped street segments to facilitate the movement of through traffic. Eliminate travel lanes only when absolutely necessary.

TRA-4 Provide signage indicating alternative pedestrian and bicycle access routes where existing facilities would be affected.

TRA-5 Provide advance notice to any affected residents, businesses and property owners in the vicinity of each construction site, and, where existing property access will be reduced, identify alternative means of access.

TRA-6 Coordinate with emergency service providers, (police, fire, ambulance and paramedic services), to provide advance notice of any lane closures, construction hours and changes to local access, and to identify alternative routes where appropriate.

TRA-7 Coordinate with pubic transit providers to provide advance notice of any lane closures, construction hours and, where necessary, to identify sites for temporary bus stops within a reasonable walking distance of any displaced bus stops.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions and conditions during construction of the project and following project completion. No additional analysis is necessary regarding construction-related traffic impacts.

Response to Comment CON-4: Construction – Beach Access

The beach is a valuable asset in the Venice community. The EIR addresses the short-term impacts to beach access as well as impacts to views of the beach during project construction. The analysis and documentation in the Draft EIR (Section 5.11.3, page 5-132) notes that "although the proposed Project would not involve permanent adverse impacts to recreational facilities and public resources, site-specific adverse impacts may occur during the construction period. Beach access at Hurricane Street would be affected by the extraction shaft, and cut-and-cover-construction along Hurricane Street. This area is used for passive recreation and volleyball."

The EIR evaluates the short-term construction impacts and notes that "a public beach access path starts near the construction/laydown site and runs along the east side of Ballona Lagoon to the south. From the beginning of this path, the construction/laydown site would be within the foreground. The push site shaft would be in a vacant lot. The construction activities here would be in the foreground of residences along the northeast side of Via Dolce at its intersection with Marquesas Way."

Public access to the beach would be directed around any construction sit, and therefore beach access would not be interrupted, limited or made impossible during the construction phase of the project. No additional analysis or mitigation is necessary as the impact of construction on beach access would be less than significant.

Response to Comment CON-5: Construction – Timing

See response to Comment CON-2, Construction Schedule, regarding the schedule for the phases of project construction. The Draft EIR (Table 4.2-1) provides detailed information regarding the time of each phase and the relationship between the schedules

for each phase. No additional information is necessary to describe the planned schedule for the project. The schedule would be used by the Department of Public Works and the contractor(s) selected by the City to construct the new force main to monitor the progress of the project.

In conclusion, the analysis provided in the EIR provides a detailed description of the timing of phases of construction. No additional analysis is necessary regarding construction timing.

Response to Comment CON-6: Construction - Noise

The EIR provides a detailed analysis of the existing noise environment in the area of VPP and each of proposed alignments and construction methods being considered by the City for the new force main (Section 5-10 of the Draft EIR). A part of the analysis, the criteria to determine a construction-related noise impact is presented, noting the following:

- Depending upon the method of construction chosen, short-term increases in noise from construction would result from the operation of heavy equipment needed to construct the tunnels or cut, dig and re-fill the trenches and insert the pipeline for the Project. The City of Los Angeles regulates noise from construction, and the contractor would be required to adhere to these regulations.

- The City of Los Angeles Noise Ordinance (L.A.M.C. Section 112.03) regulates construction noise by referencing Section 41.40 of the Los Angeles Municipal Code. Section 41.40(a) prohibits use of any noise-producing device or powered equipment for construction or repair work on any building or structure between the hours of 9:00 p.m. and 7:00 a.m. on weekdays. Section 41.40(c) prohibits non-emergency grading or construction, other than by an individual homeowner on his/her own single-family residence, on or within 500 feet of residential land before 8:00 a.m. and after 6:00 p.m. on Saturdays and national holidays, and at any time on Sundays. These sections also prohibit operation, repair, or servicing of construction equipment and job-site delivering of construction materials during those hours.

- The County of Los Angeles addresses noise from construction activities in Section 12.08.440. The operation of any tools used for construction or related activities such that a noise disturbance is created at a residential or commercial land use is prohibited on weekdays between 7:00 p.m. and 7:00 a.m. or at any time on Sundays or holidays. The noise standards listed in Table 5.10-5 are applicable to construction activities conducted within the unincorporated County.

In addition to the analysis of construction-related noise impacts, the Draft EIR also identifies and evaluates impacts relating to operations and construction vibration; (Section 5.10.2, page 5-119). The City of Los Angeles does not have a quantified standard or threshold for vibration that is applicable to the construction or operations phase of this Project. The County of Los Angeles addresses vibration in Section 12.08.560 of the County Code. Any device is prohibited that creates vibration above the

threshold of perception at a distance of 150 feet from the source if the source is on a public space or public ROW. The threshold of perception is defined as 0.01 inch per second over the range of 1 to 100 Hertz.

To reduce construction-related noise impacts and post-construction noise impacts to less than significant levels, the EIR states that "potential construction noise mitigation measures may include limiting the hours of noisy construction activities to daytime hours near residences and other sensitive receptors. Other measures could include limiting the number of construction equipment operating at any one time." Following are the specific project-related construction noise mitigation measures (page 5-128 of the Draft EIR) that should be followed, to the extent feasible:

- **NOI-1** Trucks shall be limited to designated truck routes and shall avoid residential streets to the extent practicable.

- **NOI-2** Temporary soundwall barriers shall be erected for launch and receiving pits and large-diameter tunnel shaft work areas. Such soundwall barriers shall be of a sufficient height, length, and configuration so as to provide substantial noise reduction and effectively block the line-of-sight between nearby noise sensitive receivers and the work zone.

- **NOI-3** Electrically powered equipment shall be used instead of pneumatic, or internal combustion powered equipment where feasible.

- **NOI-4** Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practicable from noise-sensitive receptors.

- **NOI-5** Construction site and haul-road speed limits shall be established and enforced during the construction period.

- **NOI-6** The use of noise-producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only.

- **NOI-7** No project-related public address or music system shall be audible at any adjacent receptor.

- **NOI-8** The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the Bureau of Engineering shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

- **NOI-9** The contractor shall develop a project noise control plan, which shall have been approved by the owner or designated noise control professional and implemented prior to commencement of any construction activity.

Since no vibration impacts are predicted for operation of the pipeline, no mitigation measures are recommended or necessary for the operational phase of the project.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions, future conditions during construction of the project and following project completion. No additional analysis is necessary regarding construction-related noise impacts.

Response to Comment CON-7: Construction – Management

The City's future contractor for the construction of the proposed new force main would prepare a construction management program that would, among other requirements of the City, identify a project manager and support staff to direct all phases of construction. The City would approve the contractor's project management staff based on the construction manager's experience, qualifications and commitment to the assignment. The construction management program would also identify the communications between the City and the contractor during all phases of project construction to ensure that the City is kept informed of construction activities, any problems or delays encountered by the contractor, and adherence and compliance with the agreed-upon schedule for completion of the project. In effect, the construction management plan is an assurance to the City, its residents, and in particular to those who live and work in proximity to the project area that the project is proceeding as planned and that City-imposed mitigation measures are implemented at appropriate phases of construction.

Response to Comment CON-8: Construction – Vibration

As noted in more detail in response to comment NOI-1, the EIR includes an extensive analysis of potential vibration impacts due to project construction; see the noise and vibration analysis is provided in Section 5.10.3 beginning on page 5-119 of the Draft EIR. To address these impacts, several mitigation measures are recommended (see Draft EIR, page 5-128). With the implementation of these mitigation measures, noise and vibration impacts will be reduced to a less than significant level. No additional analysis or research is necessary to identify measures to reduce construction noise-related impacts to less than significant levels.

Response to Comment CON-9: Construction – Trench Covering

The description of trench covering for the various alignments under consideration is provided in the Draft EIR; for example, in page 5-43 it is noted that the Pacific Avenue alignment would involve both the open-trench construction and tunnel-boring. The EIR further notes that the "temporary localized impacts on the transportation system would occur due to the combined effects of additional construction traffic and closure of travel lanes on roadways, leading to reductions in roadway capacity." The analysis provided in the EIR notes that the "open-trench method would be performed to construct the Pacific Avenue alignment in Marina Del Rey, beginning at the VPP on Hurricane Street, proceeding west to Pacific Avenue, and turning south and proceeding along Pacific

Avenue and ending at the receiving shaft for the tunnel-boring construction at the southern end of Pacific Avenue on vacant land west of the Los Angeles County parking lot."

The potential construction-related impacts to local streets and circulation due to the cut-and-cover construction method can be reduced to less than significant levels by the implementation of mitigation measures identified in the EIR, including TRA-1, TRA-2 and TRA-3. The combined effects of these three mitigation measures would reduce potential significant impacts to a less than significant level by requiring that the City prepare for each construction site a construction traffic management plan, and that the plan be prepared and submitted to the City Department of Transportation for review and approval prior to the start of any construction work.

In conclusion, the EIR addresses the issue of construction impacts, including trench covering methods, providing an analysis and documentation of the impact and identified mitigation measures so that the potential impact is reduced to a less than significant level.

Response to Comment EIR-1: Recirculation of EIR

CEQA requires the recirculation of a EIR in cases in which the EIR needs to be revised extensively to address substantial new information that may require additional analysis, to provide additional analysis of issues not addressed in the EIR, when there are substantial changes in the project description, and when there have been errors in the noticing and distribution of the EIR for public review. None of these reasons for recirculation of the EIR are relevant to this EIR. As shown in the comments on the adequacy of the EIR and in these responses to comments, no additional analysis is required to respond to comments; these responses to comments on the EIR result in clarification of information already contained in the EIR and do not require any substantive change in the project description or the analysis of issues addressed in the EIR.

Response to Comment EIR-2: Extend Review Period of EIR

CEQA specifies a minimum review period of 30 days for a Draft EIR. For this project, and as permitted by CEQA, the City provided a longer review period of 45 days. In addition, the public review and the opportunity to provide comments to the City on the adequacy of the Draft EIR also included the public hearing on the Draft EIR, which was held on February 23, 2006. In essence, the public was provided ample opportunities to review and comment on the Draft EIR. In addition, and again consistent with CEQA, the City would hold public hearings on this Final EIR. This process provides additional time for public review and comments on the EIR, and proposed Responses to Comments well beyond the 45-day review period for the EIR.

Response to Comment EIR-3: Piecemeal CEQA Analysis

The EIR has been prepared consistent with the state's CEQA Guidelines that ensure that impact analysis in not piecemeal, but is comprehensive in both the description of the

proposed project and the analysis of impacts. Specifically, the City prepared an Initial Study to identify potential environmental impacts; this analysis provided the basis for the City to identify potentially significant impacts and also provided a basis for the Notice of Preparation (NOP) of the EIR. The Initial Study was also used by the City in the public scoping meetings for preparation of the EIR. Both the NOP and the public scoping meeting provided opportunities for public comment on the range of environmental issues to be analyzed in the EIR. The EIR provides analysis of all issues identified in the Initial Study as well issues identified by public agencies in response to the NOP and issues identified by the public at the public scoping meeting. For example, at the scoping meeting the public requested that the EIR address the issue of risk to pedestrians and bicyclists during the cut-and-cover phase of project construction. This issue is evaluated in the EIR. The impact analysis is not piecemeal nor is it selective. The project description provides a substantial description of the project's objectives, needs and purpose, an identification of alternatives to achieve the objectives and analysis of the alternatives, and all other requirements of CEQA. Based on the project description, no analysis has been deferred.

One commentor has suggested that the proposed project is part of a larger project, the continued development of 3-4 story residential development in Venice. This new development is consistent with the General Plan for the area. The General Plan has been subject to previous environmental review, prior to its adoption. The environmental effects of the 3-4 story residential development now occurring in the Venice area were analyzed the General Plan EIR. Thus, the Venice Force Main Project does not represent piecemeal CEQA analysis of the larger General Plan build-out.

Response to Comment EIR-4: Mitigation Measures

The state's CEQA Guidelines allow lead agencies to substitute mitigation measures during project's development. In brief, a lead agency, such as the City of Los Angeles, may substitute one mitigation measure for another if: (a) the new measure is equivalent or more effective; (b) the City considers the matter at a public hearings; and (c) the City adopts a written finding that the new measure is equivalent or more effective, and that the new mitigation measure would not cause a significant effect. At this time no substitution is proposed or is being considered. The mitigation measures provided in the EIR are the measures that the City proposes to implement to reduce project-related impacts to less than significant levels.

Response to Comment EMG-1: Emergency Access

At the public workshop conducted by the City during the scoping period for the EIR the issue of emergency access during construction was raised by several people. The EIR acknowledges that during construction roadways may be narrowed to accommodate construction equipment and that lanes may be closed on a temporary basis. To address this, the EIR includes a mitigation measure to ensure that emergency access is not interrupted during project construction; specifically, mitigation measure TRA-2 provides that:

> "A site-specific construction work site traffic control plan shall be prepared for each construction site and submitted to the LADOT for review and approval prior to the start of any construction work. This plan shall include such elements as the location of any lane closures, restricted hours during which lane closures would not be allowed, local traffic detours, protective devices and traffic controls (such as barricades, cones, flagmen, lights, warning beacons, temporary traffic signals, warning signs), access to abutting properties, and provisions to maintain emergency access through construction work areas."

With this measure, potential adverse impacts would be reduced to a less than significant level and no further analysis or mitigation is necessary. No additional analysis is necessary to describe the potential impacts of the project on emergency access.

Response to Comment FLD-1: Flooding

Flooding is a potential event throughout the City during major storms. Low-lying coastal areas and communities, such as Venice, are especially subject to flooding. The proposed project would not affect existing areas subject to flooding, nor increase the amount of water that would aggravate or increase flooding risks, frequency or areas subject to flooding by contributing to surface water sources. The project would not increase the impervious ground coverage in the area which could contribute to flooding. The existing force main and the proposed new force main are underground utilities and the proposed project would be protected from the effects of surface flooding. In extreme and unusual circumstances, the VPP may be shut-down in major flooding events. Therefore, the risks to the project from flooding, and the risks to the community of an increased flooding risk due to the project, would be less than significant.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions and conditions during construction of the project and following project completion. No additional analysis or research is necessary regarding flooding impacts in the project area.

Response to Comment GEO-1: Geology – Settling and Dewatering

Page 5-75 of the Draft EIR provide a description of the potential for settling/landslides in the area and potential effects on the proposed project. As noted in the Draft EIR the:

> "The potential for landslides induced by seismic shaking is not anticipated to pose a significant seismic hazard to the proposed Project. The proposed Project lies in a relatively flat-lying area where landslides would not be expected to occur. In addition, the Potential Liquefaction Hazard Zone map for the Venice quadrangle, referenced as Figure 5.6-4, indicates that the Project elements do not lie within areas designated as having the potential for earthquake-induced land sliding (CDMG, 1999). These are areas where previous occurrence of landslide movement, or local topographic, geologic, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement during a

seismic event. Landslides from other mechanisms are discussed further in this section."

To reduce the risk of landslides related to the project; the following mitigation measures have been identified in the Draft EIR (page 5-76) with emphasis added to note the specific relationship to landslides and settling:

> **"GEO-2 Liquefaction and Differential Seismic Settlement –** Mitigation measures with respect to liquefaction and **differential seismic settlement hazards** are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on these potential hazards will be performed as part of the design studies. Design and construction of the proposed Project will include mitigation measures, such as flexible connections that can accommodate **differential settlement**, compaction grouting to densify the soils, or structural anchors to secure the pipeline. The mitigation measures will reduce impacts from liquefaction and **differential seismic settlement** to less than significant."

Regarding dewatering, the Draft EIR's analysis (see pages 5-74 and 5-75) notes that:

> **"…** dewatering of the excavations made during construction of the proposed Project could result in potentially damaging subsidence adjacent to the construction area. The Project area is in proximity of the Playa Del Rey oil field, which is used by the Southern California Gas Company as a natural gas storage facility. Although a detailed study has not been performed for this report, it is anticipated that the continued operations at the natural gas storage facility would not result in measurable subsidence in the Project area, barring such extraction in the future. Because of the potential for subsidence to occur as a result of construction dewatering, subsidence is considered a potential geologic hazard to the proposed Project."

The mitigation measure relating specifically to subsidence and dewatering-related impacts is as follows:

> **"GEO-3 Subsidence –** Mitigation measures with respect to subsidence as a result of construction dewatering are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on this potential hazard will be performed as part of the design studies. Design and construction of the proposed Project will include mitigation measures, such as a watertight excavation support system to minimize groundwater pumping or constructing the pipeline in a "wet" excavation. The mitigation measures will reduce impacts from subsidence to less than significant."

In conclusion, the EIR addresses the issues of settling and landslides, providing documentation and analysis of the potential risk, and identifying mitigation measures so that the potential impact is reduced to a less than significant level.

Response to Comment GEO-2: Geology - Liquefaction

The identification of liquefaction as a project-related risk was identified by the City in the proposed project's Initial Study. The City's Venice Community Plan identified liquefaction as a risk to persons and property, including the proposed project and similar utilities, The EIR provides and extensive discussion of liquefaction potential in the Venice community and the potential effect of liquefaction on the proposed project.

The description of the liquefaction risk in the Draft EIR (page 5-74) provides a clear analysis for the public and decision-makers of the potential risk. As noted in the Draft EIR:

> "Liquefaction is defined as significant and relatively sudden reduction in stiffness and shear strength of saturated sandy soils caused by a seismically induced increase in pore water pressures. Recent geotechnical studies performed for the proposed project encountered saturated sandy soils at relatively shallow depths along most of the Pacific Avenue alignment (URS, 2000a; 2000b). Standard Penetration Test (SPT) blow counts indicate the consistency of some of these sandy soils is relatively loose and therefore prone to liquefaction.
>
> "The California Geological Survey has identified the project area as being in a potential liquefaction hazard zone (CDMG, 1999). Because of the combination of sands and shallow groundwater in the project area, liquefaction is considered a significant potential seismic hazard along all of the alternative alignments for the Project."

In addition, the EIR (page 5-74) notes that:

> "The potential for landslides induced by seismic shaking is not anticipated to pose a significant seismic hazard to the proposed Project. The proposed Project lies in a relatively flat-lying area where landslides would not be expected to occur. In addition, the Potential Liquefaction Hazard Zone map for the Venice quadrangle, referenced as Figure 5.6-4, indicates that the Project elements do not lie within areas designated as having the potential for earthquake-induced land sliding (CDMG, 1999). These are areas where previous occurrence of landslide movement, or local topographic, geologic, geotechnical and subsurface water conditions indicate a potential for permanent ground displacement during a seismic event."

The Draft EIR (page 5-76) identifies two mitigation measures that address the potential significant impact of liquefaction on the proposed project:

> **"GEO-2 Liquefaction and Differential Seismic Settlement –**Mitigation measures with respect to liquefaction and differential seismic settlement hazards are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on these potential hazards would be performed as part of the design studies. Design and construction of the proposed

> Project would include mitigation measures, such as flexible connections that can accommodate differential settlement, compaction grouting to densify the soils, or structural anchors to secure the pipeline. The mitigation measures would reduce impacts from liquefaction and differential seismic settlement to less than significant.
>
> **"GEO-3 Subsidence –**Mitigation measures with respect to subsidence as a result of construction dewatering are considered necessary for the proposed Project. Site-specific geotechnical and geological investigations that focus on this potential hazard will be performed as part of the design studies. Design and construction of the proposed Project will include mitigation measures, such as a watertight excavation support system to minimize groundwater pumping or constructing the pipeline in a "wet" excavation. The mitigation measures will reduce impacts from subsidence to less than significant."

With the implementation of proper engineering practices and mitigation measures prior to and during construction, no unavoidable or adverse impacts on the geologic footprint of this area from the project are expected. In addition, cumulative impacts on the geologic footprint of this area are not expected from the project with the implementation of proper engineering practices and mitigation measure prior to and during construction. No additional analysis is necessary to address the potential impact, nor are additional mitigation measures necessary to reduce the potential liquefaction impacts to less than significant levels.

In conclusion, the analysis provided in the EIR provides a detailed description of current conditions and conditions during construction and following project completion. No additional analysis or research is necessary regarding liquefaction, seismic settlement and subsidence impacts in the project area.

Response to Comment GEO-3: Geology - Seismic

As with the analysis provided in the EIR of liquefaction risk (see previous response to Comment GEO-2), the EIR provides extensive analysis and documentation of seismic risks to the project and the surrounding area. The EIR documents that the potential seismic risks are potentially significant and require mitigation measures. The following measure is proposed to mitigate potentially significant geologic hazards to less than significant levels for the project components. No unavoidable adverse impacts that cannot be mitigated have been identified for any of the project components. The mitigation measure is more accurately described as a project design feature and is presented in the Draft EIR (page 5-75), and are repeated again below for clarity:

> **"GEO-1 Earthquake Ground Shaking –**The proposed Project and associated facilities will likely be subjected to moderate or strong earthquake motions in their lifetime. The components of the proposed project will be designed and constructed to the seismic design requirements for ground shaking specified in the UBC for Seismic Zone 4 at a minimum. Proper design and construction of the

Project components will reduce impacts from ground shaking to less than significant."

Response to Comment GRWTH-1: Growth-inducing Impacts

As required by CEQA, the EIR provides an analysis of the potential for the project to induce growth in the area. In simple terms, a project would induce growth if an obstacle or barrier to future growth is removed. That is not the case with the proposed new force main from the VPP. As noted in the Draft EIR discussion of growth-inducing impacts (Section, 7.1 Growth-Inducing Impacts), Section 15126.2(d) of the CEQA Guidelines requires a discussion of the growth-inducing impacts of the proposed project. Growth-inducing impacts are secondary, or indirect, impacts that could occur as a result of the project that are manifested as changes in land use patterns, population density and growth rates, as well as related effects on traffic, public services, air, water, biological and other environmental resources. Over the past several decades, the Bureau of Engineering has designed and constructed numerous wastewater conveyance system projects. The issue of potential growth inducement resulting from an increase in sewer conveyance capacity has been raised in the past by various individuals and organizations. The primary issue is whether the provision of sewer capacity induces growth, which would otherwise not occur.

The proposed project would not change permitted land use in the community and surrounding areas; the project is the construction of new force main from the VPP to the Hyperion Treatment Plant. The size of the proposed force main is based on the existing and projected flow of sewage from the VPP and is not based on achieving an increase in capacity to address future growth that is not consistent with the City of Los Angeles' land use plans for the area. The development of land in the City is governed by the land use and zoning designations of particular parcels. Unless conditional use permits, density transfers or variances are obtained from the Planning Department, development must conform to the type and density designated for that parcel. Zoning reflects the land use policies contained in the General Plan. Again, no change in the permitted land uses, or density of development, is part of the proposed project.

As noted in the Draft EIR (see Section 7.1, page 7-1), the decision of a land owner to develop a single parcel or numerous parcels of land may be based on personal or economic reasons. Whether personal, economic or both, the availability of wastewater conveyance capacity is not likely to be a consideration in the decision to develop. Once the decision to develop a parcel has been made, permission to connect to the wastewater collection system must be obtained as part of the building permit process. A sewer connection permit can only be obtained if adequate capacity to serve the proposed development is available. Sewer connection and other building permit fees are charged in proportion to the density of development proposed. The high sewer connection fees and other building permit fees associated with the most intensive levels of development increase the costs of developing land in the City and can be considered economic disincentives to development. In a mature, urbanized area such as Los Angeles which is

adequately served by sewage treatment facilities, the provision of wastewater conveyance capacity would not induce land development that would not otherwise occur.

Wastewater conveyance capacity is required to accommodate the increases in wastewater flows associated with the population increases. The provision of wastewater conveyance capacity would neither induce natural population growth nor in-migration. The Southern California Association of Governments (SCAG), the regional planning agency, has established the policy that conveyance systems, including interceptors, are not subject to its air quality conformity procedures, because of the absence of their effects on population growth.

SCAG, which includes the City of Los Angeles among its member jurisdictions, has prepared the Regional Comprehensive Plan and Guide and the Growth Management Plan. These plans address regional growth and related issues. In addition, the City of Los Angeles' General Plan governs land use development within its jurisdiction.

The Los Angeles City Planning Department revised the General Plan and the new plan, termed the "General Plan Framework," is intended to balance land use development, transportation, projected future population and projected future employment within the City of Los Angeles. Wastewater conveyance capacity is an infrastructure component of the urban environment that is necessary to safely accommodate the needs of existing and future populations.

In conclusion, the analysis provided in the EIR provides a detailed description of current water quality conditions, future conditions during construction of the project and following project completion and no additional analysis is necessary regarding construction-related wastewater related growth inducing impacts.

Response to Comment GRWTH-2: Hyperion Plant

The commentor asks if the Hyperion Plant can handle the increased flows of the sewer line in the context of the large expansive housing projects that the City continues to approve. As noted in response to comment GRWTH-1, above, and in the EIR the provision of wastewater conveyance capacity, in and of itself, would not induce population growth or land use development. Rather, wastewater conveyance capacity would allow population growth to occur consistent with the City's adopted General Plan Framework while minimizing sewage spills and the associated environmental and health and safety problems. Future land uses would be at densities consistent with the Framework and generally not occur in densities higher than those allowed by the City's land use planning process. Any development projects beyond the scope of the City's General Plan would undergo subsequent environmental analysis (including analysis of impacts to the wastewater system) and would have to be approved by the City Council. In wastewater planning, the sizing of collection and treatment facilities, as well as the system's overall configuration, is dependent on the future system-wide flow and the distribution of that flow within the system. The VPP Dual Force Main Project would not induce growth in population or changes in land use which would not otherwise occur. No

significant growth-inducing impacts are, therefore, associated with the project and no additional research or analysis is necessary to address this issue.

Response to Comment NOI-1: Noise – Noise Curtain Mitigation Measures

The Draft EIR analyzes the noise and vibration impacts that would result from project construction (see Section 5.10.3 beginning on page 5-119). The construction phase would produce significant noise impacts on sensitive receptors in the vicinity of construction. To address these impacts, several mitigation measures are recommended (see Draft EIR, page 5-128). With the implementation of these mitigation measures, noise and vibration impacts would be reduced to a less than significant level. Other mitigation measures, such as the noise curtain recommended in this comment, are not necessary to mitigate impacts that would otherwise be mitigated by less costly and even more effective measures. Therefore, no additional research or analysis is necessary to identify measures to reduce construction noise-related impacts to less than significant levels.

Response to Comment NOI-2: Noise – Pacific Avenue Noise Mitigation Measures

Potential project-related noise impacts are analyzed in detail in the EIR. The Draft EIR (page 5-118) notes that existing City noise requirements and standards would be met during the project's construction.

> "If any Project alignment alternative exceeded the relevant noise criteria for impact, then noise abatement actions would be considered. Noise from any Project alignment alternative, that is predicted to exceed the criteria for impact under CEQA, would result in a significant adverse effect. In such a case, feasible/effective noise mitigation measures would need to be considered. If feasible/effective mitigation actions were not available, then unavoidable adverse impacts would occur if the particular alternative were to be selected."

To ensure that the City's noise standards are met during project construction, mitigation measures are provided in the EIR that are applicable to all project alternatives, including both alternative alignments and alternative construction methods. The Pacific Avenue alignment alternative, if selected by the City, would be subject to noise mitigation measures NOI-1 to NOI-9. These measures would reduce potential significant impacts to less than significant levels. No additional analysis is necessary to identify, analyze and mitigate noise impacts from the proposed project.

Response to Comment OS-1: Open Space – Mitigation

Section 5.9.1 of the Draft EIR describes existing land uses in the project area, clearly describing the open space resources present (such as the beach, the lagoon, and other water ways). Specifically, the Draft EIR notes that: "Existing land uses within the Venice area, extending north from Via Marina Way on the south, consist of six major land-use designations: single- and multi-family residential, commercial, industrial, open space, and public utilities. The proposed alignments north of the Marina Del Rey Channel

and on the southeast side of the Ballona Lagoon are in areas zoned single and multi-family residential. Areas to the west are zoned open space along the Ballona Lagoon and low to medium residential. The area surrounding the VPP is primarily zoned multi-family residential to the north, and open space on the south along the Ballona Lagoon. Along the alternative alignments south of the channel, and under consideration by the City, the zoning is also primarily residential and light commercial."

The analysis presented in Section 5.9.3 notes that "Because this is a municipal project providing improvements to public facilities through the City of Los Angeles Department of Public Works, this Project would adhere to all local and regional regulatory requirements necessary for the construction of the sewer." The impact analysis further notes that the "Project is not a land use, nor does it require a change/variance in land use; therefore, there are no impacts to land uses within the Project areas." The analysis concludes that the "Project could impose temporary construction impacts in the Coastal Transportation Corridor Specific Plan area due to construction-related transport to and from construction areas north of the Marina Del Rey/Ballona Lagoon channels."

In conclusion, there would be no loss of open space during project construction and no mitigation measures are, therefore, proposed or required.

Response to Comment PRMT-1: Permitting

Section 1.6 of the Draft EIR provides an extensive list of permits for the proposed project in Table 1.6-1. The list of permits includes permits that are necessary for all alignments and construction alternatives evaluated in the EIR, including permits necessary for the Pacific Avenue alignment.

Response to Comment PROJ-1: Project Related – Project Life

The existing force main is nearly 50 years old. One objective of the proposed project is to supplement that existing force main with a new line that has more carrying capacity but which would also be more reliable in handling maximum flows without leaking or breaking which would result in significant contamination of the area's groundwater and surface water resources. The Department of Public Works anticipates the new force main would have a life-span greater than 50 years. Following development of the new force main the Department would be able to inspect the existing line to determine what repairs can be made to extend its life further. With the proposed project, adequate carrying capacity would be provided for more than 50 years. There is little likelihood that additional construction to the force mains would be necessary for at least 50 years. Therefore, the impacts identified and analyzed in the EIR are the only impacts that can be reasonably foreseen at this time.

Response to Comment PROJ-2: Project Related – Capacity of Force Main

The EIR provides detailed information regarding the capacity of the existing force main, the capacity of the proposed new force main and the reasons why the City has proposed

the use of a tandem system of forces mains from the Venice Pumping Plan. As noted on page 2-1 and page 2-5 of the Draft EIR:

> "The VPP is the largest pumping plant in the City of Los Angeles. It collects sewage from the coastal areas of the City through an existing 48-inch pipeline and transports it to the Hyperion Treatment Plant in Playa Del Rey (see Figure 2.2-1). Over the years, the existing pipeline that conveys sewage to the treatment plant has gradually approached maximum capacity placing substantial strain on the system forcing the water level in the wet-well of the VPP basement to rise.
>
> "The City of Los Angeles first identified the need for additional sewer capacity during the heavy storms of 1995 when sewage and infiltrated storm water in the sewage system exceeded the capacity of the existing 48-inch line, creating a potentially serious human and environmental health risk. Although the pumping plant had all five pumps running during peak rainfall, the existing downstream sewer force main that runs along the beach could only handle approximately 60 percent of the flows that would otherwise run through the pumps - serving as a bottleneck in the system. The amount of sewage and infiltrated storm water in the sewage system exceeded its capacity, forcing the water level in the wet-well of the VPP to rise. In an effort to prevent potential sewage spillage as a result of an overload situation, the City proposes to install an additional 54-inch pipeline to convey the flows."

Based on these events that clearly indicate the need for the City to address the capacity of the existing force main, the City proposes the Venice Force Main project. As further noted on page 2-5 of the Draft EIR:

> "In addition to the need to provide pipeline capacity to manage peak flows, the new 54-inch force main would be used in tandem with the existing force main; together, the two force mains would provide the necessary capacity to meet current and future peak wet weather flow demands. The project's intent is to construct a second force main to be used in tandem with the existing force main for the purpose of fulfilling two objectives: expand the capacity of the Coastal Interceptor Sewer's force main segment from the VPP to a connection in Playa Del Rey in the vicinity of Waterview Street, such that all projected wet weather flows can be safely conveyed without future threats of spilling onto city streets and adjacent surface waters; and to provide force main redundancy to allow for maintenance and rehabilitation of the existing force main and future reciprocal cleaning of each force main during dry weather periods."

In addition, a critical consideration by the Department of Public Works is the recognition that "the existing 48-inch pipeline was built in 1958 and has been in continuous operation since then. The installation of the proposed 54-inch force main would provide bypassing capability allowing repair and maintenance of the existing pipeline, which is currently not possible" (page 2.5 of the Draft EIR).

In conclusion, the information provided in the EIR clearly describes the reasons why the City is proposing to increase the capacity of force mains from the VPP. No additional analysis is necessary to describe the purpose of the project, its benefits and its characteristics.

Response to Comment PROJ-3: Project Related: Sewage Spill Plans

The proposed project seeks to reduce the existing risk of sewage spills (discharge) that may result from the existing force main. First, as noted in the Draft EIR (see Section 7.1, page 7-3) "it is technically infeasible that completion of the proposed Project, within any of the proposed three alternative locations, would cause any unwarranted discharge that would affect the current surface water quality condition. Unless there is a catastrophic event (e.g., high magnitude earthquake) the proposed Project is designed to provide additional mitigation of possible sewage spills from the existing pumping station/sewer main system. Additional wastewater conveyance capacity would allow population growth to occur within the General Plan Framework while minimizing sewage spills and the associated environmental, health and safety problems.

Second, the Department of Public Works requires that all construction projects include requirements that the contractor meet all applicable, local, state and federal requirements to reduce the risk of spills and/or discharge during project construction. This is a contract provision that is supervised by the City on all construction contractors. No additional information or analysis is necessary to illustrate or demonstrate how the City would impose conditions to ensure that sewage spills and/or discharge related impacts would not occur during project construction.

Response to Comment PROJ-4: Project Related: Sewer Capacity

See previous responses to comments PROJ-2 regarding the need to ensure adequate capacity of the force mains from the VPP. In addition, the project is limited to construction and operation of an additional force main from the VPP. The project does not provide for additional sewer capacity in the project area nor is the project proposing increasing the capacity of the City's wastewater treatment system, specifically the Hyperion Treatment Plant.

Response to Comment PROJ-5: Project Related – Project Updates

The comments relate to the public's interest in being kept informed of the status of the project's planning, design and construction. Although not a CEQA-related requirement nor necessary to reduce or otherwise mitigate environmental impacts, the City would make available to the public brief summaries of project status and periodic mitigating monitoring reports completed by City staff that would indicate status of the project's progress, the status of the mitigation measures as they are implemented, and the remaining work to be completed by the City and/or its construction contractor.

Response to Comment PROJ-6: Project Related – Safety Concerns

The EIR addresses a wide variety of issues identified through the City's preparation of the Initial Study (provided in full in Appendix A to the Draft EIR) and issues raised by the public at the scoping sessions/workshops prior to the preparation of the EIR. There are a variety of safety concerns; for example, in a broad sense, the protection of the area's biological communities and habitat is a safety concern. Specific mitigation measures have been identified to reduce those impacts to less than significant levels. Further safety concerns relate to seismic risks and these too have been analyzed in the EIR and mitigation measures have been identified to reduce or mitigate these impacts to less than significant levels. The EIR also describes construction activities, such as exposed trenches and the presence of construction equipment in the project area. Again, mitigation measures have been identified to reduce safety-related issues to less than significant levels. As a result, the issue of public safety has been addressed among the full spectrum of environmental issues and mitigation measures have been identified to reduce safety-related risks to less than significant levels. No additional research or analysis is necessary to address this issue.

Response to Comment PROJ-7: Project Related – Project/Alternatives Cost Information

The purpose of an environmental impact report is to identify and evaluate the environmental effects of the propose project, to identify means to mitigate those impacts, to address alternatives which would meet most of the project objectives and would reduce environmental effects, and above all else, to provide the public and decision-makers with information about the project and project impacts. An environmental impact report is not a cost-benefit study, nor is it intended to provide a detailed cost analysis of the project and project alternatives. Specifically, the effects analyzed under CEQA must be related to a physical change in the environment. Economic and social effects, including costs associated with the proposed project and its alternatives, are not considered environmental effects under CEQA (CEQA Guidelines Section 15064, 15131, et al.). These effects need to be considered in EIRs only if they would lead to an environmental effect. The order of magnitude cost estimates provided in the EIR are intended to give the public and decision-makers information on the comparative feasibility of the alternatives. The EIR, therefore, does not provide information beyond that required by CEQA and no additional information is provided in the Final EIR.

Response to Comment PROJ-8: County Facilities

The proposed project would not require modification to County facilities or operations in the area, such as the in the unincorporated Marina Del Rey area. The County would be informed as the project construction progresses and would be notified of any change that could affect County facilities. Permits to construct and operate the new force main are included in the EIR and, as required for the permits, the County would be notified.

Response to Comment TAX-1: Property Tax Relief

The costs to plan, design, engineer and construct the proposed new force main would be born entirely by the City of Los Angeles' Department of Public Works. It has long been

the policy of the City not to provide tax relief to businesses, neighbors, residents and property owners in proximity to a public works projects in the form of property tax relief or other monetary compensation for environmental effects of City projects. Rather, as identified in the EIR, it is the City's responsibility to pay for the implementation of the mitigation measures to reduce adverse impacts to less than significant levels where feasible. The implementation of the mitigation measures would reduce impacts to acceptable levels. As a result, there would be no impacts anticipated from the proposed project that would create financial hardship on the area's businesses, residents and property owners and no property tax relieve is proposed.

Response to Comment TRA-1: Traffic

The comments raise questions regarding the breadth of the traffic impact analysis provided in the EIR and if the analysis accounts for the specific characteristics of the local street system. As described in the Draft EIR (see Circulation, Traffic and Transportation, Section 5.4.1, Environmental Setting), the analysis is based on the existing street network in the area, the current traffic conditions (volume and capacity), and proposed improvements to the street system. The issues raised in this comment are addressed in this section of the EIR. Based on the existing street network, the impacts of the proposed project — particularly the short-term construction impacts of the alternative non-beach alignments — are addressed in detail, including description of potential street and/or lane closures during construction on vehicles, bicyclists and pedestrians. The potentially significant short-term construction-related traffic impacts can be reduced to a less than significant level by the circulation and traffic mitigation measures in the Draft EIR (see Section 5.4.4, beginning on page 5-50). In conclusion, the concerns raised in the comments are consistent with the impacts identified and analyzed in the EIR and these impacts can be mitigated to less than significant levels.

Response to Comment WQ-1: Water Quality

One of the objectives of the proposed project is to reduce the potential contamination of the local surface and subsurface water resources that may occur from sewage spills, leaks and, in an extreme case, a break in the existing main leading from the VPP to the Hyperion Treatment Plant. The existing main from the VPP is old and may collapse or rupture creating substantial contamination of the local ground and/or surface water.

As noted in the EIR, all proposed alternatives would cause similar construction and operations impact to the project boundary and adjacent area. The completed project would be in compliance with the NPDES Municipal Separate Storm Sewer System (MS4) Permit and meet the necessary sanitary sewer service standards. Without the installment of the new sanitary sewer main, the current sanitary system would continue to deteriorate and run a high risk of overflowing the system, causing a potential break in the system, and causing a potential health risk to the local waterways. From a hydrology and water quality perspective, all alternatives cause a similar temporary disturbance to the current site conditions. All three proposed alignments cross under the Marina Del Rey Channel and Ballona Creek via tunneling, and the Marquesas Way alignment crosses

under the Grand Canal via tunneling. Tunneling would occur below the bottom of these waterways, and have no effect on the waterways.

The following mitigation measure to the project contained in the EIR would minimize the proposed Project's impacts on water quality and hydrologic conditions.

- **H/WQ-1** Appropriate Best Management Practices (BMP) measures (sandbags, plastic lining covering storm water inlets, temporary detentions basins, etc.) would be implemented during the construction period to retain excavated soil material on site and minimize the potential risk of contaminated soil being removed off site. Also, monitoring activities would be conducted during the installation of the BMP measures and throughout the construction period.

Provided that all federal, state, and local regulations pertaining to project activities are followed accordingly and storm water prevention plans are implemented and monitored, then the potential for significant or long-term adverse impacts would be avoidable.
In conclusion, the analysis provided in the EIR provides a detailed description of current water quality conditions, future conditions during construction of the project and following project completion. No additional analysis is necessary regarding construction-related water quality issues or impacts. Moreover, as noted in the EIR, the project area is not within a sensitive environmental setting. Change to the existing site conditions would be temporary and the site would be restored back to a similar pre-construction condition. Pre- and post-construction hydrologic conditions would be similar and any change in condition would be minimal. All proposed alternatives have similar construction applications and procedures. Therefore, there are no foreseen hydrologic or water quality cumulative or secondary impacts.

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12.0 CLARIFICATIONS AND REVISIONS

This section of the Final EIR is intended to clarify certain elements of the Draft EIR and to identify revisions made after circulation of the draft.

12.1 CLARIFICATIONS

The Environmental Impacts Summary Table presented in the Executive Summary (Table 3.3-1) is intended to provide a simpler and clearer summary than provided in the Impact Analysis Table published in the Draft EIR (Table 6.3-1).

12.2 REVISIONS

During internal review, we discovered that some pages were omitted from Appendix A (Notice of Preparation), C (Air Quality Analysis) and D (Biological Resources), which were published in Appendices Volume I. Therefore, Appendices Volume I has been corrected and reissued with a cover date of December 2007. This correction does not introduce new information, since the information in the appendices was presented in the Draft EIR volume itself. In fact, we received no comments from reviewers expressing concern about the missing pages.

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