DRAFT

Initial Study and Mitigated Negative Declaration

MISSION HOSPITAL PIPELINE IMPROVEMENT PROJECT

Laguna Beach, California

Lead Agency:

SOUTH COAST WATER DISTRICT
Partnering With The Community

South Coast Water District
31592 West Street
Laguna Beach, California 92651

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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San Diego, CA 92108

September 2022

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DRAFT MITIGATED NEGATIVE DECLARATION

Lead Agency:	South Coast Water District (SCWD or District)
Project Proponent:	South Coast Water District
Project Location:	The Project Area is located in Orange County in the City of Laguna Beach, south of 3rd Avenue, north of 8th Avenue, and east of the existing Mission Hospital (Figure 1). The pipeline alignment is generally from the intersection of 3rd Avenue and Mar Vista Avenue, south along Mar Vista Avenue to Sunset Avenue, and along Sunset Avenue to just north of the intersection of Sunset Avenue and 8th Avenue. A potential equipment and materials staging area is included in this analysis to provide the contractor with a potential staging area within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue and a short segment of the pipeline traverses down a steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of the Mission Hospital (Figure 2).

Project Description:

The South Coast Water District, per it's 2017 Master Plan, proposes pipeline improvements for approximately 2,000 linear feet of 6-inch and 8-inch water main near the Mission Hospital that is unable to provide the required 4,000 gallons per minute (gpm) of fire flow at a 20 pressure-per-square-inch (psi) residual pressure. The Project involves replacing 1,350 linear feet of 8-inch asbestos cement pipe (ACP) water main with 12-inch polyvinyl chloride (PVC) pipe, replacing 160 linear feet of 6-inch ACP water main with 12-inch PVC pipe, installing valves and valve clusters as required, and reconnecting service connections and fire hydrants as required. The pipeline alignment runs south along Mar Vista Avenue from 3rd Avenue to Sunset Avenue, south along Sunset Avenue to 8th Avenue, and also down a hill from Sunset Avenue to Mission Hospital.

This Project is a part of the SCWD's modified Capital Improvement Plan (CIP) to replace aging infrastructure and meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply within the District's 490 pressure zone located to the east of Pacific Coast Highway in the northern part of the District.

Project construction would consist of excavation, backfill, pipeline installation, and repaving. The pipelines along Mar Vista Avenue and Sunset Avenue would be installed a minimum of 40-inches below ground level and the pipeline that runs from Sunset Avenue to 5th Avenue would be installed

at 24-inches below ground level. Streets affected by construction would be repaired and repaved. Please see Figure 3 for a site plan of the proposed pipeline improvements.

Public Review Period: September 12, 2022 – October 11, 2022

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Biological Resources

BIO-1: **Preconstruction Nesting Bird Survey:** If construction or other Project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a preconstruction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests will not be disturbed or destroyed on the Project site, or adjacent sites. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project site and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-2: **Biological Monitoring:** A qualified biologist shall be present to monitor all ground-disturbing and vegetation-clearing activities (including but not limited to trimming, mowing, grubbing) conducted for the Project. During each monitoring day, the biological monitor shall perform clearance survey "sweeps" at the start of each workday that vegetation clearing takes place to avoid impacts to Environmentally Sensitive Areas and minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring shall take place until the Project site has been completely cleared of any vegetation. The biological monitor will have the authority (and appropriate handling permits if required) to temporarily halt activities to move wildlife out of harm's way by means of hazing or short-distance capture and release. If an active nest is identified, then the biological monitor shall establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist.

BIO-3: **Worker Education and Environmentally Sensitive Areas:** Limits of Environmentally Sensitive Areas will be established around special-status natural resources (i.e., CSS) that are to remain intact immediately prior to and/or in coordination with the staking of grading limits. The contractor shall install Environmentally Sensitive Area (silt) fencing around Environmentally Sensitive Areas and/or along Environmentally Sensitive Area interface with grading limits under the guidance of a biological monitor to minimize impacts to sensitive

natural resources including special-status plant species and native plant communities outside and immediately adjacent to the grading limits. Construction activities and personnel will be restricted within Environmentally Sensitive Areas and a biological monitor will be present during Environmentally Sensitive Area fence installation and removal. A qualified biologist will conduct Worker Environmental Awareness Training to all construction personnel prior to initial clearing and ground-disturbing activities and as necessary throughout construction. A sign-in sheet signed and dated by each trainee and acknowledging they have been made aware of environmental laws, regulations, non-compliance penalties, and Project specific mitigation measures will be maintained by the Project Biologist.

Cultural Resources

CUL-1: If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgement. The following notifications shall apply, depending on the nature of the find:

1. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

2. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead federal agency, the lead CEQA agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

3. If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Orange County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will

designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Geology and Soils

GEO-1: Monitoring for paleontological resources should be done in sediments mapped as older alluvium (Qoa) and a Paleontological Resource Impact Management Plan shall be designed by a qualified paleontologist as defined by the criteria of the guidelines of the Society of Vertebrate Paleontology (2010). This plan shall adhere to the guidelines of the Society of Vertebrate Paleontology and shall include sampling of sediments to test for microvertebrate fossils. If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the District and the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

Hazards and Hazardous Materials

HAZ-1: Prior to construction, the South Coast Water District (or its contractor) shall prepare a Traffic Control Plan to ensure proper access to residences and businesses in the area by emergency vehicles during construction, to maintain traffic flow, and to maintain access to evacuation routes. The Traffic Control Plan shall be approved by the City of Laguna Beach prior to any lane closures.

Noise

NOI-1: Installation of the proposed water main shall be implemented without the use of vibratory rollers within 25 feet of any structure. Rollers that operate with no vibration are permitted.

Tribal Cultural Resources

TCR-1: **Tribal Monitoring:** One tribal monitor shall be retained to monitor all vegetation clearing and removal, and all initial surface trenching of the Project Area, down to twelve (12) feet below the surface. Tribal monitoring is not required below twelve (12) feet or during above-surface construction activities. The retained native monitor shall be a representative of the Juaneño Band of Mission Indians, Acjcahemen Nation-Belardes.

The tribal monitor shall have the authority to temporarily pause ground disturbance within 50 feet of the discovery for a duration long enough to examine potential TCRs that may become unearthed during the activity. If no TCRs are identified, then construction activities shall proceed and no agency notifications are required. In the event that a TCR is identified, the monitor shall flag off the discovery location and notify the Engineering Manager of South Coast Water District immediately to consult on appropriate and respectful treatment. The South Coast Water District shall also serve to mediate any conflicts between the tribe and project contractor during work stoppages.

Upon conclusion of the monitoring, the monitor shall submit a letter report to the South Coast Water District Engineering Manager to document the monitoring methods and results.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
AB	Assembly Bill
ACP	asbestos cement pipe
AFY	acre-feet per year
ALUC	Airport Land Use Commission
ANSI	American National Standards Institute
APE	Area of Potential Effects
AQMP	Air Quality Management Plan
BMPs	Best Management Practices
BSA	biological survey area
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CIP	Capital Improvement Plan
CH_4	methane
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
CPUC	California Public Utilities Commission
CRA	Colorado River Aqueduct
CRHR	California Register of Historic Places
DA	delineation area
dBA	A-weighted decibels
DOC	California Department of Conservation
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
ECORP	ECORP Consulting, Inc.
EIR	Environmental Impact Report
ESA	Environmentally Sensitive Areas
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GHG	greenhouse gas
GRF	Groundwater Recovery Facility
gpm	gallons per minute
HMMH	Harris Miller, Miller & Hanson Inc.
kv	kilovolts

kWh	Kilowatt-hours
LBFD	Laguna Beach Fire Department
LBMC	Laguna Beach Municipal Code
LBUSD	Laguna Beach Unified School District
L_{dn}	day-night average noise level
L_{eq}	equivalent noise level
LST	Localized Significance Threshold
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MET	Metropolitan Water District of Southern California
MLD	Most Likely Descendent
MLRA	Major Land Resource Areas
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MT	Metric Tons
$MTCO_2e$	metric tons of carbon dioxide equivalent
MWDOC	Municipal Water District of Orange County
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NIOSH	National Institute for Occupational Safety and Health
NPDES	National Pollutant Discharge Elimination System
N_2O	nitrous oxide
NO_x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	ozone
OHWM	ordinary high-water mark
OPR	California Office of Planning and Research
OSD	Official Soil Series Descriptions
PM	particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
PPV	peak particle velocity
PRC	Public Resources Code
PS	pump station
psi	pressure-per-square-inch
PVC	polyvinyl chloride
RCPG	Regional Comprehensive Plan and Guide
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center

SCE	Southern California Edison
SCS	Sustainable Communities Strategy
SCWD	South Coast Water District
SIP	State Implementation Plan
SJBA	San Juan Basin Authority
SLF	Sacred Lands File
SP	Service Population
SO_2	sulfur dioxide
SoCAB	South Coast Air Basin
SR	State Route
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
WSCP	Water Shortage Contingency Plan

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1.0 BACKGROUND

1.1 Summary

Project Title:	Mission Hospital Pipeline Improvement Project
Lead Agency Name and Address:	South Coast Water District (SCWD) 31592 West Street Laguna Beach, California 92651
Contact Person and Phone Number:	Taryn Kjolsing South Coast Water District Engineering Manager (949) 541-1327 tkjolsing@scwd.org
Project Location:	The Project Area is located in Orange County in the City of Laguna Beach, south of 3rd Avenue, north of 8th Avenue, and east of the existing Mission Hospital (Figure 1). The pipeline alignment is generally from the intersection of 3rd Avenue and Mar Vista Avenue, south along Mar Vista Avenue to Sunset Avenue, and along Sunset Avenue to just north of the intersection of Sunset Avenue and 8th Avenue. A potential equipment and materials staging area is included in this analysis to provide the contractor with a potential staging area within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue and a short segment of the pipeline traverses down a steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of the Mission Hospital (Figure 2).
General Plan Designation:	Public Right-of-Way (ROW), Open Space (OS-PI)
Zoning:	Public Right-of-Way, Open Space/Conservation (I-OS/C)

1.2 Introduction

The South Coast Water District is the Lead Agency for this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Mission Hospital Pipeline Improvement Project. This document has been prepared to satisfy the California Environmental Quality

Act (CEQA) (Pub. Res. Code, Section 21000 *et seq.*) and State CEQA Guidelines (14 CCR 15000 *et seq.*). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

1.3 Surrounding Land Uses/Environmental Setting

The Project Area is located in Orange County in the City of Laguna Beach, south of 3rd Avenue, north of 8th Avenue, and east of the existing Mission Hospital (Figure 1). The pipeline alignment is generally from the intersection of 3rd Avenue and Mar Vista Avenue, south along Mar Vista Avenue to Sunset Avenue, and along Sunset Avenue to just north of the intersection of Sunset Avenue and 8th Avenue. A potential equipment and materials staging area is included in this analysis to provide the contractor with a potential staging area within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue and a short segment of the pipeline traverses down a steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of the Mission Hospital (Figure 2). The Project is located within existing public ROW and is surrounded by low-density residential land uses, undeveloped open space areas, and public/institutional uses, as described in Table 1-1 below.

Table 1-1. Surrounding Land Uses

	Land Use Designation	Zoning Designation	Existing Land Use
Project Area	Public Right-of-Way/Open Space	Public Right-of-Way/Open Space Conservation	Local Street/Open Space
North	Low and Medium Low Density Residential	Village Low Density (3-7 dwelling units/acre [du/ac]) and Village Medium Low Density (8-14 du/ac)	Single-Family Homes
East	Low Density Residential, Open Space, and Public/Institutional	Village Low Density (3-7 du/ac), Open Space, and Public/Institutional	Single Family Homes and Open Space
South	Public/Institutional and Medium Low Density Residential	Public/Institutional and Village Medium Low Density (8-14 du/ac)	Medical Facilities and Single-Family Homes
West	Low and Medium Low Density Residential and Public/Institutional	Village Low Density (3-7 du/ac), Village Medium Low Density (8-14 du/ac), and Public/Institutional	Single Family Homes and Medical Facilities

Source: City of Laguna Beach 2012; City of Laguna Niguel et al 2021

Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Vicinity.mxd *(TR)-trotellini 1/4/2022*

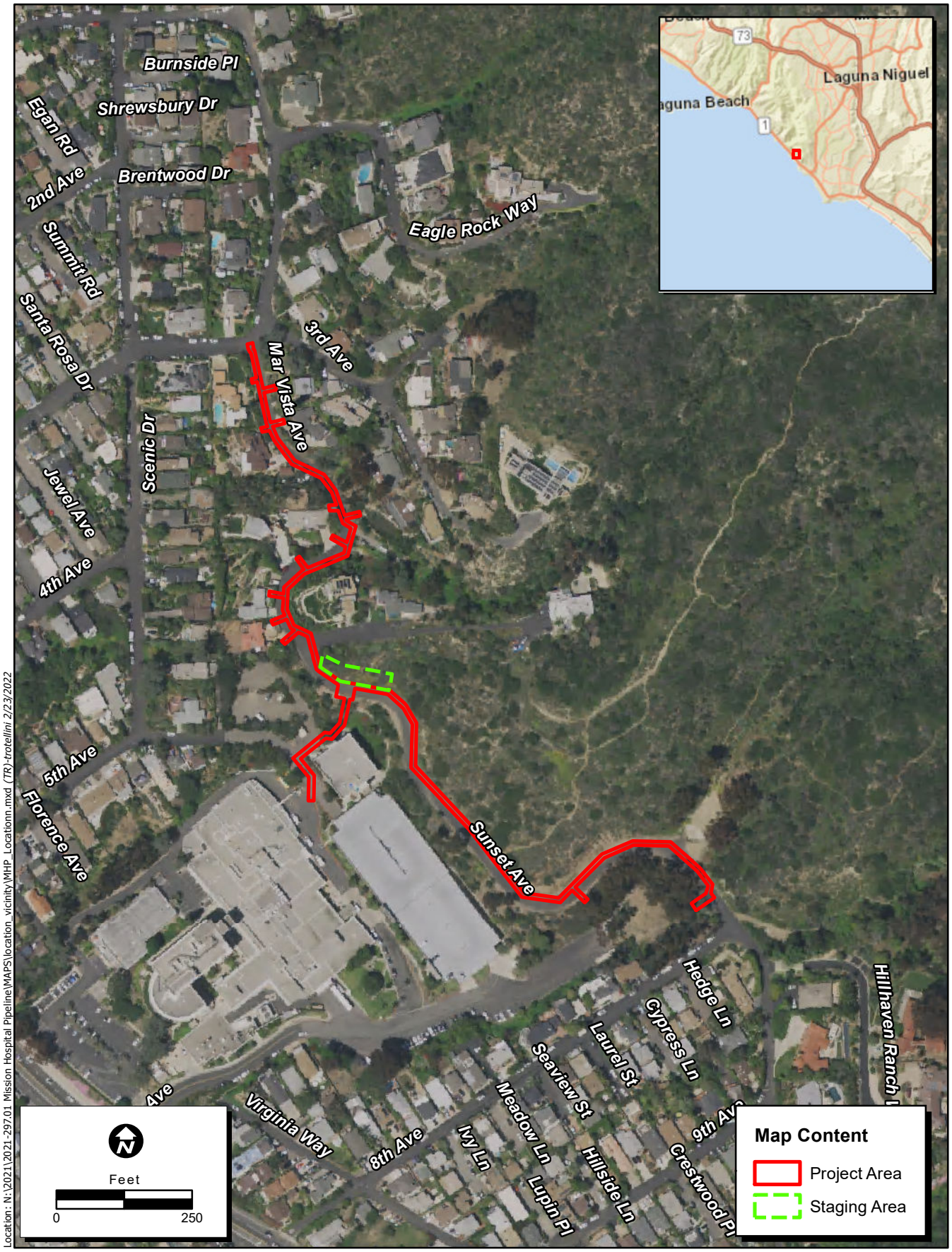
Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Vicinity

2021-297.01 Mission Hospital Pipeline



Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Locationn.mxd (TR)-trotellini 2/23/2022

Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community Photo Source: NAIP (2020)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2. Project Location

2021-297.01 Mission Hospital Pipeline

2.0 PROJECT DESCRIPTION

2.1 Project Background

This Proposed Project is a part of SCWD's modified Capital Improvement Plan (CIP) to replace aging infrastructure and meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply within SCWD's 490 pressure zone located to the east of Pacific Coast Highway in the northern part of the SCWD service area.

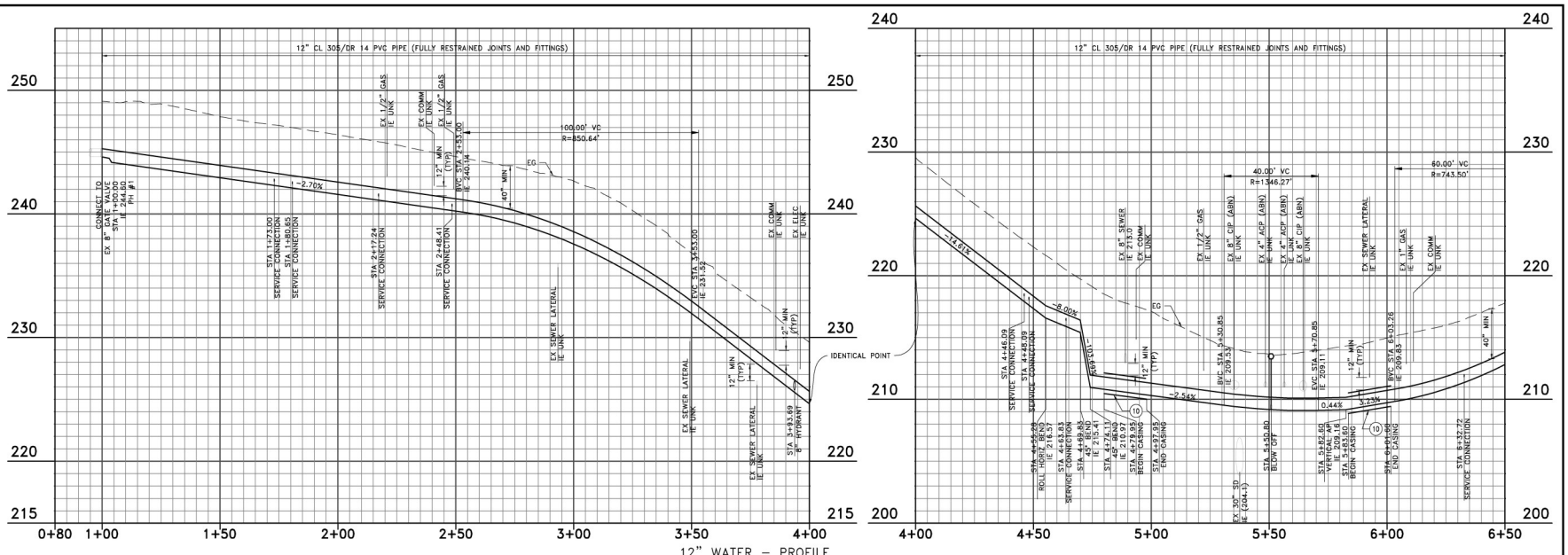
2.2 Project Characteristics

South Coast Water District, per it's 2017 Infrastructure Master Plan, proposes pipeline improvements for approximately 2,000 linear feet of 6-inch and 8-inch water main near the Mission Hospital that is unable to provide the required 4,000 gpm of fire flow at a 20-psi residual pressure. The Proposed Project involves replacing approximately 2,000 linear feet of 6-inch and 8-inch ACP water main with 12-inch PVC pipe, installing valves and valve clusters as required, and reconnecting service connections and fire hydrants as required. The pipeline alignment runs south along Mar Vista Avenue from 3rd Avenue to Sunset Avenue, south along Sunset Avenue to 8th Avenue, and also down a hill from Sunset Avenue to Mission Hospital.

Project construction would consist of excavation, backfill, pipeline installation, and repaving. The pipelines along Mar Vista Avenue and Sunset Avenue would be installed a minimum of 40-inches below ground level and the pipeline that runs down a hill from Sunset Avenue to 5th Avenue would be installed at 24-inches below ground level. Streets affected by construction would be repaved to their pre-disturbance conditions. Refer to Figure 3 for the Project Site Plan of the proposed pipeline improvements.

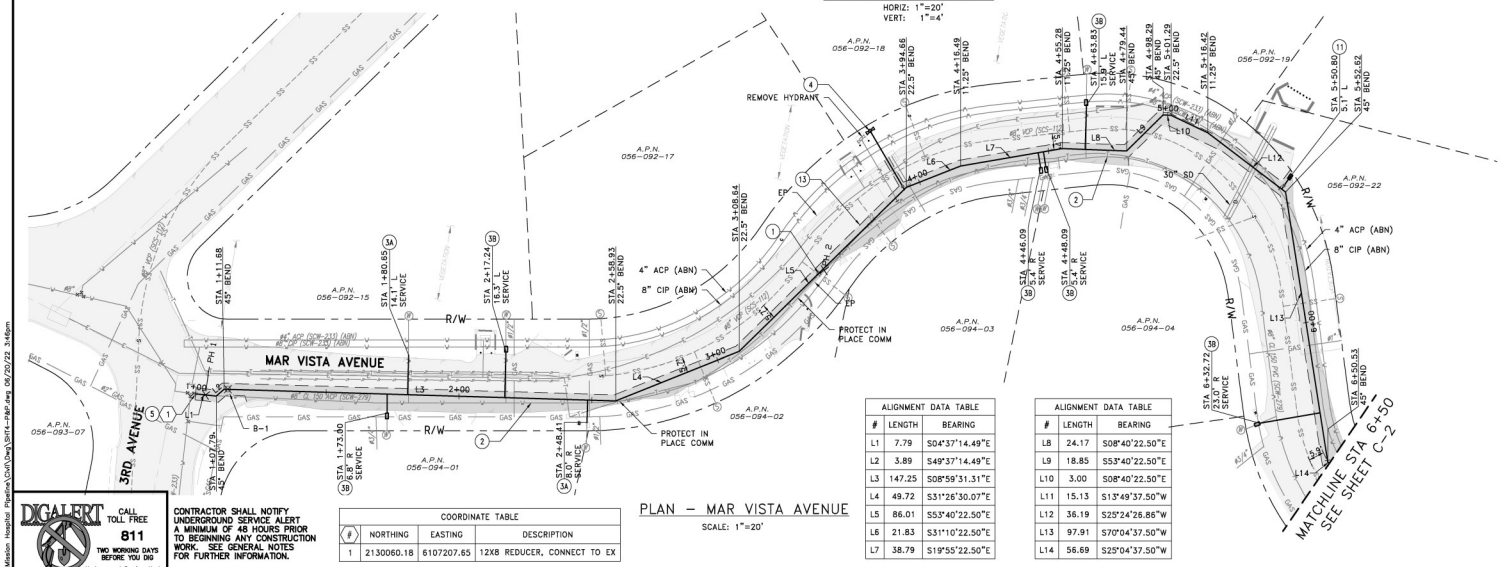
2.3 Project Timing

It is anticipated that construction would start in February 2023 for a duration of approximately 3.5 months.



12" WATER – PROFILE

HORIZ: 1"=20'
VERT: 1"=4'



PLAN – MAR VISTA AVENUE

SCALE: 1"=20'

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L1	7.79	S04°37'14.49"E
L2	3.89	S49°37'14.49"E
L3	147.25	S08°59'31.31"E
L4	49.72	S31°26'30.07"E
L5	86.01	S53°40'22.50"E
L6	21.83	S31°10'22.50"E
L7	38.79	S19°55'22.50"E

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L8	24.17	S08°40'22.50"E
L9	18.85	S53°40'22.50"E
L10	3.00	S08°40'22.50"E
L11	15.13	S13°49'37.50"W
L12	36.19	S25°24'26.86"W
L13	97.91	S70°04'37.50"W
L14	56.69	S25°04'37.50"W

COORDINATE TABLE			
#	NORTHING	EASTING	DESCRIPTION
1	2130060.18	6107207.65	12X8 REDUCER, CONNECT TO EX

GENERAL NOTES

1. CONTRACTOR SHALL DETERMINE THE PORTIONS OF THE EXISTING PIPELINE THAT ARE TO REMAIN IN OPERATION DURING CONSTRUCTION AND SUBMIT HIGHLINING PLAN FOR APPROVAL PRIOR TO COMMENCING WORK. REFERENCE DETAILS 3-5 ON SHEET CD-3 FOR DETAILS.
2. ALL EXISTING ITEMS, CALLED OUT OR NOT, SHALL BE PROTECTED IN PLACE UNLESS EXPLICITLY SPECIFIED OTHERWISE.
3. PROVIDE THRUST BLOCKS PER DETAIL 6/CD-1 AT ALL FITTINGS.

CONSTRUCTION NOTES

(1) INSTALL 12" CL 305 DR 14 PVC WATER PER DETAIL 4/CD-2
(2) ABANDON EXISTING 8" PIPELINE. REMOVE INTERFERING PORTIONS AS NEEDED. SEE GENERAL NOTE 1.
(3A) INSTALL WATER SERVICE PER DETAIL 1/CD-3. RECONNECT AT EXISTING METER BOX,
(3B) INSTALL WATER SERVICE PER DETAIL 1/CD-3. RELOCATE EX METER TO NEW METER BOX 1' FROM EDGE OF PAVEMENT.
(4) INSTALL FIRE HYDRANT PER DETAIL 2/CD-3
(5) CONNECTION PER DETAIL 1/CD-1
(10) STEEL CASING AT CROSSING PER DETAIL 1/CD-2
(11) 2" BLOW OFF PER DETAIL 2/CD-2
(13) LIMITS OF 1.5" MIN GRIND AND OVERLAY, 12" OUTSIDE OF TRENCH (MIN) PER CITY OF LAGUNA BEACH PAVEMENT REPAIR DETAIL

SCALE: 1" =20'

20' 10' 0 20'

SCALE: 1" = 20'

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

90% SUBMITTAL

SCW-345D

REV.	DATE	BY	DESCRIPTION	APPROVED	DATE

DATE	JUNE 2022
JOB NO.	8694002
PLAN NO.	SCW-345
DESIGN	AM
DRAWN	AM
CHECKED	KM

KARL MEIER 71713 PROJECT MANAGER RCE NO. DATE

ALIA MEIER 88805 PROJECT ENGINEER RCE NO. DATE

WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

SOUTH COAST WATER DISTRICT

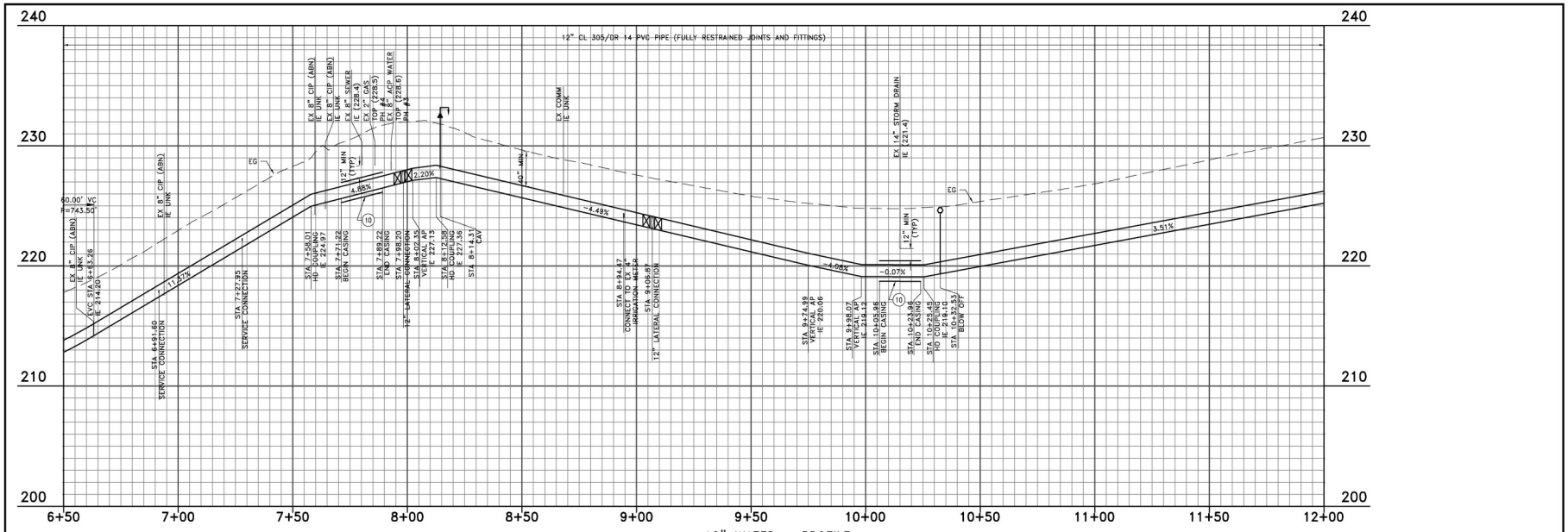
MISSION HOSPITAL PIPELINE IMPROVEMENTS

PLAN AND PROFILE

C-1 | SHEET 4 OF 11 SHEETS

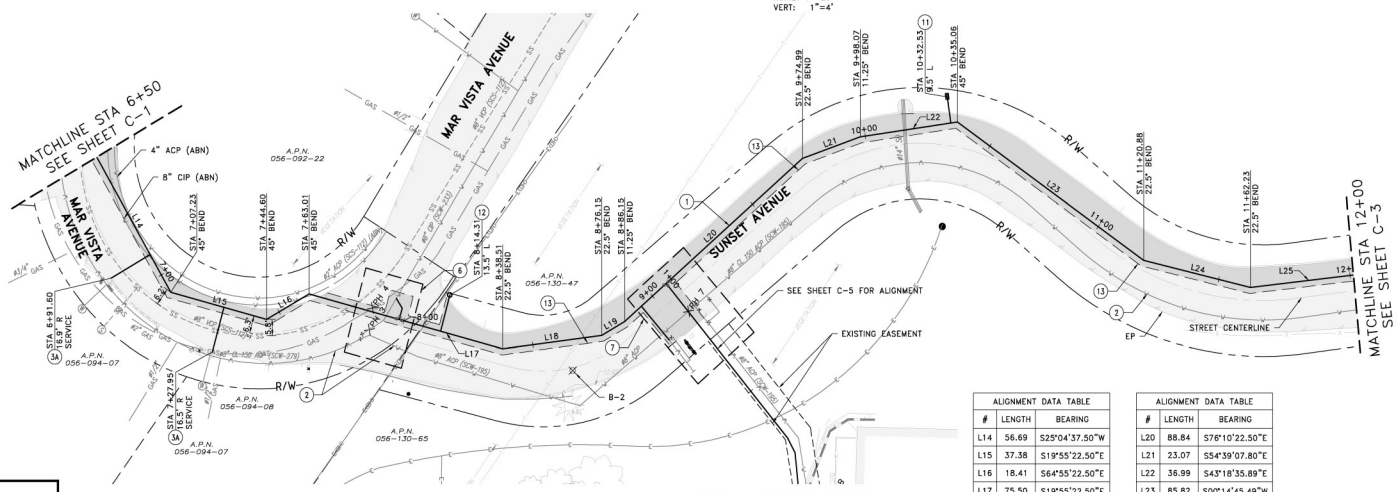
ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Site Plan
Sheet 1 of 5
2021-297.01 Mission Hospital Pipeline



12" WATER – PROFILE

HORIZ: 1"=20'
VERT: 1"=4'



PLAN – SUNSET AVENUE

SCALE: 1"=20'

GENERAL NOTES

1. CONTRACTOR SHALL DETERMINE THE PORTIONS OF THE EXISTING PIPELINE THAT ARE TO REMAIN IN OPERATION DURING CONSTRUCTION AND SUBMIT HIGHLINING PLAN FOR APPROVAL PRIOR TO COMMENCING WORK. REFERENCE DETAILS 3-5 ON SHEET CD-3 FOR DETAILS.
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3. PROVIDE THRUST BLOCKS PER DETAIL 6/CD-1 AT ALL FITTINGS.

CONSTRUCTION NOTES

(1) INSTALL 12" CL 305 DR 14 PVC WATER PER DETAIL 4/CD-2
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(3A) INSTALL WATER SERVICE PER DETAIL 1/CD-3. RECONNECT AT EXISTING METER BOX.
(6) CONNECTION PER DETAIL 2/CD-1
(7) CONNECTION PER DETAIL 3/CD-1
(10) STEEL CASING AT CROSSING PER DETAIL 1/CD-2
(11) 2" BLOW OFF PER DETAIL 2/CD-2
(12) 2" CAV PER DETAIL 3/CD-2
(13) LIMITS OF 1.5" MIN GRIND AND OVERLAY, 12" OUTSIDE OF TRENCH (MIN) PER CITY OF LAGUNA BEACH PAVEMENT REPAIR DETAIL

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L14	56.69	S25°04'37.50"W
L15	37.38	S19°55'22.50"E
L16	18.41	S64°55'22.50"E
L17	75.50	S19°55'22.50"E
L18	37.64	S42°25'22.50"E
L19	10.00	S64°55'22.50"E

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L20	88.84	S76°10'22.50"E
L21	23.07	S54°39'07.80"E
L22	36.99	S43°18'35.89"E
L23	85.82	S00°14'45.49"W
L24	41.35	S21°27'21.47"E
L25	129.35	S41°34'46.91"E

SCALE: 1"=20'
20' 10' 0 20'
SCALE: 1" = 20'

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK. SEE GENERAL NOTES FOR FURTHER INFORMATION.

90% SUBMITTAL SCW-345E

REV.	DATE	BY	DESCRIPTION	APPROVED	DATE

DATE JUNE 2022 | DESIGN AM
JOB NO. 8694002 | DRAWN AM
PLAN NO. SCW-345 | CHECKED KM

KARL MEIER 71713 PROJECT MANAGER RCE NO. DATE
ALIA MEIER 88805 PROJECT ENGINEER RCE NO. DATE

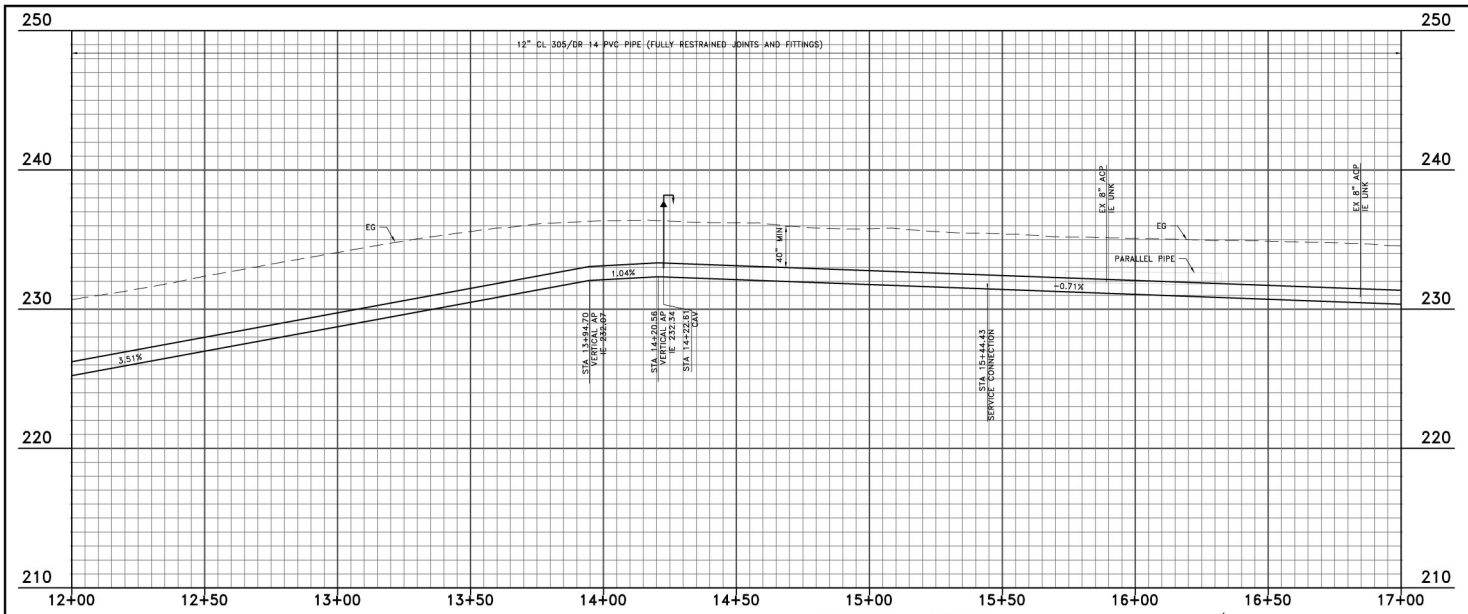
WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

SOUTH COAST WATER DISTRICT
MISSION HOSPITAL PIPELINE IMPROVEMENTS
PLAN AND PROFILE

C-2 SHEET 5 OF 11 SHEETS

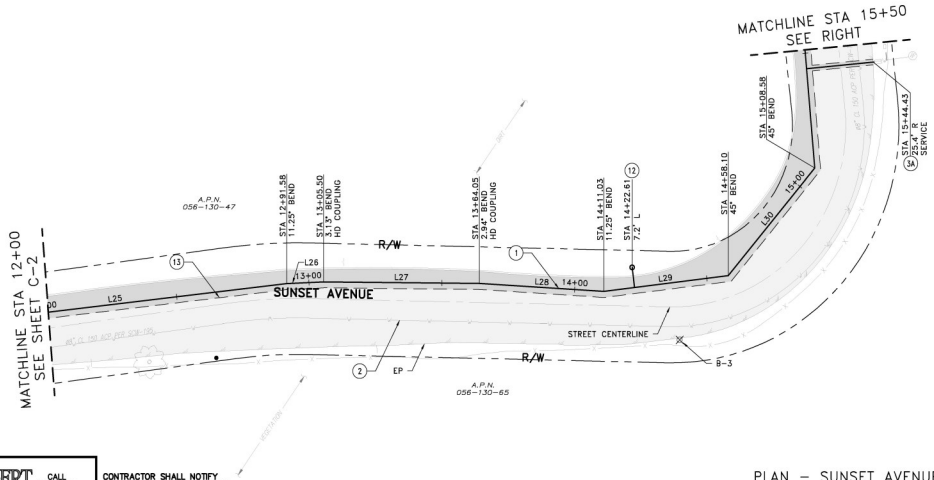
ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Site Plan
Sheet 2 of 5
2021-297.01 Mission Hospital Pipeline



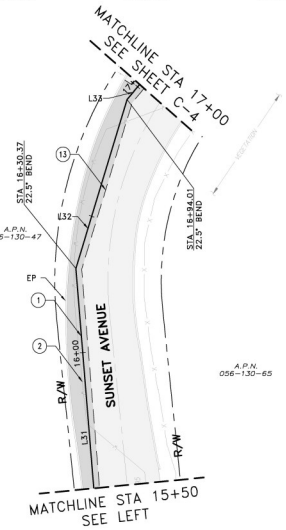
12" WATER – PROFILE

HORIZ: 1"=20'
VERT: 1"=4'



PLAN – SUNSET AVENUE

SCALE: 1"=20'



ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L25	129.35	S41°34'46.91"E
L26	13.92	S37°37'24.21"E
L27	58.55	S34°29'30.07"E
L28	46.99	S31°33'00.33"E
L29	47.07	S41°55'20.55"E
L30	50.48	S84°55'20.55"E
L31	121.79	N50°04'39.45"E
L32	63.63	N72°34'39.45"E
L33	66.32	S83°36'44.83"E

GENERAL NOTES

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3. PROVIDE THRUST BLOCKS PER DETAIL 6/CD-1 AT ALL FITTINGS.

CONSTRUCTION NOTES

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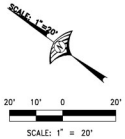
3A. INSTALL WATER SERVICE PER DETAIL 1/CD-3. RECONNECT AT EXISTING METER BOX.
12. 2" CAV PER DETAIL 3/CD-2
13. LIMITS OF 1.5" MIN GRIND AND OVERLAY, 12" OUTSIDE OF TRENCH (MIN) PER CITY OF LAGUNA BEACH PAVEMENT REPAIR DETAIL



DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

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90% SUBMITTAL SCW-345F

REV.	DATE	BY	DESCRIPTION	APPROVED	DATE

DATE	JUNE 2022
JOB NO.	8694002
PLAN NO.	SCW-345
DESIGN	AM
DRAWN	AM
CHECKED	KM

KARL MEIER 71713 PROJECT MANAGER RCE NO. DATE

ALIA MEIER 88805 PROJECT ENGINEER RCE NO. DATE

WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

SOUTH COAST WATER DISTRICT

MISSION HOSPITAL PIPELINE IMPROVEMENTS

PLAN AND PROFILE

C-3 SHEET 6 OF 11 SHEETS

ECORP Consulting, Inc.
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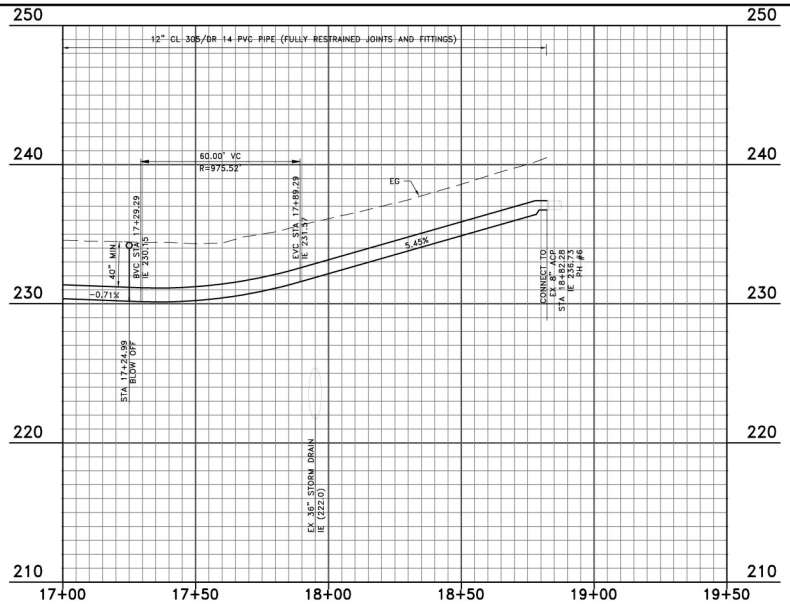
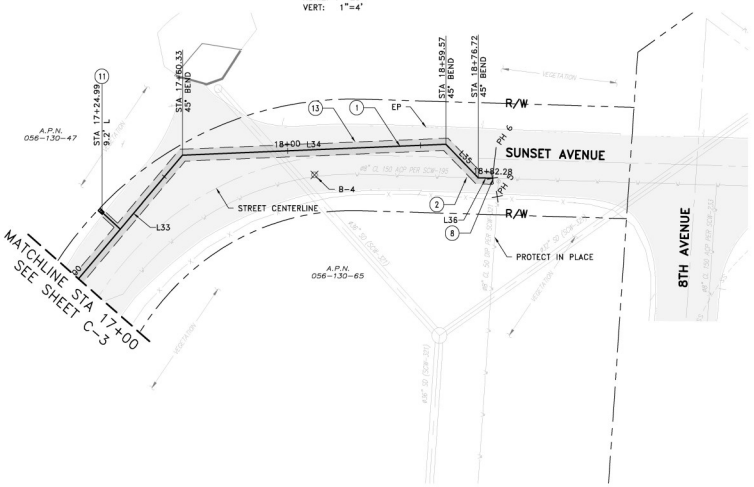
Site Plan
Sheet 3 of 5
2021-297.01 Mission Hospital Pipeline



12" WATER – PROFILE

HORIZ: 1"=20'
VERT: 1"=4'



PLAN – SUNSET AVENUE

SCALE: 1"=20'

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L33	66.32	S83°36'44.83"E
L34	99.24	S37°18'16.80"E
L35	17.15	S09°36'28.88"W
L36	5.57	S33°23'31.12"E

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CONSTRUCTION NOTES

(1) INSTALL 12" CL 305 DR 14 PVC WATER PER DETAIL 4/CD-2

(2) ABANDON EXISTING 8" PIPELINE. REMOVE INTERFERING PORTIONS AS NEEDED. SEE GENERAL NOTE 1.

(8) CONNECTION PER DETAIL 4/CD-1

(11) 2" BLOW OFF PER DETAIL 2/CD-2

(13) LIMITS OF 1.5" MIN GRIND AND OVERLAY, 12" OUTSIDE OF TRENCH (MIN) PER CITY OF LAGUNA BEACH PAVEMENT REPAIR DETAIL

20' 10' 0 20'

SCALE: 1" = 20'

DIGALERT CALL TOLL FREE 811 TWO WORKING DAYS BEFORE YOU DIG Underground Service Alert

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REV.	DATE	BY	DESCRIPTION	APPROVED	DATE

DATE	DESIGN
JUNE 2022	AM
JOB NO.	DRAWN
8694002	AM
PLAN NO.	CHECKED
SCW-345	KM

KARL MEIER 71713 — PROJECT MANAGER — RCE NO. — DATE

ALIA MEIER 88805 — PROJECT ENGINEER — RCE NO. — DATE

WOOD RODGERS — BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

90% SUBMITTAL

SCW-345G

SOUTH COAST WATER DISTRICT

MISSION HOSPITAL PIPELINE IMPROVEMENTS

PLAN AND PROFILE

C-4 | SHEET 7 OF 11 SHEETS

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ECORP Consulting, Inc.
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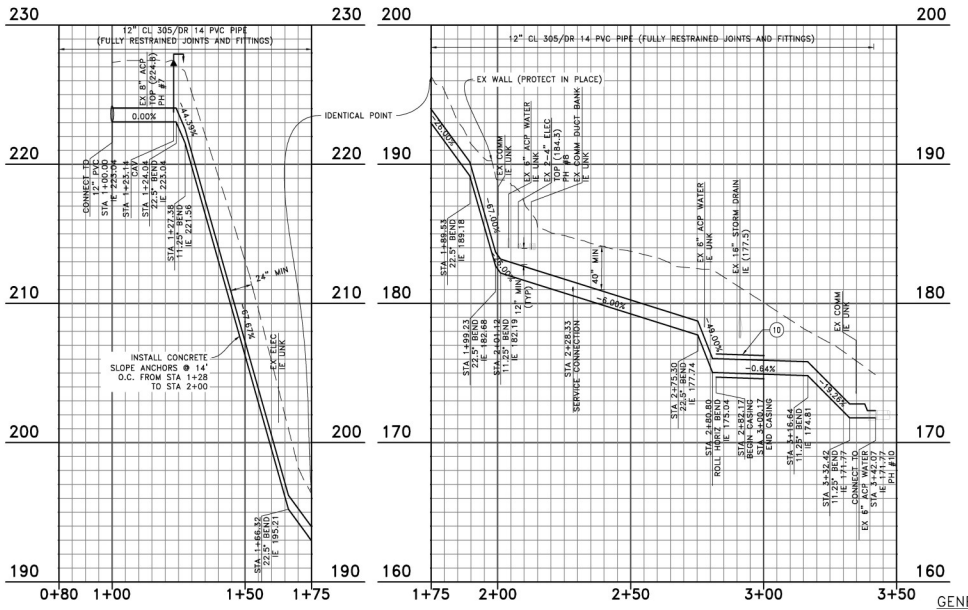
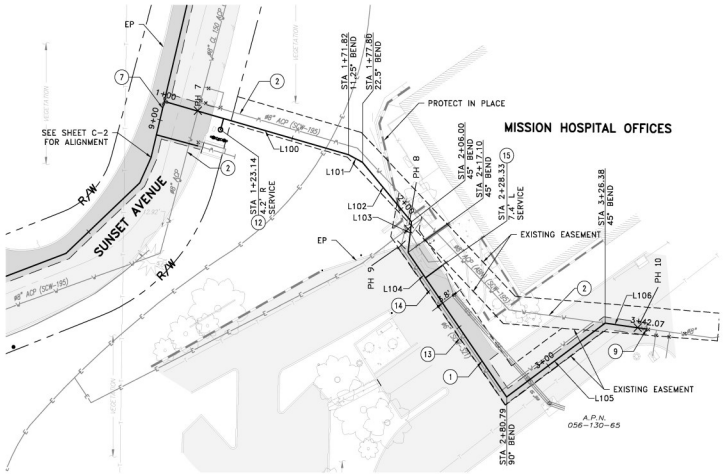
Site Plan
Sheet 4 of 5
2021-297.01 Mission Hospital Pipeline



12" WATER – PROFILE

HORIZ: 1"=20'
VERT: 1"=4'



PLAN

SCALE: 1"=20'

ALIGNMENT DATA TABLE		
#	LENGTH	BEARING
L100	71.82	S15°27'57.88"W
L101	5.98	S26°42'57.88"W
L102	28.19	S49°12'57.88"W
L103	11.10	N83°32'02.12"W
L104	63.69	S54°27'57.88"W
L105	45.59	S35°32'02.12"E
L106	15.70	S07°38'08.06"W

GENERAL NOTES

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2. ALL EXISTING ITEMS, CALLED OUT OR NOT, SHALL BE PROTECTED IN PLACE UNLESS EXPLICITLY SPECIFIED OTHERWISE.
3. ACCESS TO AND FROM THE HOSPITAL MUST BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL NOT STAGE OR STORE ANY EQUIPMENT, MATERIAL, OR ANY OTHER ITEMS IN SUCH A WAY THAT WOULD RESTRICT ACCESS TO AND FROM THE HOSPITAL AT ANY TIME.
4. PROVIDE THRUST BLOCKS PER DETAIL 6/CD–1 AT ALL FITTINGS.

CONSTRUCTION NOTES

1. INSTALL 12" CL 305 DR 14 PVC WATER PER DETAIL 4/CD–2
2. ABANDON EXISTING 8" PIPELINE. REMOVE INTERFERING PORTIONS AS NEEDED. SEE GENERAL NOTE 1.
7. CONNECTION PER DETAIL 3/CD–1
9. CONNECTION PER DETAIL 5/CD–1
10. STEEL CASING AT CROSSING PER DETAIL 1/CD–2
12. 2" CAV PER DETAIL 3/CD–2
13. LIMITS OF 1.5" MIN GRIND AND OVERLAY, 12" OUTSIDE OF TRENCH (MIN) PER CITY OF LAGUNA BEACH PAVEMENT REPAIR DETAIL
14. ABANDON EXISTING 6" PIPELINE. REMOVE INTERFERING PORTIONS AS NEEDED. SEE GENERAL NOTE 1.
15. RECONNECT WATER SERVICE AT METER. SIZE TO BE CONFIRMED BY CONTRACTOR.

SCALE: 1"=20'

20' 10' 0 20'

SCALE: 1" = 20'

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90% SUBMITTAL SCW–345H

REV.	DATE	BY	DESCRIPTION	APPROVED	DATE

DATE	JUNE 2022
JOB NO.	8694002
PLAN NO.	SCW–345
DESIGN	AM
DRAWN	AM
CHECKED	KM

KARL MEIER 71713 PROJECT MANAGER RCE NO. DATE

ALIA MEIER 88805 PROJECT ENGINEER RCE NO. DATE

WOOD RODGERS BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

SOUTH COAST WATER DISTRICT

MISSION HOSPITAL PIPELINE IMPROVEMENTS

PLAN AND PROFILE

C-5 SHEET 8 OF 11 SHEETS

J:\Jobs\8694_SCWD\002_Mission Hospital Pipeline\Civil\Dwg\SHT8_P&P.dwg 06/20/22 4:21pm

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Site Plan
Sheet 5 of 5
2021-297.01 Mission Hospital Pipeline

2.4 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits would be required for implementation of the Proposed Project:

- City of Laguna Beach Coastal Development Permit
- City of Laguna Beach Right-of-Way Work Permit
- California State Water Resources Control Board, Division of Drinking Water – Water System Permit

2.5 Consultation With California Native American Tribe(s)

The following California Native American tribes and individuals traditionally and culturally affiliated with the Project Area have been notified of the Project: Gabrieleño Band of Mission Indians – Kizh Nation, (Chairperson Salas), Gabrieleno/Tongva San Gabriel Band of Mission Indians (Chairperson Morales), Gabrielino/Tongva Nation (Chairperson Goad), Gabrielino Tongva Indians of California Tribal Council (Chairperson Dorame), Gabrielino-Tongva Tribe (Charles Alvarez), Juaneño Band of Mission Indians (Chairperson Johnston), Juaneño Band of Mission Indians, Acjachemen Nation – Belardes (Chairperson Belardes), Juaneño Band of Mission Indians, Acjachemen Nation – Belardes (Joyce Perry), Juaneño Band of Mission Indians, Acjachemen Nation – Romero (Teresa Romero), Juaneño Band of Mission Indians, Acjachemen Nation – Romero (Heidi Lucero), La Jolla Band of Luiseño Indians (Chairperson Nelson), Pala Band of Mission Indians (Shasta Gaughen), Pauma Band of Luiseño Indians (Temet Aguilar), San Luis Rey Band of Mission Indians (San Luis Rey Tribal Council), Santa Rosa Band of Cahuilla Indians (Chair Redner), Soboba Band of Luiseño Indians (Joseph Ontiveros), and Soboba Band of Luiseño Indians (Chairperson Cozart).

Ms. Perry of the Juaneño Band of Mission Indians, Acjachemen Nation – Belardes has requested consultation pursuant to Public Resources Code (PRC) section 21080.3.1. A summary of the consultation process, including the determination of significance of impacts to tribal cultural resources, is provided in Section 4.18 of this Initial Study.

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3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards/Hazardous Materials	☐ Recreation
☐ Agriculture and Forestry Resources	☐ Hydrology/Water Quality	☐ Transportation
☐ Air Quality	☐ Land Use and Planning	☐ Tribal Cultural Resources
☐ Biological Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Cultural Resources	☐ Noise	☐ Wildfire
☐ Energy	☐ Paleontological Resources	☐ Mandatory Findings of Significance
☐ Geology and Soils	☐ Population and Housing	
☐ Greenhouse Gas Emissions	☐ Public Services	

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	☒
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	☐

9/8/22

Taryn Kjolsing
Engineering Manager

Date

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4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

The San Joaquin Hills are a defining feature of Laguna Beach. The Hills extend from just south of the City boundary near Salt Creek to north of Crystal Cove and are composed primarily of the Topanga Sandstone and San Onofre breccia formations. The views of the hillsides, cliffsides, beaches, and ocean add to Laguna Beach's spectacular natural setting (City of Laguna Beach 2018).

4.1.1.1 Regional Setting

The image of the city is strongly tied to its scenic highways and view corridors. Scenic views in Laguna Beach include views from Coast Highway, Laguna Canyon Road, or other streets up to the hillsides, canyons, or down to the ocean. Orange County considers Coast Highway, Laguna Canyon Road, and El Toro Road as Viewscape Corridors in its Scenic Highway Plan in the County's General Plan (City of Laguna Beach 2018).

State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view (California Department of Transportation [Caltrans] 2021).

According to the City's General Plan, there are no officially designated state scenic highways in the City. A portion of State Route (SR) 1, where it extends through Laguna Beach, is an Eligible State Scenic Highway, however it is not officially designated. It is located approximately 0.17 miles west of the Project Area. Various residential and institutional uses are located between the Project Area and SR-1; therefore, the Project Area is not within the viewshed of SR-1 (Caltrans 2019; City of Laguna Beach 2018).

4.1.1.2 Visual Character of the Project Site

The Project Area is located in the South Laguna neighborhood in the foothills near Aliso Peak. The Project Area is contained to the ROW of local streets and is surrounded by residential homes and Mission Hospital (City of Laguna Beach 1992). These streets are often narrow, winding, and steep and were constructed without sidewalks, curbs, and gutters.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project involves installing water pipelines. All improvements would occur within the existing ROW of Mar Vista Avenue, Sunset Avenue, and 5th Avenue and would be located below the ground surface level. Scenic views in the Project Area consist of views toward the hillside to the east and the ocean to the west, however these views are partially obstructed by surrounding development. There are no designated scenic vistas in the vicinity of the Project.

Short-term construction activities could potentially temporarily degrade the existing visual character and quality of the Project Area and surroundings. A potential equipment and materials staging area is proposed within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue. However, construction-related activities would be short-term and temporary in nature. Once completed, all general construction activities would cease, along with any construction-related aesthetic impacts. A less than significant impact would occur, and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No Impact.

According to the City's General Plan, there are no officially designated state scenic highways in the City. A portion of SR-1, where it extends through Laguna Beach, is an Eligible State Scenic Highway, however it is not officially designated. It is located approximately 0.17 miles west of the Project Area. Various residential and institutional uses are located between the Project Area and SR-1; therefore, the Project Area is not within the viewshed of SR-1 (Caltrans 2019; City of Laguna Beach 2018). There are no scenic resources within a state scenic highway that would be affected by the Project. No impact would occur, and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒

No Impact.

The Proposed Project is located in an urban developed area characterized by residential and institutional land uses. All proposed improvements would be located below ground or at ground level within existing paved roads. A potential equipment and materials staging area is proposed within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue. Once construction is complete, Project areas affected by construction would be repaved and returned to the pre-project condition. Therefore, the Proposed Project would not affect the existing visual character or quality of the area and its surroundings. Because there are no designated scenic views in the vicinity, the Proposed Project would not conflict with existing zoning in the area or scenic quality regulations. No impact would occur, and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

No Impact.

The Proposed Project would not require lighting or include sources of glare during construction or operation. No impact would occur, and no mitigation is required.

4.1.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

"Forest land" as defined by PRC Section 12220(g) is "…land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

"Timberland" as defined by PRC Section 4526 means "…land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the board on a district basis."

"Timberland zoned Timberland Production" is defined by PRC Section 51104(g) as "..an area which has been zoned pursuant to Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision h."

Laguna Beach has two areas of land zoned for agricultural use, both of which are located within established residential neighborhoods in residential zones. There are presently no commercial agricultural activities conducted on these properties (City of Laguna Beach 2014). According to the California Department of Conservation (DOC) Important Farmland Finder, the Project Area is classified as Urban and Built-Up Land. The Project Area is not located on or near Farmland, nor is it under a Williamson Act Contract (DOC 2021).

4.2.2 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No Impact.

According to the California Important Farmland Finder, the Project Area is located on land classified as Urban and Built-Up Land. Therefore, the Proposed Project would not be located on land classified as prime farmland, unique farmland, or farmland of statewide importance (DOC 2021). No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No Impact.

The Project Area is not located on land zoned for agricultural use. According to the California Important Farmland Finder, the Project Area is mapped as Urban and Built-Up Land and not an agricultural preserve subject to a Williamson Act contract (DOC 2021). The Proposed Project would not conflict with zoning for agricultural use or a Williamson Act Contract. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

No Impact.

The Project Area is located on land currently designated for public ROW and the potential staging area is within open space lands. The Project is surrounded by low residential land uses and institutional uses and is not located on land designated for forest land, timberland, or timberland zoned timberland production. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

As described above, the Project Area is not zoned for forest land, timberland, or timberland production (DOC 2021). Therefore, the Proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

As noted above, the Project Area and surrounding properties are not currently designated for agriculture and there are no agricultural uses. The vacant and hillside areas to the east of Sunset Avenue are considered Other Land (DOC 2021). Development on the Project Area would not result in the conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur, and no mitigation is required.

4.2.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

4.3.1 Environmental Setting

The City of Laguna Beach is located within Orange County. The California Air Resource Board (CARB) has divided California into regional air basins according to topographic features. The City of Laguna Beach portion of Orange County is located in a region identified as the South Coast Air Basin (SoCAB). The SoCAB occupies the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin is on a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean on the southwest, with high mountains forming the remainder of the perimeter. The mountain ranges to the east affect the diffusion of pollutants by inhibiting the eastward transport of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions.

Both the U.S. Environmental Protection Agency (USEPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3), carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The portion of Orange County encompassing the City of Laguna Beach and the Project Site is designated as a nonattainment area for O_3 and fine

particulate matter ($PM_{2.5}$) under the federal standards and O_3, $PM_{2.5}$, and coarse particulate matter (PM_{10}) under the state standards (CARB 2019).

The local air quality regulating authority in Orange County portion is the South Coast Air Quality Management District (SCAQMD). The SCAQMD's primary responsibility is ensuring that the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) are attained and maintained in the Orange County portion of the SoCAB. The SCAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities. All projects are subject to SCAQMD rules and regulations in effect at the time of construction.

The following is a list of noteworthy SCAQMD rules that are required of construction activities associated with the Proposed Project:

Rule 201 & Rule 203 (Permit to Construct & Permit to Operate) – Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate.

Rule 402 (Nuisance) – This rule prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 (Fugitive Dust) – This rule requires fugitive dust sources to implement best available control measures for all sources, and all forms of visible PM are prohibited from crossing any property line. This rule is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. PM_{10} suppression techniques are summarized below.

a) Portions of a construction site to remain inactive longer than a period of three months will be seeded and watered until grass cover is grown or otherwise stabilized.

b) All onsite roads will be paved as soon as feasible or watered periodically or chemically stabilized.

c) All material transported offsite will be either sufficiently watered or securely covered to prevent excessive amounts of dust.

d) The area disturbed by clearing, grading, earthmoving, or excavation operations will be minimized at all times.

e) Where vehicles leave a construction site and enter adjacent public streets, the streets will be swept daily or washed down at the end of the workday to remove soil tracked onto the paved surface.

Rule 1113 (Architectural Coatings) – This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce reactive organic gas (ROG) emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories.

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

No Impact.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project Site is located within the Orange County portion of the SoCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which this region is in nonattainment. In order to reduce emissions for which the Orange County portion of the SoCAB is in nonattainment, the SCAQMD has adopted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes programs of rules and regulations directed at reducing air pollutant emissions and achieving the NAAQS and CAAQS. Pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including the Southern California Association of Governments' (SCAG) latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts. SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans. According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

As shown in Tables 4.3-1 and 4.3-2 below (see Impact (b)), the Proposed Project would result in emissions that would be below the SCAQMD regional and localized thresholds during construction. The Project would not be a source of operational emissions. Therefore, the Proposed Project would not result in an increase in the frequency or severity of existing air quality violations and would not have the potential to cause or affect a violation of the ambient air quality standards.

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

As shown in Table 4.3-1 below the Proposed Project would be below the SCAQMD regional thresholds for construction. Because the Project would result in less than significant regional emission impacts, it would not delay the timely attainment of air quality standards or AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SoCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the Proposed Project exceeds the assumptions utilized in preparing the forecasts presented in its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the 2016 AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions in the City of Laguna Beach. Specifically, SCAG's Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG) provides regional population forecasts for the region and SCAG's latest RTP/SCS provides socioeconomic forecast projections of regional population growth. The City of Laguna Beach General Plan is referenced by SCAG in order to assist forecasting future growth in the City.

The Project proposes to replace approximately 2,000 linear feet of undersized water main with appropriately sized 12-inch water main in order to provide the required 4,000 gpm of fire flow at a 20 psi residual pressure. As such, the Project would not be contributing to an increase in population, housing or employment growth. Therefore, the Project would not conflict with the land use assumptions or exceed the population or job growth projections used by SCAQMD to develop the 2016 AQMP

b) Would the project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the Project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 402, 403, and 1113. SCAQMD Rule 402 prohibits the discharge, from any source whatsoever, in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible PM are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD Rule 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. As such, the proposed Project meets this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality. The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. As shown in Tables 4.3-1 and 4.3-2 below, the Proposed Project would not exceed applicable SCAQMD thresholds of significance during construction. The Project would not be a source of operational emissions. Therefore. the Proposed Project would not result in a long-term impact on the region's ability to meet state and federal air quality standards. The Proposed Project's long-term influence would be consistent with the goals, objectives, and strategies of the SCAQMD's 2016 AQMP.

The Project would be consistent with the emission-reduction goals of the 2016 AQMP. There would be no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

Less than Significant Impact.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

4.3.2.1 Construction Impacts

Regional Construction Emissions Analysis

Construction associated with the Proposed Project would generate short-term emissions of criteria air pollutants, including ROG, CO, NO_X, PM_{10}, and $PM_{2.5}$. Construction-generated emissions are temporary and short term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., tractors, excavators, pavers), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities would be subject to SCAQMD Rule 403, which requires taking reasonable precautions to prevent the emissions of fugitive dust, such as using water or chemicals, where possible, for control of dust during the clearing of land and other construction activities.

Construction-generated emissions associated the Proposed Project were calculated using the CARB-approved California Emissions Estimator Model (CalEEMod) computer program, which is designed to model emissions for land use development projects, based on Project construction details provided by the SCWD. See Appendix A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in Table 4.3-1. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD's thresholds of significance.

Table 4.3-1. Construction-Related Emissions (Regional Significance Analysis)

Construction Year	Pollutant (pounds per day)					
	ROG	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Project Construction	4.18	38.85	42.02	0.08	1.99	1.66
SCAQMD Regional Significance Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Appendix A for Model Data Outputs.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403.
The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied. Since CalEEMod does not differentiate between required best available control measures and mitigation measures, these applied best available control measures are incorporated into the CalEEMod mitigation module.
Emissions estimates account for import of 778 cubic yards of soil and export of 972 cubic yards of soil.
Emissions were taken from summer or winter, whichever is greater.

As shown in Table 4.3-1, emissions generated during Project construction would not exceed the SCAQMD's regional thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, and no health effects from Project criteria pollutants would occur. This impact is less than significant. No mitigation is required.

Localized Construction Emissions Analysis

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive land uses to the Project Site include residences and the Providence Mission Hospital.

In order to identify localized air toxic-related impacts to sensitive receptors, the SCAQMD recommends addressing Localize Significance Thresholds (LSTs) for construction. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with Project-specific level proposed projects.

For this Project, the appropriate Source Receptor Area for the localized significance thresholds is the Central Orange County Coastal, Source Receptor Area 20. LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD has produced lookup tables for projects that disturb one, two and five acres. The Project Site spans approximately one acre. Thus, the LST threshold value for a one-acre site was employed from the LST lookup tables.

LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. The nearest sensitive receptors to the Project Site are the residences located immediately adjacent to the linear Project Area. Providence Mission Hospital is also positioned adjacent to the Project Area. Notwithstanding, the SCAQMD Methodology explicitly states: "It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters." Therefore, LSTs for receptors located at 25 meters were utilized in this analysis. The SCAQMD's methodology clearly states that "offsite mobile emissions from a project should not be included in the emissions compared to LSTs." Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod "onsite" emissions outputs were considered. Table 3.3-2 presents the results of localized emissions. The LSTs reflect a maximum disturbance of the entire Project Area daily at 25 meters from sensitive receptors.

Table 4.3-2. Construction-Related Emissions (Localized Significance Analysis)

Activity	Pollutant (pounds per day)			
	NO_x	**CO**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation	6.87	8.74	0.36	0.34
Pipeline Installation & Paving	38.52	40.58	1.66	1.56
SCAQMD Regional Significance Threshold (1.0 acre of disturbance)	*92*	*647*	*4*	*3*
Exceed SCAQMD Regional Threshold?	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Appendix A for Model Data Outputs.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SCAQMD Rule 403.
The specific Rule 403 measures applied in CalEEMod include the following: sweeping/cleaning adjacent roadway access areas daily; washing equipment tires before leaving the construction site; water exposed surfaces three times daily; and limit speeds on unpaved roads to 15 miles per hour. Reductions percentages from the SCAQMD CEQA Handbook (Tables XI-A through XI-E) were applied.
Emissions estimates account for import of 778 cubic yards of soil and export of 972 cubic yards of soil.
Emissions were taken from summer or winter, whichever is greater.

Table 4.3-2 shows that the emissions of these pollutants on the peak day(s) of construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during construction activities. LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative. The SCAQMD Environmental Justice Enhancement Initiative program seeks to ensure that everyone has the right to equal protection from air pollution. The Environmental Justice Program is divided into three categories, with the LST protocol promulgated under Category I: Further-Reduced Health Risk. Thus, the fact that onsite Project construction emissions would be generated at rates below the LSTs for NO_x, CO, PM_{10}, and

$PM_{2.5}$ demonstrates that the Project would not adversely impact Project vicinity receptors. This impact is less than significant, and no mitigation is required.

4.3.2.2 Long-Term Operational Impacts

Regional Operational Emissions Analysis

The Proposed Project would not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, would not generate quantifiable air quality emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Once the Project is completed, there will be no resultant increase in automobile trips. No impact would occur.

Localized Operational Emissions Analysis

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operations of a project only if the project includes stationary sources or attracts substantial amounts of heavy-duty trucks that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Proposed Project does not include such uses. Therefore, in the case of the Proposed Project, the operational LST protocol is not applied. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact.

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive land uses to the Project Area include residences and the Providence Mission Hospital.

4.3.2.3 Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NO_x, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The portion of the SoCAB which encompasses the Project Area is designated as a nonattainment area for federal O_3 and PM_{10} standards and is also a nonattainment area for the state standards for O_3, PM_{10}, and $PM_{2.5}$ (CARB 2019). Thus, existing O_3, PM_{10}, and $PM_{2.5}$ levels in the SoCAB are

at unhealthy levels during certain periods. However, as shown in Tables 4.3-1 and 4.3-2, the Project would not exceed the SCAQMD regional or localized significance thresholds for emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NO_x) in excess of the SCAQMD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the SCAQMD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. Based on the emission modeling conducted, the maximum onsite construction-related daily emissions of exhaust PM_{10}, considered a surrogate for DPM and includes emissions of exhaust $PM_{2.5}$, would be 1.66 pounds per day for construction activities associated with the Proposed Project (see Attachment A). PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SCAQMD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

4.3.2.4 Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract mobile sources that spend long periods queuing and idling at the site. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

According to the SCAQMD, land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified by the SCAQMD as being associated with odors. During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. There is no impact, and no mitigation is required.

4.3.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.4 Biological Resources

4.4.1 Environmental Setting

The Project Area is characterized primarily by a paved road consisting of Sunset Avenue and Mar Vista Avenue with adjacent landscaped areas, development, and some native habitat in a suburban setting. The

northern section of the Project Area is surrounded by existing development and residential areas that have ornamental landscaping, including mature trees with evidence of trimming. The southern section of the Project Area is surrounded by commercial development (Mission Hospital) and landscaped areas, including mature trees subject to tree trimming, to the southwest and native habitat and disturbed areas to the northeast.

Analysis in this section is based on the biological reconnaissance survey conducted by ECORP biologists in January 2022 for the Proposed Project (Appendix B; ECORP 2022a). During the survey, multiple observations of moderate to high levels of disturbance including vehicular traffic and pedestrian recreational activities (i.e., cycling, dog walking, jogging, hiking) were documented. Surveys for special-status plants were conducted on May 26, 2022, based on the expected blooming periods of the target plant species. Surveys for coastal California gnatcatcher were conducted in accordance with the *1997 Coastal California Gnatcatcher Presence/Absence Survey Guidelines* published by the USFWS (USFWS 1997).

4.4.1.1 Vegetation Communities

Vegetation communities and other land cover types observed within the biological survey area (BSA) included California Sagebrush Scrub (*Artemisia californica* Shrubland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), Bigpod Ceanothus Chaparral (*Ceanothus megacarpus* Shrubland Alliance), developed, residential, landscaped, and disturbed areas.

California Sagebrush Scrub (Artemisia californica Shrubland Alliance)

California Sagebrush Scrub is a common vegetation community near the coast of Southern California. The California Sagebrush Scrub that was observed within the BSA during the survey was dominated by California sagebrush (*Artemisia californica*) and lemonade berry (*Rhus integrifolia*) with California buckwheat (*Eriogonum fasciculatum*), California brittlebush (*Encelia californica*), and coastal prickly pear (*Opunita littoralis*). This community was mostly observed to the northwest of the Project Area, within the 100-foot buffer, but was also mapped along the margins of the Project Area. In addition, disturbed Coastal Sage Scrub, with sparse shrubs and a higher level of herbaceous and nonnative vegetation, was mapped within the proposed staging area for the Project. A total of 0.007 acre and 1.329 acres of California Sagebrush Scrub was mapped within the Project Area and the 100-foot buffer, respectively. A total of 0.086 acre and 0.129 acre of disturbed California Sagebrush Scrub was mapped within the Project Area and the 100-foot buffer, respectively.

California Buckwheat Scrub (Eriogonum fasciculaltum Shrubland Alliance)

California Buckwheat Scrub is a common vegetation community near the coast of Southern California. In California Buckwheat Scrub communities, California Buckwheat or chaparral yucca (*Hesperoyucca whipplei*) is dominant or co-dominant in the shrub layer with species such as deerweed (*Acmispon glaber*), California sagebrush, coyote brush (*Baccharis pilularis*), sticky monkeyflower (*Diplacus aurantiacus*), California brittlebush, brittlebush (*Encelia farinosa*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). The California Buckwheat Scrub that was observed within the BSA during the survey was dominated by California buckwheat with California sagebrush, California brittlebush, and laurel sumac (*Malosa laurina*).

This community was observed at the southeastern extent of the BSA within the 100-foot buffer. This community was not observed within the Project Area. A total of 0.045 acre of California Buckwheat Scrub was mapped within the 100-foot buffer.

Bigpod Ceanothus Chaparral (Ceanothus megacarpus Shrubland Alliance)

Bigpod Ceanothus Chaparral is a common vegetation community near the coast of Southern California. In Bigpod Ceanothus Chaparral communities, bigpod ceanothus is dominant in the shrub layer with species such as chamise (*Adenostoma fasciculatum*), red shanks (*Adenostoma sparsifolium*), greenbark ceanothus (*Ceanothus spinosus*), coastal buckwheat (*Eriogonum cinereum*), chaparral yucca, toyon (*Heteromeles arbutifolia*), laural sumac, scrub oak (*Quercus berberidifolia*), lemonade berry, and black sage. The Bigpod Ceanothus Chaparral that was observed within the BSA during the survey was dominated by bigpod ceanothus with toyon, laurel sumac, and lemonade berry. This community was observed in two patches to the northwest of the Project Area within the 100-foot buffer. This community was not observed within the Project Area. A total of 0.543 acre of Bigpod Ceanothus Chaparral was mapped within the 100-foot buffer.

Developed

Developed land is not a vegetation classification, but rather a land cover type. Areas designated as developed land have infrastructure present and are devoid of vegetation due to lack of growing substrate. Developed areas are distributed throughout the Project Area and include Mission Hospital, Sunset Avenue, Mar Vista Avenue, and 3rd Avenue. A total of 0.338 acre and 2.484 acres of developed land was mapped within the Project Area and the 100-foot buffer, respectively.

Residential

Residential land is not a vegetation classification, but rather a land cover type. Areas designated as residential were characterized by single family residences surrounding by ornamental landscaping, including mature eucalyptus trees (*Eucalyptus* sp.). Other common ornamental landscaping species observed in the residential areas included Krantz aloe (*Aloe arborescens*), African daisy, (*Dimorphotheca*), pride of madeira (*Echium candicans*), lantana (*Lantana camara*), sea lavender (*Limonium* sp.), and ice plant (*Carpobrotus* sp.). A total of 0.052 acre and 3.658 acres of residential land was mapped within the Project Area and the 100-foot buffer, respectively.

Landscaped

Landscaped land is not a vegetation classification, but rather a land cover type. Areas designated as landscaped were found surrounding Mission Hospital and were characterized by a mix of larger ornamental and naturalized trees, ornamental shrubs, and native shrubs. Common species observed in the landscaped areas included crimson bottlebrush (*Callistemon citrinus*), red gum (*Eucalyptus camaldulensis*), blue gum (*Eucalyptus globulus*), Canary Island pine (*Pinus canariensis*), Aleppo pine (*Pinus halepensis*), and coastal wattle (*Acacia cyclops*). Native plant species, including California buckwheat, toyon, laurel sumac, lemonade berry, and coastal prickly pear, were also present in the landscaped areas at lower cover. A large stand of red gum trees with evidence of previous tree trimming were present within the southern portion of the landscaped area within the BSA. A total of 0.051 acre and 1.964 acres of landscaped land was mapped within the Project Area and the 100-foot buffer, respectively.

Disturbed

Disturbed land is not a vegetation classification, but rather a land cover type. Areas designated as disturbed were found to have been heavily influenced by human actions and were mostly devoid of vegetation, but lacked development. Soils in these areas tended to have some level of compaction and vegetation was typically limited to low growing herbaceous species, but also included some native shrubs. A total of 0.019 acre and 0.239 acre of disturbed land was mapped within the Project Area and the 100-foot buffer, respectively.

4.4.1.2 Wildlife

Thirteen different species were observed or detected during the survey, with the majority of those being bird species.

4.4.1.3 Soils

Soils onsite consisted of Anaheim clay loam, 15 to 30 percent slopes; Modjeska gravelly loam, 15 to 30 percent slopes; Soper gravelly loam, 30 to 50 percent slopes, Major Land Resource Areas (MLRA) 20; Xerorthents loamy, cut and fill areas, 15 to 30 percent slopes; and Soper gravelly loam, 15 to 30 percent slopes, MLRA 20 (NRCS 2022). Most soils onsite were compact with the exception of soils in the landscaped area. Evidence of erosion was prominent on the west slopes of the hillside along the eastern edge in the southern half of the Project Area.

4.4.1.4 Potential Waters of the U.S.

The boundaries of Jurisdictional Waters were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. A Delineation Area (DA) was established that included the Project limits, potential staging area and areas where features were suspected to extend outside of the Project limits. The DA was approximately the same as the BSA but did not include the buffer.

4.4.1.5 Special-Status Plants

The literature review and database searches identified 46 special-status plant species that occur in or near the Project Area. A list was generated from the results of the literature review and the database search, and the Project Area was evaluated for suitable habitat that could support any of the special-status plant species on the list. However, due to the Project Area being disturbed and surrounded by developed areas, many of the species are presumed absent from the Project Area.

4.4.1.6 Special-Status Wildlife

The literature review and database searches identified 52 special-status wildlife species that occur in or near the Project Area. A list was generated from the results of the literature review and the database search, and the BSA was evaluated for suitable habitat that could support any of the special-status wildlife species on the list. However, due to the Project Area being disturbed and surrounded by developed areas, many of the species are presumed absent from the Project Area.

4.4.1.7 Wildlife Movement Corridors

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions.

The Project Area is mostly surrounded by commercial and residential development to the north, west, and south and wildlife movement opportunities connecting the Project Area to large, undeveloped natural areas in those directions are limited.

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Special-Status Plants

Of the 46 special-status plants identified, 33 are presumed to be absent, 9 were determined to have a low potential to occur, and 4 were determined to have a moderate potential to occur. Species are presumed to be absent due to lack of suitable habitat within the Project Area, the Project Area being outside the known elevation range for that species, and/or the species not being observed during the biological reconnaissance survey. No rare plant species were detected during the 2022 focused surveys.

Plant Species with a High Potential to Occur

Due to the Project Area being mostly disturbed or developed with only marginally suitable habitat, for the special-status plant species identified in the literature review, no special-status plant species were found to have a high potential to occur.

Plant Species with a Moderate Potential to Occur

Four species were found to have a moderate potential to occur within the Project Area including aphanisma (*Aphanisma blitoides*), intermediate mariposa lily (*Calochortus weedii var. intermedius*), decumbent gonldenbush (*Isocoma menziesii* var. *decumbens*), and big-leaved crownbeard (*Verbesina dissita*). Aphanisma, intermediate mariposa lily, and decumbent goldenbush, have a California Rare Plant Ranking (CRPR) of 1B.2 meaning they are moderately threatened in California and rare, threatened, or

endangered elsewhere. Big-leaved crownbeard has a CRPR of 1B.1 meaning it is seriously threatened in California and rare, threatened, or endangered elsewhere. Multiple recent (i.e., less than 20 years old) herbarium records exist within five miles of the Project Area for these species and the CSS habitat along the margins of the Project Area and the disturbed CSS habitat within the staging area provide marginally suitable habitat for these species. In addition, the Project Area is within the known elevation range for these species.

Plant Species with a Low Potential to Occur

The following species were found to have a low potential to occur in the Project Area because limited habitat for the species occurs in the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area or a historic documented observation (i.e., more than 20 years old) was recorded within five miles of the Project Area, or suitable habitat strongly associated with the species occurs in the Project Area, but no records were found in the database search:

- South coast saltscale (*Atriplex pacifica*) CRPR 1B.2
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*) CRPR 1B.2.
- Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) CRPR 1B.2.
- Pendleton button-celery (*Eryngium pendletonense*) CRPR 1B.1.
- Palmer's grapplinghook (*Harpagonella palmeri*) CRPR 4.2.
- Mesa horkelia (*Horkelia cuneata* var. *puberula*) CRPR 1B.1.
- Little mousetail (*Myosurus minimus* ssp. *apus*) CRPR 3.1.
- White rabbit-tobacco (*Pseudognaphalium leucocephalum*) CRPR 2B.2
- San Bernardino aster (*Symphyotrichum defoliatum*) CRPR 1B.2.

Special-Status Wildlife

The literature search documented 52 special-status wildlife species in the vicinity of the Project Area, 17 of which are federally and/or state-listed or candidates for listing. Of the 52 special-status wildlife species identified in the literature review, 3 were found to have a moderate potential to occur and 2 were found to have a low potential to occur; the remaining 47 species are presumed absent from the Project Area due to lack of habitat. The presence of anthropogenic disturbances, proximity to urban development, and limited connectivity of the Project Area to native habitat blocks likely preclude these species from occurring on or adjacent to the Project Area. None of the sensitive wildlife species with a potential to occur in the area were observed during the reconnaissance survey.

Wildlife Species with High Potential to Occur

Due to the Project Area's location in a predominately urban setting, location in an almost entirely surrounded by development, and the current lack of suitable habitat for the special-status wildlife species

identified in the literature review, no special-status wildlife species were found to have a high potential to occur.

Wildlife Species with a Moderate Potential to Occur

Three species were found to have moderate potential to occur in the Project Area because either habitat for the species occurs in the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area; an historic documented observation (more than 20 years old) was recorded within five miles of the Project Area; or a known occurrence within five miles of the Project Area and marginal or limited amounts of habitat occurs in the Project Area.

- Crotch bumble bee (*Bombus crotchii).* California Department of Fish and Wildlife (CDFW) candidate for listing as endangered. Two recent (i.e., less than 20 years old) records of the species exist within five miles of the Project Area. The disturbed CSS habitat within the staging area provide limited suitable habitat for these species and the CSS and chaparral habitats along the margins of the Project Area provide suitable habitat for these species.

- Monarch butterfly (overwintering population) (*Danaus plexippus* pop. 1). Federal candidate for listing as endangered. Two recent records of the species occur within five miles of the Project Area. Limited roost habitat is present in the red gum and other eucalyptus trees within the Project Area and along the margins of the Project Area within the landscaped and residential portions of the BSA.

- Coastal California gnatcatcher (*Polioptila californica californica*). Coastal California gnatcatcher is listed as threatened under FESA and a CDFW SSC. Coastal California gnatcatcher is also a covered species under the NCCP/HCP. Recent records of the species occur within 5 miles of the Project Area. Disturbed California Sagebrush Scrub habitat is present in the Project Area within the staging area and CSS habitat is present immediately adjacent to the Project Area within the southeastern portion of the BSA. The coastal California gnatcatcher was presumed to be absent at this time since this species was not detected during the 2022 focused surveys. Construction of the Project will not contribute to the overall decline of the gnatcatcher and no impacts to this species is anticipated to result from this Project.

Wildlife Species with a Low Potential to Occur

Five species were found to have a low potential to occur in the Project Area because limited and/or marginal habitat for the species occurs in the Project Area and a known occurrence has been reported in the database, but not within five miles of the Project Area or an historic documented observation (more than 20 years old) was recorded within five miles of the Project Area, or suitable habitat strongly associated with the species occurs in the Project Area, but no records or only historic records were found in the database search:

- Western spadefoot (*Spea hammondii*) CDFW SSC.

- Dulzura pocket mouse (*Chaetodipus californicus femoralis*) CDFW SSC.

- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) CDFW SSC.

- San Diego desert woodrat (*Neotoma lepida intermedia*) CDFW SSC.
- Southern grasshopper mouse (*Onychomys torridus ramona*) CDFW SSC.

Raptors and Migratory Birds

Nesting habitat for migratory birds and raptors protected by the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code was present in and immediately adjacent to the Project Area and within the BSA. Nesting habitat within and in proximity to the Project Area included structures (e.g., buildings), vegetation, and trees. During the biological reconnaissance survey, an Anna's hummingbird (*Calypte anna*) was observed building a nest in a red gum tree in a landscaped area southwest of the Project Area. The Project Area is almost completely surrounded by development, urban landscaping, and a high level of existing anthropogenic activity; it is likely that nesting activity is low due to the presence of existing disturbance. However, it is possible that bird species protected under the MBTA, especially birds adapted to an urban setting could use the Project Area for nesting purposes, as evidenced by the Anna's hummingbird nest observed during the survey. Raptors typically breed between February and August, and songbirds and other passerines generally nest between March and August.

Impacts to special-status plants and wildlife and nesting birds would be less than significant with the implementation of Mitigation Measures **BIO-1** through **BIO-3**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less Than Significant with Mitigation Incorporated.

The Project Area is not located within any USFWS-designated critical habitat; however, USFWS-designated final critical habitat for California gnatcatcher is approximately 0.5 mile east and 0.7 mile northwest of the Project Area. In general, the Project site consists of disturbed, landscaped, and/or developed land. A small amount of disturbed California sagebrush scrub occurs within the Project Site and proposed staging area. Riparian habitat is not located within the Project Area. California sagebrush scrub occurs mostly within the 100-foot buffer but was also mapped along the margins of the Project site. Implementation of Mitigation Measures **BIO-2** and **BIO-3** would reduce impacts to a less than significant level.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

Less than Significant Impact.

The jurisdictional delineation found four features within the Delineation Area (DA), which included the Project limits, potential staging area, and areas where features were suspected to extend outside of the Project limits. The features were labeled as JD1, JD2, Erosional Feature, and JD3. Of the four features identified, two are potentially jurisdictional to the CDFW, Regional Water Quality Control Board (RWQCB), and United States Army Corps of Engineers (USACE). JD1 is located at the northerly extent of the DA and JD3 is at the southern end of the DA, with both of the other features in the middle.

JD1 is a concrete apron and standpipe next to the paved road that collects road runoff and residential runoff, plus some minimal storm flow from the hills to the east. To the east is a small earthen drainage that starts in the adjacent hills and runs between residences to enter the concrete apron. The standpipe, and associated storm drain enter a storm drain system that appears to be about eight feet below the paved road surface. Earthen portions of this feature are located outside of the Project limits and are dominated by nasturtium (*Tropaeolum majus*) and wood sorrel (*Oxalis* sp.) in the earthen part of the drainage. The ordinary high-water mark (OHWM) that is present within earthen portions of the drainage is hardly detectable, consisting primarily of slight vegetative differences in the earthen part. The standpipe and storm drain seem primarily to service the road runoff. This drainage is considered to be potentially jurisdictional to the CDFW, RWQCB and USACE.

JD 2 is a non-jurisdictional feature with a standpipe and small road drainage system. Both the standpipe and road drain seem to collect sheet flow from off of the paved road, primarily. Neither feature contained any sign of OHWM.

Erosional feature is a small, non-jurisdictional gully running down a hillside along a trail. It connected to no canyons or gullies upstream, but seemed to be formed along compacted soil of the narrow trail.

JD 3 is a natural drainage that runs down a hillside to the east of the DA, entering a sandy sheet flow area and crossing into a large concrete apron that contains a standpipe. This standpipe likely then enters into a municipal storm drain beneath the paved road surface. Coastal sage scrub and disturbed areas surround the drainage and concrete apron. Signs of OHWM included bed and bank topography, scouring, changes in vegetation types and sediment deposits. This drainage is considered to be potentially jurisdictional to the CDFW, RWQCB and USACE.

No wetlands were recorded in the Project Area. Any impacts to the potentially jurisdictional features would be temporary in nature as the streets affected by construction would be repaved to their pre-disturbance conditions. Impacts would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

Less than Significant Impact.

The Project Area is mostly surrounded by commercial and residential development to the north, west, and south and wildlife movement opportunities connecting the Project Area to large, undeveloped natural areas in those directions are limited. The southeastern portion of the Project Area is immediately adjacent to an open space that provides opportunities for wildlife movement to both habitat to the north and south. The presence of anthropogenic influences (e.g., human activity, vehicles, domestic animals) and general lack of native vegetation in most of the Project Area severely limits travel opportunities for wildlife species with the exception of those adapted to an urban setting (e.g., coyote (*Canis latrans*)). The Project Area is not considered, nor is a part of, a major wildlife movement corridor or linkage; however, it is immediately adjacent to a wildlife movement corridor. Impacts would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

No Impact.

The Proposed Project would be located within the existing public ROW where there are no biological resources, such as trees. The Laguna Beach Municipal Code (LBMC) Chapter 12 *Trees and Vegetation* outlines the tree removal permit process and categorization of trees as on the City's Heritage Tree List (Category I), trees on a landscape plan approved through the design review process (Category II), and trees privately maintained located in the public ROW (Category III). The tree preservation ordinance, as stated in LBMC Chapter 12.08 *Preservation of Heritage Trees*, establishes the criteria for heritage trees and permit process for tree removal, destruction, or substantial alteration. LBMC Chapter 12.18 *Protection and Restoration of Native Vegetation* provides regulations for the protection, preservation and, where removed or damaged without authorization, restoration of native vegetation and the viability of native species and

plant communities. The Proposed Project does not require the removal of any biological resources, therefore there is no conflict with any local policies protecting biological resources, such as the City's tree preservation policies. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

No Impact.

The Project is located within the Orange County Central and Coastal NCCP/HCP (NCCP/HCP) area; however, SCWD is not a participating landowner in the NCCP/HCP, nor are the Cities of Laguna Beach or Laguna Niguel signatory jurisdictions. Implementation of the Proposed Project would not conflict with the provisions of an adopted plan and no impact would occur.

4.4.3 Mitigation Measures

BIO-1: **Preconstruction Nesting Bird Survey:** If construction or other Project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a preconstruction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests will not be disturbed or destroyed on the Project site, or adjacent sites. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project site and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-2: **Biological Monitoring:** A qualified biologist shall be present to monitor all ground-disturbing and vegetation-clearing activities (including but not limited to trimming, mowing, grubbing) conducted for the Project. During each monitoring day, the biological monitor shall perform clearance survey "sweeps" at the start of each workday that vegetation clearing takes place to avoid impacts to Environmentally Sensitive Areas and minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring shall take place until the Project site has been completely cleared of any vegetation. The biological monitor will have the authority (and appropriate

handling permits if required) to temporarily halt activities to move wildlife out of harm's way by means of hazing or short-distance capture and release. If an active nest is identified, then the biological monitor shall establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist.

BIO-3: **Worker Education and Environmentally Sensitive Areas:** Limits of Environmentally Sensitive Areas will be established around special-status natural resources (i.e., CSS) that are to remain intact immediately prior to and/or in coordination with the staking of grading limits. The contractor shall install Environmentally Sensitive Area (silt) fencing around Environmentally Sensitive Areas and/or along Environmentally Sensitive Area interface with grading limits under the guidance of a biological monitor to minimize impacts to sensitive natural resources including special-status plant species and native plant communities outside and immediately adjacent to the grading limits. Construction activities and personnel will be restricted within Environmentally Sensitive Areas and a biological monitor will be present during Environmentally Sensitive Area fence installation and removal. A qualified biologist will conduct Worker Environmental Awareness Training to all construction personnel prior to initial clearing and ground-disturbing activities and as necessary throughout construction. A sign-in sheet signed and dated by each trainee and acknowledging they have been made aware of environmental laws, regulations, non-compliance penalties, and Project specific mitigation measures will be maintained by the Project Biologist.

4.5 Cultural Resources

4.5.1 Environmental Setting

Sediments within the Project Area consists of old Quaternary deposits (Qo) described as sand, gravel, and clay from modern streams. Although Pleistocene sediments can be contemporaneous with early human occupation of the region, cultural deposits are more commonly identified in younger Holocene sediments. However, the records search revealed the presence of 12 precontact resources within one mile of the Project Area and thus the likelihood for buried precontact archaeological resources within the Project Area is considered low to moderate (ECORP 2022b).

4.5.1.1 Cultural Resources

A Cultural Resources Inventory and Evaluation Report was prepared by ECORP Consulting, Inc. (ECORP 2022b) for the Proposed Project to determine if cultural resources were present in or adjacent to the Area of Potential Effects (APE) and assess the sensitivity of the APE for undiscovered or buried cultural resources. The terms Project Area and APE are interchangeable for the purpose of this document. The inventory included a records search, literature review, and field survey.

Ethnographic accounts of Native Americans indicate that the Gabrieliño (also known as Gabrieliño, or Tongva) once occupied the region that encompasses the Project Area. At the time of contact with

Europeans, the Gabrieliño were the main occupants of the southern Channel Islands, the Los Angeles Basin, much of Orange County, and extended as far east as the western San Bernardino Valley. The Gabrieliño are believed to have been one of the most populous and wealthy Native American tribes in southern California prior to European contact and spoke a Takic language. The Takic group of languages is part of the Uto-Aztecan language family (ECORP 2022b).

The analysis of cultural resources was based on a records and literature search conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) at California State University-Fullerton on January 6, 2022, a literature review, and a field survey conducted on April 8, 2022. The purpose of the records search was to determine the extent of previous surveys within a one-mile radius of the Proposed Project location, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area. The literature search included the results of previous surveys within a one-mile radius of the Proposed Project location.

In addition to the records search, a search of the Sacred Lands File (SLF) by the California Native American Heritage Commission (NAHC) was requested on January 6, 2022. The search will determine whether or not the California Native American tribes within the Project Area have recorded Sacred Lands, because the SLF is populated by members of the Native American community with knowledge about the locations of tribal resources. The search of the SLF as conducted by the NAHC was positive, indicating the presence of previously recorded Native American resources in the Project Area.

4.5.2 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	☒

No Impact.

The records search results revealed that the Project Area falls within the South Laguna-Three Arches historic district boundaries; however, none of the contributing elements to the district are located within the direct APE. In addition, the Proposed Project does not include any work to private properties and structures and no impact would occur. Therefore, this analysis does not consider the South Laguna-Three Arches historic district further.

As a result of the field survey, the three historic-period resources were observed and recorded within the Project Area. MHP-001 is a historic-period road, known as Sunset Avenue. MHP-002 is a historic-period road, known as Mar Vista Avenue. MHP-003 is a historic-period road, known as Third Avenue.

MHP-001, MHP-002, and MHP-003 do not meet National Register of Historic Places (NRHP) or California Register of Historic Places (CRHR) eligibility criteria as an individual resource, nor as a part of any known or suspected district.

Additionally, the records search revealed one historic-period resource in the Project Area, P-30-160186, the South Laguna District, comprised of cottages and bungalows overhanging the beach that date between 1924 to 1940 and which is eligible for the NRHP; however, none of these elements are located within the direct APE.

The nearest resource listed as a California Historical Landmark is the Crystal Cove Historic District, which is located 7.60 miles northwest of the Project Area.

The Project will have no impact on any known Historic Properties, as defined under Section 106 of the NHPA, or Historical Resources, as defined under CEQA. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The records search determined that 12 pre-contact cultural resources are located within one mile of the Project Area and thus the likelihood for buried precontact archaeological resources within the Project Area is considered low to moderate. Ground disturbance associated with this Project has the potential to impact surface and previously unknown subsurface cultural resources should any be present. Impacts would be less than significant with incorporation of Mitigation Measure **CUL-1**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated.

No formal cemeteries are located in or near the Project Area. Most Native American human remains are found in prehistoric archaeological sites. No impacts to human remains are anticipated; however, if any are encountered during ground disturbing construction activities, existing regulations (§7050.5 of the California Health and Safety Code, §5097.98 of the California Public Resources Code, and Assembly Bill [AB] 2641) are in place which detail the actions that must be taken if such discoveries are made. Implementation of Mitigation Measure **CUL-1** would reduce impacts to a less than significant level.

4.5.3 Mitigation Measures

CUL-1: If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified

professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgement. The following notifications shall apply, depending on the nature of the find:

4. If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

5. If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead federal agency, the lead CEQA agency, and applicable landowner. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

6. If the find includes human remains, or remains that are potentially human, they shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Orange County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

4.6.1 Environmental Setting

Energy consumption is analyzed in this Initial Study due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (oil, natural gas, coal, etc.) and emissions of pollutants during the construction phase. The impact analysis focuses on the source of energy that is relevant to the Proposed Project: the equipment-fuel necessary for Project construction.

4.6.1.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commission [CEC] 2018a). Southern California Edison (SCE) provides electrical services to City of Laguna Beach through state-regulated public utility contracts. Southern California Edison, the largest subsidiary of Edison International, is the primary electricity supply company for much of Southern California. It provides 14 million people with electricity across a service territory of approximately 50,000 square miles.

The California Public Utilities Commission (CPUC) regulates SCE. The CPUC has developed energy efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the CEC maintains a power plant data base that describes all of the operating power plants in the state by county. Orange County contains 20 power plants generating electricity, of which 11 are natural gas-fired, 4 are biomass-powered, 3 are hydro-powered, 1 is solar-powered, and one is a fuel cell energy plant (CEC 2021).

4.6.1.2 Existing Transmission and Distribution Facilities

The components of transmission and distribution systems include the generating facility, switching yards and stations, primary substation, distribution substations, distribution transformers, various sized transmission lines, and the customers. The United States contains over a quarter million miles of transmission lines, most of them capable of handling voltages between 115 kilovolts (kv) and 345 kv, and a handful of systems of up to 500 kv and 765 kv capacity. Transmission lines are rated according to the amount of power they can carry, the product of the current (rate of flow), and the voltage (electrical pressure). Generally, transmission is more efficient at higher voltages. Generating facilities, hydro-electric dams, and power plants usually produce electrical energy at fairly low voltages, which is increased by transformers in substations. From there, the energy proceeds through switching facilities to the transmission lines. At various points in the system, the energy is "stepped down" to lower voltages for distribution to customers. Power lines are either high voltage (115, 230, 500, and 765 kv) transmission lines or low voltage (12, 24, and 60 kv) distribution lines. Overhead transmission lines consist of the wires carrying the electrical energy (conductors), insulators, support towers, and grounded wires to protect the lines from lightening (called shield wires). Towers must meet the structural requirements of the system in several ways. They must be able to support both the electrical wires, the conductors, and the shield wires under varying weather conditions, including wind and ice loading, as well as a possible unbalanced

pull caused by one or two wires breaking on one side of a tower. Every mile or so, a "dead-end" tower must be able to take the strain resulting if all the wires on one side of a tower break. Every change in direction requires a special tower design. In addition, the number of towers required per mile varies depending on the electrical standards, weather conditions, and the terrain. All towers must have appropriate foundations and be available at a fairly regular spacing along a continuous route accessible for both construction and maintenance. A right-of-way is a fundamental requirement for all transmission lines. A right-of-way must be kept clear of vegetation that could obstruct the lines or towers by falling limbs or interfering with the sag or wind sway of the overhead lines. If necessary, land acquisition and maintenance requirements can be substantial. The dimensions of a right-of-way depends on the voltage and number of circuits carried and the tower design. Typically, transmission line rights-of-way range from 100 to 300 feet in width. The electric power supply grid within Orange County is part of a larger supply network operated and maintained by SCE that encompasses a large portion of the Southern California region. This system ties into yet a larger grid known as the California Power Pool that connects with the San Diego Gas and Electric and Pacific Gas and Electric Companies. These companies coordinate the development and operation, as well as purchase, sale, and exchange of power throughout the State of California.

4.6.1.3 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh) and vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. This Initial Study focuses on the sources of energy that are relevant to the Proposed Project: the equipment-fuel necessary for Project construction and material hauling.

Fuel consumption during Project construction is analyzed in this analysis as the primary source of energy use that is relative to the Proposed Project. Automotive fuel consumption in Orange County from 2017 to 2021 is shown in Table 4.6-1.

Table 4.6-1. Automotive Fuel Consumption in Orange County 2017-2021

Year	Total Fuel Consumption (gallons) Orange County	
	Onroad Fuel	Construction-Related Fuel
2021	1,350,661,000	17,639,994
2020	1,205,052,000	17,836,215
2019	1,364,877,000	17,345,699
2018	1,337,424,000	16,848,878
2017	1,346,344,000	16,349,545

Source: CARB 2021

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Less than Significant Impact.

The impact analysis focuses on the sources of energy that are relevant to the Proposed Project: the equipment-fuel necessary for Project construction and material hauling. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project construction is calculated and compared to all that consumed by construction activity throughout Orange County.

The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. (See Appendix C). Energy consumption associated with the Proposed Project is summarized in Table 4.6-2.

Table 4.6-2. Proposed Project Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Project Construction Year One	28,473 gallons	0.16 percent

Source: Climate Registry 2016. See Appendix C.
Notes: The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2020, the most recent full year of data. The Project increases in electricity consumption is compared with all the non-residential uses in the Los Angeles County in 2020, the latest data available.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project Area. The fuel expenditure necessary to construct the physical infrastructure would be temporary, lasting only as long as Project construction. Fuel consumption data is only available in yearly increments; and provides an overly conservative estimate of Project fuel consumption as it is estimated to occur for a duration of 3.5 months. As shown, the Project's fuel consumption during construction is estimated to be 28,473 gallons. This would increase the combined annual countywide construction-related fuel use by 0.16 percent for all construction activities conducted for the Project. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and

federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Proposed Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

The Proposed Project would not include the provision of new buildings or any other substantial energy consuming components. Nor would the Project instigate new gasoline-consuming vehicle trips over existing conditions. Therefore, by its nature, the Project would not cause wasteful, inefficient, and unnecessary consumption of energy from long-term operations over existing conditions.

For these reasons, this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Less than Significant Impact.

The Proposed Project includes the replacement of approximately 2,000 linear feet of undersized water main with appropriately sized 12-inch water main in order to provide the required 4,000 gpm of fire flow at a 20-psi residual pressure and does not include any activities or operations beyond this. The Project is subject to all local, state, and federal standards set in place to promote the use of renewable energy or energy efficiency. Conformance with these standards ensures that the Project would not obstruct any renewable energy or energy efficiency plans.

For these reasons, this impact would be less than significant.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The City of Laguna Beach captures interactions between the ocean and coastline through its rocky cliffs, tide pools, sea caves, boulders, and arches. The San Joaquin Hills, which extend from just south of the City boundary near Salt Creek to north of Crystal Cove, are a defining feature of Laguna Beach. This landform separates the alluvial plain/former agricultural area of Orange County from the coast. The San Joaquin Hills is composed primarily of the Topanga Sandstone and San Onofre breccia formations. lies within the geologically active Southern California region, which is subject to earthquakes of varying magnitudes. The

two principal streams that flow through Laguna Beach-Laguna Creek and Aliso Creek, have produced canyons that reveal the two major geological formations of the town (City of Laguna Beach 2018).

4.7.1.2 Regional Seismicity and Fault Zones

An "active fault," according to California Department of Conservation, Division of Mines and Geology, is a fault that has indicated surface displacement within the last 11,000 years. A fault that has not shown geologic evidence of surface displacement in the last 11,000 years is considered "inactive." There is one active fault in the Laguna Beach area: the Newport Inglewood fault. The fault is located approximately two miles from the City and is estimated to have a one percent probability of generating a 6.7M earthquake or greater. This fault is a sub-surface fault that is not expected to cause surface ruptures, and therefore is not mapped according to the Alquist-Priolo Earthquake Fault Zoning Act. There are no Alquist-Priolo Earthquake Fault Zones that run through Laguna Beach (City of Laguna Beach 2021).

Laguna Beach is within a seismically active region and earthquakes have the potential to cause ground shaking of significant magnitude. The major regional fault with potential to affect Laguna Beach is the San Andreas faults. The City of Laguna Beach is approximately 52 miles from the San Andreas Fault (City of Laguna Beach 2021).

4.7.1.3 Soils

According to the United States Department of Agriculture (USDA)'s Natural Resources Conservation Science (NRCS) Web Soil Survey website, four soil types are located within the Project Area. These soil types are Soper gravelly loam, 30 to 50 percent slopes; Modjeska gravelly loam, 15 to 30 percent slopes; Xerorthents loamy, cut and fill areas, 15 to 30 percent areas; Anaheim clay loam, 15 to 30 percent slopes; and Soper gravelly loam, 15 to 30 percent slopes (NRCS 2022).

4.7.1.4 Paleontological Resources

A paleontological assessment was prepared by ECORP Consulting, Inc. (ECORP 2022c, Appendix D) for the Proposed Project to determine if paleontological resources were present in or adjacent to the Project area and assess the sensitivity of the Project area for undiscovered paleontological resources. The Natural History Museum of Los Angeles County (NHMLA) Vertebrate Paleontology Section conducted a database search and provided more details about the geology and the probability of finding fossil specimens in the Project Area.

A paleontological database search of the paleontology locality and specimen collection records for the Project Area was requested from the NHMLA in January 2022. There are not any fossil localities that lie directly within the Project Area, but there are fossil localities nearby from the same sedimentary deposits that occur in the in the proposed area, either at the surface or at depth. The nearest NHMLA locality is 6,000 feet (slightly over a mile) to the northwest. The sediments within the Project Area are the San Onofre Breccia and Pleistocene sediments. Both are listed in the records search as having produced fossils in the area.

A pedestrian survey was conducted on February 28, 2022, for the Project Area. Marine terrace deposits constituted the majority of the geological exposures above ground. No fossils were detected as a result of the pedestrian survey.

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐

No Impact.

i) The Newport Inglewood fault is the only active fault in the Laguna Beach area. It is located offshore near Dana Point, and passes through the northwestern part of Orange County. This fault is a subsurface fault that is not expected to cause surface ruptures, so it is not mapped according to the Alquist-Priolo Earthquake Fault Zoning Act. No known active faults are within the Project Area (City of Laguna Beach 2021). In the absence of any onsite active faults, no impact related to fault-rupture would occur in the Project Area and no mitigation is required.

Less than Significant Impact.

ii) Just like most of southern California, in the event of an earthquake strong ground shaking is expected to occur at the Project Area. The Proposed Project does not include the construction of habitable structures and therefore would not expose people or structures to strong seismic ground shaking greater than what currently exists. Water pipeline design and construction would comply with current applicable codes and standards which would reduce the risk of loss, injury, or death resulting from strong ground-shaking. Impacts would be less than significant, and no mitigation is required.

Less Than Significant Impact.

iii) Liquefaction is a phenomenon where water-saturated granular soil loses shear strength during strong ground shaking produced by earthquakes. The loss of soil strength occurs when cyclic pore water pressure increases below the groundwater surface. Potential hazards due to liquefaction include the loss of bearing strength beneath structures, possibly causing foundation failure and/or significant settlements.

Multiple areas of Laguna Beach are at risk of liquefaction, primarily the beaches and the canyon areas. The soils in these areas are sandy or loose sediment washed down the canyons by floods and creeks, and such material is prone to liquefaction. Specific risk areas are where SR-1 crosses below Emerald Canyon and the roads and properties of Laguna Canyon, Bluebird Canyon, and Aliso Canyon. The Project Area is located at the City's southern border. It is not located within an area that is known for being particularly susceptible to liquefaction (City of Laguna Beach 2021). Therefore, a less than significant impact would occur and no mitigation is required.

Less than Significant Impact.

iv) According to the City's General Plan, the part of Laguna Beach at risk of landslides are the areas at the bottom of canyons and along canyon slopes. Areas facing high or very high risk of sliding under normal conditions include the slopes on either side of Laguna, Bluebird, and Aliso canyons; the area north of the Temple Hill neighborhood; and many of the coastal bluffs. Additional areas that face a high risk of landslides in the event of an earthquake include the hills above Irvine Cove, Boat Canyon, and the Skyline Drive neighborhood. The Project Area is in South Laguna near a hillside. Landslide prone areas of the Project Area include portions of Mar Vista Avenue and Sunset Avenue, which are within an Earthquake-Induced Landslide Zone (City of Laguna Beach 2021). Project implementation would not exacerbate this existing condition therefore a less than significant impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than Significant Impact.

The Project Area is located within a developed area and within existing paved areas; however, implementation of the Proposed Project would require ground-disturbing activities, such as trenching, that could potentially result in soil erosion or loss of topsoil. Construction of the Proposed Project would be required to comply with the Construction General Permit, either through a waiver or through preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Best Management Practices (BMPs) are included as part of the SWPPP and would be implemented to manage erosion and the loss of topsoil during construction-related activities (see Hydrology and Water Quality (IX.)

Environmental Checklist and Discussion). Soil erosion impacts would be reduced to a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Less than Significant Impact.

As discussed above, the Project Area is located near a hillside identified by the City's General Plan as having potential for earthquake-induced landslides. The Project is not located in an area prone to liquefaction or lateral spreading. The General Plan noted that subsidence is not a potential hazard relevant to the City. The Proposed Project would not construct habitable structures. Therefore, implementation of the Proposed Project would not contribute to or expose people or structures to substantial adverse effects associates with on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Impacts would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒

No Impact.

Expansive soils shrink and swell in response to moisture due to high percentages of clay. Expansive soils can result in damage to structures when clay within the soil swells due to moisture. According to the USDA's NRCS Web Soil Survey website, four soil types are located within the Project Area. These soil types are Soper gravelly loam, 30 to 50 percent slopes, MLRA 20; Modjeska gravelly loam, 15 to 30 percent slopes; Xerorthents loamy, cut and fill areas, 15 to 30 percent areas; Anaheim clay loam, 15 to 30 percent slopes; and Soper gravelly loam, 15 to 30 percent slopes, MLRA 20 (NRCS 2022). The NRCS Web Soil Survey and Official Soil Series Descriptions (OSDs) did not include the expansion potential of the soils identified in the Project Area. However, the Project involves the replacement of pipelines within the public ROW and does not include any habitable structures. Therefore, it would not create a substantial direct or indirect risk to life or property. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No Impact.

The Proposed Project would install approximately 2,000 linear feet of water pipelines withing existing paved roads. No septic tanks or alternative wastewater disposals systems are proposed. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Given that parts of the Project pass through sediments listed as Pleistocene age, there is a possibility that paleontological resources exist at sub-surface levels in the Project Area and may be uncovered during grading and excavation activities. Implementation of Mitigation Measure **GEO-1** would ensure that if any such resources are found during construction of the Proposed Project, they would be handled according to the proper regulations and any potential impacts would be reduced to less than significant levels.

4.7.3 Mitigation Measures

GEO-1: Monitoring for paleontological resources should be done in sediments mapped as older alluvium (Qoa) and a Paleontological Resource Impact Management Plan shall be designed by a qualified paleontologist as defined by the criteria of the guidelines of the Society of Vertebrate Paleontology (2010). This plan shall adhere to the guidelines of the Society of Vertebrate Paleontology and shall include sampling of sediments to test for microvertebrate fossils. If paleontological resources (i.e., fossil remains) are discovered during excavation activities, the contractor will notify the City and cease excavation within 100 feet of the find until a qualified paleontological professional can provide an evaluation of the site. The qualified paleontological professional will evaluate the significance of the find and recommend appropriate measures for the disposition of the site (e.g. fossil recovery, curation, data recovery, and/or monitoring). Construction activities may continue on other parts of the construction site while evaluation and treatment of the paleontological resource takes place.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

Greenhouse gas (GHG) emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps more than 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_2e). Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

The local air quality agency regulating the Orange County portion of the SoCAB is the SCAQMD. To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff convened a GHG CEQA Significance Threshold Working Group. The Working Group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research (OPR), CARB, the Attorney General's Office, a variety of city and county planning departments in the Basin, various utilities such as sanitation and power companies throughout the Basin, industry groups, and environmental and professional organizations. The GHG CEQA Significance Threshold Working Group recommended the options of a numeric "bright-line" threshold of 3,000 metric tons of CO_2e annually and an efficiency-based threshold of 3.0 metric tons of CO_2e per service population (SP) (defined as the people that congregate in the Project Area) per year in 2035. The numeric bright line and efficiency-based thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

In Center for Biological Diversity v. Department of Fish and Wildlife (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, PRC section 21003(f) provides it is a policy of the state that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental,

physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The City of Laguna Beach may set a project-specific threshold based on the context of each particular project, including using the SCAQMD Working Group expert recommendation. This standard is appropriate for this Project because it pertains to the same air quality basin that the experts analyzed. For the Proposed Project, the SCAQMD's 3,000 metric tons of CO_2e per year threshold is used as the significance threshold in addition to the qualitative thresholds of significance set forth below from Section VII of CEQA Guidelines Appendix G. The 3,000 metric tons of CO_2e per year threshold represents a 90 percent capture rate (i.e., this threshold captures projects that represent approximately 90 percent of GHG emissions from new sources). The 3,000 metric tons of CO_2e per year value is typically used in defining small projects within this air basin that are considered less than significant because it represents less than one percent of future 2050 statewide GHG emissions target and the lead agency can provide more efficient implementation of CEQA by focusing its scarce resources on the top 90 percent. This threshold is correlated to the 90 percent capture rate for development projects within the air basin. Land use projects above the 3,000 metric tons of CO_2e per year level would fall within the percentage of largest projects that are worth mitigating without wasting scarce financial, governmental, physical, and social resources (Crockett 2011). As noted in the academic study, the fact that small projects below a numeric bright line threshold are not subject to CEQA-based mitigation, does not mean such small projects do not help the state achieve its climate change goals because even small projects participate in or comply with non-CEQA-based GHG reduction programs (Crockett 2011).

4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than Significant Impact.

A source of GHG emissions associated with the Proposed Project would be combustion of fossil fuels during construction activities. The construction phase of the Proposed Project is temporary but would

result in GHG emissions from the use of heavy construction equipment and construction-related vehicle trips. The operational phase would also result in GHG emissions, predominately from vehicle trips to the Project Area.

4.8.2.1 Construction Impacts

Construction-related activities that would generate GHGs include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4.8-1 illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Table 4.8-1. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/Year)
Project Construction	289
SCAQMD Screening Threshold	*3,000*
Exceed Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Appendix E for Model Data Outputs

As shown in Table 4.8-1, Project construction would result in the generation of approximately 289 metric tons of CO_2e over the course of construction. The generation of these GHG emissions would cease once construction is complete. Project GHG emissions are compared to SCAQMD's numeric bright-line threshold of 3,000 metric tons (MT) of CO_2e annually. As shown in Table 4.8-1, Project construction would not generate GHG emissions in excess of the significance threshold of 3,000 metric tons of CO_2e per year. Construction generated GHG emissions would be less than significant.

4.8.2.2 Operational Impacts

The Proposed Project would not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, would not generate quantifiable GHG emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Once the Project is completed, there will be no resultant increase in automobile trips, a source of GHG emissions. Thus, the Project would not exceed the SCAQMD's numeric bright-line threshold of 3,000 metric tons of CO_2e annually during operations. This threshold was developed to ensure at least 90 percent of new GHG emissions would be reviewed and assessed for mitigation, thereby contributing to the statewide GHG emissions reduction goals. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

No Impact.

The City of Laguna Beach has not adopted a Climate Action Plan (CAP) at the time of this analysis. However, the State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (SB 32) and 80 percent below 1990 levels by the year 2050 (Executive Order S-3-05). The Proposed Project is subject to compliance with SB 32. As discussed previously, the Proposed Project generated GHG emissions would not surpass GHG significance thresholds, which were prepared with the purpose of complying with these requirements

Additionally, Project-generated GHG emissions would not surpass the significance threshold of 3,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) established by the SCAQMD. The 3,000 $MTCO_2e$ threshold was prepared with the purpose of complying with statewide GHG-reduction efforts. Additionally, once implementation of the Project is complete it would not be a source of operational GHG emissions. As such, there is no impact.

4.8.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials

4.9.1 Environmental Setting

Although common household chemicals pose little threat to the community at large, hazardous materials and wastes used by business and industry present a greater risk. Mechanical dealerships, repair shops, gasoline, diesel fuel stations, and dry cleaners are examples of businesses that regularly use and store chemicals or other hazardous materials. The City does not have any properties or businesses identified on the Cortese List (City of Laguna Beach 2021). Pipelines and tanks within the City also transport and store chemicals that could pose a risk if failure occurs. The City's main truck routes include Highways 1 and 133, which allow for the transport of chemicals and materials into and out of the City.

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact.

Some hazardous materials, such as fuel, would be used during Project construction. The transport of hazardous materials by truck is regulated by federal safety standards under the jurisdiction of the U.S. Department of Transportation. The use of such materials for the construction of the Proposed Project would not create a significant hazard to the public. No hazardous materials would be transported, used,

or disposed of during Project operation. Impacts would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than Significant Impact.

As noted above some hazardous materials, such as fuel, would be used during construction. A SWPPP listing BMPs to prevent construction pollutants and products from violating any water quality standard or waste discharge requirements would be prepared for the Proposed Project. The release of any spills would be prevented through the implementation of BMPs listed in the SWPPP. Impacts would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

No Impact.

The Proposed Project is located approximately 0.95 miles southeast of Annelise School – Aliso Campus, a private preschool in the City. The Project is located more than one-quarter mile from an existing or proposed school. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact.

A search of the Department of Toxic Substances Control's (DTSC) Hazardous Waste and Substances Site List (Cortese List) and EnviroStor online database, USEPA Enviromapper, and the State Water Resources Control Board (SWRCB) GeoTracker online database was conducted for the Project Area (DTSC 2022a and 2022b; USEPA 2022; SWRCB 2022). The searches revealed no known hazardous materials in the Project Area. One leaking underground storage tank (LUST) Cleanup Site was revealed on the South Coast Medical Facility property, located approximately 800 feet southwest of the Project Area. However, the LUST site has been remediated and closed under the direction and oversight of the Region 9 San Diego RWQCB as of January 15, 1997. The proposed improvements would not occur on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or the environment. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒

No Impact.

The Project Area is located approximately 13.6 miles southeast of John Wayne Airport and is located outside of the designated safety zones and referral zones for the airport (Airport Land Use Commission [ALUC] 2008). The Proposed Project would involve infrastructure improvements within the existing public ROW and would not include the construction of habitable structures or other structures that could pose a safety hazard. As such, the Proposed Project would not result in a safety hazard for people residing or working in the Project Area. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

For the Mar Vista area where the Project is located, the evacuation route is towards Pacific Coast Highway and then north or south on Pacific Coast Highway. Evacuation from the Project Area could go either north to 3rd Avenue or south to 8th Avenue. Both directions would lead Pacific Coast Highway. The parking lot at

Mission Hospital is designated as a last resort safe shelter to be used if you cannot evacuate (City of Laguna Beach 2019).

Implementation of the Proposed Project would require construction to occur within the public ROW. Collector streets in the Project Area are winding and narrow so construction activities, which may temporarily restrict vehicular traffic, would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Road/lane closure would be limited to the hours of 8:30 AM to 3:30 PM on weekdays. The Proposed Project design would be submitted to and approved by the City's Fire and Police Departments prior to any construction activities. Furthermore, a Traffic Control Plan shall be prepared to ensure proper access to residences and businesses in the area by emergency vehicles during construction, ensure residences and businesses in the area have proper access to evacuation routes during construction, and to maintain traffic flow. Upon construction completion, streets affected by construction would be repaved to pre-disturbance conditions. Impacts to an adopted emergency response plan or emergency evacuation route would be less than significant with the incorporation of Mitigation Measure **HAZ-1**.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less than Significant Impact.

Significant wildfires have occurred in Laguna Beach in the past and pose a significant threat to people and property. Natural, undeveloped hillsides border the community, and the developed areas are very narrow. Much of the community is very close to these hillsides. All the canyon and hillside areas in Laguna Beach, including the Project Area, and some coastal terrace areas are classified within the Very High Fire Hazard Severity Zones (VHFHSZ), which is the highest wildfire risk classification designated by the California Department of Forestry and Fire Protection (CAL FIRE) (CAL FIRE 2022; City of Laguna Beach 2021). The Proposed Project would involve infrastructure improvements within the existing public ROW and would not include the construction of habitable structures or other structures that could expose people to significant risk of loss, injury, or death due to wildland fires. Impacts would be less than significant and no mitigation is required.

4.9.3 Mitigation Measures

HAZ-1: Prior to construction, the South Coast Water District (or its contractor) shall prepare a Traffic Control Plan to ensure proper access to residences and businesses in the area by emergency vehicles during construction, to maintain traffic flow, and to maintain access to evacuation routes. The Traffic Control Plan shall be approved by the City of Laguna Beach prior to any lane closures.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

Three regional watersheds: Laguna Canyon, Wood Canyon, and Aliso Canyon include portions of the City of Laguna Beach. The boundaries of the City's planning area generally correlate with the boundaries of the Laguna Canyon watershed. The Laguna Canyon drainage channel flows directly through the downtown area of the City (City of Laguna Beach 2005a).

SCWD extracts and treats brackish groundwater from the San Juan Groundwater Basin (the Basin) through the Groundwater Recovery Facility (GRF). The San Juan Basin is a non-adjudicated, very low-priority basin located in the San Juan Creek Watershed and is comprised of four principal groundwater basins: Lower Basin, Middle Basin, Upper Basin, and Arroyo Trabuco. The SWRCB determined that the San Juan Creek watershed is not a groundwater basin but rather a surface and underground flowing stream; therefore, it is subject to SWRCB jurisdiction and its processes with respect to the appropriation and use of waters within the watershed (SCWD 2021).

Groundwater production occurs primarily within the Lower Arroyo Trabuco, the Middle Basin, and the Lower Basin due to a lack of storage and production capacity in the Upper Basin. The Basin is recharged through a variety of sources such as streambed infiltration in San Juan Creek, Horno Creek, Oso Creek, and Arroyo Trabuco; subsurface inflows along boundaries at the head of tributaries upstream and other minor subsurface inflows from other boundaries; precipitation and applied water; and flow from fractures and springs. SCWD has groundwater rights to the Basin with a pumping allocation of 1,300 acre-feet per year (AFY) in 2020. The District supplies approximately 900 AFY of recycled water to its customers in South Laguna Beach, where the Project is located, as well as Dana Point (SCWD 2021).

4.10.1.2 Site Hydrology and On-Site Drainage

Elevation of the Project Area ranges from 178 feet above mean sea level (msl) to 251 feet above msl. The collector streets in the Project Area are winding and rural in character. Many streets were constructed without sidewalks, curbs, or gutters (City of Laguna Beach 1992).

As stated in Section 4.4 *Biological Resources* of this document, the northerly extent of the Project Area has a concrete apron (JD1) and standpipe next to the paved Mar Vista Avenue that collects road runoff and residential runoff, plus some minimal stormflow from the hills to the east. To the east is a small earthen drainage that starts in the adjacent hills and runs between residences to enter the concrete apron. The standpipe, and associated storm drain enter a storm drain system that appears to be about eight feet below the paved road surface.

JD2 is a standpipe and small road drainage system that seem to collect sheet flow from off the paved Sunset Avenue, primarily.

Erosional feature is a small gully running down a hillside along a trail on Sunset Avenue. It is not connected to any canyons or gullies upstream, but seemed to be formed along compacted soil of the narrow trail.

JD3 is a natural drainage that runs down a hillside on Sunset Avenue to the east of the Project Area, entering a sandy sheet flow area and crossing into a large concrete apron that contains a standpipe. This standpipe likely then enters into a municipal storm drain beneath the paved road surface (ECORP 2022a).

4.10.2 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

Less than Significant Impact.

The City of Laguna Beach is a co-permittee for Orange County under San Diego RWQCB Order Number R9-2015-0001, an order amending Order Number R9-2013-0001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS010266 *NPDES Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region*. The City is responsible for compliance with the terms and conditions of the Order. The Project would be required to comply with LBMC Chapter 22.17, *Construction Project Erosion and Sediment Control Maintenance Requirements*. The LBMC requires that all construction projects implement erosion controls and BMPs, monitor and evaluate their performance after each rainstorm event, and revise and repair sediment control systems as needed. In addition, LBMC Chapter 16.01, *Water Quality Control*, requires project plan and BMP review prior to the issuance of construction permits and may impose additional BMPs or other requirements to ensure that the Project would not adversely impact water quality.

The focus of a construction SWPPP is to manage soil disturbance, non-storm water discharges, construction materials, and construction wastes during the construction phase of a Project. Potential water quality impacts associated with the Proposed Project include short-term construction-related erosion/sedimentation from ground-disturbing activities and construction-related hazardous material discharge. Since the SWPPP is specifically prepared to manage storm water quality and quantity, and prevent discharge of polluted runoff from the site, adherence to mandated SWPPP requirements would ensure potential impacts that could cause a violation of any water quality standards or waste discharge requirements is less than significant. No mitigation would be required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

No Impact.

SCWD extracts and treats brackish groundwater from the San Juan Groundwater Basin through the Groundwater Recovery Facility. Groundwater production occurs primarily within the Lower Arroyo Trabuco, the Middle Basin, and the Lower Basin due to a lack of storage and production capacity in the Upper Basin. The Basin is recharged through a variety of sources such as streambed infiltration in San Juan Creek, Horno Creek, Oso Creek, and Arroyo Trabuco; subsurface inflows along boundaries at the head of tributaries upstream and other minor subsurface inflows from other boundaries; precipitation and applied water; and flow from fractures and springs. The storage in the groundwater basin is small, at an estimated 41,400 AF, relative to recharge and production. The range of natural yield of the Basin is 7,000 AFY to 11,000 AFY. Instream recharge along both San Juan Creek and Arroyo Trabuco Creek is the only viable largescale recharge method for the Basin due to the lack of suitable off-stream sites for stormwater storage and recharge, and the inability of the basin to accept large amounts of recharge at a specific site.

SCWD has groundwater rights to the Basin with a pumping allocation of 1,300 acre-feet per year (AFY) in 2020. The District supplies approximately 900 AFY of recycled water to its customers in South Laguna Beach, where the Project is located (SCWD 2021).

The Project will replace approximately 2,000 linear feet water main near the Mission Hospital that is unable to provide the required fire flow. The Project is a part of the SCWD's modified Capital Improvement Plan (CIP) to replace aging infrastructure and meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply within the District's 490 pressure zone. The Proposed Project does not include withdrawal of groundwater and the Project Area is not identified as a groundwater recharge area. There would be no substantial increase in impermeable surfaces in the Project Area compared to existing conditions. No impacts to groundwater supplies or recharge are anticipated and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
iv) impede or redirect flood flows?	☐	☐	☐	☒

Less than Significant Impact.

i) Construction of the Proposed Project would require ground disturbing activities, including excavation, backfill, pipeline installation, and repaving. These activities have the potential to result in erosion or siltation on- or off-site. Construction impacts would be less than significant with the implementation of standard construction BMPs. Once construction has completed, disturbed areas would be paved and returned to their pre-project condition.

No Impact.

ii) The Proposed Project would be located along existing paved streets. All improvements are below ground, and once Project construction is completed all Project areas would be paved and returned to their existing condition. As such, no changes to the volume of runoff from the Project Area are anticipated as a result of the Proposed Project. No impact would occur, and no mitigation is required.

No Impact.

iii) The Proposed Project is the installation of water pipelines along existing paved streets. All improvements are below ground surface and the Project Area would be paved and returned to pre-disturbance condition. As such, the Proposed Project is not anticipated to change the quality and quantity of runoff water in the Project Area. Post-Project stormwater drainage conditions would be the same as existing conditions. No impact would occur, and no mitigation is required.

No Impact.

iv) As previously mentioned, all Project improvements would be below ground surface along existing paved streets. Once construction is completed all streets in the Project Area would be

paved and returned to their pre-disturbance condition. Therefore, the Proposed Project would not impede or redirect flood flows. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

No Impact.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the Project Area is not within a 100-year flood zone or flood hazard area (FEMA 2022). Approximately 0.13 square miles of Laguna Beach is in the potential tsunami inundation area, however, the Project Area is not within a tsunami hazard zone. The City's General Plan Safety Element does not identify seiche as a potential hazard relevant to the Laguna Beach (City of Laguna Beach 2021). No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

No Impact.

SCWD's 2020 Urban Water Management Plan (UWMP) evaluates the District's present and future water supply sources and demands, water resource needs, water use efficiency programs, and water reliability assessment and strategies to mitigate water shortage conditions in the District's service area.

The District meets its demands through a combination of local groundwater, recycled water, and imported water. The District works together with two primary agencies, the Municipal Water District of Orange County (MWDOC) and the San Juan Basin Authority (SJBA), to ensure a safe and reliable water supply that will continue to serve the community in periods of drought and shortage. The sources of imported water supplies include water from the Colorado River and the State Water Project (SWP) provided by the Metropolitan Water District of Southern California (MET) and delivered through MWDOC. In fiscal year 2019 to 2020, the District relied on 73 percent imported water, 13.5 percent groundwater, and 13.5 percent recycled water. It is projected that by 2045, the water supply portfolio will adjust to approximately 66 percent imported water, 15 percent groundwater, and 19 percent recycled water.

SCWD is projected to meet full-service demands through 2045 during normal years, single-dry years, and multiple-dry years, due to diversified supply and conservation measures (SCWD 2021). Water supplies available to the City are sufficient to meet all existing customer demands and anticipated future customer demands. The Proposed Project would construct water pipeline within existing paved streets and does not

include withdrawal of groundwater. There would be no increase in impermeable surfaces in the Project Area compared to existing conditions. No conflict with a groundwater management plan would occur.

Potential water quality impacts associated with the Proposed Project include short-term construction-related erosion/sedimentation from ground-disturbing activities and construction-related hazardous material discharge. Impacts associated with construction-related water quality impacts would be avoided or reduced to a level below significance through implementation of standard construction BMPs. No conflict with a water quality control plan would occur. No mitigation is required.

4.10.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The Project is located in Orange County in the City of Laguna Beach, east of SR-1 and south of 3rd Avenue. The pipeline alignment runs south along Mar Vista Avenue from 3rd Avenue to Sunset Avenue, south along Sunset Avenue to 8th Avenue, and also down a hill from Sunset Avenue to Mission Hospital. The Proposed Project is located within existing public ROW and is surrounded on all sides by low-density residential and institutional land uses, as described in Table 1-1 in Section 1.3, Surrounding Land Uses/Environmental Setting.

4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of infrastructure improvements within the public ROW. Areas within the public ROW disturbed by the Proposed Project would be returned to their pre-disturbance condition upon completion of the Proposed Project. Due to the nature of the Proposed Project, it would not physically divide an established community and no impact would occur. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of infrastructure improvements within the public ROW; as such, it would not conflict with any applicable land use plans or policies; and no impact would occur. No mitigation is required.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

The State Mining and Geology Board establishes Mineral Resource Zone (MRZ) designations that quantify the mineral resource potential for specific locations across California. According to these designations, the City is located in the MRZ-1 and MRZ-3 zones. The MRZ-1 Mineral Resource Zone is defined as a zone where adequate information indicates that no significant mineral deposits are present or likely to be present. The MRZ-3 Mineral Resource Zone is defined as an area where the significance of mineral deposits cannot be determined from the available data (DOC 1995).

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact.

The Project alignment is located in MRZ-1 and MRZ-3, which are defined as areas where no significant mineral deposits are present or likely to be present and where the significance of mineral deposits cannot be determined from the available data, respectively. The Project Area is fully developed and characterized primarily by residential and some institutional land uses. Proposed improvements would occur within the existing ROW. The area proposed for temporary construction staging would not be permanently impacted and would be restored to the pre-project condition. The Project Area is not located on a known important mineral resource recovery site. No impacts are anticipated, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact.

According to the DOC, the only potentially significant mineral resources located in Laguna Beach are aggregate materials that may be found in the MRZ-3 zone. There is not sufficient information available to determine whether these deposits are significant. No mining activities currently exist in the Project Area and is not zoned or available for mining. The Project is located in a residential area within existing public roadway rights-of-way and does not support any mineral extraction activities. Therefore, no impact to locally important mineral resources would occur, and no mitigation is required.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA (A-weighted decibels) "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.
- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations.

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases

(attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (FHWA 2011).

The manner in which older structures in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer structures is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. [HMMH] 2006).

4.13.1.2 Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60- to 70-dBA range, and high, above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in dBA, the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1.0 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3.0-dBA change is considered a just-perceivable difference.
- A change in level of at least 5.0 dBA is required before any noticeable change in community response would be expected. An increase of 5.0 dBA is typically considered substantial.
- A 10.0-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

4.13.1.3 Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. Providence Mission Hospital and numerous single-family residences exist in adjacent to the linear Project Area.

4.13.1.4 Vibration Fundamentals

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.1.5 Existing Ambient Noise Environment

The sources of noise in Laguna Beach fall into three basic categories: motor vehicle noise, aircraft overflights, and stationary sources. The most common sources of noise affecting the Project Site are motor vehicle noise generated from automobiles, trucks, and motorcycles. Motor vehicle noise is of concern because it is characterized by a high number of individual events which often create a sustained noise level in proximity to areas sensitive to noise exposure.

The American National Standards Institute (ANSI) Standard 12.9-2013/Part 3 "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-Term Measurements with an Observer Present" provides a table of approximate background sound levels in L_{dn}, daytime L_{eq}, and nighttime L_{eq}, based on land use and population density. The ANSI standard estimation divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical daytime and nighttime levels, are provided in Table 3.13-1. At times, one could reasonably expect the occurrence of periods that are both louder and quieter than the levels listed in the table. ANSI notes, "95% prediction interval [confidence interval] is on the order of +/- 10 dB." The noise levels experienced with the Project Site would be considered similar to ambient noise Category 2 or 3.

Table 4.13-1. ANSI Standard 12.9-2013/Part 3 A-weighted Sound Levels Corresponding to Land Use and Population Density

Category	Land Use	Description	People per	Typical L_{dn}	Daytime L_{eq}	Nighttime L_{eq}

			Square Mile			
1	Noisy Commercial & Industrial Areas and Very Noisy Residential Areas	Very heavy traffic conditions, such as in busy, downtown commercial areas; at intersections for mass transportation or for other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	67 dBA	66 dBA	58 dBA
2	Moderate Commercial & Industrial Areas and Noise Residential Areas	Heavy traffic areas with conditions similar to Category 1, but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	62 dBA	61 dBA	54 dBA
3	Quiet Commercial, Industrial Areas and Normal Urban & Noisy Suburban Residential Areas	Light traffic conditions where no mass transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds; residential areas and commercial streets, and intersections, with little traffic compose this category.	6,384	57 dBA	55 dBA	49 dBA
4	Quiet Urban & Normal Suburban Residential Areas	These areas are similar to Category 3, but for this group, the background is either distant traffic or is unidentifiable; typically, the population density is one-third the density of Category 3.	2,000	52 dBA	50 dBA	44 dBA
5	Quiet Residential Areas	These areas are isolated, far from significant sources of sound, and may be situated in	638	47 dBA	45 dBA	39 dBA

		shielded areas, such as a small, wooded valley.				
6	Very Quiet, Sparse Suburban or rural Residential Areas	These areas are similar to Category 4 but are usually in sparse suburban or rural areas; and, for this group, there are few if any nearby sources of sound.	200	42 dBA	40 dBA	34 dBA

Source: The American National Standards Institute (ANSI) 2013

4.13.2 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than Significant Impact.

4.13.2.1 Construction Noise Impacts

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavating, paving). Noise generated by construction equipment, including excavators, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Construction noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

As previously stated, the nearest sensitive receptors to the proposed construction activities are the residences located immediately adjacent to the linear the Project Site. Providence Mission Hospital is also positioned adjacent to the Project Area. The City's regulations with respect to noise are included in LBMC Chapter 7.25 *Noise*. This chapter exempts noise sources associated with construction, repair, remodeling, demolition or grading of any real property from standard numerical noise limits. The use of any tool, equipment or machine in a manner which produces loud noise while engaged in construction,

remodeling, digging, grading, demolition or any other related building activity at any time on weekends and holidays, and between the hours of 6:00 p.m. and 7:30 a.m. on weekdays is prohibited. The Proposed Project will be required to adhere to these City requirements.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptor in the Project vicinity and in order to evaluate the potential health-related effects (physical damage to the ear) from construction noise, the construction equipment noise levels were calculated using the Roadway Noise Construction Model for the construction process and compared against the construction-related noise level threshold established in the *Criteria for a Recommended Standard: Occupational Noise Exposure* prepared in 1998 by National Institute for Occupational Safety and Health (NIOSH). A division of the US Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than eight hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby existing and future planned sensitive receptors.

Nearby noise-sensitive land uses consist of residences fronting Mar Vista Avenue and Sunset Avenue, as well as Providence Mission Hospital. These receptors are located immediately adjacent to the linear the Project Site. However, it is acknowledged that the majority of construction equipment would not be situated at any one location during construction activities, but rather spread throughout the Project Area and at various distances from sensitive receptors. Due to the linear nature of the pipeline installation route, no individual receptor would experience construction activities directly adjacent to them for any substantial amount of duration. This is because pipeline installation activity would consistently move along the linear Project Area as pipeline is installed. The anticipated short-term construction noise levels generated from Project construction equipment are presented in Table 4.13-2.

Table 4.13-2. Construction Average (dBA) Noise Levels at Nearest Receptors

Equipment	Estimated Exterior Construction Noise Level @ Closest Noise Sensitive Receptors	Construction Noise Standard (dBA L_{eq})	Exceeds Standards?
Site Preparation			
Tractors/Loaders/Backhoes (2)	70.1 dBA (each)	85	**No**
Concrete Saw (1)	79.1 dBA	85	**No**
Combined Site Preparation Equipment	**80.0 dBA**	**85**	**No**
Pipe Installation			
Concrete Saw (1)	79.1 dBA	85	**No**

Excavators (2)	73.2 dBA (each)	85	**No**
Dump Trucks (2)	68.9 dBA (each)	85	**No**
Rubber Tired Loaders (2)	71.6 dBA (each)	85	**No**
Skid Steer Loaders (2)	71.6 dBA (each)	85	**No**
Tractors/Loaders/Backhoes (2)	70.1 dBA (each)	85	**No**
Combined Pipeline Installation Equipment	**83.4 dBA**	**85**	**No**
Paving			
Paver (1)	70.7 dBA	85	**No**
Paver Equipment (1)	79.0 dBA	85	**No**
Rollers (1)	69.5 dBA	85	**No**
Rubber Tired Loaders (2)	71.6 dBA (each)	85	**No**
Skid Steer Loaders (2)	71.6 dBA (each)	85	**No**
Surfacing Equipment (1)	79.0 dBA	85	**No**
Tractors/Loaders/Backhoes (2)	70.1 dBA (each)	85	**No**
Combined Paving Equipment	**83.9 dBA**	**85**	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Appendix F for Model Data Outputs.

Notes: Construction equipment used during construction derived from Project Applicant. Due to the linear nature of the pipeline installation route, no individual receptor would experience construction activities directly adjacent to them for any substantial amount of duration. This is because pipeline installation activity would consistently move along the linear Project Site as pipeline is installed. In order to provide a conservative analysis for calculating construction noise, modeling inputs account for the operation of all equipment in each phase simultaneously from a distance of 75 feet from any sensitive receptor. The calculated construction equipment noise levels assume a direct line-of-sight between the equipment and the receptors with no additional noise reduction measures, such as slopes or buildings, in the path of sound propagation. These noise levels also assume that all equipment during each phase would operate simultaneously and at the same location, which would not generally be the case, and therefore represents a worst-case-scenario.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 4.13-2, all cumulative construction equipment would exceed the NIOSH noise threshold of 85 dBA at the adjacent sensitive receptors and therefore no health effects from construction noise would occur. It is noted that construction noise was modeled on a worst-case basis. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction. A less than significant impact would occur as a result of construction noise on the Project Site.

4.13.2.2 Construction Traffic Noise Impacts

Project construction would result in additional traffic on local roadways over the time period that construction occurs. According to the CalEEMod model, which is used to predict air pollutant emissions associated with Project construction and contains default usage parameters for typical construction projects, the maximum number of construction-related automobile trips traveling to and from the Project Area on a single day would include 13 worker trips and 219 haul truck trips for a total of 232 daily trips. The worker trips would largely occur within two distinct segments of the day, the morning and afternoon, while the haul trips would occur intermittently throughout the workday. According to the Caltrans *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (2013), doubling of traffic on a roadway is required to result in an increase of 3 dB (outside of the laboratory, a 3-dBA change is considered a just-perceivable difference). Project implementation would occur within Mar Vista Avenue and Sunset Avenue and construction traffic is expected to traverse from the Coast Highway via the collector and local streets linking the Coast Highway to Mar Vista and Sunset avenues (e.g., 3rd and 5th avenues). Collector and local streets in Laguna Beach demonstrate many of the same attributes and according to the City General Plan Transportation, Circulation, and Growth Management Element (1992), both collector and local street typically accommodate approximately 1,000 traffic trips daily. As such, Project construction would not instigate traffic trips at rates great enough to consistently double traffic on Project vicinity roadways and therefore would not generate a perceptible noise level increase. A less than significant impact would occur as a result of construction traffic noise.

4.13.2.3 Operational Noise Impacts

The Project is proposing to replace approximately 2,000 linear feet of undersized water main with appropriately sized 12-inch water main in order to provide the required 4,000 gpm of fire flow at a 20-psi residual pressure. Once operational, it would not be a source of mobile noise sources or a source of stationary noise. The Project would have a less than significant impact due to operational noise generation and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

4.13.2.4 Construction-Generated Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction in the Project Area would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment

used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the linear Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in Table 4.13-3.

Table 4.13-3. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Federal Transit Administration (FTA) 2018; Caltrans 2020

The City of Laguna Beach does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (Caltrans 2020) recommended standard of 0.2 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

As shown in Table 4.13-3, ground vibration generated by vibratory rollers would be anticipated to exceed the 0.2 inch per second PPV standard recommended by Caltrans when operating within 25 feet of a structure. Therefore, mitigation limiting the use of vibratory rollers for the installation of the proposed water main line is required. Mitigation Measure **NOI-1** would prohibit the use of vibratory rollers that result in the most intense vibration levels within 25 feet of any structure along the linear Project Area. Implementation of Mitigation Measure **NOI-1** would result in vibration at levels below the threshold of 0.2 inch per second PPV threshold, and a less than significant impact would occur.

4.13.2.5 Operational-Generated Vibration

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the Project would not result in groundborne vibration impacts during operations. For this reason, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No Impact.

According to the City General Plan Noise Element (2005b), aircraft operating to and from John Wayne Airport, located 13.6 miles to the north of the Project Area, can result in some single event disturbance from overflights. However, according to Figure VIII-2 of the Orange County General Plan Noise Element (2012), the Project Area is located outside of the airport's 60 dBA noise contours by approximately 10 miles, meaning the Project Area is exposed to airport noise that is substantially lower than 60 dBA. Additionally, the Project Area is not located within an airport land use plan. Therefore, implementation of the Proposed Project would not affect airport operations nor expose people working in the Project Area to an increased exposure to aircraft noise. No impact would occur.

4.13.3 Mitigation Measures

NOI-1: Installation of the proposed water main shall be implemented without the use of vibratory rollers within 25 feet of any structure. Rollers that operate with no vibration are permitted.

4.14 Population and Housing

4.14.1 Environmental Setting

The City of Laguna Beach is home to an estimated 23,032 residents as of the 2020 Census of Population and Housing (U.S. Census Bureau 2020). Population in Laguna Beach has been stable since 1990, however, future growth is expected to remain relatively low as opportunities for housing development continue to diminish due to the limited availability of developable land (City of Laguna Beach 2014).

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No Impact.

The Proposed Project will not induce substantial unplanned growth in the area and future growth in the City is expected to remain relatively low due to the limited availability of developable land. No impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact.

The Proposed Project is located in the existing public ROW and is surrounded by low-density residential land uses, undeveloped open space areas, and public/institutional uses. Construction of the Proposed Project will not displace any people or housing nor will it necessitate the construction of replacement housing. Therefore, there is no impact and no mitigation is required.

4.14.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

4.15.1.1 Police Services

The Laguna Beach Police Department provides police protection and law enforcement services to a population of more than 23,000 residents within its service area. The police station is located at 505 Forest Avenue, Laguna Beach, approximately 3.7 miles north of the Project Area (City of Laguna Beach 2022a).

4.15.1.2 Fire Services

The Laguna Beach Fire Department (LBFD) provides fire suppression, rescue, wildfire response, emergency medical services, and calls for public service for the City. The Operations Section of the LBFD provides the community with an all-risk response from four stations covering 9 square miles, each staffed with a three-person engine company, providing an on-duty firefighting force of 12 personnel. The nearest LBFD facility to the Project Area is Fire Station 4, located at 31646 2nd Avenue, Laguna Beach, approximately 0.18 mile west of the Project Area (City of Laguna Beach 2022b).

4.15.1.3 Schools

The Project Area is located within the Laguna Beach Unified School District (LBUSD). The LBUSD has a total of four public schools, including two elementary schools, one middle school, and one high school.

The District also provides a specialized preschool program and an adult education program (LBUSD 2022). There are also five private schools in Laguna Beach. The nearest school to the Project Area is Annelise School – Aliso Campus, a private preschool, approximately 0.95 miles southeast of the pipeline alignment within Mar Vista Avenue.

4.15.1.4 Other Public Facilities

Other public facilities and services provided within the City include library services. Library services are provided by the Laguna Beach Library, a branch of the Orange County Public Library. Laguna Beach Library is located at 363 Glenneyre Street in Laguna Beach, approximately 3.6 miles northwest of the Project Area.

4.15.2 Public Services (XV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire Protection?	☐	☐	☐	☒
Police Protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other Public Facilities?	☐	☐	☐	☒

No Impact.

Implementation of the Proposed Project would not create a substantial new fire or public safety hazard. The Proposed Project would also not generate new employment or population growth; therefore, no increase in the demand for schools, parks, or other public facilities would occur. No impacts would occur and no mitigation is required.

4.15.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.16 Recreation

4.16.1 Environmental Setting

The City of Laguna Beach currently has 29 oceanfront parks and viewing areas totaling approximately 24.7 acres and 13 neighborhood parks totaling approximately 11.3 acres. The City's 6.2 miles of coastline also provide beach recreational opportunities, with public access to approximately 82 acres of beach, including the 7.2-acre beach at Treasure Island and Aliso Beach, which is under the jurisdiction of Orange County. LBUSD also provides 25 acres of outdoor recreational facilities. Collectively, total public recreational acreage in Laguna Beach is approximately 143 acres (City of Laguna Beach 2012). The nearest neighborhood park is Village Green Park, which is located approximately 0.23 miles from the Project Area.

In the immediate vicinity of Laguna Beach there are approximately 30,000 acres of State and County parks, recreation areas, and open space, including Laguna Coast Wilderness Park, Aliso and Wood Canyons Wilderness Park, Crystal Cove State Park, and Laguna Laurel Ecological Reserve. These areas provide various recreational opportunities, including picnicking, hiking, camping, and bicycle and horseback riding. This public open-space land is principally under the jurisdiction of the State and Orange County and physically separates the City from the urbanization occurring elsewhere in the County (City of Laguna Beach 2012).

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?	☐	☐	☐	☒

No Impact.

The Proposed Project consists of the construction of new pipelines. No increase in demand, or use of, existing parks or recreational facilities would result from the implementation of the Proposed Project because no population growth would occur. Therefore, no impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No Impact.

As previously identified, the Proposed Project would install water pipelines and would not affect recreational facilities. As such, the Proposed Project would not require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No impact would occur, and no mitigation is required.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Environmental Setting

Regional access to Laguna Beach is provided via SR-1, Laguna Canyon Road, El Toro Road, and Crown Valley Parkway. Within the community, circulation is provided by public and private local roadways. Some of the more important local roadways include Broadway Street, Glenneyre Street, Park Avenue, Temple Hills Drive, High Drive, West Street, 3rd Avenue, and Vista del Sol (City of Laguna Beach 1992).

Traffic congestion is a common occurrence in Laguna Beach, especially during the summer months when tourism is at its peak. During winter months traffic conditions tend to be more tolerable (City of Laguna Beach 1992).

Local transit services have been provided in Laguna Beach since the 1950s when a private company owned and operated the services (City of Laguna Beach 1992). Laguna Beach Transit Services provides off-season (September to June) and summer season (June to Labor Day) trolley services for the City (City of Laguna Beach 2022c).

In addition to the trolley, the Orange County Transportation Authority (OCTA) provides public transit service in Laguna Beach. Bus route 89 from Laguna Beach to Mission Viejo provides a stop at Laguna Beach Bus Station on Broadway Street and bus route 1 from Long Beach to San Clemente provides a stop in Laguna Beach at the Pacific Coast Highway and Cliff Drive intersection (OCTA 2021). Also available to Laguna Beach citizens is Age Well Senior Services, which provides free, non-emergency medical transportation for Laguna Beach residents at least 60 years old to Mission Hospital in Laguna Beach, Mission Hospital in Mission Viejo, and to locations outside of Laguna Beach in Irvine, Newport Beach, and San Clemente a maximum distance of 15 miles from residence. The City sponsors Sally's Fund, a program that provides free transportation to and from Laguna Beach Community and Susi Q Center for residents 60 years and older (City of Laguna Beach 2022d).

4.17.2 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐

Less than Significant Impact.

4.17.2.1 Construction Impacts

The Proposed Project would generate short-term construction related vehicle trips. However, traffic generated during construction of the Proposed Project would be temporary and would not conflict with the City of Laguna Beach's Transportation, Circulation, and Growth Management Element. Development of the Project Area would not affect future expansion of public transit facilities and services. The Proposed Project would not impede the implementation of City programs supporting walking, bicycling, and use of buses and trolleys. Impacts would be less than significant, and no mitigation is required.

4.17.2.2 Operational Impacts

Operational impacts are anticipated to be similar to existing conditions because the Proposed Project would continue the existing use as a public right-of-way once construction is complete. No operational impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less than Significant Impact.

CEQA Guidelines section 15064.3, subdivision (b) provides criteria for analyzing transportation impacts based on vehicle miles traveled (VMT) methodology instead of the now superseded (as of January 1, 2019) level of service (LOS) methodology. As detailed in CEQA Guidelines section 15064.3, subdivision (c), a lead agency may elect to be governed by the provisions of this section immediately. As of July 1, 2020, the provisions of this section apply statewide.

Section 15064.3 subdivision (b)(1) of the CEQA Guidelines specifies criteria for Land Use Projects and subdivision (b)(2) specifies criteria for Transportation Projects. The Proposed Project is an infrastructure project, and therefore neither criteria is relevant for analyzing the Project's transportation impacts. However, Section 15064.3(b)(3) allows an agency to determine a project's transportation impact on a qualitative basis if a VMT methodology is unavailable, as is the case with the Proposed Project.

Section 15064.3(b)(3) is as follows:

"Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate."

The Proposed Project would result in a short-term increase in the amount of traffic on the local roadways during construction. As described above, operational impacts are anticipated to be similar to existing conditions because the Proposed Project would continue the existing use as a public ROW once construction is complete and the Project would not generate any new vehicle trips. The Proposed Project would not increase the capacity of any of the affected roadways in the area and, as such, would not lead to a measurable and substantial increase in VMT. Therefore, the Proposed Project would have a less than significant impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

No Impact.

The Proposed Project would install new water pipelines below grade along existing paved streets. Once construction ends the Project Area would be returned to its existing condition. The Project does not include any component that would alter existing roadway design features. The Project does not include any component that would introduce new hazards since the Project does not propose any new roadways. Furthermore, the Project is not proposing a new use that could introduce incompatible elements to area roadways. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Construction of the Proposed Project would require construction activities to occur within the public ROW along Mar Vista Avenue, Sunset Avenue, and for the short segment of the pipeline that traverses down steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of Mission Hospital. Collector streets in the Project Area are

winding and narrow, therefore temporary construction truck traffic and road closures has the potential to interfere with emergency response access to areas near the Project Area.

Road/lane closure would be limited to the hours of 8:30 AM to 3:30 PM on weekdays. The Proposed Project design would be submitted to and approved by the City's Fire and Police Departments prior to any construction activities. Furthermore, a Traffic Control Plan shall be prepared to ensure proper access to residences and businesses in the area by emergency vehicles during construction, ensure residences and businesses in the area have proper access to evacuation routes during construction, and to maintain traffic flow. Upon construction completion, streets affected by construction would be repaved to pre-disturbance conditions. As addressed in Section 4.9.3 of this report, impacts associates with inadequate emergency access would be less than significant with the implementation of Mitigation Measure **HAZ-1**.

4.17.3 Mitigation Measures

HAZ-1 is listed in Section 4.9.3 of this report.

4.18 Tribal Cultural Resources

4.18.1 Environmental Setting

4.18.1.1 Ethnography

Prior to the arrival of European Americans in the region, Indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Driver 1961; Murdock 1960), recognized the uniqueness of California's Indigenous groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

Ethnographic accounts of Native Americans indicate that the Gabrieliño (also known as Gabrieleño, or Tongva) once occupied the region that encompasses the project area. At the time of contact with Europeans, the Gabrieliño were the main occupants of the southern Channel Islands, the Los Angeles Basin, much of Orange County, and extended as far east as the western San Bernardino Valley. The term Gabrieliño came from the group's association with Mission San Gabriel Arcángel, established in 1771. The Gabrieliño are believed to have been one of the most populous and wealthy Native American tribes in southern California prior to European contact. (Bean and Smith 1978; McCawley 1996; Moratto 1984) and spoke a Takic language. The Takic group of languages is part of the Uto-Aztecan language family.

The Gabrieliño occupied villages located along rivers and at the mouths of canyons. Populations ranged from 50 to 200 inhabitants. Residential structures within the villages were domed, circular, and made from thatched tule or other available wood. Gabrieliño society was organized by kinship groups, with each group composed of several related families who together owned hunting and gathering territories. Settlement patterns varied according to the availability of floral and faunal resources (Bean and Smith 1978; McCawley 1996; Miller 1991).

Vegetal staples consisted of acorns, chia, seeds, piñon nuts, sage, cacti, roots, and bulbs. Animals hunted included deer, antelope, coyote, rabbits, squirrels, rodents, birds, and snakes. The Gabrieliño also fished and collected marine shellfish (Bean and Smith 1978; McCawley 1996; Miller 1991).

By the late 18th century, Gabrieliño population had significantly dwindled due to introduced European diseases and dietary deficiencies. Gabrieliño communities disintegrated as families were taken to the missions (Bean and Smith 1978; McCawley 1996; Miller 1991). However, current descendants of the Gabrieliño are preserving Gabrieliño culture.

4.18.2 Summary of AB-52 Consultation

On June 2, 2022, South Coast Water District sent project notification letters to the following California Native American tribes, which had previous submitted general consultation request letters pursuant to 21080.3.1(d) of the Public Resources Code:

- Gabrieleño Band of Mission Indians – Kizh Nation, (Chairperson Salas)
- Gabrieleno/Tongva San Gabriel Band of Mission Indians (Chairperson Morales)
- Gabrielino/Tongva Nation (Chairperson Goad)
- Gabrielino Tongva Indians of California Tribal Council (Chairperson Dorame)
- Gabrielino-Tongva Tribe (Charles Alvarez)
- Juaneño Band of Mission Indians (Chairperson Johnston)
- Juaneño Band of Mission Indians, Acjachemen Nation – Belardes (Chairperson Belardes)
- Juaneño Band of Mission Indians, Acjachemen Nation – Belardes (Joyce Perry)
- Juaneño Band of Mission Indians, Acjachemen Nation – Romero (Teresa Romero)
- Juaneño Band of Mission Indians, Acjachemen Nation – Romero (Heidi Lucero)
- La Jolla Band of Luiseño Indians (Chairperson Nelson)
- Pala Band of Mission Indians (Shasta Gaughen)
- Pauma Band of Luiseño Indians (Temet Aguilar)
- San Luis Rey Band of Mission Indians (San Luis Rey Tribal Council)
- Santa Rosa Band of Cahuilla Indians (Chair Redner)
- Soboba Band of Luiseño Indians (Joseph Ontiveros)
- Soboba Band of Luiseño Indians (Chairperson Cozart)

Each recipient was provided a brief description of the Project and its location, the lead agency contact information, and a notification that the tribe has 30 days to request consultation. The 30-day response period concluded on July 1, 2022.

As a result of the initial notification letters, the South Coast Water District received the following responses:

- Juaneño Band of Mission Indians, Acjachemen Nation-Belardes: Ms. Perry responded by email on June 28, 2022, indicating the Proposed Project lies within tribal territory and a sensitive area to the tribe and accepting the consultation invitation.

No response was received from the other contacted California Native American tribes.

On August 10, 2022, the tribe responded to the City's initial notification letter via email requesting native monitoring. On August 30, 2022, the City and tribe agreed to a revised mitigation measure for tribal cultural resources and cultural resources and concluded tribal consultation under AB 52.

4.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

i-ii) No resources evaluated in the Cultural Resources Inventory and Evaluation Report were found eligible for listing on the CRHR or the NRHP.

A search of the SLF by the California NAHC was requested on January 6, 2022. The search will determine whether or not the California Native American tribes within the Project Area have recorded Sacred Lands, because the SLF is populated by members of the Native American community with knowledge about the locations of tribal resources. The search of the SLF as conducted by the NAHC was positive, indicating the presence of previously recorded Native American resources in the Project Area (ECORP 2022b).

The Juaneño Band of Mission Indians, Acjachemen Nation-Belardes responded to the City's initial notification letter and indicated that the Proposed Project lies within tribal territory and a sensitive area to the tribe. Ground-disturbing activities have the potential to result in the discovery of, or inadvertent damage to, archaeological contexts, and this possibility cannot be eliminated. Consequently, there is a potential for significant impacts to TCRs. The implementation of Mitigation Measure **TCR-1** would reduce the potential impacts to less than significant.

4.18.4 Mitigation Measures

TCR-1: **Tribal Monitoring:** One tribal monitor shall be retained to monitor all vegetation clearing and removal, and all initial surface trenching of the Project Area, down to twelve (12) feet below the surface. Tribal monitoring is not required below twelve (12) feet or during above-surface construction activities. The retained native monitor shall be a representative of the Juaneño Band of Mission Indians, Acjcahemen Nation-Belardes.

The tribal monitor shall have the authority to temporarily pause ground disturbance within 50 feet of the discovery for a duration long enough to examine potential TCRs that may become unearthed during the activity. If no TCRs are identified, then construction activities shall proceed and no agency notifications are required. In the event that a TCR is identified, the monitor shall flag off the discovery location and notify the Engineering Manager of South Coast Water District immediately to consult on appropriate and respectful treatment. The South Coast Water District shall also serve to mediate any conflicts between the tribe and project proponent during work stoppages.

Upon conclusion of the monitoring, the monitor shall submit a letter report to the South Coast Water District Engineering Manager to document the monitoring methods and results.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

4.19.1.1 Water Service

Water service in Laguna Beach is provided by the South Coast Water District and Laguna Beach County Water District. SCWD provides water services to the Project Area in South Laguna (City of Laguna Beach 2022e).

4.19.1.2 Wastewater

The Laguna Beach County Water District and the Laguna Beach Water Quality Department provide sewer service to Laguna Beach, except South Laguna. Wastewater and sewage services in the Project Area is provided by SCWD. Sewage is transported from local sewer laterals through the main arterial line which will eventually transport it to one of the South Orange County Wastewater Authority treatment plants (SCWD 2022).

4.19.1.3 Solid Waste

Waste Management provides garbage, recycling, and green waste collection for Laguna Beach residents. Green Waste Cart collects all yard trimmings, grass, tree branches, sawdust, green plants, and weeds (City of Laguna Beach 2022f).

4.19.1.4 Electricity

Southern California Edison (SCE) and San Diego Gas and Electric (SDGE) provide electricity to the City, with SCE providing electricity to central and North Laguna Beach and SDGE providing electricity and gas to South Laguna (City of Laguna Beach 2022e).

4.19.1.5 Natural Gas

SoCalGas and SDGE provide gas services for the City. SoCalGas provides gas to central and North Laguna while SDGE provides gas to South Laguna (City of Laguna Beach 2022e).

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact.

The proposed pipeline improvements are for approximately 2,000 linear feet of 6-inch and 8-inch water main near the Mission Hospital that is unable to provide the required 4,000 gpm of fire flow at a 20-psi residual pressure. The Proposed Project is a part of SCWD's modified CIP to replace aging infrastructure and meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply within SCWD's 490 pressure zone. The Proposed Project will not impact natural gas, wastewater, electric power, or telecommunication facilities. The environmental effects from constructing the proposed pipeline improvements are described in this Initial Study. Impacts would be less than significant and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐

Less than Significant Impact.

The SCWD has estimated water supply and demand within the District in its 2020 UWMP. The District meets its water supply needs with a combination of imported water (73 percent), local groundwater (13.5 percent), and recycled water (13.5 percent). Sources of imported water supplies include water from the Colorado River Aqueduct and the SWP provided by MET and delivered by MWDOC. By 2045 it is projected that the water supply portfolio will adjust to approximately 66 percent imported water, 15 percent groundwater, and 19 percent recycled water; these representations of supply match the project demand. MET's and MWDOC's 2020 UWMPs concluded that they can meet full-service demands of their member agencies starting 2025 through 2045 during normal years, a single-dry year, and multiple-dry years. Consequently, the District is projected to meet full-service demands through 2045 for the same scenarios (SCWD 2021).

The UWMP states that in the event of a water supply shortage or water emergency, the District has in place a Water Shortage Contingency Plan (WSCP), which provides real-time water supply availability assessment and structured steps designed to respond to actual conditions to help maintain reliable supplies and reduce the impacts of supply interruptions (SCWD 2021).

The Proposed Project would construct water pipeline within existing paved streets and does not include withdrawal of groundwater. The Project would improve approximately 2,000 linear feet of 6-inch and 8-inch water main near the Mission Hospital that is unable to provide the required 4,000 gpm of fire flow at a 20-psi residual pressure. The Proposed Project is a pipeline construction project, which would only require minimal water during construction for compaction and dust control purposes. During operation the Proposed Project would not require water. Impacts would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No Impact.

The Proposed Project involves construction of water infrastructure within existing roads. The Proposed Project would not produce wastewater during construction or operation. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

Less than Significant Impact.

Minimal waste would be generated by the Proposed Project during construction. During operation the Proposed Project would not generate solid waste. As such, the Proposed Project is not anticipated to generate solid waste in excess of State or local standards. Impacts would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

No Impact.

Waste generated by the Proposed Project would comply with all applicable federal, state, and local statutes and regulations related to solid waste. No impact would occur, and no mitigation is required.

4.19.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

Significant wildfires have occurred in Laguna Beach in the past and pose a significant threat to people and property. Natural, undeveloped hillsides border the community, and the developed areas are very narrow. Much of the community is very close to these hillsides. All the canyon and hillside areas in Laguna Beach, including the Project Area, and some coastal terrace areas are classified within the VHFHSZ, which is the highest wildfire risk classification designated by CAL FIRE (CAL FIRE 2022; City of Laguna Beach 2021).

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Implementation of the Proposed Project would require construction activities to occur within the public ROW along Mar Vista Avenue, Sunset Avenue, and for the short segment of the pipeline that traverses down steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of Mission Hospital. Construction activities, which may temporarily restrict vehicular traffic, would be required to implement adequate and appropriate measures to facilitate the passage of persons and vehicles through/around any required road closures. Road/lane closure would be limited to the hours of 8:30 AM to 3:30 PM on weekdays. The Proposed Project design would be submitted to and approved by the City's Fire and Police Departments prior to any construction activities. Furthermore, a Traffic Control Plan shall be prepared to ensure proper access to residences and businesses in the area by emergency vehicles during construction, ensure residences and businesses in the area have proper access to evacuation routes during construction, and to maintain traffic flow. Upon construction completion, streets affected by construction would be repaved to pre-disturbance conditions. As addressed in Section 4.9.3 of this report, impacts associates with inadequate emergency access would be less than significant with the implementation of Mitigation Measure **HAZ-1**.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐

Less than Significant Impact.

The Project Area is located in the hillside of Laguna Beach, therefore the roads along the pipeline alignment vary in slope from moderate to steep, especially near the portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of Mission Hospital. The Project Area is located in a VHFHSZ (CAL FIRE 2022) in a residential neighborhood; however, the Proposed Project would not substantially alter the slope, wind patterns, or other factors that could exacerbate wildfire risks. Additionally, the Project does not involve the construction of habitable structures and would not expose any occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant and would not require mitigation.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐

Less than Significant Impact.

The Project includes the installation of new water pipelines in the right-of-way to meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply to the District's 490 pressure zone. The installation of the pipelines will not exacerbate fire risk and once construction is complete, Project areas affected by construction would be repaved and returned to the pre-project condition. Impacts would be less than significant and no mitigation is required.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Less than Significant Impact.

The Project Area is located in a VHFHSZ (CAL FIRE 2022) in a residential neighborhood. The Proposed Project would not alter the slope or drainage patterns of the Project Area, and thus would not expose people or structures to significant risks from runoff or post-fire instability. Impacts would be less than significant and no mitigation is required.

4.20.3 Mitigation Measures

HAZ-1 is listed in Section 4.9.3 of this report.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As discussed throughout this Initial Study, potentially significant impacts were identified for biological resources, cultural resources, hazards and hazardous materials, noise, and tribal cultural resources. The Proposed Project's impacts would be less than significant with incorporation of Mitigation Measures **BIO-1** through **BIO-3**, **CUL-1**, **HAZ-1**, **NOI-1**, and **TCR-1**.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Cumulative impacts are defined as two or more individual (and potentially less than significant) project effects that, when considered together or in concert with other projects combine to result in a significant impact within an identified geographic area. In order for a project to contribute to cumulative impacts, it must result in some level of impact on a project specific level.

As discussed throughout this Initial Study, potentially significant impacts were identified for biological resources, cultural resources, hazards and hazardous materials, noise, and tribal cultural resources. The Proposed Project's contribution to cumulative impacts would not be considerable with the incorporation

of Mitigation Measures **BIO-1** through **BIO-3**, **CUL-1**, **HAZ-1**, **NOI-1**, and **TCR-1**. Furthermore, other foreseeable projects would be subject to CEQA and would undergo the same level of review as the Proposed Project and include mitigation measures to minimize potentially significant impacts.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The checklist categories of: Air Quality, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Cultural, Geology and Soils, Hydrology and Water Quality, Population and Housing, Tribal Cultural Resources, Noise, Transportation, and Wildfire evaluate Project impacts that may have adverse effects on human beings, either directly or indirectly. All of the Project's impacts on human beings, both direct and indirect, that are attributable to the Project were identified and mitigated where necessary. Therefore, the Proposed Project would not either directly or indirectly cause substantial adverse effects on human beings because all potentially adverse direct and indirect impacts of the Proposed Project are identified as having no impact, less than significant impact, or less than significant impact with mitigation. Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures listed in this Initial Study.

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LIST OF APPENDICES

Appendix A – Air Quality Emissions Model

Appendix B – Biological Resources Assessment

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Appendix D – Paleontological Assessment

Appendix E – Greenhouse Gas Emissions Model

Appendix F – Noise Model Output

APPENDIX A

Air Quality Emissions Model

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mission Hospital Pipeline Improvement Project

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	32.00	1000sqft	0.73	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction phases and duration provided by SCWD

Off-road Equipment - Equipment per SCWD

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 applied. Reduction values per SCAQMD CEQA Handbook Tables 11-4 & A11-9-A

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	100.00	123.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	6/20/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	6/27/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	1/27/2022	6/30/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	7/1/2022
tblConstructionPhase	PhaseStartDate	6/21/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	1/27/2022	6/1/2022
tblGrading	MaterialExported	0.00	972.00
tblGrading	MaterialImported	0.00	778.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

2.0 Emissions Summary

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1704	38.8390	42.0247	0.0896	0.4903	1.6766	2.1669	0.1307	1.5739	1.7046	0.0000	8,584.3018	8,584.3018	2.2393	0.1107	8,647.4161
Maximum	**4.1704**	**38.8390**	**42.0247**	**0.0896**	**0.4903**	**1.6766**	**2.1669**	**0.1307**	**1.5739**	**1.7046**	**0.0000**	**8,584.3018**	**8,584.3018**	**2.2393**	**0.1107**	**8,647.4161**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1704	38.8390	42.0247	0.0896	0.3218	1.6766	1.9984	0.0894	1.5739	1.6633	0.0000	8,584.3018	8,584.3018	2.2393	0.1107	8,647.4160
Maximum	**4.1704**	**38.8390**	**42.0247**	**0.0896**	**0.3218**	**1.6766**	**1.9984**	**0.0894**	**1.5739**	**1.6633**	**0.0000**	**8,584.3018**	**8,584.3018**	**2.2393**	**0.1107**	**8,647.4160**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**34.37**	**0.00**	**7.78**	**31.64**	**0.00**	**2.43**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**	**0.0000**	**7.4600e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**	**0.0000**	**7.4600e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2022	6/30/2022	5	22	
2	Building Construction	Building Construction	7/1/2022	12/20/2022	5	123	
3	Paving	Paving	12/1/2022	12/20/2022	5	14	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.73

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Site Preparation	Signal Boards	2	8.00	6	0.82
Building Construction	Cranes	0	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Rollers	1	7.00	80	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Rubber Tired Loaders	2	8.00	203	0.36
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Skid Steer Loaders	2	8.00	65	0.37
Building Construction	Signal Boards	2	8.00	6	0.82
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Paving	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rubber Tired Loaders	2	8.00	203	0.36
Paving	Signal Boards	2	8.00	6	0.82
Paving	Surfacing Equipment	1	8.00	263	0.30
Paving	Skid Steer Loaders	1	8.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	219.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	13.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0000e-003	0.0000	9.0000e-003	1.3600e-003	0.0000	1.3600e-003			0.0000			0.0000
Off-Road	0.8018	6.8713	8.7426	0.0139		0.3584	0.3584		0.3439	0.3439		1,293.7698	1,293.7698	0.2374		1,299.7054
Total	**0.8018**	**6.8713**	**8.7426**	**0.0139**	**9.0000e-003**	**0.3584**	**0.3674**	**1.3600e-003**	**0.3439**	**0.3453**		**1,293.7698**	**1,293.7698**	**0.2374**		**1,299.7054**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0403	1.5498	0.4353	5.9400e-003	0.1736	0.0117	0.1853	0.0475	0.0112	0.0588		673.0232	673.0232	0.0642	0.1078	706.7496
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0391	0.0263	0.4272	1.2700e-003	0.1453	7.8000e-004	0.1461	0.0385	7.2000e-004	0.0393		128.0125	128.0125	3.0100e-003	2.8800e-003	128.9451
Total	**0.0794**	**1.5761**	**0.8626**	**7.2100e-003**	**0.3189**	**0.0125**	**0.3314**	**0.0861**	**0.0119**	**0.0980**		**801.0357**	**801.0357**	**0.0672**	**0.1107**	**835.6947**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5100e-003	0.0000	3.5100e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	0.8018	6.8713	8.7426	0.0139		0.3584	0.3584		0.3439	0.3439	0.0000	1,293.7698	1,293.7698	0.2374		1,299.7054
Total	**0.8018**	**6.8713**	**8.7426**	**0.0139**	**3.5100e-003**	**0.3584**	**0.3619**	**5.3000e-004**	**0.3439**	**0.3445**	**0.0000**	**1,293.7698**	**1,293.7698**	**0.2374**		**1,299.7054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0403	1.5498	0.4353	5.9400e-003	0.1210	0.0117	0.1327	0.0346	0.0112	0.0458		673.0232	673.0232	0.0642	0.1078	706.7496
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0391	0.0263	0.4272	1.2700e-003	0.0948	7.8000e-004	0.0956	0.0261	7.2000e-004	0.0269		128.0125	128.0125	3.0100e-003	2.8800e-003	128.9451
Total	**0.0794**	**1.5761**	**0.8626**	**7.2100e-003**	**0.2158**	**0.0125**	**0.2283**	**0.0608**	**0.0119**	**0.0727**		**801.0357**	**801.0357**	**0.0672**	**0.1107**	**835.6947**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0799	19.3019	21.6280	0.0425		0.8385	0.8385		0.7884	0.7884		4,037.2241	4,037.2241	1.0984		4,064.6835
Total	**2.0799**	**19.3019**	**21.6280**	**0.0425**		**0.8385**	**0.8385**		**0.7884**	**0.7884**		**4,037.2241**	**4,037.2241**	**1.0984**		**4,064.6835**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.2244	0.0797	9.5000e-004	0.0320	2.1800e-003	0.0342	9.2000e-003	2.0900e-003	0.0113		103.6788	103.6788	5.9400e-003	0.0149	108.2550
Worker	0.0391	0.0263	0.4272	1.2700e-003	0.1453	7.8000e-004	0.1461	0.0385	7.2000e-004	0.0393		128.0125	128.0125	3.0100e-003	2.8800e-003	128.9451
Total	**0.0474**	**0.2506**	**0.5069**	**2.2200e-003**	**0.1773**	**2.9600e-003**	**0.1802**	**0.0477**	**2.8100e-003**	**0.0506**		**231.6913**	**231.6913**	**8.9500e-003**	**0.0177**	**237.2001**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0799	19.3019	21.6280	0.0425		0.8385	0.8385		0.7884	0.7884	0.0000	4,037.2241	4,037.2241	1.0984		4,064.6835
Total	**2.0799**	**19.3019**	**21.6280**	**0.0425**		**0.8385**	**0.8385**		**0.7884**	**0.7884**	**0.0000**	**4,037.2241**	**4,037.2241**	**1.0984**		**4,064.6835**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.3100e-003	0.2244	0.0797	9.5000e-004	0.0229	2.1800e-003	0.0250	6.9600e-003	2.0900e-003	9.0500e-003		103.6788	103.6788	5.9400e-003	0.0149	108.2550
Worker	0.0391	0.0263	0.4272	1.2700e-003	0.0948	7.8000e-004	0.0956	0.0261	7.2000e-004	0.0269		128.0125	128.0125	3.0100e-003	2.8800e-003	128.9451
Total	**0.0474**	**0.2506**	**0.5069**	**2.2200e-003**	**0.1176**	**2.9600e-003**	**0.1206**	**0.0331**	**2.8100e-003**	**0.0359**		**231.6913**	**231.6913**	**8.9500e-003**	**0.0177**	**237.2001**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9589	19.2298	18.9697	0.0422		0.8335	0.8335		0.7811	0.7811		4,039.6672	4,039.6672	1.1255		4,067.8047
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9589**	**19.2298**	**18.9697**	**0.0422**		**0.8335**	**0.8335**		**0.7811**	**0.7811**		**4,039.6672**	**4,039.6672**	**1.1255**		**4,067.8047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0842	0.0566	0.9202	2.7300e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		275.7192	275.7192	6.4900e-003	6.2000e-003	277.7278
Total	**0.0842**	**0.0566**	**0.9202**	**2.7300e-003**	**0.3130**	**1.6900e-003**	**0.3147**	**0.0830**	**1.5500e-003**	**0.0846**		**275.7192**	**275.7192**	**6.4900e-003**	**6.2000e-003**	**277.7278**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9589	19.2298	18.9697	0.0422		0.8335	0.8335		0.7811	0.7811	0.0000	4,039.6672	4,039.6672	1.1255		4,067.8047
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9589**	**19.2298**	**18.9697**	**0.0422**		**0.8335**	**0.8335**		**0.7811**	**0.7811**	**0.0000**	**4,039.6672**	**4,039.6672**	**1.1255**		**4,067.8047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0842	0.0566	0.9202	2.7300e-003	0.2041	1.6900e-003	0.2058	0.0563	1.5500e-003	0.0578		275.7192	275.7192	6.4900e-003	6.2000e-003	277.7278
Total	**0.0842**	**0.0566**	**0.9202**	**2.7300e-003**	**0.2041**	**1.6900e-003**	**0.2058**	**0.0563**	**1.5500e-003**	**0.0578**		**275.7192**	**275.7192**	**6.4900e-003**	**6.2000e-003**	**277.7278**

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Unmitigated	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003

Mission Hospital Pipeline Improvement Project - Orange County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**		**7.4600e-003**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**		**7.4600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mission Hospital Pipeline Improvement Project

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	32.00	1000sqft	0.73	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction phases and duration provided by SCWD

Off-road Equipment - Equipment per SCWD

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 applied. Reduction values per SCAQMD CEQA Handbook Tables 11-4 & A11-9-A

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	100.00	123.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	6/20/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	6/27/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	1/27/2022	6/30/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	7/1/2022
tblConstructionPhase	PhaseStartDate	6/21/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	1/27/2022	6/1/2022
tblGrading	MaterialExported	0.00	972.00
tblGrading	MaterialImported	0.00	778.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

2.0 Emissions Summary

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1813	38.8559	41.9340	0.0895	0.4903	1.6767	2.1669	0.1307	1.5739	1.7046	0.0000	8,564.9780	8,564.9780	2.2395	0.1109	8,628.2756
Maximum	**4.1813**	**38.8559**	**41.9340**	**0.0895**	**0.4903**	**1.6767**	**2.1669**	**0.1307**	**1.5739**	**1.7046**	**0.0000**	**8,564.9780**	**8,564.9780**	**2.2395**	**0.1109**	**8,628.2756**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.1813	38.8559	41.9340	0.0895	0.3218	1.6767	1.9984	0.0894	1.5739	1.6633	0.0000	8,564.9780	8,564.9780	2.2395	0.1109	8,628.2755
Maximum	**4.1813**	**38.8559**	**41.9340**	**0.0895**	**0.3218**	**1.6767**	**1.9984**	**0.0894**	**1.5739**	**1.6633**	**0.0000**	**8,564.9780**	**8,564.9780**	**2.2395**	**0.1109**	**8,628.2755**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**34.37**	**0.00**	**7.78**	**31.64**	**0.00**	**2.43**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**	**0.0000**	**7.4600e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**	**0.0000**	**7.4600e-003**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2022	6/30/2022	5	22	
2	Building Construction	Building Construction	7/1/2022	12/20/2022	5	123	
3	Paving	Paving	12/1/2022	12/20/2022	5	14	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.73

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Site Preparation	Signal Boards	2	8.00	6	0.82
Building Construction	Cranes	0	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Rollers	1	7.00	80	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Rubber Tired Loaders	2	8.00	203	0.36
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Skid Steer Loaders	2	8.00	65	0.37
Building Construction	Signal Boards	2	8.00	6	0.82
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Paving	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rubber Tired Loaders	2	8.00	203	0.36
Paving	Signal Boards	2	8.00	6	0.82
Paving	Surfacing Equipment	1	8.00	263	0.30
Paving	Skid Steer Loaders	1	8.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	219.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	13.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0000e-003	0.0000	9.0000e-003	1.3600e-003	0.0000	1.3600e-003			0.0000			0.0000
Off-Road	0.8018	6.8713	8.7426	0.0139		0.3584	0.3584		0.3439	0.3439		1,293.7698	1,293.7698	0.2374		1,299.7054
Total	**0.8018**	**6.8713**	**8.7426**	**0.0139**	**9.0000e-003**	**0.3584**	**0.3674**	**1.3600e-003**	**0.3439**	**0.3453**		**1,293.7698**	**1,293.7698**	**0.2374**		**1,299.7054**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0393	1.6107	0.4417	5.9400e-003	0.1736	0.0118	0.1854	0.0475	0.0112	0.0588		673.1832	673.1832	0.0641	0.1078	706.9165
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0426	0.0289	0.3976	1.2100e-003	0.1453	7.8000e-004	0.1461	0.0385	7.2000e-004	0.0393		121.8751	121.8751	3.0800e-003	3.0600e-003	122.8645
Total	**0.0819**	**1.6396**	**0.8393**	**7.1500e-003**	**0.3189**	**0.0125**	**0.3315**	**0.0861**	**0.0120**	**0.0981**		**795.0583**	**795.0583**	**0.0672**	**0.1109**	**829.7810**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5100e-003	0.0000	3.5100e-003	5.3000e-004	0.0000	5.3000e-004			0.0000			0.0000
Off-Road	0.8018	6.8713	8.7426	0.0139		0.3584	0.3584		0.3439	0.3439	0.0000	1,293.7698	1,293.7698	0.2374		1,299.7054
Total	**0.8018**	**6.8713**	**8.7426**	**0.0139**	**3.5100e-003**	**0.3584**	**0.3619**	**5.3000e-004**	**0.3439**	**0.3445**	**0.0000**	**1,293.7698**	**1,293.7698**	**0.2374**		**1,299.7054**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0393	1.6107	0.4417	5.9400e-003	0.1210	0.0118	0.1327	0.0346	0.0112	0.0459		673.1832	673.1832	0.0641	0.1078	706.9165
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0426	0.0289	0.3976	1.2100e-003	0.0948	7.8000e-004	0.0956	0.0261	7.2000e-004	0.0269		121.8751	121.8751	3.0800e-003	3.0600e-003	122.8645
Total	**0.0819**	**1.6396**	**0.8393**	**7.1500e-003**	**0.2158**	**0.0125**	**0.2283**	**0.0608**	**0.0120**	**0.0727**		**795.0583**	**795.0583**	**0.0672**	**0.1109**	**829.7810**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0799	19.3019	21.6280	0.0425		0.8385	0.8385		0.7884	0.7884		4,037.2241	4,037.2241	1.0984		4,064.6835
Total	**2.0799**	**19.3019**	**21.6280**	**0.0425**		**0.8385**	**0.8385**		**0.7884**	**0.7884**		**4,037.2241**	**4,037.2241**	**1.0984**		**4,064.6835**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2000e-003	0.2331	0.0825	9.5000e-004	0.0320	2.1900e-003	0.0342	9.2000e-003	2.1000e-003	0.0113		103.7113	103.7113	5.9300e-003	0.0149	108.2918
Worker	0.0426	0.0289	0.3976	1.2100e-003	0.1453	7.8000e-004	0.1461	0.0385	7.2000e-004	0.0393		121.8751	121.8751	3.0800e-003	3.0600e-003	122.8645
Total	**0.0508**	**0.2620**	**0.4801**	**2.1600e-003**	**0.1773**	**2.9700e-003**	**0.1803**	**0.0477**	**2.8200e-003**	**0.0506**		**225.5864**	**225.5864**	**9.0100e-003**	**0.0179**	**231.1563**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0799	19.3019	21.6280	0.0425		0.8385	0.8385		0.7884	0.7884	0.0000	4,037.2241	4,037.2241	1.0984		4,064.6835
Total	**2.0799**	**19.3019**	**21.6280**	**0.0425**		**0.8385**	**0.8385**		**0.7884**	**0.7884**	**0.0000**	**4,037.2241**	**4,037.2241**	**1.0984**		**4,064.6835**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2000e-003	0.2331	0.0825	9.5000e-004	0.0229	2.1900e-003	0.0250	6.9600e-003	2.1000e-003	9.0600e-003		103.7113	103.7113	5.9300e-003	0.0149	108.2918
Worker	0.0426	0.0289	0.3976	1.2100e-003	0.0948	7.8000e-004	0.0956	0.0261	7.2000e-004	0.0269		121.8751	121.8751	3.0800e-003	3.0600e-003	122.8645
Total	**0.0508**	**0.2620**	**0.4801**	**2.1600e-003**	**0.1176**	**2.9700e-003**	**0.1206**	**0.0331**	**2.8200e-003**	**0.0359**		**225.5864**	**225.5864**	**9.0100e-003**	**0.0179**	**231.1563**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9589	19.2298	18.9697	0.0422		0.8335	0.8335		0.7811	0.7811		4,039.6672	4,039.6672	1.1255		4,067.8047
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9589**	**19.2298**	**18.9697**	**0.0422**		**0.8335**	**0.8335**		**0.7811**	**0.7811**		**4,039.6672**	**4,039.6672**	**1.1255**		**4,067.8047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0917	0.0622	0.8563	2.6000e-003	0.3130	1.6900e-003	0.3147	0.0830	1.5500e-003	0.0846		262.5003	262.5003	6.6300e-003	6.5900e-003	264.6311
Total	**0.0917**	**0.0622**	**0.8563**	**2.6000e-003**	**0.3130**	**1.6900e-003**	**0.3147**	**0.0830**	**1.5500e-003**	**0.0846**		**262.5003**	**262.5003**	**6.6300e-003**	**6.5900e-003**	**264.6311**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9589	19.2298	18.9697	0.0422		0.8335	0.8335		0.7811	0.7811	0.0000	4,039.6672	4,039.6672	1.1255		4,067.8047
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9589**	**19.2298**	**18.9697**	**0.0422**		**0.8335**	**0.8335**		**0.7811**	**0.7811**	**0.0000**	**4,039.6672**	**4,039.6672**	**1.1255**		**4,067.8047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0917	0.0622	0.8563	2.6000e-003	0.2041	1.6900e-003	0.2058	0.0563	1.5500e-003	0.0578		262.5003	262.5003	6.6300e-003	6.5900e-003	264.6311
Total	**0.0917**	**0.0622**	**0.8563**	**2.6000e-003**	**0.2041**	**1.6900e-003**	**0.2058**	**0.0563**	**1.5500e-003**	**0.0578**		**262.5003**	**262.5003**	**6.6300e-003**	**6.5900e-003**	**264.6311**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Unmitigated	0.0141	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**		**7.4600e-003**

Mission Hospital Pipeline Improvement Project - Orange County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.4400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0113					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.0000e-004	3.0000e-005	3.2700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		7.0000e-003	7.0000e-003	2.0000e-005		7.4600e-003
Total	**0.0141**	**3.0000e-005**	**3.2700e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**7.0000e-003**	**7.0000e-003**	**2.0000e-005**		**7.4600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Assessment

Biological Technical Report

Mission Hospital Pipeline Improvement Project

Laguna Beach, California

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June 2022

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
ACP	Asbestos cement pipe
BSA	Biological Survey Area
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society Electronic Inventory
CSS	Coastal Sage Scrub
CWA	Clean Water Act
DA	Delineation Area
ESA	Endangered Species Act
GPS	Global Positioning System
HCP	Habitat Conservation Plan
MBTA	Migratory Bird Treaty Act
msl	Mean sea level
NCCP	Natural Community Conservation Plan
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary high water mark
Proposed Project	Mission Hospital Pipeline Improvement Project
PS	Pump Station
PVC	Polyvinyl chloride
ROW	Right-of-way
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
SCWD	South Coast Water District
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

ECORP Consulting, Inc. conducted a general biological reconnaissance survey for the Mission Hospital Pipeline Improvement Project (Proposed Project) located in the City of Laguna Beach, Orange County, California. The purpose of the assessment was to identify biological resources that may potentially occur within or adjacent to the Project footprint and to determine if Project-related impacts may result to those resources, pursuant to the terms of the California Environmental Quality Act (CEQA). The Project will be subject to county, state, and federal regulations regarding compliance with the federal Endangered Species Act (ESA), California ESA, Migratory Bird Treaty Act (MBTA), and California Fish and Game Code. In support of the CEQA impact analysis, an aquatic resources delineation survey was completed in February 2022 and focused biological surveys for special-status plants and the coastal California gnatcatcher (*Polioptila californica californica*) were completed in spring 2022. This biological technical report summarizes the results of the various biological studies.

1.1 Location and Environmental Setting

The Project site is located in Orange County in the City of Laguna Beach, south of 3rd Avenue, north of 8th Avenue, and east of the existing Mission Hospital (Figure 1). The pipeline alignment is generally from the intersection of 3rd Avenue and Mar Vista Avenue, south along Mar Vista Avenue to Sunset Avenue, and along Sunset Avenue to just north of the intersection of Sunset Avenue and 8th Avenue. An equipment and materials staging area is proposed within undeveloped land adjacent and to the east of the intersection of Mar Vista Avenue and Sunset Avenue and a short segment of the pipeline traverses down a steep portion of the hillside adjacent and south of the proposed staging area down to 5th Avenue from Sunset Avenue terminating at the rear of the Mission Hospital (Figure 2). The Project is located within existing public right-of-way (ROW) and is surrounded by low-density residential land uses, undeveloped open space areas, and public/institutional uses, as described in Table 1.

A potential

included in this analysis

Table 1. Surrounding Land Uses

	Land Use Designation	Zoning Designation	Existing Land Use
Project Site	Public ROW	Public ROW	Local Street
North	Low and Medium Low Density Residential	Village Low Density (3-7 dwelling units/acre [du/ac]) and Village Medium Low Density (8-14 du/ac)	Single-Family Homes
East	Low Density Residential, Open Space, and Public/Institutional	Village Low Density (3-7 du/ac), Open Space, and Public/Institutional	Single-Family Homes and Open Space
South	Public/Institutional and Medium Low Density Residential	Public/Institutional and Village Medium Low Density (8-14 du/ac)	Medical Facilities and Single-Family Homes
West	Low and Medium Low Density Residential and Public/Institutional	Village Low Density (3-7 du/ac) and Village Medium Low Density (8-14 du/ac)	Single Family Homes and Medical Facilities

Source: City of Laguna Beach 2012; City of Laguna Niguel et al 2021

Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Vicinity.mxd *(TR)-trotellini 1/4/2022*

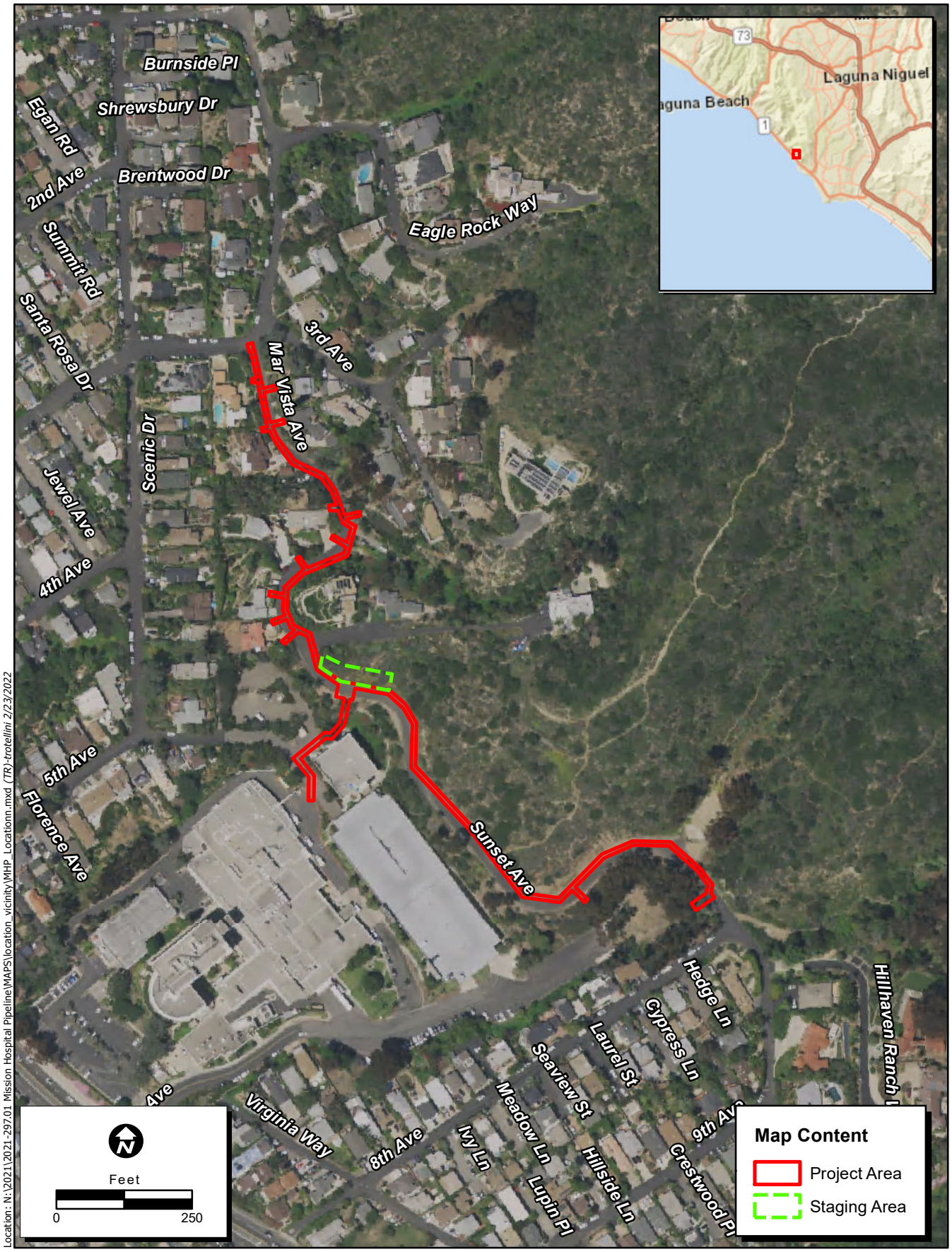
Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 1. Project Vicinity

2021-297.01 Mission Hospital Pipeline



Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Locationn.mxd (TR)-trotellini 2/23/2022

Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community Photo Source: NAIP (2020)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2. Project Location

2021-297.01 Mission Hospital Pipeline

1.2 Project Description

The South Coast Water District (SCWD), per its 2017 Infrastructure Master Plan, proposes pipeline improvements for approximately 1,600 linear feet of 6-inch and 8-inch water main near the Mission Hospital that is currently unable to provide the required 4,000 gallons per minute of fire flow at a 20 pressure-per-square-inch residual pressure. The Proposed Project involves replacing 1,350 linear feet of 8-inch asbestos cement pipe (ACP) water main with 12-inch polyvinyl chloride (PVC) pipe, ~~replacing 160 linear feet of 6-inch ACP water main with 12-inch PVC pipe,~~ installing valves and valve clusters as required, and reconnecting service connections and fire hydrants as required. The pipeline alignment runs south along Mar Vista Avenue from 3rd Avenue to Sunset Avenue, south along Sunset Avenue to 8th Avenue, and also down a hill from Sunset Avenue to Mission Hospital.

This Proposed Project is a part of SCWD's modified Capital Improvement Plan (CIP) to replace aging infrastructure and meet fire flow requirements to support wildfire mitigation efforts and increase fire water supply within SCWD's 490 pressure zone located to the east of Pacific Coast Highway in the northern part of the SCWD service area. The Modified CIP includes the replacement of Reservoir 2-B, with additional pipeline improvements, and the expansion of Pump Station (PS) #3. Reservoir 2-B, after 75 years of use and a recent shell leak, is reaching the end of its useful life and requires upgrades to address corrosion, seismic deficiencies, and safety requirements in accordance with recent inspections. PS #3 was selected for expansion due to its proximity to Mission Hospital, the largest fire flow demand in the Zone 490.

Project construction would consist of excavation, backfill, pipeline installation, and repaving. The pipelines along Mar Vista Avenue and Sunset Avenue would be installed a minimum of 36 inches below ground level and the pipeline that runs down a hill from Sunset Avenue to 5th Avenue would be installed at 16 inches below ground level. Streets affected by construction would be repaved to their pre-disturbance conditions.

2.0 REGULATORY SETTING

This biological reconnaissance survey was conducted to identify potential biological issues and ensure compliance with state and federal regulations regarding listed, protected, and sensitive species and habitats. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 The Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as *harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct* (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals

or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

2.1.2 Migratory Bird Treaty Act

The MBTA implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities including hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the Clean Water Act (CWA). *Discharges of fill material* is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards. Section 401 Certification, "gives states and authorized tribes the authority to grant or waive certification of proposed federal licenses or permits that may discharge into waters of the US" (33 USC 1251).

On April 21, 2020, the U.S. Environmental Protection Agency (USEPA) and the USACE published the Navigable Waters Protection Rule (NWPR) to define Waters of the U.S. in the *Federal Register*. This rule became effective on June 22, 2020.

In August 2021, a judge in the U.S. District Court for the District of Arizona ruled to vacate the NWPR. On October 1, 2021, Judge Màrquez of the U.S. District Court for the District of Arizona granted the U.S. Environmental Protection Agency (USEPA) and USACE an extension until November 30, 2021 to make proposals for further proceedings concerning challenges to the 2020 regulatory definition of the "Waters of the United States" and NWPR. On December 7, 2021, the USEPA and USACE announced a proposed rule to revise the definition of "waters of the United States." This proposal would return to the pre-2015 definitions of Waters of the U.S. The proposed rule is open for public comment until February 7, 2022.

In the USACE/USEPA CWA regulations (33 CFR 328.3[a]), the term "waters of the U.S." is defined as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the U.S. under the definition;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in 1-6 above.

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as *hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill*. The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with the California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute

(California Fish and Game Code § 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to *preserve, protect and enhance rare and endangered plants in this State*. The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.4 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires "any person discharging waste, or proposing to discharge waste, within any region that could affect the waters of the State to file a report of discharge" with the Regional Water Quality Control Board (RWQCB) through State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures) (California Code of Regulations [CCR], title 23, § 3855) (State Water Resources Control Board 2021). *Waters of the State* is defined as any surface water or groundwater, including saline waters, within the boundaries of the State (California Water Code § 13050[e]). Pollution is defined as an alteration of the quality of the waters of the state by waste to a degree that unreasonably affects its beneficial uses (California Water Code § 13050) and includes filling in waters of the State. Note that CCR, title 23, § 3855 applies only to individual water quality certifications, but the new Procedures extend the application of § 3855 to individual waste discharge requirements for discharges of dredged or fill material to Waters of the State and waivers thereof.

A permit for impacts to Waters of the State would likely be required under the CWA and/or Porter-Cologne Water Quality Control Act. To determine whether a project should be regulated pursuant to the Porter-Cologne Water Quality Control Act, the RWQCB considers whether project activities could impact the quality of Waters of the State.

2.2.5 California Fish and Game Code

2.2.5.1 California Fish and Game Code Section 1602

Pursuant to Section 1602 of the California Fish and Game Code, a Streambed Alteration Agreement (SAA) application must be submitted for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake" (CDFW 2021). In Title 14 of the CCR, Section 1.72, the CDFW defines a *stream* (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

The CDFW's jurisdiction includes drainages with a definable bed, bank, or channel with the jurisdictional limit being the top of bank. It also includes areas that support intermittent, perennial, or subsurface flows; supports fish or other aquatic life; or supports riparian or hydrophytic vegetation. It also includes areas that have a hydrologic source.

The CDFW will determine if the proposed actions will result in diversion, obstruction, or change of the natural flow, bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW will submit a SAA that includes measures to protect affected fish and wildlife resources; this SAA is the final proposal agreed upon by the CDFW and the applicant.

2.2.5.2 Migratory Birds

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918.

2.2.6 California Environmental Quality Act Significance Criteria

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on state or federally protected wetlands or waters (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

2.2.7 Orange County Central and Coastal Natural Community Conservation Plan/Habitat Conservation Plan

The Project is located within the Orange County Central and Coastal NCCP/HCP area; however, SCWD is not a participating landowner in the NCCP/HCP, nor are the Cities of Laguna Beach or Laguna Niguel signatory jurisdictions (USFWS 1996). Due to this, potential impacts from the Project site to the NCCP/HCP's identified species would not be covered under the NCCP/HCP and this report does not include compliance documentation for the NCCP/HCP. It should be noted that special status plant and wildlife species that are covered by the NCCP/HCP and were also returned during the database search and literature review will be addressed in this report.

3.0 METHODS

To characterize the biological resources within the Project area, a literature review, a field survey, and an assessment of the potential for the occurrence of special-status species were conducted. The Biological Survey Area (BSA) included the Project site plus an approximately 100-foot buffer around the Project site and the proposed staging area.

3.1 Literature Review

Prior to conducting the biological reconnaissance survey, ECORP biologists performed a literature review using the CDFW's California Natural Diversity Database (CNDDB; CDFW 2022a) and the California Native Plant Society (CNPS) Electronic Inventory (CNPSEI; CNPS 2022) to determine the special-status plant and wildlife species that have been documented on or near the Project site. The CNDDB and CNPSEI database searches were conducted on January 12, 2022. ECORP searched CNDDB and CNPSEI records within the Project site boundaries as depicted on the U.S. Geological Survey (USGS) 7.5-minute San Juan Capistrano topographic quadrangle, plus the surrounding seven topographic quadrangles, including San Clemente, Laguna Beach, Tustin, El Toro, Santiago Peak, Canada Gobernadora, and Dana Point. The CNDDB and CNPSEI contain records of reported occurrences of federally or state-listed endangered, threatened, proposed endangered or threatened species, California Species of Special Concern (SSC), and/or other special-status species or habitat that may occur within or near the Project site. Additional information was gathered from the following sources and includes, but is not limited to the following:

- USFWS Information for Planning and Consultation Database (USFWS 2022a);
- USFWS National Wetlands Inventory (USFWS 2022b);

- Natural Resources Conservation Service (NRCS) *Web Soil Survey* (NRCS 2022);
- Special Animals List (CDFW 2022b);
- *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). *The Manual of California Vegetation*, 2nd Edition (Sawyer et al. 2009);
- *Atlas of Breeding Birds of Orange County California* (Gallagher 1997);
- *Field Guide to Amphibians and Reptiles of California, revised edition* (Stebbins and McGinnis 2012); and
- Various online websites (e.g., Calflora 2022, NatureServe 2022).

Using this information and observations in the field, a list of special-status plant and animal species that have potential to occur on or near the Project site was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515;
- are identified as SSC by CDFW; and/or
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species reported for the region in the literature review or for which suitable habitat occurs on the site were assessed for their potential to occur within the Project site and/or 100-foot buffer based on the following guidelines:

- **Present:** The species was observed within the Project site during a site visit or focused survey.
- **High:** Habitat (including soils and elevation factors) for the species occurs within the Project site and a known occurrence has recently been recorded (within the last 20 years) within five miles of the Project site.
- **Moderate:** Either habitat (including soils and elevation factors) for the species occurs within the Project site and a known occurrence has been reported in the database, but not within five miles of the site; a historic documented observation (more than 20 years old) was recorded within 5 miles of the Project site; or a recently documented observation occurs within 5 miles of the area and marginal or limited amounts of habitat occurs in the Project site.
- **Low:** Limited or marginal habitat for the species occurs on the Project site and a recently documented observation occurs within the database search, but not within 5 miles of the Project site or a historic documented observation (more than 20 years old) was recorded within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records or only historic records were found within the database search.

- **Presumed Absent:** Species was not observed during a site visit or focused surveys conducted in accordance with protocol guidelines at an appropriate time for identification; habitat (including soils and elevation factors) does not exist on site; or the known geographic range of the species does not include the Project site.

Note that location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species' occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that species.

3.2 Field Survey

3.2.1 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted by walking the entire BSA to determine the vegetation communities and wildlife habitats within the BSA. The biologists documented the plant and wildlife species present within the BSA and the location and condition of the BSA were assessed for the potential to provide habitat for special-status plant species (Project site only) and wildlife species. Data were recorded using a handheld Global Positioning System (GPS) unit in NAD 83, Universal Transverse Mercator coordinates, Zone 11S., in field notebooks, and/or maps. Photographs were also taken during the survey to provide visual representation of the site conditions and various vegetation communities within the BSA. The Project site was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region. In addition, the biologists noted and mapped the vegetation communities present within the BSA.

Plant and wildlife species, including any special-status species that were observed during the survey, were recorded. Plant nomenclature follows that of *The Jepson Manual: Vascular Plants of California* (Baldwin et al. 2012). Wildlife nomenclature follows Society for the Study of Amphibians and Reptiles (SSAR 2018), *Check-list of North American Birds* (Chesser et al. 2021), and the *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

3.2.2 Aquatic Resources Delineation

The Jurisdictional Waters delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid West Region Supplement; USACE 2008). The boundaries of Jurisdictional Waters were delineated through standard field methods (e.g., paired sample set analyses) and aerial photograph interpretation. Field data were recorded on Wetland Determination Data Forms - Arid West Region. A color aerial Google Earth© image (photo date: May 17, 2021) was used to assist with mapping and ground-truthing. *Munsell Soil Color Charts* (Munsell Color 2009) and the Web Soil Survey (NRCS 2022) were used to aid in identifying hydric soils in the field. *The Jepson Manual, 2nd Edition* (Baldwin et al. 2012) was used for plant nomenclature and identification.

A Delineation Area (DA) was established that included the Project limits, proposed staging area and areas where features were suspected to extend outside of the Project limits. The DA was approximately the same as the BSA but did not include the buffer. The field survey was conducted on February 10, 2022, by ECORP biologist Scott Taylor. The biologist walked accessible areas of the DA to determine the location and extent of Jurisdictional Waters. Paired locations were sampled to evaluate whether or not the vegetation, hydrology, and soils data supported an aquatic resource determination. At each paired location, one point was located such that it was within the estimated aquatic resource area, and the other point was situated outside the limits of the estimated aquatic resource area. An additional non-paired location was sampled to document a marginal area that was determined to be upland as it lacked hydrophytic vegetation, hydric soils, and/or wetland hydrology. Jurisdictional Waters within the DA were recorded in the field using a post-processing capable GPS unit with submeter accuracy (e.g., Juniper Geode™). Feature characteristics and measurements were recorded directly into the data dictionary in the GPS unit. Characteristics of mapped features were also documented in photographs.

Within Title 14, California Code of Regulations, Section 1.72 a stream is defined as *a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation*. However, this definition does not specifically define the terms *bed*, *channel* or *bank* and does not define related features such as vegetation. It is therefore up to the CDFW what constitutes a stream or its associated vegetation. ECORP has mapped limits of CDFW jurisdiction based on common practice and experience through Notification processes with the CDFW.

Generally, the limits of CDFW streambeds are defined for this delineation as the limits from top-of-bank to top-of-bank. Vegetation associated with streambeds includes riparian shrubs and trees that are within this streambed area or that are directly adjacent. Trees with a diameter at breast height (DBH) of four inches or greater found within the CDFW jurisdictional areas were mapped along with the extent of their canopy and DBH. Canopy extent was mapped based on field observation and aerial mapping.

3.2.3 Special-Status Plant Surveys

Surveys for special-status plants were conducted on May 26, 2022, based on the expected blooming periods of the target plant species. The methods used to conduct the focused rare plant surveys are documented under separate cover (ECORP 2022a).

3.2.4 Coastal California Gnatcatcher Surveys

Surveys for coastal California gnatcatcher were conducted in accordance with the *1997 Coastal California Gnatcatcher Presence/Absence Survey Guidelines* published by the USFWS (USFWS 1997). Detailed methodology of the focused coastal California gnatcatcher surveys are documented under separate cover (ECORP 2022b).

4.0 RESULTS

Summarized below are the results of the literature review and field surveys, including site characteristics, vegetation communities, wildlife, special-status species, and special-status habitats.

4.1 Literature Review

4.1.1 Special-Status Plants and Wildlife

The literature review and database searched identified 46 special-status plant species and 51 special-status wildlife species that have been documented near the Project site. A list was generated from the results of the literature review and the database search, and the Project site was evaluated for suitable habitat that could support any of the special-status plant species and the BSA was evaluated for suitable habitat that could support any of the special-status wildlife species on the list. Potential for special-status plant and wildlife species to occur on or near the Project site or BSA is discussed in more detail in Sections 3.2.5.

4.1.2 U.S. Fish and Wildlife Service Designated Critical Habitat

The Project site is not located within any USFWS-designated critical habitat; however, USFWS-designated final critical habitat for coastal California gnatcatcher (*Polioptila californica californica*) is approximately 0.5 mile east and 0.7-mile northwest of the Project site.

4.2 Biological Reconnaissance Survey

The biological reconnaissance survey was conducted on January 13, 2022, by ECORP biologists Taylor Dee and Carley Lancaster. The aquatics resources delineation was conducted on February 10, 2022 and focused surveys were conducted during the appropriate timeframes in spring 2022. Summarized below are the results of the biological reconnaissance and focused surveys, including site characteristics, plant communities, wildlife, special-status species, and special-status habitats (including any potential wildlife corridors). Survey dates and personnel for the various field surveys are summarized in Table 1.

Table 2. Survey Dates and Personnel

Survey Type	Date	Personnel
Biological Reconnaissance	1/13/202	Taylor Dee and Carley Lancaster
Aquatic Resources Delineation	2/10/2022	Scott Taylor
Special-Status Plants	5/26/2022	Carley Lancaster
California Gnatcatcher 1	3/15/2022	Christine Tischer
California Gnatcatcher 2	3/22/2022	Christine Tischer
California Gnatcatcher 3	3/29/2022	Shannan Shaffer
California Gnatcatcher 4	4/05/2022	Shannan Shaffer
California Gnatcatcher 5	4/12/2022	Shannan Shaffer
California Gnatcatcher 6	4/19/2022	Shannan Shaffer

Summarized below are the results of the biological reconnaissance survey, including site characteristics, plant communities, wildlife, special-status species, and special-status habitats.

4.2.1 Project Site Characteristics

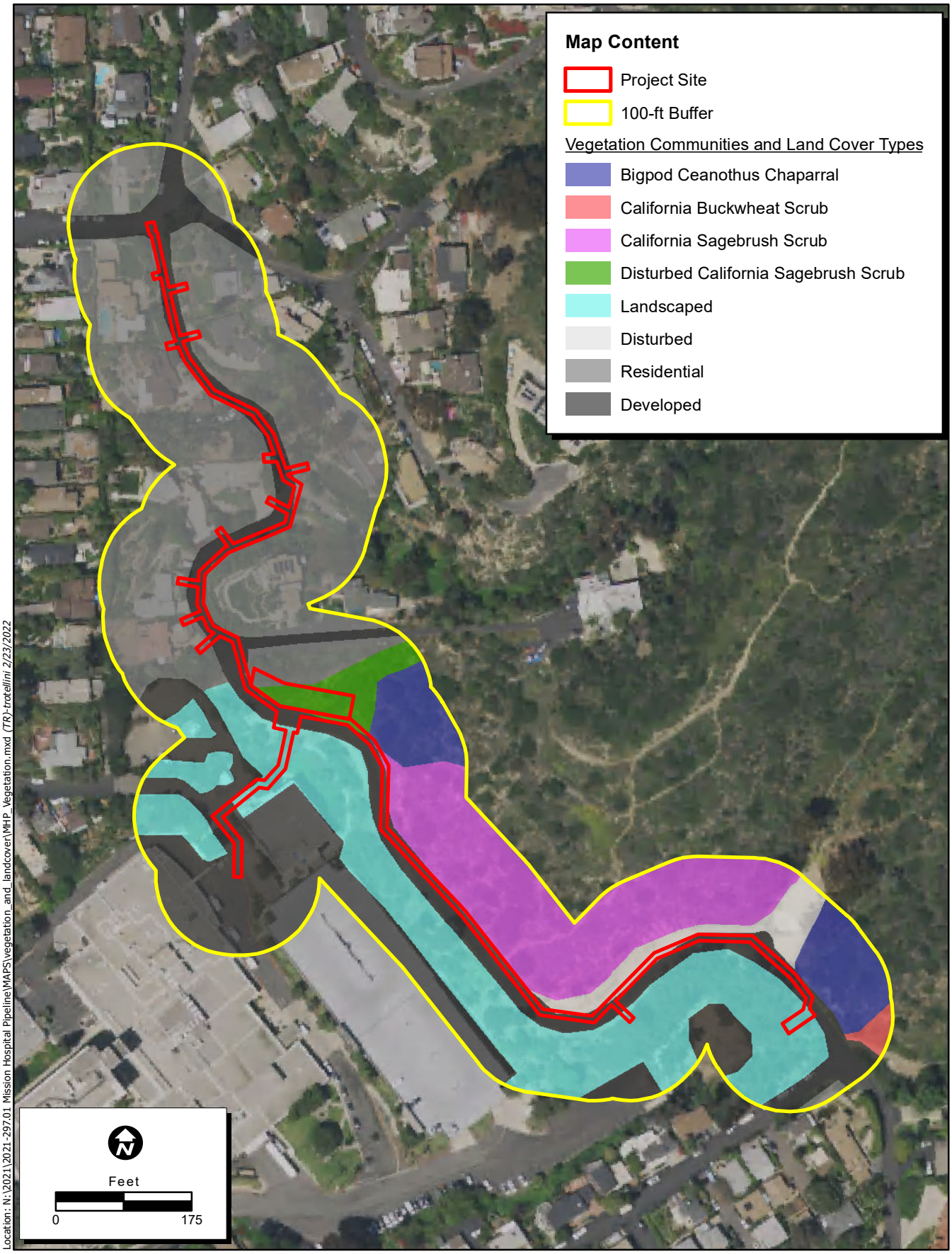
The Project site is characterized primarily by a paved road consisting of Sunset Avenue and Mar Vista Avenue with adjacent landscaped areas, development, and some native habitat in a suburban setting. The BSA consists mostly of developed, residential, landscaped, and disturbed areas; however, vegetation characteristic of Coastal Sage Scrub (CSS) habitats was observed along the margins of the Project site, within the staging area, and within the 100-foot buffer. Vegetation characteristic of chaparral habitats was also observed in two sections within the 100-foot buffer. A more detailed description of the vegetation communities and landcover types and their associated species can be found in Section 3.2.2 of this report. The northern section of the Project site is surrounded by existing development and residential areas that have ornamental landscaping, including mature trees with evidence of trimming. The southern section of the Project site is surrounded by institutional development (Mission Hospital) and landscaped areas, including mature trees subject to tree trimming, to the southwest and native habitat and disturbed areas to the northeast. Soils on site consisted of Anaheim clay loam, 15 to 30 percent slopes; Modjeska gravelly loam, 15 to 30 percent slopes; Soper gravelly loam, 30 to 50 percent slopes, MLRA 20; and Xerorthents loamy, cut and fill areas, 15 to 30 percent slopes (NRCS 2022). Most soils on the Project site were compact with the exception of soils in the landscaped area. Evidence of erosion was prominent on the west slopes of the hillside along the eastern edge in the southern half of the Project site. Elevation on the Project site ranges from 178 feet above mean sea level (msl) to 251 feet above msl. Representative site photographs taken during the survey are included in Appendix A.

4.2.2 Vegetation Communities and Land Cover

Vegetation communities and other land cover types observed within the BSA included Bigpod Ceanothus Chaparral (*Ceanothus megacarpus* Shrubland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), California Sagebrush Scrub (*Artemisia californica* Shrubland Alliance), landscaped, disturbed, residential, and developed areas (Figure 3). Descriptions of each vegetation community and land cover type that were mapped are provided below.

4.2.2.1 California Sagebrush Scrub (Artemisia californica Shrubland Alliance)

California Sagebrush Scrub is a common vegetation community near the coast of Southern California. In California Sagebrush Scrub communities, California sagebrush (*Artemisia californica*) is dominant or co-dominant in the shrub layer with species such as chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), sticky monkeyflower (*Diplacus aurantiacus*), California brittlebush (*Encelia californica*), California buckwheat (*Eriogonum fasciculatum*), chaparral yucca (*Hesperoyucca whipplei*), Menzies' goldenbush (*Isocoma menziesii*), laurel sumac (*Malosma laurina*), coastal prickly pear (*Opuntia littoralis*), lemonade berry (*Rhus integrifolia*), sugar bush (*Rhus ovata*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*) (Sawyer et al., 2009). The California Sagebrush Scrub that was observed within the BSA during the survey was dominated by California sagebrush and lemonade berry with California buckwheat, California brittlebush, and coastal prickly pear. This community was mostly observed to the northwest of the Project site, within the 100-foot buffer, but was also mapped along the margins of the Project site. In



Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\vegetation_and_landcover\MHP_Vegetation.mxd *(TR)-trotellini 2/23/2022*

Map Date: 2/23/2022

Service Layer Credits: Photo Source: NAIP (2020)

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ENVIRONMENTAL CONSULTANTS

Figure 3. Vegetation Communities and Land Cover Types

2021-297.01 Mission Hospital Pipeline

addition, disturbed Coastal Sage Scrub, with sparse shrubs and a higher level of herbaceous and non-native vegetation, was mapped within the proposed staging area for the Project. A total of 0.007 acre and 1.329 acres of California Sagebrush Scrub was mapped within the Project site and the 100-foot buffer, respectively. A total of 0.086 acre and 0.129 acre of disturbed California Sagebrush Scrub was mapped within the Project site and the 100-foot buffer, respectively.

4.2.2.2 California Buckwheat Scrub (Eriogonum fasciculatum Shrubland Alliance)

California Buckwheat Scrub is a common vegetation community near the coast of Southern California. In California Buckwheat Scrub communities, California buckwheat or chaparral yucca is dominant or co-dominant in the shrub layer with species such as deerweed (*Acmispon glaber*), California sagebrush, coyote brush, sticky monkeyflower, California brittlebush, brittlebush (*Encelia farinosa*), white sage, and black sage (Sawyer et al., 2009). The California Buckwheat Scrub that was observed within the BSA during the survey was dominated by California buckwheat with California sagebrush, California brittlebush, and laurel sumac. This community was observed at the southeastern extent of the BSA within the 100-foot buffer. This community was not observed within the Project site. A total of 0.045 acre of California Buckwheat Scrub was mapped within the 100-foot buffer.

4.2.2.3 Bigpod Ceanothus Chaparral (Ceanothus megacarpus Shrubland Alliance)

Bigpod Ceanothus Chaparral is a common vegetation community near the coast of Southern California. In Bigpod Ceanothus Chaparral communities, bigpod ceanothus is dominant in the shrub layer with species such as chamise, red shanks (*Adenostoma sparsifolium*), greenbark ceanothus (*Ceanothus spinosus*), coastal buckwheat (*Eriogonum cinereum*), chaparral yucca, toyon (*Heteromeles arbutifolia*), laurel sumac, scrub oak (*Quercus berberidifolia*), lemonade berry, and black sage (Sawyer et al., 2009). The Bigpod Ceanothus Chaparral that was observed within the BSA during the survey was dominated by bigpod ceanothus with toyon, laurel sumac, and lemonade berry. This community was observed in two patches to the northwest of the Project site within the 100-foot buffer. This community was not observed within the Project site. A total of 0.543 acre of Bigpod Ceanothus Chaparral was mapped within the 100-foot buffer.

4.2.2.4 Developed

Developed land is not a vegetation classification, but rather a land cover type. Areas designated as developed land have infrastructure present and are devoid of vegetation due to lack of growing substrate. Developed areas are distributed throughout the Project area and include Mission Hospital, Sunset Avenue, Mar Vista Avenue, and 3rd Avenue. A total of 0.338 acre and 2.484 acres of developed land was mapped within the Project site and the 100-foot buffer, respectively.

4.2.2.5 Residential

Residential land is not a vegetation classification, but rather a land cover type. Areas designated as residential were characterized by single family residences surrounding by ornamental landscaping, including mature eucalyptus trees (*Eucalyptus* sp.). Other common ornamental landscaping species observed in the residential areas included Krantz aloe (*Aloe arborescens*), African daisy, (*Dimorphotheca*), pride of madeira (*Echium candicans*), lantana (*Lantana camara*), sea lavender (*Limonium* sp.), and ice plant

(*Carpobrotus* sp.). A total of 0.052 acre and 3.658 acres of residential land was mapped within the Project site and the 100-foot buffer, respectively.

4.2.2.6 Landscaped

Landscaped land is not a vegetation classification, but rather a land cover type. Areas designated as landscaped were found surrounding Mission Hospital and were characterized by a mix of larger ornamental and naturalized trees, ornamental shrubs, and native shrubs. Common species observed in the landscaped areas included crimson bottlebrush (*Callistemon citrinus*), red gum (*Eucalyptus camaldulensis*), blue gum (*Eucalyptus globulus*), Canary Island pine (*Pinus canariensis*), Aleppo pine (*Pinus halepensis*), and coastal wattle (*Acacia cyclops*). Native plant species, including California buckwheat, toyon, laurel sumac, lemonade berry, and coastal prickly pear, were also present in the landscaped areas at lower cover. A large stand of red gum trees with evidence of previous tree trimming were present within the southern portion of the landscaped area within the BSA. A total of 0.051 acre and 1.964 acres of landscaped land was mapped within the Project site and the 100-foot buffer, respectively.

4.2.2.7 Disturbed

Disturbed land is not a vegetation classification, but rather a land cover type. Areas designated as disturbed were found to have been heavily influenced by human actions and were mostly devoid of vegetation but lacked development. Soils in these areas tended to have some level of compaction and vegetation was typically limited to low growing herbaceous species, but also included some native shrubs. A total of 0.019 acre and 0.239 acre of disturbed land was mapped within the Project site and the 100-foot buffer, respectively.

4.2.3 Plants

Plant species present within the Project site and 100-foot buffer were typical of those found in CSS, chaparral, landscaped, and disturbed areas. A full list of plant species observed in the BSA during the survey is included in Appendix B.

4.2.4 Wildlife

Fourteen different species were observed or detected during the survey, with the majority of those being bird species. A complete list of wildlife species observed on or immediately adjacent to the Project site is included in Appendix C.

4.2.5 Potential for Special-Status Plant and Wildlife Species to Occur on the Project Site

The literature review and database searches found 46 special-status plant species and 51 special-status wildlife species that occur on or near the Project site. However, due to the Project site being disturbed and surrounded by developed areas, many of the species are presumed absent from the Project site. Focused surveys for 13 special-status plant species and the coastal California gnatcatcher were conducted in spring 2022 to determine presence/absence of these species that were determined to have potential to occur

during the initial reconnaissance survey. Appendices D and E contain more detailed analyses on the potential for special-status plant and wildlife species to occur.

4.2.5.1 Special-Status Plants

Although 46 special-status plant species appeared in the literature search, due to the Project site's current disturbed condition, and the current lack of suitable habitat for the special-status plant species identified in the literature review and database searches, 33 of the 46 species were presumed absent from the Project site. Focused 2022 surveys for the remaining 13 target species did not detect these species within the BSA. Descriptions of the special-status plant species identified in the literature review are presented in Appendix D.

4.2.5.2 Special-Status Wildlife

The literature search documented 51 special-status wildlife species in the vicinity of the Project site, 17 of which are federally and/or state-listed or candidates for listing. Of the 51 special-status wildlife species identified in the literature review, six were found to have a low potential to occur; the remaining 45 species are presumed absent from the Project site due to lack of habitat. The presence of anthropogenic disturbances, proximity to urban development, and limited connectivity of the Project site to native habitat blocks likely preclude these species from occurring on or adjacent to the site. A list of the 6 special-status species determined to have a low potential to occur are discussed below. Descriptions of all 51 special-status wildlife species identified in the literature review are presented in Appendix E. None of the sensitive wildlife species with a potential to occur in the area were observed during the reconnaissance or focused surveys.

4.2.5.3 Wildlife Species with High to Moderate Potential to Occur

Due to the Project site's location in a predominately urban setting, location in an almost entirely surrounded by development, and the current lack of suitable habitat for the special-status wildlife species identified in the literature review, no special-status wildlife species were found to have a high to moderate potential to occur.

4.2.5.4 Wildlife Species with Low Potential to Occur

Six species were found to have a low potential to occur on the Project site because limited and/or marginal habitat for the species occurs on the site and a known occurrence has been reported in the database, but not within five miles of the site or an historic documented observation (more than 20 years old) was recorded within five miles of the Project site, or suitable habitat strongly associated with the species occurs on the site, but no records or only historic records were found in the database search:

- Monarch butterfly (overwintering population, *Danaus plexippus* pop. 1) federal candidate for listing as endangered.
- Western spadefoot (*Spea hammondii*) CDFW SSC.
- Dulzura pocket mouse (*Chaetodipus californicus femoralis*) CDFW SSC.

- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) CDFW SSC.
- San Diego desert woodrat (*Neotoma lepida intermedia*) CDFW SSC.
- Southern grasshopper mouse (*Onychomys torridus ramona*) CDFW SSC.

4.2.5.5 Wildlife Species Presumed Absent

The following 45 species are presumed absent from the Project due to the lack of suitable habitat on the Project site:

- San Diego fairy shrimp (*Branchinecta sandiegonensis*) federally listed endangered and covered by NCCP/HCP.
- Riverside fairy shrimp (*Streptocephalus woottoni*) federally listed endangered and covered by NCCP/HCP.
- Tidewater goby (*Eucyclogobius newberryi*) federally listed endangered.
- Arroyo chub (*Gila orcutti*) CDFW SSC.
- Steelhead - southern California distinct population segment (*Oncorhynchus mykiss irideus* pop. 10) federally listed endangered.
- Santa Ana speckled dace (*Rhinichthys osculus* ssp. 3) CDFW SSC.
- Arroyo toad (*Anaxyrus californicus*) federally listed endangered, CDFW SSC, and covered by NCCP/HCP.
- Coast range newt (*Taricha torosa*) CDFW SSC.
- Southern California legless lizard (*Anniella stebbinsi*) CDFW SSC.
- California glossy snake (*Arizona elegans occidentalis*) CDFW SSC.
- San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*) CDFW SSC and covered by NCCP/HCP.
- Red-diamond rattlesnake (*Crotalus ruber*) CDFW SSC and covered by NCCP/HCP.
- Western pond turtle (*Emys marmorata*) CDFW SSC.
- Blainville's horned lizard (*Phrynosoma blainvillii*) CDFW SSC and covered by NCCP/HCP.
- Coast patch-nosed snake (*Salvadora hexalepis virgultea*) CDFW SSC.
- Two-striped garter snake (*Thamnophis hammondii*) CDFW SSC.
- Tricolored blackbird (*Agelaius tricolor*) state-listed threatened.
- Grasshopper sparrow (*Ammodramus savannarum*) CDFW SSC.
- Golden eagle (*Aquila chrysaetos*) CDFW fully protected species and covered by NCCP/HCP.
- Long-eared owl (*Asio otus*) CDFW SSC.

- Burrowing owl (*Athene cunicularia*) CDFW SSC.
- Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*) CDFW SSC and covered by NCCP/HCP.
- Northern harrier (*Circus cyaneus*) CDFW SSC and covered by NCCP/HCP.
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) federally listed threatened and state-listed endangered.
- Yellow rail (*Coturnicops noveboracensis*) CDFW SSC.
- White-tailed kite (*Elanus leucurus*) CDFW fully protected species.
- Southwestern willow flycatcher (*Empidonax traillii extimus*) federally and state-listed endangered and covered by NCCP/HCP.
- Yellow-breasted chat (*Icteria virens*) CDFW SSC.
- California black rail (*Laterallus jamaicensis coturniculus*) state-listed threatened and CDFW fully protected.
- Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) state-listed endangered.
- Coastal California gnatcatcher (*Polioptila californica californica*) federally listed threatened, CDFW SSC, and covered by NCCP/HCP.
- Light-footed Ridgway's rail (*Rallus obsoletus levipes*) federally and state-listed endangered.
- Yellow warbler (*Setophaga petechia*) CDFW SSC.
- California least tern (*Sternula antillarum browni*) federally listed endangered and state-listed endangered, CDFW fully protected.
- Least Bell’s vireo (*Vireo bellii pusillus*) federal and state-listed endangered and covered by NCCP/HCP.
- Pallid bat (*Antrozous pallidus*) CDFW SSC.
- Mexican long-tongued bat (*Choeronycteris mexicana*) CDFW SSC.
- Stephens’ kangaroo rat (*Dipodomys stephensi*) federally listed endangered and state listed threatened.
- Western mastiff bat (*Eumops perotis californicus*) CDFW SSC.
- Western red bat (*Lasiurus blossevillii*) CDFW SSC.
- Pocketed free-tailed bat (*Nyctinomops femorosaccus*) CDFW SSC.
- Big free-tailed bat (*Nyctinomops macrotis*) CDFW SSC.
- Pacific pocket mouse (*Perognathus longimembris pacificus*) federally listed endangered and covered by NCCP/HCP.

- Salt marsh ornate shrew (*Sorex ornatus salicornicus*) CDFW SSC.
- American badger (*Taxidea taxus*) CDFW SSC.

4.2.6 Potentially Jurisdictional Drainages

There was a total of four features found and examined within the DA, labeled here as JD1, JD2, Erosional Feature and JD 3. JD1 Is located at the northerly extent of the DA and JD3 is at the southern end of the DA, with both of the other features in the middle. These features are described in detail below.

JD1 is a concrete apron and standpipe next to the paved road that collects road runoff and residential runoff, plus some minimal storm flow from the hills to the east. To the east is a small earthen drainage that starts in the adjacent hills and runs between residences to enter the concrete apron. The standpipe, and associated storm drain enter a storm drain system that appears to be about eight feet below the paved road surface. Earthen portions of this feature are located outside of the Project limits and are dominated by nasturtium (*Tropaeolum majus*) and wood sorrel (*Oxalis* sp.) in the earthen part of the drainage. The OHWM that is present within earthen portions of the drainage is hardly detectable, consisting primarily of slight vegetative differences in the earthen part. The standpipe and storm drain seem primarily to service the road runoff. JD 1 is surrounded by residential development. However, the feature upstream aligns with a natural canyon and is likely a continuation of an associated natural drainage feature. This drainage is considered to be potentially jurisdictional to the CDFW, RWQCB and USACE.

JD 2 is a non-jurisdictional feature with a standpipe and small road drainage system. Both the standpipe and road drain seem to collect sheet flow from off of the paved road, primarily. Neither feature contained any sign of OHWM and is surrounded by coastal sage scrub.

The Erosional Feature is a small, non-jurisdictional gully running down a hillside along a trail. It connected to no canyons or gullies upstream but seemed to be formed along compacted soil of the narrow trail.

JD 3 is a natural drainage that runs down a hillside to the east of the DA, entering a sandy sheet flow area and crossing into a large concrete apron that contains a standpipe. This standpipe likely then enters into a municipal storm drain beneath the paved road surface. Coastal sage scrub and disturbed areas surround the drainage and concrete apron. Signs of OHWM included bed and bank topography, scouring, changes in vegetation types and sediment deposits. This drainage is considered to be potentially jurisdictional to the CDFW, RWQCB, and USACE.

4.2.7 Raptors and Migratory Birds

Nesting habitat for migratory birds and raptors protected by the MBTA and the California Fish and Game Code was present on and immediately adjacent to the Project site and within the BSA. Nesting habitat within and in proximity to the Project site included structures (e.g., buildings), vegetation, and trees. During the biological reconnaissance survey, an Anna's hummingbird (*Calypte anna*) was observed building a nest in a red gum tree in a landscaped area southwest of the Project site at 33.500613, -117.738666. The Project site is almost completely surrounded by development, urban landscaping, and a high level of existing anthropogenic activity; it is likely that nesting activity is low due

to the presence of existing disturbance. However, it is possible that bird species protected under the MBTA, especially birds adapted to an urban setting could use the site for nesting purposes, as evidenced by the Anna's hummingbird nest observed during the survey. Raptors typically breed between February and August, and songbirds and other passerines generally nest between March and August.

4.2.8 Wildlife Movement Corridors and Linkages

The concept of habitat corridors addresses the linkage between large blocks of habitat that allow the safe movement of mammals and other wildlife species from one habitat area to another. The definition of a corridor varies, but corridors may include such areas as greenbelts, refuge systems, underpasses, and biogeographic land bridges. In general, a corridor is described as a linear habitat, embedded in a dissimilar matrix, which connects two or more large blocks of habitat. Wildlife movement corridors are critical for the survivorship of ecological systems for several reasons. Corridors can connect water, food, and cover sources, spatially linking these three resources with wildlife in different areas. In addition, wildlife movement between habitat areas provides for the potential of genetic exchange between wildlife species populations, thereby maintaining genetic variability and adaptability to maximize the success of wildlife responses to changing environmental conditions. This is especially critical for small populations subject to loss of variability from genetic drift and effects of inbreeding. The nature of corridor usage and wildlife movement patterns vary greatly among species.

The Project site was assessed for its ability to function as a wildlife corridor. The Project site is almost surrounded by commercial and residential development to the north, west, and south and wildlife movement opportunities connecting the Project site to large, undeveloped natural areas in those directions are limited. The southeastern portion of the Project site is immediately adjacent to a open space that provides opportunities for wildlife movement to both habitat to the north and south. The presence of anthropogenic influences (e.g., human activity, vehicles, domestic animals) and general lack of native vegetation in most of the Project site severely limits travel opportunities for wildlife species with the exception of those adapted to an urban setting (e.g., coyote [*Canis latrans]*). The Project site is not considered, nor is a part of, a major wildlife movement corridor or linkage; however, it is immediately adjacent to a wildlife movement corridor.

5.0 IMPACT ANALYSIS

This section discusses the direct impacts of the Proposed Project. Direct impacts entail those which destroy or displace a species or its habitat. These impacts will occur in association with Proposed Project construction due to grading, paving, and other disturbances associated with general construction activities.

Potential indirect impacts are those which occur due to the proximity of a disturbance or development to a species or its habitat. These impacts occur over the short term, during construction, and over the long term due to proximity of the new Proposed Project features. Examples of indirect impacts include habitat fragmentation or degradation, nonnative species introduction, runoff, alteration of a wildlife species' normal behaviors and activities, and increased human intrusion into habitat. The magnitude of an indirect impact can be as significant as that of a direct impact, depending on the circumstances. The following sections present impacts to sensitive biological resources resulting from Proposed Project activities.

5.1 Special-Status Species

5.1.1 Special-Status Plants

Vegetation communities and other land cover types observed within the BSA included Bigpod Ceanothus Chaparral (*Ceanothus megacarpus* Shrubland Alliance), California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance), California Sagebrush Scrub (*Artemisia californica* Shrubland Alliance), landscaped, disturbed, residential, and developed areas. The literature review identified 46 special-status plant species that could occur in the area of the Project site, but due to lack of suitable habitat, being outside the elevation range for that species, and current condition of being disturbed and developed, 33 of the special-status plant species identified in the literature review were presumed absent from the Project site. No special-status plant species were found to have a high potential to occur. Four species were found to have a moderate potential to occur within the Project site including aphanisma, intermediate mariposa lily, decumbent goldenbush, and big-leaved crownbeard. Nine species were found to have a low potential to occur on the Project site including south coast saltscale, Davidson's saltscale, long-spined spineflower, Pendleton button-celery, Palmer's grapplinghook, mesa horkelia, little mousetail, white rabbit-tobacco, and San Bernardino aster. All these species were presumed to be absent after all these species were not detected during the 2022 focused surveys. Construction of the Project will not contribute to the overall decline of any of the special-status plant species and no impacts to these species are anticipated to result from this Project.

5.1.2 Special-Status Wildlife Species

The results of the literature review and reconnaissance-level survey identified 51 special-status wildlife species with potential to occur on or adjacent to the Project site. Of those 51 species, 45 species were presumed to be absent from the Project site due to the lack of habitat, presence of anthropogenic disturbances, and/or proximity to urban development and no impacts to these species are anticipated to result from this Project. No special-status wildlife species were found to have a high or moderate potential to occur. Six special-status wildlife species have a low potential to occur (monarch, western spadefoot, Dulzura pocket mouse, northwestern San Diego pocket mouse, San Diego desert woodrat, and southern grasshopper mouse). In general, these species are not expected to occur due to the presence of anthropogenic disturbances, the presence of urban development immediately adjacent to the Project site, and the lack of connectivity of the Project site to native habitat blocks. If these species were to be present onsite, they would likely occur in low numbers due to the limiting factors listed above (anthropogenic disturbances, urban development, and lack of connectivity) and Project-related impacts would not be expected to contribute to the overall decline of populations for these species and no impacts to these species are anticipated to result from this Project.

The coastal California gnatcatcher was presumed to be absent at this time since this species was not detected during the 2022 focused surveys. Construction of the Project will not contribute to the overall decline of the gnatcatcher and no impacts to this species is anticipated to result from this Project.

5.1.2.1 Raptors and Migratory Birds

The vegetation within Project site and adjacent to the site could provide nesting habitat for nesting birds and raptors protected by the MBTA and California Fish and Game Code, and also provides foraging habitat for songbird and raptor species, including the special-status bird species with potential to occur on the Proposed Project site. If construction of the Proposed Project occurs during the bird breeding season (typically February 1 through August 31 for passerines and January 15 through July 31 for raptors), ground-disturbing construction activities could directly affect MBTA-protected birds and their nests through the removal of habitat on the Proposed Project site, and indirectly through increased noise, ground vibrations, and increased human activity. Implementation of Mitigation Measure BIO-1 and BIO-2 would reduce impacts to a *less than significant* level.

5.2 Sensitive Natural Communities

In general, the Project site consists of disturbed, landscaped, and/or developed land. A small amount of disturbed California sagebrush scrub occurs within the Project site and proposed staging area. California sagebrush scrub occurs mostly within the 100-foot buffer but was also mapped along the margins of the Project site. Implementation of Mitigation Measure BIO-2 and BIO-3 would reduce impacts to a *less than significant* level.

5.3 State- and/or Federally Protected Wetlands and Waters

The Project site did not contain any federally protected wetlands or Waters of the U.S. The development of the Project site will not result in impacts to federally protected wetlands or Waters of the U.S.

5.4 Wildlife Corridors and Nursery Sites

The Project site is almost surrounded by commercial and residential development to the north, west, and south, and wildlife movement opportunities connecting the Project site to large, undeveloped natural areas in those directions are limited. No migratory wildlife corridors or native wildlife nursery sites were identified within the Project site. Therefore, no impacts to wildlife corridors or nursery sites are expected to occur during the development of the Project site.

5.5 Habitat Conservation Plans and Natural Community Conservation Plans

The Project is located within the Orange County Central and Coastal NCCP/HCP area; however, SCWD is not a participating landowner in the NCCP/HCP, nor are the cities of Laguna Beach or Laguna Niguel signatory jurisdictions (USFWS 1996). Due to this, potential impacts from the Project site to the NCCP/HCP's identified species would not be covered under the NCCP/HCP and this report does not include compliance documentation for the NCCP/HCP. Therefore, development of the Project site will not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state HCP.

6.0 RECOMMENDED MITIGATION MEASURES

The following recommended mitigation measures are provided based on the impact analysis presented above and would reduce impacts to sensitive biological resources to a *less than significant level*:

BIO-1: **Preconstruction Nesting Bird Survey:** If construction or other Project activities are scheduled to occur during the bird breeding season (typically February 1 through August 31 for raptors and March 15 through August 31 for the majority of migratory bird species), a preconstruction nesting-bird survey shall be conducted by a qualified avian biologist to ensure that active bird nests will not be disturbed or destroyed on the Project site, or adjacent sites. The survey shall be completed no more than three days prior to initial ground disturbance. The nesting bird survey shall include the Project site and adjacent areas where Project activities have the potential to affect active nests, either directly or indirectly due to construction activity or noise. If an active nest is identified, the biologist shall establish an appropriately sized disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed inactive by the qualified biologist.

BIO-2: **Biological Monitoring:** A qualified biologist shall be present to monitor all ground-disturbing and vegetation-clearing activities (including but not limited to trimming, mowing, grubbing) conducted for the Project. During each monitoring day, the biological monitor shall perform clearance survey "sweeps" at the start of each workday that vegetation clearing takes place to avoid impacts to Environmentally Sensitive Areas and minimize impacts on special-status species with potential to occur (including, but not limited to, special-status and/or nesting bird species). The monitor will be responsible for ensuring that impacts to special-status species, nesting birds, and active nests will be avoided to the greatest extent possible. Biological monitoring shall take place until the Project site has been completely cleared of any vegetation. The biological monitor will have the authority (and appropriate handling permits if required) to temporarily halt activities to move wildlife out of harm's way by means of hazing or short-distance capture and release. If an active nest is identified, then the biological monitor shall establish an appropriate disturbance limit buffer around the nest using flagging or staking. Construction activities shall not occur within any disturbance limit buffer zones until the nest is deemed no longer active by the biologist.

BIO-3: **Worker Education and Environmentally Sensitive Areas:** Limits of Environmentally Sensitive Areas will be established around special-status natural resources (i.e., CSS) that are to remain intact immediately prior to and/or in coordination with the staking of grading limits. The contractor shall install Environmentally Sensitive Area (silt) fencing around Environmentally Sensitive Areas and/or along Environmentally Sensitive Area interface with grading limits under the guidance of a biological monitor to minimize impacts to sensitive natural resources including special-status plant species and native plant communities outside and immediately adjacent to the grading limits. Construction activities and personnel will be restricted within Environmentally Sensitive Areas and a biological monitor will be present during Environmentally Sensitive Area fence installation and removal. A qualified biologist will conduct Worker Environmental Awareness Training to all construction

personnel prior to initial clearing and ground-disturbing activities and as necessary throughout construction. A sign-in sheet signed and dated by each trainee and acknowledging they have been made aware of environmental laws, regulations, non-compliance penalties, and Project specific mitigation measures will be maintained by the Project Biologist.

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LIST OF APPENDICES

Appendix A – Representative Site Photographs

Appendix B – Plant Species Observed

Appendix C – Wildlife Species Observed

Appendix D – Special-Status Plant Species Potential for Occurrence

Appendix E – Special-Status Wildlife Species Potential for Occurrence

APPENDIX A

Representative Site Photographs

Representative Site Photographs

Photo 1. Representative site photograph at southern end of Project site, facing northwest.


Photo 2. Representative site photograph at southern end of Project site, facing northwest.

Representative Site Photographs

Photo 3. Representative site photograph in southern half of Project site, facing southeast.

Photo 4. Representative site photograph in middle of Project site, facing southeast.

Representative Site Photographs

Photo 5. Representative site photograph in middle of Project site, facing northwest.

Photo 6. Overlook of Sunset Avenue and staging area (right) with adjacent residential development and Bigpod Ceanothus Chaparral, facing northwest.

Representative Site Photographs

Photo 7. Disturbed California Sagebrush Scrub in staging area, facing north.

Photo 8. California Sage Brush Scrub in BSA and Mission Hospital in western portion of BSA in distance.

Representative Site Photographs

Photo 9. Representative photograph of California Sagebrush Scrub in BSA.

Photo 10. Representative photograph of California Buckwheat Scrub in BSA.

Representative Site Photographs

Photo 11. Representative photograph of Bigpod Ceanothus Chaparral in BSA.

Photo 12. Representative photograph of residential land cover along Project site.

Representative Site Photographs

Photo 13. Representative photograph of residential land cover at northern end of Project site, facing south.

Photo 14. Disturbed land cover in southeastern portion of BSA, facing northeast.

Representative Site Photographs

Photo 15. Eucalyptus stand within residential area within northern half of BSA along Project site.

Photo 16. Landscaped land cover area within southwestern portion of BSA and east of hospital parking garage.

Representative Site Photographs

Photo 17. Landscaped land cover west of staging area, facing south.

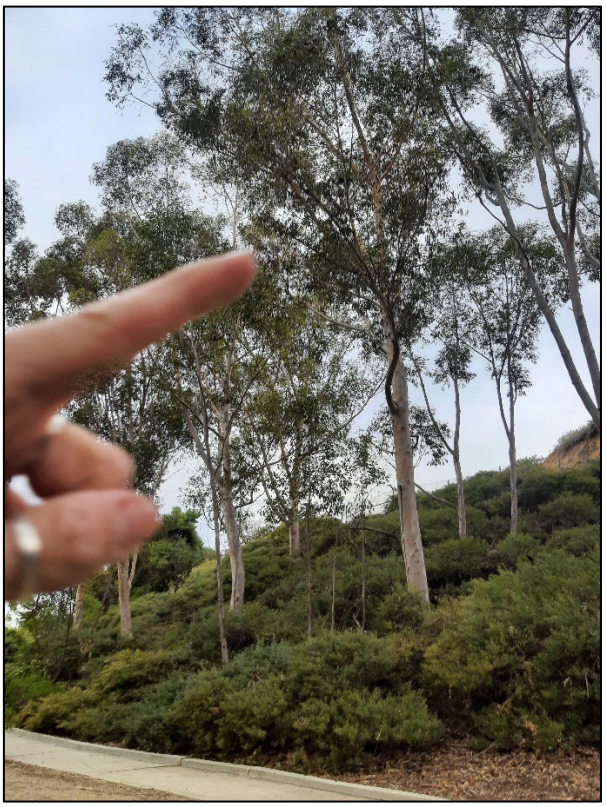

Photo 18. Anna’s hummingbird nest location in Landscaped area in southwestern portion of site, facing northwest.

APPENDIX B

Plant Species Observed

APPENDIX B

Plant Species Observed

Scientific Name	Common Name
VASCULAR PLANTS	
ANGIOSPERMS (DICOTYLEDONS)	
AIZOACEAE	**FIG-MARIGOLD FAMILY**
Carpobrotus sp.	Iceplant species
AMARANTHACEAE	**AMARANTH FAMILY**
*Atriplex semibaccata**	Australian saltbush
ANACARDIACEAE	**CASHEW FAMILY**
Malosma laurina	Laurel sumac
Rhus integrifolia	Lemonade berry
Schinus terebinthifolius	Brazilian peppertree
ASTERACEAE	**SUNFLOWER FAMILY**
Artemisia californica	California sagebrush
*Centaurea melitensis**	Tocalote
Deinandra fasciculata	Clustered tarweed
Encelia californica	Brittlebush
Glebionis coronaria	Crown daisy
Heterotheca grandiflora	Telegraph weed
BRASSICACEAE	**MUSTARD FAMILY**
*Hirschfeldia incana**	Short-podded mustard
CACTUS	**CACTUS FAMILY**
Cylindropuntia californica	California cholla
Opuntia littoralis	Prickly pear cactus
CHENOPODIACEAE	**GOOSEFOOT FAMILY**
*Salsola tragus**	Russian thistle
CLEOMACEAE	**SPIDERFLOWER FAMILY**
Peritoma arborea	Bladderpod
CRASSULACEAE	**STONECROP FAMILY**
Crassula sp.*	Crassula species
Dudleya pulverulenta	Chalk dudleya
FABACEAE	**PEA FAMILY**
Acacia sp.	Acacia species
Acmispon glaber	Deerweed

Scientific Name	Common Name
MALVACEAE	**MALLOW FAMILY**
Malacothamnus fasciculatus	Chaparral bush mallow
*Malva parviflora**	Cheeseweed
ONAGRACEAE	**WILLOWHERB FAMILY**
Eulobus californicus	California suncup
PAPAVERACEAE	**POPPY FAMILY**
Scholzia californica	California poppy
PHRYMACEAE	**LOPSEED FAMILY**
Diplacus auratiacus	Sticky monkey-flower
PINACEAE	**PINE FAMILY**
*Pinus halepensis**	Aleppo pine
PLUMBAGINACEAE	**PLUMBAGO FAMILY**
Limonium sp.*	Sea lavender species
POLYGONACEAE	**BUCKWHEAT FAMILY**
Eriogonum fasciculatum	California buckwheat
PROTEACEAE	**PROTEA FAMILY**
*Grevillea robusta**	Silk oak
RHAMNACEAE	**BUCKTHORN FAMILY**
Ceanothus sp.	Ceanothus species
ROSACEAE	**ROSE FAMILY**
Heteromeles arbutifolia	Toyon
SALICACEAE	**WILLOW FAMILY**
Salix melanopsis	Dusky willow
SOLANACEAE	**NIGHTSHADE FAMILY**
Datura wrightii	Jimson weed
*Nicotiana glauca**	Tree tobacco
ANGIOSPERMS (MONOCOTYLEDONS)	
POACEAE	**GRASS FAMILY**
*Avena barbata**	Slim oat
*Bromus madritensis**	Foxtail brome
*Pennisetum setaceum**	Fountaingrass
Stipa sp.	Stipa species

*nonnative species

APPENDIX C

Wildlife Species Observed

WILDLIFE SPECIES

Scientific Name	Common Name
CLASS INSECTA	**INSECTS**
NYMPHALIDAE	**BRUSH-FOOTED BUTTERFLIES**
Nymphalis antiopa	mourning cloak
CLASS REPTILIA	**REPTILES**
IGUANIDAE	**ARBOREAL LIZARDS, CHUCKWALLAS & IGUANAS**
Sceloporus occidentalis	western fence lizard
Uta stansburiana	common side-blotched lizard
COLUBRIDAE	**COLUBRID SNAKES**
Coluber flagellum	coachwhip
CLASS AVES	**BIRDS**
CATHARTIDAE	**NEW WORLD VULTURES**
Cathartes aura	turkey vulture
ACCIPITRIDAE	**HAWKS, KITES, EAGLES**
Accipiter cooperii	Cooper's hawk
Buteo jamaicensis	red-tailed hawk
Buteo lineatus	red-shouldered hawk
LARIDAE	**SKUAS, GULLS, TERNS, SKIMMERS**
***Laurus* sp.**	gull
COLUMBIDAE	**PIGEONS & DOVES**
Zenaida macroura	mourning dove
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna's hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**WOODPECKERS**
Dryobates nuttallii	Nuttall's woodpecker
Sayornis nigricans	black phoebe
Tyrannus vociferans	Cassin's kingbird
HIRUNDINIDAE	**SWALLOWS**
Stelgidopteryx serripennis	northern rough-winged swallow
CORVIDAE	**JAYS & CROWS**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
AEGITHALIDAE	**BUSHTITS**
Psaltriparus minimus	bushtit
TROGLODYTIDAE	**WRENS**
Catherpes mexicanus	canyon wren
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
REGULIDAE	**KINGLETS**
Regulus calendula	ruby-crowned kinglet
SYLVIIDAE	**BABBLERS**
Chamaea fasciata	wrentit

WILDLIFE SPECIES

TURDIDAE	**THRUSHES**
Catharus guttatus	hermit thrush
Sialia mexicana	western bluebird
MIMIDAE	**MOCKINGBIRDS & THRASHERS**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
VIREONIDAE	**VIREOS**
Vireo huttoni	Hutton's vireo
PARULIDAE	**WOOD WARBLERS**
Geothlypis trichas	common yellowthroat
Leiothlypis celata	orange-crowned warbler
Setophaga coronata	yellow-rumped warbler
ICTERIDAE	**BLACKBIRDS**
Icterus cucullatus	hooded oriole
EMBERIZIDAE	**TOWHEES & NEW WORLD SPARROWS**
Melozone crissalis	California towhee
Pipilo maculatus	spotted towhee
Zonotrichia leucophrys	white-crowned sparrow
FRINGILLIDAE	**FINCHES**
Spinus psaltria	lesser goldfinch
Carpodacus mexicanus	house finch
PASSERIDAE	**OLD WORLD SPARROWS**
Passer domesticus	house sparrow*
ZOSTEROPIDAE	**WHITE-EYES**
Zosterops japonicus	Japanese white-eye*
CLASS MAMMALIA	**MAMMALS**
LEPORIDAE	**HARES & RABBITS**
Sylvilagus audubonii	desert cottontail
SCIURIDAE	**SQUIRRELS, MARMOTS & CHIPMUNKS**
Otospermophilus beecheyi	California ground squirrel
CANIDAE	**WOLVES & FOXES**
Canis latrans	coyote
*non-native	

APPENDIX D

Special-Status Plant Species Potential for Occurrence

APPENDIX D

Special Status Plant Species Potential for Occurrence

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Aphanisma blitoides aphanisma	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	Mar-Jun <200	Occurs in coastal sage scrub and coastal bluff scrub habitats, typically in saline sandy soils.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Astragalus brauntonii Braunton's milk-vetch	Fed: Ca: CRPR NCCP/HCP:	**END** None 1B.1 None	Jan- Aug <650	Occurs in chaparral, coastal sage scrub, and valley and foothill grassland habitats. Often found in recently burned or disturbed areas. Usually in sandstone soil with carbonate layers.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Atriplex coulteri Coulter's saltbush	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	Mar-Oct 3-460	Occurs in coastal bluff scrub, coastal dunes, coastal sage scrub, and valley and foothill grassland habitats. Often found in clay or alkaline soils. Usually occurs in non-wetlands, occasionally in wetlands.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species
Atriplex pacifica south coast saltscale	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	Mar-Oct <300	Occurs in coastal bluff scrub, coastal sage scrub, and riparian habitats. Often found in alkaline sinks.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Atriplex parishii Parish's brittlescale	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	Jun-Oct <470	Occurs in freshwater wetlands, shadscape scrub, and riparian habitats. Often found in alkaline or clay soils.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Atriplex serenana* var. *davidsonii Davidson's saltscale	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	Apr-Oct <200	Occurs in coastal sage scrub and wetland-riparian habitats often on bluffs.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Brodiaea filifolia thread-leaved brodiaea	Fed: Ca: CRPR NCCP/HCP:	**THR** **END** 1B.1 None	Mar-June 25-860	Occurs in vernal pools in coastal sage scrub, freshwater wetlands, valley grassland, foothill woodland, and riparian habitats.	**Presumed Absent:** Suitable habitat (vernal pools) for this species was not observed within the Survey Area during the biological reconnaissance survey.
Calochortus weedii* var. *intermedius intermediate mariposa lily	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	May-July <680	Occurs in chaparral, coastal sage scrub, and valley and foothill grasslands, typically on dry, open slopes.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Centromadia parryi* ssp. *australis southern tarplant	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	May-Nov <480	Occurs in marshes and swamps, valley and foothill grassland, and vernal pool habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Chaenactis glabriuscula* var. *orcuttiana Orcutt's pincushion	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	Jan-Aug <100	Occurs in coastal dunes and coastal bluffs.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Chorizanthe polygonoides* var. *longispina long-spined spineflower	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	April-June 30-1530	Occurs in chaparral, coastal sage scrub, meadows and seeps, valley and foothill grasslands, and vernal pool habitat. Requires clay soil.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Clinopodium chandleri San Miguel savory	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	Mar-July <1100	Occurs on rocky slopes in riparian, coastal sage scrub, chaparral, foothill woodland, and valley grassland habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Comarostaphylis diversifolia* ssp. *diversifolia summer holly	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	April-June 100-550	Occurs in chaparral habitat.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Dudleya blochmaniae ssp. blochmaniae	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	April-June <450	Occurs on rocky slopes in coastal sage scrub and valley grassland habitats, often in clay soils.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Dudleya multicaulis many-stemmed dudleya	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	April-July 15-790	Occurs in chaparral, coastal sage scrub, and valley and foothill grassland habitats. Often found in areas of clay soil.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Dudleya stolonifera Laguna beach dudleya	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 COV	Mar-July <250	Occur on northern facing cliffs in coastal sage scrub, chaparral, foothill woodland, and valley grassland habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species. In addition, suitable habitat (northern facing cliffs) was not observed during the survey.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Dudleya viscida sticky dudleya	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	May-June <450	Occurs on bluffs and rocky cliffs in coastal sage scrub and chaparral habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Eryngium pendletonense Pendleton button-celery	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	April-June <50	Occurs on coastal bluffs in coastal sage scrub and valley grassland habitats, often in clay soil.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Euphorbia misera cliff spurge	Fed: Ca: CRPR NCCP/HCP:	None None 2B.2 None	Dec-Aug <500	Occurs on rocky slopes and coastal bluffs in coastal sage scrub habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Harpagonella palmeri Palmer's grapplinghook	Fed: Ca: CRPR NCCP/HCP:	None None 4.2 None	Mar-May 20-955	Occurs in chaparral, coastal sage scrub, and valley and foothill grassland habitats. Often found in open grassy areas with shrubland and clay soil.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Helianthus nuttallii* ssp. *parishii Los Angeles sunflower	Fed: Ca: CRPR NCCP/HCP:	None None 1A None	Aug-Oct <500	Occurs in freshwater marsh, coastal salt marsh, and wetland-riparian habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Hesperocyparis forbesii Tecate cypress	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 COV	Perennial evergreen tree 80-1500	Occurs in closed-cone coniferous forest, and chaparral habitat. Often found in areas with clay, gabbroic or metavolcanics soils.	**Presumed Absent:** This evergreen tree species was not observed within the Survey Area during the biological reconnaissance survey.
Horkelia cuneata* var. *puberula mesa horkelia	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	Feb-July (Sep) 70-810	Occurs in chaparral (maritime), cismontane woodland, and coastal sage scrub habitats. Often found in areas with sandy or gravelly soils.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Imperata brevifolia California satintail	Fed: Ca: CRPR NCCP/HCP:	None None 2B.1 None	Sep-May <500	Occurs in wet springs, meadows, streambanks, and floodplains in coastal sage scrub, chaparral, creosote bush scrub, and wetland-riparian habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Isocoma menziesii* var. *decumbens decumbent goldenbush	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	April-Nov <200	Occurs on hillsides and arroyos in coastal sage scrub and chaparral habitats, usually in sandy soils.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Juglans californica Southern California black walnut	Fed: Ca: CRPR NCCP/HCP:	None None 4.2 None	Mar-Aug 50-900	Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Often found in alluvial areas.	**Presumed Absent:** This tree species was not observed within the Survey Area during the biological reconnaissance survey.
Lasthenia glabrata* ssp. *coulteri Coulter's goldfields	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	Feb-June <1000	Occurs in vernal pools and playas in coastal salt marsh, freshwater wetlands, and riparian habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Lepechinia cardiophylla heart-leaved pitcher sage	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 COV	April-June 520-1370	Occurs in closed-cone coniferous forest, chaparral, and cismontane woodland habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Lepidium virginicum* var. *robinsonii	Fed: Ca: CRPR NCCP/HCP:	None None 4.3 None	Jan-July <2800	Occurs in dry disturbed areas, riverbanks, fields, and cliffs in coastal sage scrub and chaparral habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Lycium brevipes* var. *hassei Santa Catalina Island desert-thorn	Fed: Ca: CRPR NCCP/HCP:	None None 3.1 None	June <300	Occurs on coastal bluffs and slopes in coastal sage scrub habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey. While the survey was not conducted during the appropriate bloom period for this species, there were no plant species observed within the Survey Area that had the vegetative characteristics of this species.
Monardella hypoleuca* ssp. *intermedia intermediate monardella	Fed: Ca: CRPR NCCP/HCP:	None None 1B.3 None	April- Sept 400-1250	Occurs in chaparral, cismontane woodland, and lower montane coniferous forest (sometimes).	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey. In addition, the Survey Area is outside the known elevation range for the species.
Monardella macrantha* ssp. *hallii Hall's monardella	Fed: Ca: CRPR NCCP/HCP:	None None 1B.3 None	July-Oct 600-2000	Occurs in yellow pine forest, mixed evergreen forest, foothill woodland, chaparral, and valley grassland communities.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey. In addition, the Survey Area is outside the known elevation range for the species.
Myosurus minimus* ssp. *apus little mousetail	Fed: Ca: CRPR NCCP/HCP:	None None 3.1 None	Mar-June <2100	Occurs in a variety of habitats including freshwater wetlands, coastal sage scrub, yellow pine forest, red fir forest, lodgepole forest, subalpine forest, northern oak woodland, foothill woodland, chaparral, and riparian.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Nama stenocarpa mud nama	Fed: Ca: CRPR NCCP/HCP:	None None 2B.2 None	Mar-Oct <810	Occurs along streambanks and lake margins in freshwater wetland and riparian habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Nasturtium gambelii Gambel's water cress	Fed: Ca: CRPR NCCP/HCP:	**END** **THR** 1B.1 None	April-Sep 5-330	Occurs in marshes and swamp habitats. Often in areas of freshwater or brackish water.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Navarretia prostrata Prostrate vernal pool navarretia	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	April-July 3-1210	Occurs in alkaline floodplains, wetlands, and vernal pools in riparian and coastal sage scrub habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Nolina cismontana chaparral nolina	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	(Mar) May-July 140-1275	Occurs in chaparral and coastal sage scrub habitats. Often found in areas with sandstone or gabbro substrate.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species. In addition, the Survey Area is outside the known elevation range for the species.
Pentachaeta aurea* ssp. *allenii Allen's pentachaeta	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	Mar-June 75-520	Occurs in southern oak woodland and valley grassland habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Phacelia keckii Santiago Peak phacelia	Fed: Ca: CRPR NCCP/HCP:	None None 1B.3 None	May- June 545-1600	Occurs in closed-cone coniferous forest and chaparral habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey. In addition, the Survey Area is outside the known elevation range for the species.
Pseudognaphalium leucocephalum white-rabbit tobacco	Fed: Ca: CRPR NCCP/HCP:	None None 2B.2 None	July-Dec <2100	Occurs in chaparral, cismontane woodland, coastal sage scrub, and riparian woodland habitats. Often found in sandy and gravelly areas.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey. While the survey was not conducted during the appropriate bloom period for this species, there were no plant species observed within the Survey Area that had the vegetative characteristics of this species.
Quercus dumosa Nuttall's scrub oak	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 COV	Feb-March <200	Occurs in coastal sage scrub and chaparral habitats, generally in sandy soils near the coast.	**Presumed Absent:** This tree species was not observed within the Survey Area during the biological reconnaissance survey.

Scientific Name **Common Name**	**Status**		**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**
Senecio aphanactis chaparral ragwort	Fed: Ca: CRPR NCCP/HCP:	None None 2B.2 None	Jan-May 15-800	Occurs in chaparral, cismontane woodland, and coastal sage scrub habitats. Sometimes found in alkaline areas.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.
Sidalcea neomexicana salt spring checkerbloom	Fed: Ca: CRPR NCCP/HCP:	None None 2B.2 None	Mar-June 15-1530	Occurs in alkaline springs and marshes in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas habitats. Often found in alkaline and mesic areas.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey.
Suaeda esteroa estuary seablite	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	May-Oct <5	Occurs in coastal salt marshes and wetland-riparian habitats.	**Presumed Absent:** Suitable habitat for this species was not observed within the Survey Area during the biological reconnaissance survey. In addition, the Survey Area is outside the known elevation range for the species.
Symphyotrichum defoliatum San Bernardino aster	Fed: Ca: CRPR NCCP/HCP:	None None 1B.2 None	July-Dec <2040	Occurs in freshwater wetlands, coastal sage scrub, and southern oak woodland, often in recently disturbed areas.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey. While the survey was not conducted during the appropriate bloom period for this species, there were no plant species observed within the Survey Area that had the vegetative characteristics of this species.
Verbesina dissita big-leaved crownbeard	Fed: Ca: CRPR NCCP/HCP:	None None 1B.1 None	April-July <200	Occurs on shrubby coastal slopes in coastal sage scrub and chaparral habitats.	**Presumed Absent:** This species was not observed within the Survey Area during the biological reconnaissance survey or focused plant survey, which were conducted during the appropriate bloom period for this species.

Federal Designations:
(Federal Endangered Species Act, USFWS)
END: federally listed, endangered
THR: federally listed, threatened

State designations:
(California Endangered Species Act, CDFW)
END: state-listed, endangered
THR: state-listed, threatened

Scientific Name **Common Name**	**Status**	**Bloom Period & Elevation (meters)**	**Habitat Requirements**	**Potential for Occurrence; Habitat**

California Rare Plant Rank (CRPR) Status Designations

1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2A Plants Presumed Extirpated in California, But Common Elsewhere
2B Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
3 Plants about which we need more information; a review list
4 Plants of limited distribution; a watch list

List 1B, 2, and 4 extension meanings:

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Natural Community Conservation Planning (NCCP) / Habitat Conservation Plan (HCP)
An NCCP identifies and provides for the regional protection of plants, animals, and their habitats.

Note: According to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code (California Department of Fish and Game 1984). This interpretation is inconsistent with other definitions.

Source: California Natural Diversity Data Base (CNDDB) California Native Plant Society Electronic Inventory (CNPSEI) San Juan Capistrano, San Clemente, Laguna Beach, Tustin, El Toro, Santiago Peak, Canada Gobernadora, and Dana Point.7.5-minute topographic quadrangles.

APPENDIX E

Special-Status Wildlife Species Potential for Occurrence

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
INVERTEBRATES				
Danaus plexippus* pop. *1 Monarch butterfly (overwintering population)	Fed: Ca: NCCP/HCP:	**CAN** none none	Roosts in wind-protected tree groves (Coastal California conifer, Eucalyptus) from Northern Mendocino to Baja California.	**Low**. Limited roosting habitat is present in the red gum and other eucalyptus trees within the Project site and immediately adjacent to the site in the landscaped and residential areas. Two recent records (Occ #206 and 388) within 5 miles of Project site in Dana Point. However, this species has not been observed during the ongoing focused surveys.
Branchinecta sandiegonensis San Diego fairy shrimp	Fed: Ca: NCCP/HCP:	**END** none COV	Found in grassed or mud bottomed pools or basalt flow depression pools in unplowed grasslands within vernal pools and similar ephemeral wetlands.	**Presumed absent.** No vernal pool or ephemeral wetland habitat on the Project site. No records within 5 miles of the Project site.
Streptocephalus woottoni Riverside fairy shrimp	Fed: Ca: NCCP/HCP:	**END** none COV	Occurs in vernal pools, tectonic swales, and earth slump basins in in Riverside County.	**Presumed absent.** No vernal pool, swale, or basin habitat on the Project site. Additionally, the Project site is outside the known range for the species and no records within 5 miles of the Project site.
FISH				
Eucyclogobius newberryi tidewater goby	Fed: Ca: NCCP/HCP:	**END** none none	Lower reaches of streams, upper portions of large bays, and small coastal lagoons. Occurs in fresh to brackish water.	**Presumed Absent.** No suitable fresh or brackish lagoons or estuary habitat is present on the Project site or in the BSA.
Gila orcutti arroyo chub	Fed: Ca: NCCP/HCP:	none SSC none	Creeks, streams, and rivers with areas of slow moving water with sand or mud bottoms. Ranges from San Diego to San Luis Obispo County.	**Presumed Absent.** No creek, stream, or river habitat is present on the Project site or in the BSA.
***Oncorhynchus mykiss irideus* pop. 10** steelhead - southern California DPS	Fed: Ca: NCCP/HCP:	**END** none none	Typically occurs in slow water steams or rivers.	**Presumed Absent.** No stream or river habitat is present on the Project site or in the BSA.
Rhinichthys osculus* ssp. *3 Santa Ana speckled dace	Fed: Ca: NCCP/HCP:	none SSC none	Permanent flowing creeks and streams with summer water temperatures of 17-20°C and shallow gravel and cobble riffles.	**Presumed Absent.** No creek or stream habitat is present on the Project site or in the BSA.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
AMPHIBIANS				
Anaxyrus californicus arroyo toad	Fed: Ca: NCCP/HCP:	**END** SSC COV	Typical breeding habitat includes sandy banks of rivers, arroyos, and streams with shallow sandy pools. Typical nonbreeding (terrestrial) habitat includes riparian woodlands and uplands (i.e., cropland/hedgerow, grassland, playa/salt flat, savanna, chaparral) adjacent to arroyos.	**Presumed Absent.** No suitable aquatic habitat, including arroyos or shallow sandy pools, is present on the Project site. No records within 5 miles of Project site.
Spea hammondii western spadefoot toad	Fed: Ca: NCCP/HCP:	none SSC COV	Open areas with sandy or gravelly soils in a wide range of habitats including lowlands to foothills, coastal sage scrub, chaparral, mixed woodlands, alluvial fans, and grasslands. Prefers areas with open vegetation and short grasses. Requires rain pools or slow-moving streams for breeding and upland areas for feeding and burrow construction.	**Low**. No rain pools or stream, or habitat with sandy or gravelly soil is present on the Project site; however, limited habitat is present on the Project site in sagebrush scrub in the laydown area. Additionally, sagebrush scrub and chaparral habitat is present immediately east of the Project site and in the BSA. One historic record (Occ # 830) is approximately 0.3 mile east of the Project site. Four recent records within 5 miles of Project site. Closest recent record (Occ # 327) is approximately 1.4 miles southeast of Project site.
Taricha torosa torosa coast range newt	Fed: Ca: NCCP/HCP:	none SSC none	Chaparral, oak woodland, grasslands, and wet forests. Burrow in soil and use fallen logs and debris for cover. Breeds in ponds, reservoirs and streams. Occurs along coast and coast range mountains from Mendocino County to San Diego County.	**Presumed Absent.** No chaparral, woodland, ponds, reservoirs, or stream habitat is present on the Project site. Chaparral habitat immediately adjacent to the Project site did not contain suitable amounts of debris or fallen logs for cover and soil was compact. No records within 5 miles of Project site. One historic and one recent record both from the Santa Ana Mountains over 13 miles away.
REPTILES				
Anniella stebbinsi southern California legless lizard	Fed: Ca: NCCP/HCP:	none SSC none	Typically occurs in moist warm loose soil with plant cover or leaf litter in sparsely vegetated beach dunes, pine-oak woodlands, desert scrub, chaparral, alluvial fans, sandy washes, and stream terraces with sycamores, oaks, or cottonwoods. Sometimes found in suburban gardens.	**Presumed Absent**. No beach dunes, pine-oak woodland, desert scrub, chaparral, alluvial fan, sandy washes or streams on the Project site. Landscaped and residential areas within the Project site did not contain habitat with moist soil or leaf litter in sparse vegetation on the Project site due to the high disturbance that would likely preclude the species. Only 3 historic records, two of which (Occ# 194 and 195) occurred within 5 miles of Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Arizona elegans occidentalis California glossy snake	Fed: Ca: NCCP/HCP:	none SSC none	Rocky washes, chaparral, arid scrub and grassland habitat, often with open areas and loose or sandy soils for burrowing.	**Presumed absent**. No suitable habitat is present on the Project site. Although limited chaparral and scrub habitat is present within small portions of the Project site, multiple characteristics likely precludes the species from occurring on the Project site (i.e., high level of disturbance due to proximity to paved roads and high trafficked trails, nonfriable soils, areas subject to flooding and high flows). No recent records within 5 miles of Project site. One historic record (Occ# 215) approximately 4.4 miles southeast of Project site. Nearest recent record (Occ# 111) is from San Juan Creek approximately 11.3 miles east of the Project site.
Aspidoscelis tigris stejnegeri San Diegan tiger whiptail	Fed: Ca: NCCP/HCP:	none SSC COV	Broken chaparral, woodland, and dry riparian areas with sparse foliage. Prefers loose friable soil for burrowing and foraging, and open space for basking and running.	**Presumed absent**. No suitable chaparral, woodland, or dry riparian habitat is present within the Project site. Limited habitat in the form of chaparral and drainages in disturbed areas is present in the BSA and immediately adjacent to the Project site in the bigpod ceanothus chaparral; however, this habitat lacked loose soils. One recent record (Occ# 58) from Aliso Creek is approximately 1.4 miles northeast of the Project site.
Crotalus ruber red-diamond rattlesnake	Fed: Ca: NCCP/HCP:	none SSC COV	Typically occurs in arid scrub, chaparral, oak and pine woodlands, rocky grassland, and cultivated areas. Needs rodent burrows, cracks in rocks or surface cover objects.	**Presumed Absent**. No suitable chaparral, arid scrub, woodland, or grassland habitat with rodent burrows and cover sites is present on the Project site. Although limted disturbed coastal sage scrub is present on the Project site, it's lack of rodent burrows and other cover sites, in addition to the high level of disturbance likely precludes the species from occurring on the Project site. No records within 5 miles of the Project site. One recent record (Occ #115) from Camp Pendleton Marine Corps Base is approximately 12.3 miles southeast of the Project site.
Emys marmorata western pond turtle	Fed: Ca: NCCP/HCP:	none SSC none	Typically occurs in slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, and other long-term water deposits, where abundant cover is available.	**Presumed absent.** No permanent or intermittent streams, pond, lake, or other aquatic habitat is present on the Project site or in the BSA. Two recent records (Occ #831 and 833) within 5 miles; however, both are separated from the Project site by development and/or steep terrain.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Phrynosoma blainvillii Blainville's horned lizard	Fed: Ca: NCCP/HCP:	none SSC COV	Broken chaparral, coastal sage scrub, coniferous woods, shrubland, grassland, broadleaf woodlands. Prefers open areas for basking, bushes for cover, patches of loose soil for burial, and abundant supply of native ants and other insects.	**Presumed Absent**. No suitable woods, shrubland, grassland, woodland, broken chaparral, or coastal sage scrub habitat or loose soil was observed on the Project site. Additionally, no harvester ants were observed on the Project site. Although limited disturbed coastal sage scrub is present on the Project site, it's lack of sandy and friable soil, lack of harvester ants, and high level of disturbance likely precludes the species from occurring on the Project site. Three recent records within 5 miles; closest (Occ# 504) is approximately 1.6 miles northeast of the Project site.
Salvadora hexalepis virgultea coast patch-nosed snake	Fed: Ca: NCCP/HCP:	none SSC none	Inhabits semi-arid brushy areas including chaparral, pinon-juniper woodland, grassland, and rocky hillsides.	**Presumed absent**. No suitable chaparral, woodland, grassland, or rocky hillside habitat was present on the Project site. Only one historic record (Occ # 8) approximately 16 miles northeast of the Project site.
Thamnophis hammondii two-striped gartersnake	Fed: Ca: NCCP/HCP:	none SSC none	Typically occurs near permanent or semi-permanent water in a variety of habitats containing rocky or densely vegetated banks.	**Presumed absent**. No suitable permanent or semi-permanent water habitat on the Project site or in the BSA. No records within 5 miles of Project site. The closest recent record (Occ # 101) is from Arroyo Trabuco Canyon and approximately 7 miles northeast of Project site
AVES				
Agelaius tricolor tricolored blackbird (nesting colony)	Fed: Ca: NCCP/HCP:	none **THR** none	Nests in freshwater marshes or thickets of dense and tall tule, bulrushes, cattails, and sedges. Highly colonial species, most numerous in the Central Valley & vicinity. Requires open water, protected nesting substrate, and foraging area with insect prey in proximity to the colony.	**Presumed absent.** No open water or freshwater marsh or thicket habitat is present on the Project site or in the BSA. Only two historic records (Occ# 789 and 798) within 5 miles of the Project site. Only recent record (Occ# 786) is from Sand Canyon Quail Hill Preserve and approximately 11 miles north of the Project site.
Ammodramus savannarum grasshopper sparrow	Fed: Ca: NCCP/HCP:	None SSC none	Grasslands and prairies of moderate height with clusters of scattered shrubs among patches of bare ground.	**Presumed absent.** No grassland or prairie habitat is present on the Project site or in the BSA. No records within 5 miles of Project site. Two recent records (Occ# 12 and 13) more than 9 miles north of Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Aquila chrysaetos golden eagle (nesting & wintering)	Fed: Ca: NCCP/HCP:	none FP COV	Open country including prairies, sagebrush, savannah or sparse woodlands, and barren hills or mountainous areas. Nests on rocky cliff edges or in large trees such as eucalyptus or oak.	**Presumed absent**. No suitable nesting habitat is present on the Project site or in the BSA. Although eucalyptus trees were present in and adjacent to the Project site in the landscaped and residential areas, tree trimming make the trees unsuitable as nesting habitat for the species. Additionally, the high level of disturbance from vehicular traffic, regular recreational activities, and landscaping likely precludes the species from nesting on the Project Site or within the BSA. No records within 5 miles of Project site. Only one historic record (Occ# 36) from Audubon's Starr Ranch Sanctuary and is approximately 12.3 miles southeast of Project site.
Asio otus long-eared owl (nesting)	Fed: Ca: NCCP/HCP:	none SSC none	Dense wooded areas such as deciduous and evergreen forests near water. Nests in trees usually in old crow, hawk, or heron nest and sometimes in a cavity.	**Presumed absent.** No deciduous or evergreen forest habitat is present on the Project site. Only records are historic and more than 5 miles from Project site.
Athene cunicularia burrowing owl (burrow sites and some wintering sites)	Fed: Ca: NCCP/HCP:	none SSC none	Variety of habitats characterized by dry annual or perennial low-growing vegetation. Occurs in grasslands, scrublands, agricultural fields, vacant lots and airports. Nests in abandoned burrows and requires an abundance of prey (e.g., ground squirrels and insects)	**Presumed Absent**. No suitable habitat with low vegetation, abandoned burrows, and abundant prey are present on the Project site or BSA. No records within 5 miles of the Project site.
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren (San Diego & Orange Counties)	Fed: Ca: NCCP/HCP:	none SSC COV	Coastal sage scrub with extensive stands of tall coastal cholla or prickly pear cacti. Nests in tall cacti or thorny shrubs.	**Presumed absent.** No suitable coastal sage scrub with tall cacti stands is present on the Project site. Although coastal sage scrub was present on the Project site, no tall or extensive stands of cacti or thorny vegetation suitable for the species was present. No recent records, only 6 historical records, within 5 miles of Project site. Closest recent record (Occ#197) is approximately 7.4 miles east of the Project site.
Circus cyaneus northern harrier (nesting)	Fed: Ca: NCCP/HCP:	none SSC COV	Marshes, wetlands, agricultural fields, and grasslands. Nests on ground among dense and tall vegetation.	**Presumed Absent.** No marsh, wetland, agricultural field, or grassland habitat is present on the Project site or in the BSA. No records within 5 miles; only one historical record (Occ# 18) from Tiferas Creek approximately 13 miles northeast of Project site.
Coccyzus americanus occidentalis western yellow-billed cuckoo (nesting)	Fed: Ca: NCCP/HCP:	**THR** **END** none	Nests in willow and cottonwood riparian forests with a dense understory, typically along the broad, lower flood-bottoms of larger river systems.	**Presumed Absent.** No riparian forest habitat is present on the Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Coturnicops noveboracensis yellow rail	Fed: Ca: NCCP/HCP:	none SSC none	Nests in emergent freshwater wetlands, sedge or grass marshes, and wet meadows.	**Presumed Absent.** No freshwater marsh habitat is present on the Project site or in the BSA. No recent records and no records within 5 miles of Project site.
Elanus leucurus white-tailed kite (nesting)	Fed: Ca: NCCP/HCP:	none FP none	Open habitat in lowlands including savanna, oak-woodlands, marshes, and agricultural fields. Nests in trees often near a marsh.	**Presumed Absent**. No suitable nesting habitat, including marsh, occurs on the Project site. Only one record within 5 miles of Project site; recent record (Occ# 134) from Monarch Beach Golf Course approximately 1.5 miles south of Project site.
Empidonax traillii extimus southwestern willow flycatcher (nesting)	Fed: Ca: NCCP/HCP:	**END** **END** COV	Riparian woodlands particularly with willow thickets. Nests in densest areas of shrubs and trees with low-density canopies.	**Presumed Absent.** No riparian habitat is present on the Project site or in the BSA. Only four records and none within 5 miles of the Project site.
Icteria virens yellow-breasted chat (nesting)	Fed: Ca: NCCP:	none SSC none	Riparian thickets, dry overgrown pastures, and wet habitats near streams, pond edges, or swamps. Prefers to nest in low and dense vegetation.	**Presumed Absent.** No riparian habitat is present on the Project site or in the BSA. No records within 5 miles of Project site.
Laterallus jamaicensis coturniculus California black rail (nesting)	Fed: Ca: NCCP/HCP:	none **THR**, FP none	Coastal and estuarine saltmarshes especially dominated by pickleweed and matted salt grass. Freshwater marshes with shallow and stable water levels and flat shorelines.	**Presumed Absent.** No marsh habitat is present on the Project site or in the BSA. No recent records and no records within 5 miles of the Project site.
Passerculus sandwichensis beldingi Belding's savannah sparrow	Fed: Ca: NCCP/HCP:	none **END** none	Salt marshes especially with pickleweed. Nests on ground at higher levels of marsh, out of the reach of high tides.	**Presumed absent.** No saltmarsh habitat is present on the Project site or in the BSA. No records within 5 miles of Project site. One historic record and one recent record both more than 5 miles away.
Polioptila californica californica coastal California gnatcatcher	Fed: Ca: NCCP/HCP:	**THR** SSC COV	Dry coastal slopes, washes, and mesas with areas of low vegetation and coastal sage scrub.	**Presumed Absent.** Not observed during the 2022 focused surveys conducted during the breeding season.
Rallus obsoletus levipes light-footed Ridgway's rail	Fed: Ca: NCCP/HCP:	**END** **END** none	Occurs in shallow water where mudflats are present for foraging and found nesting within mash vegetation.	**Presumed Absent.** No marsh or mudflat habitats are present on the Project site or in the BSA.
Setophaga petechia yellow warbler	Fed: Ca: NCCP/HCP:	none SSC none	Riparian woodlands especially with willows, open scrub, gardens, and thickets often near water.	**Presumed Absent.** No riparian habitats are present on the Project site. Two recent records but not within 5 miles of Project site.
Sternula antillarum browni California least tern (nesting colony)	Fed: Ca: NCCP/HCP:	**END** **END,** FP none	Beaches, bays, lagoons, and other open coastal habitats near marine water sources for foraging. Nests on open and flat beaches, often along estuaries and lagoons.	**Presumed Absent.** No beach, bay, estuary or lagoon habitats are present on the Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Vireo bellii pusillus least Bell's vireo (nesting)	Fed: Ca: NCCP/HCP:	**END** **END** COV	Riparian woodlands and willow-cottonwood forests particularly with streamside thickets and dense brush.	**Presumed Absent.** No riparian habitats are present on the Project site. Six recent records within 5 miles of the Project site.
MAMMALS				
Antrozous pallidus pallid bat	Fed: Ca: NCCP/HCP:	none SSC none	Typically found in chaparral, and forages along the edges between shrubs and small open areas. Less commonly found in arid grassland, desert, and coastal scrub habitats. Roosts in bridges, buildings, and in tree cavities.	**Presumed Absent**. Although foraging habitat in the form of bigpod ceanothus chaparral is present in the BSA and immediately adjacent to the Project site, no bridges, buildings, or tree cavities with suitable roosting habitat for the species were present on the Project site. Four records, but none are recent or within 5 miles of the Project site.
Chaetodipus californicus femoralis Dulzura pocket mouse	Fed: Ca: NCCP/HCP:	none SSC none	Chaparral, coastal scrub, and grasslands primarily in San Diego county along the U.S.-Mexico border.	**Low**. Limited coastal sage scrub is present on the Project site in the staging area but is marginal quality due to compact soils, non-native plants, sparse native vegetation, and the high level of disturbances associated with adjacent development. Marginal habitat in the form of chaparral and coast scrub is present adjacent to the Proposed Project site and within the BSA. No recent records within 5 miles of Project site. One historic record (Occ #34) from 1934 approximately 2.9 miles southeast of Project site.
Chaetodipus fallax fallax northwestern San Diego pocket mouse	Fed: Ca: NCCP/HCP:	none SSC none	Coastal scrub, chaparral, sagebrush, and grasslands in western San Diego County. Usually occurs in association with rocks or coarse gravel.	**Low**. Limited coastal sage scrub is present on the Proposed Project site in the staging area but is marginal quality due to compact soils and the high level of disturbance associated with adjacent development and nonnative plants. No records within 5 miles of Proposed Project site. One recent record (Occ #106) approximately 14.9 miles northeast of the Project site near foothills of Santa Ana Mountains.
Choeronycteris mexicana Mexican long-tongued bat	Fed: Ca: NCCP/HCP:	none SSC none	Roosts in caves, rock fissures, old mines, and rarely in buildings. Found in desert shrublands, tropical deciduous forests, deep mountain canyons with riparian vegetation, oak-conifer woodlands and forests. Requires suitable concentration of columnar cacti and agave food sources.	**Presumed Absent.** No cave, rock fissures, old mine, or building roosting habitat is present on the Project site or in the BSA. Additionally, no concentration of columnar cacti or agave is present on the Project site. Two records, but none are recent or within 5 miles of the Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Dipodomys stephensi Stephens' kangaroo rat	Fed: Ca: NCCP/HCP:	**END** **THR** none	Annual grasslands, coastal sage scrub with sparsely spaced vegetation, loose friable (sandy or gravelly) soils, and flat or slightly rolling terrain. Prefers buckwheat, chamise, brome grass & filaree.	**Presumed Absent**. No grassland or suitable coastal scrub habitat on the Proposed Project site. California sagebrush scrub habitat in the staging area of the Proposed Project site did not have soils suitable for the species and the area is too disturbed. Additionally, the high level of disturbance of the site including proximity to paved roads, landscaping, and recreational activities likely preclude the species from occurring within the BSA. Only one historic record (Occ #171) is from Camp Pendleton Marine Corps Base and approximately 13 miles southeast of the Project site.
Eumops perotis californicus western mastiff bat	Fed: Ca: NCCP/HCP:	none SSC none	Roosts high above ground in rock and cliff crevices, shallow caves, and rarely in buildings. Occurs in arid and semiarid regions including rocky canyon habitats.	**Presumed Absent.** No suitable cliff face and rock crevice roost habitat is present on the Project site or in the BSA. Twelve records, but only one (Occ #191) of unknown date within 5 miles of Project site.
Lasiurus blossevillii western red bat	Fed: Ca: NCCP/HCP:	none SSC none	Lowlands to mountains, in woodlands and forests and, especially along riparian habitats. Roosts in trees such as sycamore, cottonwood, velvet ash, and elder trees or large leafy shrubs and tend to avoid caves and buildings.	**Presumed Absent**. No suitable roosting habitat is present on the Project site. The high level of disturbance (landscaping, tree trimming, and proximity to development) in the BSA likely preclude the species from roosting in the BSA. Only record (Occ #14) from Bell Canyon is historic and more than 5 miles away from Project Site.
Neotoma lepida intermedia San Diego desert woodrat	Fed: Ca: NCCP/HCP:	none SSC COV	Coastal scrub and chaparral of from San Diego County to San Luis Obispo County. Prefers moderate to dense canopies, and live oak, chamise, and buckwheat for food. Abundant in rock outcrops and along rocky cliffs and slopes.	**Low**. Limited marginal habitat is present on the Project site in the disturbed California sagebrush scrub in the lay down area and in sagebrush scrub and chaparral habitats adjacent to the Project site and within the BSA. Five records but only one within 5 miles of Project site. One recent record (Occ #53) approximately 3 miles south of the Project site.
Nyctinomops femorosaccus pocketed free-tailed bat	Fed: Ca: NCCP/HCP:	none SSC none	Primarily in the desert along rugged canyons, high cliffs, and semiarid rock outcroppings. Roosts in crevices of outcrops and cliffs, shallow caves, and buildings.	**Presumed Absent**. No suitable cave or rock/building crevices for roosting are present in Project site. Only record is historic and more than 5 miles from the Project site.
Nyctinomops macrotis big free-tailed bat	Fed: Ca: NCCP/HCP:	none SSC none	Rocky areas of rugged and hilly country including woodlands, evergreen forests, river floodplain-arroyo habitats, and desert scrub. Roosts in cliff crevices, and less often in buildings, caves, and tree cavities. Occurs in	**Presumed Absent**. No suitable crevices, caves, or tree cavity roost habitat is present on the Project site. Only record is historic and more than 5 miles from the Project site.

Scientific Name Common Name	Status		Habitat	Potential for Occurrence
Onychomys torridus ramona southern grasshopper mouse	Fed: Ca: NCCP/HCP:	none SSC none	Low, semi-open, and open scrub habitats with flat and sandy valley floors. Habitats include coastal scrub and mixed chaparral with interspaced shrubs.	**Low**. Limited sagebrush scrub habitat is present in the staging area; however, it is of marginal quality due to compact soil, high amounts of non-native vegetation and disturbances associated with development. Only record (Occ #50) is recent but from the foothills of Santa Ana Mountains approximately 14.7 miles northeast of Project site.
Perognathus longimembris pacificus Pacific pocket mouse	Fed: Ca: NCCP/HCP:	**END** none COV	Coastal sage scrub on marine terraces, chaparral, and shrublands with firm sandy soils in the immediate vicinity of coastal dunes or strand, and river alluvium.	**Presumed Absent**. No suitable coastal sage scrub or chaparral habitat with sandy soils is present on the Project site. Although sagebrush scrub is present on the Project site in the staging area, it is unsuitable for the species due to the lack of sandy soils and the high level of disturbance including proximity to paved roads, landscaping, and recreational activities. Only record within 5 miles of Project site is historic and approximately 3 miles south of Project site in Dana Point. Only recent records (Occ #10 and 11) are from Camp Pendleton Marine Corps Base more than 5 miles from Project site.
Sorex ornatus salicornicus salt marsh ornate shrew	Fed: Ca: NCCP/HCP:	none SSC none	Dense vegetative ground cover typically in coastal protected nesting sites above mean high tide which are free from inundation, and moist surroundings.	**Presumed Absent.** No coastal marsh habitat is present on the Project site. Only record is historic and more than 5 miles from the Project site.
Taxidea taxus American badger	Fed: Ca: NCCP/HCP:	none SSC none	Open habitats with friable soil such as grasslands, brushlands with sparse ground cover, open chaparral, and sometimes riparian zones.	**Presumed Absent**. No open grasslands, brushlands, or other suitable habitat with sparse ground cover and friable soil is present on the Project site. One historic record more than 5 miles away along State Route-74.

Federal Designations (Federal Endangered Species Act, USFWS)
END: federally listed, endangered
THR: federally listed, threatened
DL: federally delisted

Natural Community Conservation Planning (NCCP) / Habitat Conservation Plan (HCP)
An NCCP identifies and provides for the regional protection of plants, animals, and their habitats.

State designations: (California Endangered Species Act, CDFW)
END: state-listed, endangered
THR: state-listed, threatened
FP: Fully Protected species
SSC: California Species of Special Concern
CAN: Candidate for Listing (Endangered)

Source: California Natural Diversity Data Base (CNDDB) San Juan Capistrano, San Clemente, Laguna beach, Tustin, El Toro, Santiago peak, Canada Gobernadora, and Dana Point .7.5-minute topographic quadrangles.

APPENDIX C

Energy Consumption

Proposed Project
Total Construction-Related Gasoline Usage

Project Construction/Implementation

Table 1. Construction Year One			
Action	**Carbon Dioxide Equivalents (CO_2e) in Metric Tons[1]**	**Conversion of Metric Tons to Kilograms[2]**	**Construction Equipment Emission Factor[2]**
Project Construction	289	289,000	10.15
Total Gallons Consumed During Construction Year One:			**28,473**

Notes:

Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.

[1]Per CalEEMod Output Files

[2]Per Climate Registry Equation 13e

Sources:

[1]ECORP Consulting. 2021. Air Quality and Greenhouse Gas Emissions Assessment: Marina Village Apartments

[2]Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1.* January 2016.

http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pd

APPENDIX D

Paleontological Assessment

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

May 5, 2022

Taryn Kjolsing, P.E., Engineering Manager
South Coast Water District (SCWD)
CA 92415-0835

Subject: Paleontological Resources Assessment for Mission Hospital Pipeline Project

Dear Ms. Kjolsing:

This letter report documents the results of the paleontological assessment undertaken for the Mission Hospital Pipeline Project (Project). The Project is being undertaken by South Coast Water District (SCWD). The lead agency under CEQA is the South Coast Water District.

The scope of work for this report included a paleontological records search through the Natural History Museum of Los Angeles County's Vertebrate Paleontology Section, a pedestrian survey, a literature search, a review of geological maps, City of Laguna Beach regulations, and impact analyses that are documented in the following text.

Proposed Project and Location

The Project lies just inland from the Pacific Ocean in the southern part of the City of Laguna Beach city boundary as shown in Figure 1. The Project consists of replacing 1,350 linear feet of existing 6-inch asbestos cement pipe with 12-inch polyvinyl chloride (PVC) pipe. Thus, the soil disturbance consists of removing older pipes, and replacing them with larger pipes. This work will require the exhumation of old trenches, pipe removal, trench expansion, placement of new pipe, backfilling, and repaving where necessary. The minimum burial depth of the new pipeline along Mar Vista and Sunset Avenues would be approximately 36 inches.

As shown in Figure 2, the Project is located in the southern part of the City limits. It is a linear project, extending from Mar Vista Avenue at Third Avenue to Sunset Avenue at Eighth Avenue with a smaller pipeline from the street to the Mission Hospital and a lay-down area in the mouth of the canyon on the east side of Sunset Avenue northeast of the hospital (Figure 2). At the north end of the Project footprint, the pipeline is on the west side of Mar Vista Avenue. It remains on the west side to the first curve in the alignment. There it transitions to the east side of Mar Vista Avenue, and continues thus through the transition to Sunset Avenue, where it remains on the east side until the final 20 feet where it again transitions to the west side.

The Project footprint lies in the SE ¼ of SW ¼ and SW ¼ of SE ¼, T 8 S, R 8 W as shown on the southern margin of the San Juan Capistrano 7.5′ US Geological Survey quadrangle.

Construction of the Proposed Project would include: excavation, backfill, pipeline installation, and repaving. The pipelines along Mar Vista Avenue and Sunset Avenue would be installed a minimum of approximately 36 inches below ground level and the pipeline that runs down a hill from Sunset Avenue to 5th Avenue would be installed at approximately 18 inches below ground level. Streets affected by construction would be repaved to their pre-disturbance conditions.

Geological Setting

Mapping:

The Project site is located within the Transverse Ranges Geomorphic Province of California. The geology of the area was mapped by Morton and Miller (1981) at a scale of 1:48,000. That map shows that the geology of the Project footprint consists of the San Onofre Breccia and marine terrace deposits (Figure 3).

The Regulatory Setting

State

The California Environmental Quality Act (CEQA) provides protection for paleontological resources through environmental legislation. Direction regarding significant impacts on paleontological resources is found under Appendix G (part V) of the CEQA Guidelines. The guidelines state, "A project will normally result in a significant impact on the environment if it will …disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study." Per section 5097.5 of the Public Resource Code, it is unlawful to remove paleontological remains without authorization and can result in a misdemeanor. In addition, Section 622.5 of the California Penal Code sets the penalties for damage or removal of paleontological resources.

Orange County

The Resources Element of the County of Orange General Plan (County of Orange, 2013) provides a figure (Figure VI-9) which shows nine general areas of paleontology sensitivity. The Project footprint lies just outside of areas 2 and 3 (San Joaquin Hills District and Laguna Hills – Dana Point District, respectively).

The Resources Element has three general policies regarding cultural and paleontological resources: The following policies addressing archaeological, paleontological, and historical resources shall be

implemented at appropriate stage(s) of planning, coordinated with the processing of a project application, as follows:

- Identification of resources shall be completed at the earliest stage of project planning and review such as general plan amendment or zone change.
- Evaluation of resources shall be completed at intermediate stages of project planning and review such as site plan review, subdivision map approval, or at an earlier stage of project review.
- Final preservation actions shall be completed at final stages of project planning and review such as grading, demolition, or at an earlier stage of project review.

The County Resources Element also contains three Paleontological Resources Policies:

- To identify paleontological resources through literature and records research and surface surveys.
- To monitor and salvage paleontological resources during the grading of a project.
- To preserve paleontological resources by maintaining them in an undisturbed condition.

City of Laguna Beach

The Open Space and Conservation Element (1984) of the City of Laguna Beach states that many archeological sites and a single paleontological site are located within the City General Plan Area. Also acknowledged is the fact that development of much of the City (as of 1984) had resulted in the covering or destruction of potentially significant archaeological/paleontological resources.

Policies put forth to conserve these resources include:

12-A Promote the conservation of land having archaeological and/or paleontological importance, for its value to scientific research and to better understand the cultural history of Laguna Beach and environs.

12-B Develop a program which systematically inventories records and preserves significant cultural resources in the community, in accordance with the guidelines in the City's Local Coastal Plan.

12–C Development adjacent to a place, structure or feature found to be of historical significance shall be designed so that the uses permitted and the architectural design will protect the visual setting of the historical site.

12–D Preserve cultural/scientific sites, including geologically unique formations having archaeological significance.

Professional Standards

The Society of Vertebrate Paleontology (SVP) 2010 guidelines provided Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. These guidelines are recognized throughout the paleontological resource management community.

Scope of Study and Personnel

This paleontological Resources Assessment was compiled by Dr. Joe Stewart, PhD. He is a qualified paleontologist by the criteria of the SVP Guidelines (2010) and is a paleontologist approved by the County of Orange. His resume is provided in Attachment A.

Paleontological Resources

Records Search

ECORP requested a paleontological records search from the Natural History Museum of Los Angeles County (LACM). The report (Bell, 2022, Attachment B) stated that the museum does not have any localities lying directly within the Project boundaries. The nearest LACM locality is 6,000 feet (slightly over a mile) to the northwest. The sediments within the Project area the San Onofre Breccia and Pleistocene sediments. Both are listed in the records search as having produced fossils in the area. The San Onofre Breccia has produced marine invertebrate fossils, and the Pleistocene terrace deposits have produced mammoth remains. Also, the Topanga Formation has produced fossils of dugongs and desmostylians in the area, but that formation is not impacted by the Project. The records search is provided as Attachment B.

Literature Search

Jefferson lists no pertinent Pleistocene vertebrate fossil localities pertinent to this project in his 1991a publication, but the 1991b publication lists LACM 1115, already referenced in the paleontological records search (Bell, 2022). Mammoth remains were found there. Jefferson (1991b) also indicates that mammoth remains were found a bit further to the south at Dana Point.

Pedestrian Survey

Joe Stewart visited the Project footprint on February 28, 2022. No fossils were detected. Marine terrace deposits constitute the majority of the geological exposures above ground. The section of Sunset Avenue that parallels the hospital just to the northeast of the hospital is San Onofre Breccia. There are good exposures of the marine terrace deposits continuing eastward from that segment and around the bend on the north side of the cul-de-sac at the northeast end of 7th Avenue (Figure 4).

Conclusions and Recommendations

Given that parts of the Project pass through sediments listed as Pleistocene age, and given that the paleontological records search recommends monitoring, it is concluded that monitoring for paleontological resources should be done in sediments mapped as Qoa and that a Paleontological Resource Impact Management Plan be designed by a qualified paleontologist as defined by the criteria of the guidelines of the Society of Vertebrate Paleontology (2010). This plan shall adhere to the guidelines of the Society of Vertebrate Paleontology and shall include sampling of sediments to test for microvertebrate fossils.

References

- Bell, Alyssa. 2022. Paleontological resources for the Mission Hospital Pipeline Project. Prepared for ECORP Consulting by the Natural History Museum of Los Angeles County. 2 p.
- City of Laguna Beach. 1984. The Open Space and Conservation Element.
- County of Orange. 2013. Resources Element, County of Orange General Plan.
- Jefferson, G.T. 1991a. A catalogue of Late Quaternary Vertebrates from California: Part One, nonmarine lower vertebrate and avian taxa. Natural History Museum of Los Angeles County Technical Reports No. 5.
- Jefferson, G.T. 1991b. A catalogue of Late Quaternary Vertebrates from California: Part Two, Mammals. Natural History Museum of Los Angeles County Technical Reports No. 7.
- Morton and Miller 1981. Geologic Map of Orange County, California. California Division of Mines and Geology Bulletin 204. Scale 1:48,000.
- Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Available at: https://vertpaleo.org/wp-content/uploads/2021/01/SVP_Impact_Mitigation_Guidelines-1.pdf

Attachments

Attachment A: Dr. Joe Stewart, PhD. Resume
Attachment B: LACM Records Search

FIGURES

Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Vicinity.mxd *(TR)-trotellini 1/4/2022*

Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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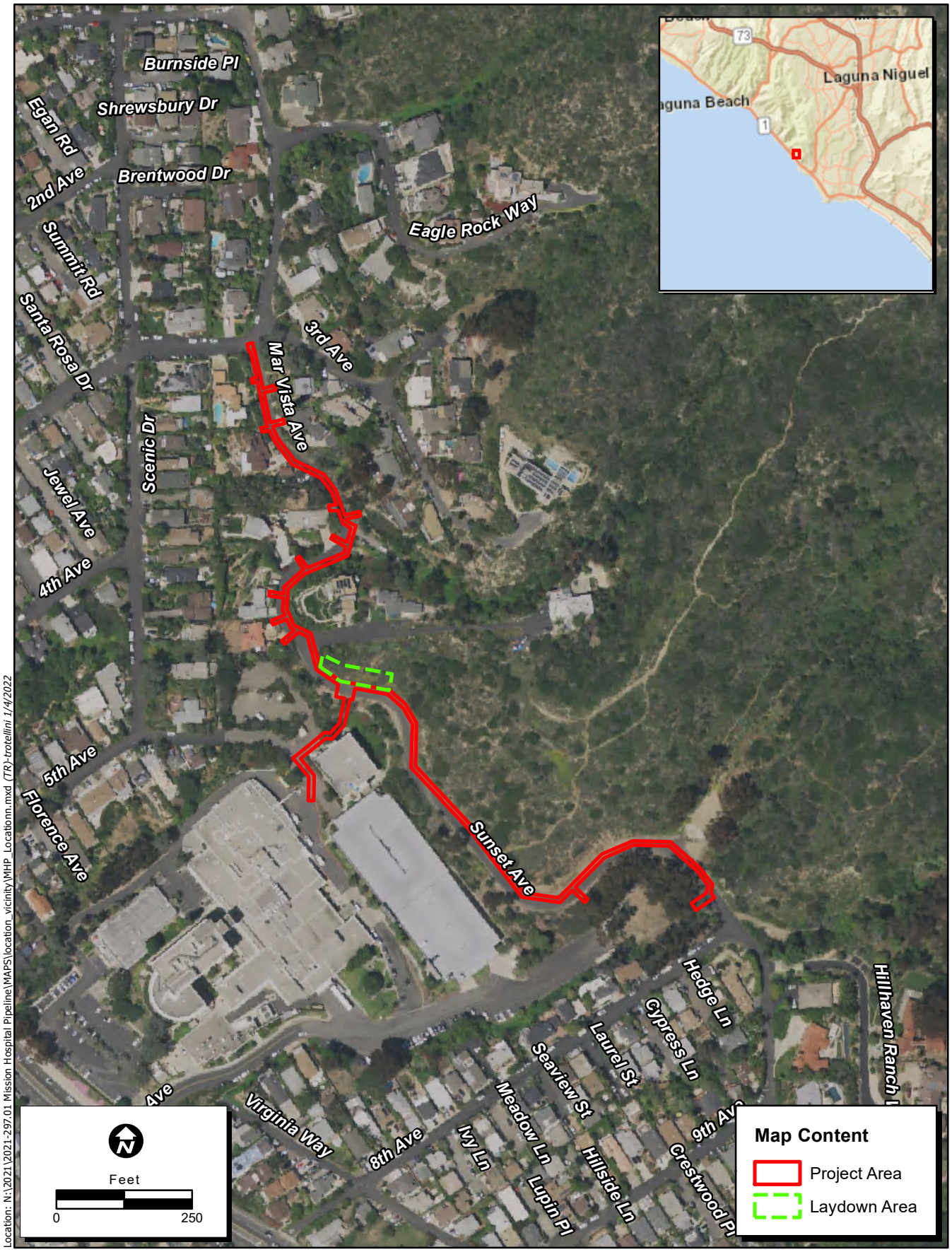
Figure 1. Project Vicinity

2021-297.01 Mission Hospital Pipeline



Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\location_vicinity\MHP_Locationn.mxd (TR)-trotellini 1/4/2022

Map Date: 1/4/2022

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community Photo Source: NAIP (2020)

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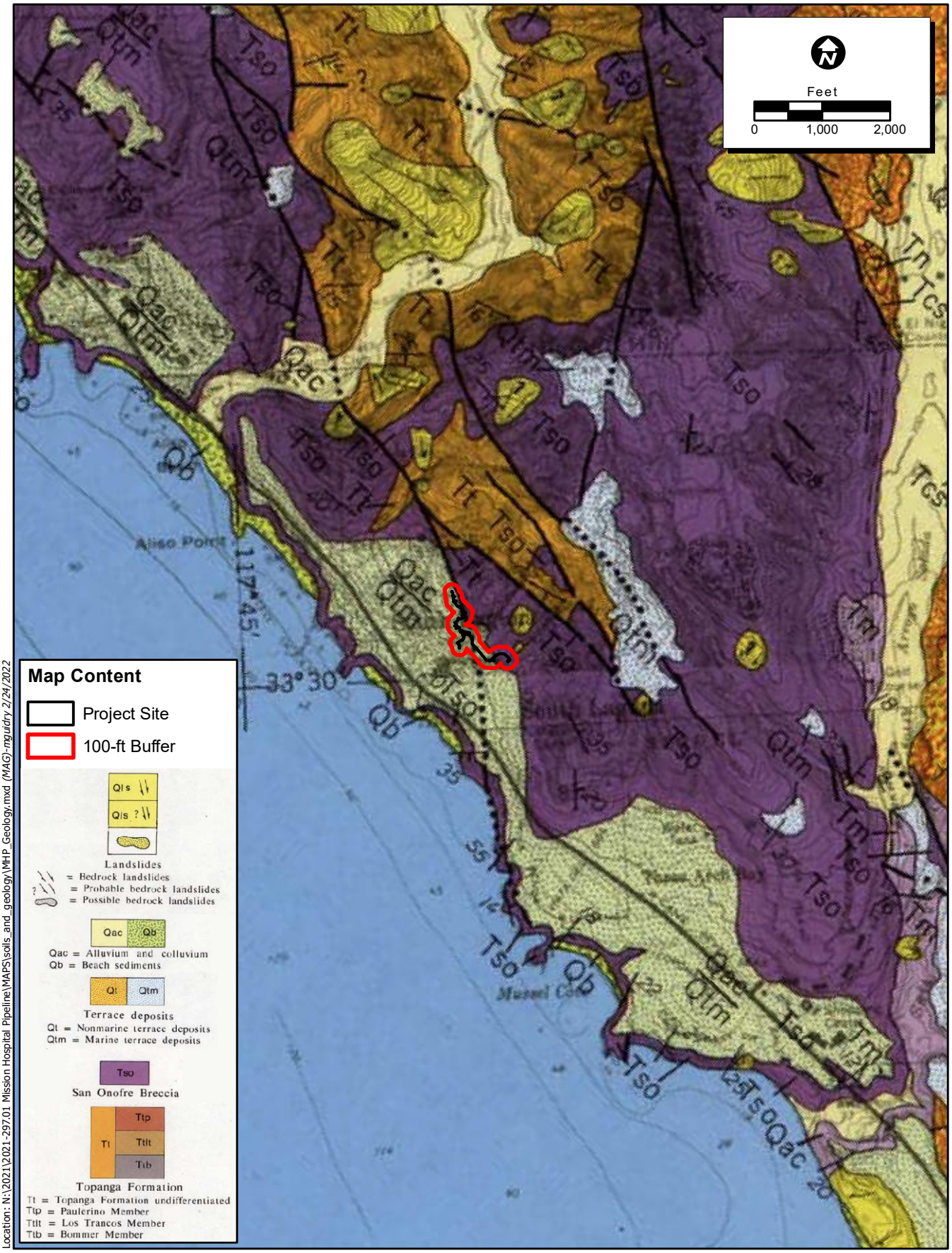
Figure 2. Project Location

2021-297.01 Mission Hospital Pipeline



Location: N:\2021\2021-297.01 Mission Hospital Pipeline\MAPS\soils_and_geology\MHP_Geology.mxd (MAG)-mguidry 2/24/2022

Map Date: 2/24/2022

Geologic Map of Orange County California Showing Mines and Mineral Deposits

Figure 3. Geology

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2021-297.01 Mission Hospital Pipeline

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Figure 4. Marine Terrace Deposits Along 7th Avenue.

2021-297.01 Mission Hospital Pipeline

ATTACHMENT A

ECORP Consulting, Inc.
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Joe Stewart, Ph.D.

Senior Paleontologist, Principal Investigator

Joe Stewart is a vertebrate paleontologist with over 40 years of experience in paleontology and 33 years of experience with the geology and paleontology of California. He received a B.A. in Systematics an Ecology at the University of Kansas in 1979, and a Ph.D. in Systematics and Ecology at the University of Kansas in 1984. His main experience is with the paleontological resources of California, but he also has experience with projects in Wyoming, Utah, Colorado, Arizona, Nevada, Idaho, and Nebraska, and a substantial research history in Kansas. Dr. Stewart has extensive experience with permitting projects subject to CEQA and NEPA. His expertise includes the identification of fish fossils and Pleistocene microvertebrate faunal remains. He directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project, and the paleontological aspects of permitting for the Gateway West transmission line project in Wyoming and Idaho. Joe has multiple BLM permits. He has published over 40 peer-reviewed paleontology articles in scientific books and journals. He is also a Research Associate at the Natural History Museum of Los Angeles County.

Education

Ph.D., Systematics and Ecology, University of Kansas

B.A., Systematics and Ecology, University of Kansas

Registrations, Certifications, Permits and Affiliations

- Riverside County Qualified Paleontologist
- Orange County Certified Paleontologist
- Principal Investigator on BLM California Paleontology Permit
- Research Associate, Natural History Museum of Los Angeles County

Professional Experience

Ivanpah Control Project, San Bernardino, Kern, and Inyo Counties – Southern California Edison (2018-2019). Reviewed paleontological resources aspects of Southern California Edison's Ivanpah-Control Project proponent's environmental assessment (PEA) filing for California Public Utilities Commission.

Strauss Wind Energy Project EIR, Santa Barbara County – Santa Barbara County Planning Department (2018). Revised paleontological resource sections of an earlier EIR.

San Onofre Nuclear Generating Station (SONGS) Units 2 & 3 Decommissioning Project, San Diego County – Southern California Edison (2018). Reviewed draft Paleontological Resources Mitigation and Monitoring Plan.

Puerco Canyon Camp and Trailhead Project, Malibu, Los Angeles County (2018). Wrote the paleontological resources section of the EIS/EIR.

Qualcomm Stadium Reconstruction, San Diego County (2015-2016). Wrote paleontological resources technical report and wrote paleontological resources sections of EIR.

Foster Road Storm Drain Stage I, Temescal Creek – Riverside County Flood Control and Water Conservation District (2015-2016). Monitored construction, supervised sediment sample processing, and wrote final report.

Crenshaw/LAX Transit Corridor Rail Project, Los Angeles – Los Angeles County Metropolitan Transportation Authority (2014-2015). Oversaw paleontological resources monitoring and mitigation of construction activities.

SR-91 Corridor Improvement Project (2013-2017). Wrote Paleontological Mitigation Plan and supervised paleontological monitoring and mitigation of construction activities.

Calico Mineral Exploration Project, San Bernardino County (2013). Obtained BLM Fieldwork Authorization, surveyed 350 acres, processed sediment samples, identified fossils, and wrote paleontological assessment for permitting of project.

I-15/I-215 Interchange Improvement Project, Devore, San Bernardino County (2012-2013). Supervised paleontological monitoring and mitigation of construction activities.

Sun Valley to Morgan 500/230kV Transmission Line Project, Los Angeles County (2011-2012). Wrote paleontological resources technical report for the project.

California High Speed Rail Project, Palmdale to LA Union Station Segment (2010-2014). Supervised pedestrian survey of Palmdale to LA Union Station Segment of the California High Speed Rail Project. Wrote paleontological resources technical report and paleontological sections of the EIS/EIR.

Westside Subway Extension Draft EIS/EIR, Los Angeles County – Los Angeles County Metropolitan Transportation Authority (2009-2010). Directed paleontological survey of route and wrote paleontological pedestrian survey. Wrote paleontological resources section of the draft EIS/EIR.

I-805 Managed Lanes South Project, San Diego County – SANDAG (2008-2009). Directed paleontological survey of 11.4-mile long project area in San Diego, National City, and Chula Vista and wrote the Paleontological Resource Assessment.

I-805 North Corridor Project, San Diego County – SANDAG (2008). Directed paleontological survey of 4.4-mile long project area in San Diego and wrote the Paleontological Resource Assessment.

Mesquite General Aviation Airport Replacement Project, Mesquite, Nevada – Federal Aviation Administration (2009). Researched geological literature and paleontological records and wrote the paleontological resources assessment.

Solar 1 Solar Energy Project, San Bernardino County (2008). Obtained BLM Fieldwork Authorization, supervised survey of 7,700 acres, and wrote paleontological resources section of Application for Certification submitted to the California Energy Commission.

CalNev Pipeline Project, San Bernardino County and Clark County, Nevada - Kinder-Morgan (2008-2009). Wrote the paleontological assessment based on records and literature searches and a paleontological survey of the 234-mile long proposed petroleum pipeline from Colton, CA to Las Vegas, NV. Directed the survey on private and federal lands.

Cajon Main Third Track, Summit to Keenbrook Project, San Bernardino County – BNSF Railway (2007). Participated in the writing, editing, and production of the Paleontological Resources Monitoring and Mitigation Plan and the Paleontological Resources Assessment.

Ausra-Carrizo Solar Project, San Luis Obispo County (2007). Participated in survey of 960 acres and edited the Application for Certification submitted to the California Energy Commission.

Heritage Fields/The Great Park, City of Irvine, Orange County (2006-2007). Participated in pedestrian survey of 3,700 acres, supervised excavations at three sites, and wrote the final technical report.

Path 15 500-kV Power Transmission Line From Los Banos Substation to Gates Substation (2003-2005). Supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for 80-mile power line.

Selected Professional Publications/Papers/Presentations

2012 **Stewart, J. D**., M. Williams, M. Hakel, and S. Musick. Was it washed in? New evidence for the genesis of Pleistocene fossil vertebrate remains in the Mojave Desert of southern California. *California State University Desert Symposium Proceedings* pp. 140-143.

2009 Bell, M. A., **J. D. Stewart,** and J. Park. The world's oldest fossil threespine sticklebacк. *Copeia* 2009:256-265.

2009 Tseng, J.Z., X. Wang, and **J.D. Stewart**. A new otter-like immigrant mustelid (Carnivora, Mammamlia) from the middle Miocene Temblor Formation of Central California. *PaleoBios* 29:13-23.

2008 Kelly, T. S., and **J. D. Stewart.** New records of Middle and Late Miocene Perissodactyla and Artiodactyla from the western border of the San Joaquin Valley, Diablo Range, Fresno County, California. *Los Angeles County Museum of Natural History Contributions in Science* 516:1-29.

2007 Tseng, Z., X. Wang, and **J. D. Stewart**. Tough new world: discovery of an unusual immigrant mustelid with crushing dentition from the middle Miocene of coastal California. *Journal of Vertebrate Paleontology* 27:160A.

ATTACHMENT B

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

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Research & Collections

e-mail: paleorecords@nhm.org

January 22, 2022

ECORP Consulting, Inc.
Attn: Chelsie Brown

re: Paleontological resources for the Mission Hospital Pipeline Project

Dear Chelsie:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Mission Hospital Pipeline Project area as outlined on the portion of the San Juan Capistrano USGS topographic quadrangle map that you sent to me via e-mail on January 11, 2022. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM IP 6997	S slope of ridge adjacent to Laguna Ridge Trail, near end of Seaway Dr; Laguna Hills	San Onofre Breccia	Invertebrates (unspecified)	Unknown
LACM IP 24377	Dana Point	San Onofre Breccia (Red and gray; sandy and earthy schist breccia)	Invertebrates (unspecified)	Unknown
LACM IP 5835	East side of Aliso Creek bank; approximately 1 mile inland from Pacific Coast Highway; on west side of prominent spur trending northwest from Niguel Hill	Topanga Formation (shale)	Abundant mollusks and brachiopods (*Glotidia albida*)	Surface
LACM VP 1115	Near Salt Creek Trail in Salt Creek Corridor Regional Park; San Joaquin Hills	Pleistocene terrace deposit	Mammoth (*Mammuthus*)	Unknown
LACM VP 4007	In the head of Rim Rock Canyon south of Temple Hill Drive & west of Top of the World on Temple Hill	Topanga Formation	Marine mammal (*Desmostylus*)	Unknown
LACM VP 3222	Two miles north of South Laguna; west of the drainage of Aliso Creek; southeast of	Topanga Formation (brecciated conglomeratic	Marine mammal (*Desmostylia*)	Surface

	Temple Hill	sandstone)		
LACM VP 7249	Ridge between Temple Hill and Wood Canyon, south side of wash on cliff face	Topanga Formation	Marine mammals (Dugongidae)	Unknown

VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice

APPENDIX E

Greenhouse Gas Emissions Model

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mission Hospital Pipeline Improvement Project

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	32.00	1000sqft	0.73	32,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	30
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Construction phases and duration provided by SCWD

Off-road Equipment - Equipment per SCWD

Off-road Equipment - Ibid

Off-road Equipment - Ibid

Grading -

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 applied. Reduction values per SCAQMD CEQA Handbook Tables 11-4 & A11-9-A

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	40
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblConstructionPhase	NumDays	100.00	123.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	1.00	22.00
tblConstructionPhase	PhaseEndDate	6/20/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	6/27/2022	12/20/2022
tblConstructionPhase	PhaseEndDate	1/27/2022	6/30/2022
tblConstructionPhase	PhaseStartDate	2/1/2022	7/1/2022
tblConstructionPhase	PhaseStartDate	6/21/2022	12/1/2022
tblConstructionPhase	PhaseStartDate	1/27/2022	6/1/2022
tblGrading	MaterialExported	0.00	972.00
tblGrading	MaterialImported	0.00	778.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

2.0 Emissions Summary

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1548	1.4322	1.6045	3.2900e-003	0.0164	0.0617	0.0781	4.4100e-003	0.0581	0.0625	0.0000	286.1242	286.1242	0.0720	2.1500e-003	288.5659
Maximum	**0.1548**	**1.4322**	**1.6045**	**3.2900e-003**	**0.0164**	**0.0617**	**0.0781**	**4.4100e-003**	**0.0581**	**0.0625**	**0.0000**	**286.1242**	**286.1242**	**0.0720**	**2.1500e-003**	**288.5659**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.1548	1.4322	1.6045	3.2900e-003	0.0109	0.0617	0.0726	3.0600e-003	0.0581	0.0611	0.0000	286.1239	286.1239	0.0720	2.1500e-003	288.5656
Maximum	**0.1548**	**1.4322**	**1.6045**	**3.2900e-003**	**0.0109**	**0.0617**	**0.0726**	**3.0600e-003**	**0.0581**	**0.0611**	**0.0000**	**286.1239**	**286.1239**	**0.0720**	**2.1500e-003**	**288.5656**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**33.58**	**0.00**	**7.06**	**30.61**	**0.00**	**2.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	4-13-2022	7-12-2022	0.1929	0.1929
3	7-13-2022	9-30-2022	0.6194	0.6194
		Highest	0.6194	0.6194

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5500e-003	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5500e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.9000e-004**	**7.9000e-004**	**0.0000**	**0.0000**	**8.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5500e-003	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5500e-003**	**0.0000**	**4.1000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**7.9000e-004**	**7.9000e-004**	**0.0000**	**0.0000**	**8.5000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	6/1/2022	6/30/2022	5	22	
2	Building Construction	Building Construction	7/1/2022	12/20/2022	5	123	
3	Paving	Paving	12/1/2022	12/20/2022	5	14	

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.73

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Site Preparation	Signal Boards	2	8.00	6	0.82
Building Construction	Cranes	0	4.00	231	0.29
Building Construction	Forklifts	0	6.00	89	0.20
Building Construction	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Building Construction	Excavators	2	8.00	158	0.38
Building Construction	Rubber Tired Loaders	2	8.00	203	0.36
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Skid Steer Loaders	2	8.00	65	0.37
Building Construction	Signal Boards	2	8.00	6	0.82
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Dumpers/Tenders	2	8.00	16	0.38
Paving	Concrete/Industrial Saws	1	8.00	81	0.73
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rubber Tired Loaders	2	8.00	203	0.36

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Paving	Signal Boards	2	8.00	6	0.82
Paving	Surfacing Equipment	1	8.00	263	0.30
Paving	Skid Steer Loaders	1	8.00	65	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	5	13.00	0.00	219.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	13	13.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8200e-003	0.0756	0.0962	1.5000e-004		3.9400e-003	3.9400e-003		3.7800e-003	3.7800e-003	0.0000	12.9106	12.9106	2.3700e-003	0.0000	12.9698
Total	**8.8200e-003**	**0.0756**	**0.0962**	**1.5000e-004**	**1.0000e-004**	**3.9400e-003**	**4.0400e-003**	**1.0000e-005**	**3.7800e-003**	**3.7900e-003**	**0.0000**	**12.9106**	**12.9106**	**2.3700e-003**	**0.0000**	**12.9698**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0179	4.8200e-003	7.0000e-005	1.8800e-003	1.3000e-004	2.0100e-003	5.2000e-004	1.2000e-004	6.4000e-004	0.0000	6.7168	6.7168	6.4000e-004	1.0800e-003	7.0534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.2000e-004	4.4700e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.2327	1.2327	3.0000e-005	3.0000e-005	1.2427
Total	**8.7000e-004**	**0.0183**	**9.2900e-003**	**8.0000e-005**	**3.4500e-003**	**1.4000e-004**	**3.5900e-003**	**9.4000e-004**	**1.3000e-004**	**1.0600e-003**	**0.0000**	**7.9495**	**7.9495**	**6.7000e-004**	**1.1100e-003**	**8.2961**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.8200e-003	0.0756	0.0962	1.5000e-004		3.9400e-003	3.9400e-003		3.7800e-003	3.7800e-003	0.0000	12.9106	12.9106	2.3700e-003	0.0000	12.9698
Total	**8.8200e-003**	**0.0756**	**0.0962**	**1.5000e-004**	**4.0000e-005**	**3.9400e-003**	**3.9800e-003**	**1.0000e-005**	**3.7800e-003**	**3.7900e-003**	**0.0000**	**12.9106**	**12.9106**	**2.3700e-003**	**0.0000**	**12.9698**

Mission Hospital Pipeline Improvement Project - Orange County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.4000e-004	0.0179	4.8200e-003	7.0000e-005	1.3100e-003	1.3000e-004	1.4400e-003	3.8000e-004	1.2000e-004	5.0000e-004	0.0000	6.7168	6.7168	6.4000e-004	1.0800e-003	7.0534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	3.2000e-004	4.4700e-003	1.0000e-005	1.0300e-003	1.0000e-005	1.0300e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.2327	1.2327	3.0000e-005	3.0000e-005	1.2427
Total	**8.7000e-004**	**0.0183**	**9.2900e-003**	**8.0000e-005**	**2.3400e-003**	**1.4000e-004**	**2.4700e-003**	**6.6000e-004**	**1.3000e-004**	**7.9000e-004**	**0.0000**	**7.9495**	**7.9495**	**6.7000e-004**	**1.1100e-003**	**8.2961**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1279	1.1871	1.3301	2.6100e-003		0.0516	0.0516		0.0485	0.0485	0.0000	225.2443	225.2443	0.0613	0.0000	226.7763
Total	**0.1279**	**1.1871**	**1.3301**	**2.6100e-003**		**0.0516**	**0.0516**		**0.0485**	**0.0485**	**0.0000**	**225.2443**	**225.2443**	**0.0613**	**0.0000**	**226.7763**

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3.3 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1000e-004	0.0145	4.9800e-003	6.0000e-005	1.9400e-003	1.3000e-004	2.0700e-003	5.6000e-004	1.3000e-004	6.9000e-004	0.0000	5.7852	5.7852	3.3000e-004	8.3000e-004	6.0407
Worker	2.4100e-003	1.8100e-003	0.0250	8.0000e-005	8.7800e-003	5.0000e-005	8.8300e-003	2.3300e-003	4.0000e-005	2.3800e-003	0.0000	6.8920	6.8920	1.7000e-004	1.7000e-004	6.9480
Total	**2.9200e-003**	**0.0163**	**0.0300**	**1.4000e-004**	**0.0107**	**1.8000e-004**	**0.0109**	**2.8900e-003**	**1.7000e-004**	**3.0700e-003**	**0.0000**	**12.6772**	**12.6772**	**5.0000e-004**	**1.0000e-003**	**12.9887**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1279	1.1871	1.3301	2.6100e-003		0.0516	0.0516		0.0485	0.0485	0.0000	225.2440	225.2440	0.0613	0.0000	226.7760
Total	**0.1279**	**1.1871**	**1.3301**	**2.6100e-003**		**0.0516**	**0.0516**		**0.0485**	**0.0485**	**0.0000**	**225.2440**	**225.2440**	**0.0613**	**0.0000**	**226.7760**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.1000e-004	0.0145	4.9800e-003	6.0000e-005	1.3900e-003	1.3000e-004	1.5200e-003	4.2000e-004	1.3000e-004	5.5000e-004	0.0000	5.7852	5.7852	3.3000e-004	8.3000e-004	6.0407
Worker	2.4100e-003	1.8100e-003	0.0250	8.0000e-005	5.7300e-003	5.0000e-005	5.7800e-003	1.5800e-003	4.0000e-005	1.6300e-003	0.0000	6.8920	6.8920	1.7000e-004	1.7000e-004	6.9480
Total	**2.9200e-003**	**0.0163**	**0.0300**	**1.4000e-004**	**7.1200e-003**	**1.8000e-004**	**7.3000e-003**	**2.0000e-003**	**1.7000e-004**	**2.1800e-003**	**0.0000**	**12.6772**	**12.6772**	**5.0000e-004**	**1.0000e-003**	**12.9887**

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1346	0.1328	3.0000e-004		5.8300e-003	5.8300e-003		5.4700e-003	5.4700e-003	0.0000	25.6531	25.6531	7.1500e-003	0.0000	25.8318
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1346**	**0.1328**	**3.0000e-004**		**5.8300e-003**	**5.8300e-003**		**5.4700e-003**	**5.4700e-003**	**0.0000**	**25.6531**	**25.6531**	**7.1500e-003**	**0.0000**	**25.8318**

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3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.4000e-004	6.1300e-003	2.0000e-005	2.1500e-003	1.0000e-005	2.1600e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.6896	1.6896	4.0000e-005	4.0000e-005	1.7033
Total	**5.9000e-004**	**4.4000e-004**	**6.1300e-003**	**2.0000e-005**	**2.1500e-003**	**1.0000e-005**	**2.1600e-003**	**5.7000e-004**	**1.0000e-005**	**5.8000e-004**	**0.0000**	**1.6896**	**1.6896**	**4.0000e-005**	**4.0000e-005**	**1.7033**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1346	0.1328	3.0000e-004		5.8300e-003	5.8300e-003		5.4700e-003	5.4700e-003	0.0000	25.6530	25.6530	7.1500e-003	0.0000	25.8317
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1346**	**0.1328**	**3.0000e-004**		**5.8300e-003**	**5.8300e-003**		**5.4700e-003**	**5.4700e-003**	**0.0000**	**25.6530**	**25.6530**	**7.1500e-003**	**0.0000**	**25.8317**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.4000e-004	6.1300e-003	2.0000e-005	1.4100e-003	1.0000e-005	1.4200e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.6896	1.6896	4.0000e-005	4.0000e-005	1.7033
Total	**5.9000e-004**	**4.4000e-004**	**6.1300e-003**	**2.0000e-005**	**1.4100e-003**	**1.0000e-005**	**1.4200e-003**	**3.9000e-004**	**1.0000e-005**	**4.0000e-004**	**0.0000**	**1.6896**	**1.6896**	**4.0000e-005**	**4.0000e-005**	**1.7033**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.544795	0.058861	0.186903	0.129401	0.024381	0.006522	0.014242	0.004855	0.000656	0.000385	0.024332	0.000723	0.003942

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5500e-003	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004
Unmitigated	2.5500e-003	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004
Total	**2.5500e-003**	**0.0000**	**4.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.9000e-004**	**7.9000e-004**	**0.0000**	**0.0000**	**8.5000e-004**

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.4000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.0000e-005	0.0000	4.1000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	7.9000e-004	7.9000e-004	0.0000	0.0000	8.5000e-004
Total	**2.5500e-003**	**0.0000**	**4.1000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**7.9000e-004**	**7.9000e-004**	**0.0000**	**0.0000**	**8.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX F

Noise Model Output

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/18/2022
Case Description: Mission Hospital Pipeline - Site Preparation

Description	**Land Use**
Affected Receptors	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Saw	No	20		89.6	75	0
Backhoe	No	40		77.6	75	0
Backhoe	No	40		77.6	75	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Concrete Saw	86.1	79.1
Backhoe	74	70.1
Backhoe	74	70.1
Total	**86.1**	**80**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/18/2022
Case Description: Mission Hospital Pipeline - Pipeline Installation

Description	**Land Use**
Affected Receptors	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Saw	No	20		89.6	75	0
Excavator	No	40		80.7	75	0
Excavator	No	40		80.7	75	0
Dump Truck	No	40		76.5	75	0
Dump Truck	No	40		76.5	75	0
Front End Loader	No	40		79.1	75	0
Front End Loader	No	40		79.1	75	0
Front End Loader	No	40		79.1	75	0
Front End Loader	No	40		79.1	75	0
Backhoe	No	40		77.6	75	0
Backhoe	No	40		77.6	75	0

Results

Calculated (dBA)

Equipment		***Lmax**	**Leq**
Concrete Saw		86.1	79.1
Excavator		77.2	73.2
Excavator		77.2	73.2
Dump Truck		72.9	68.9
Dump Truck		72.9	68.9
Front End Loader		75.6	71.6
Front End Loader		75.6	71.6
Front End Loader		75.6	71.6
Front End Loader		75.6	71.6
Backhoe		74	70.1
Backhoe		74	70.1
	Total	**86.1**	**83.4**

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/18/2022
Case Description: **Mission Hospital Pipeline - Paving**

Description	**Land Use**
Affected Receptors	Residential

Description	**Impact Device**	**Usage(%)**	**Equipment Spec Lmax (dBA)**	**Actual Lmax (dBA)**	**Receptor Distance (feet)**	**Estimated Shielding (dBA)**
Concrete Saw	No	20		89.6	75	0
Pavement Scarafier	No	20		89.5	75	0
Roller	No	20		80	75	0
Front End Loader	No	40		79.1	75	0
Front End Loader	No	40		79.1	75	0
Front End Loader	No	40		79.1	75	0
Paver	No	50		77.2	75	0
Paver	No	50		77.2	75	0
Backhoe	No	40		77.6	75	0

Results

Calculated (dBA)

Equipment	***Lmax**	**Leq**
Concrete Saw	86.1	79.1
Pavement Scarafier	86	79
Roller	76.5	69.5
Front End Loader	75.6	71.6
Front End Loader	75.6	71.6
Front End Loader	75.6	71.6
Paver	73.7	70.7
Paver	73.7	70.7
Backhoe	74	70.1
Total	**86.1**	**83.9**

*Calculated Lmax is the Loudest value.