INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

DYNEGY MORRO BAY, LLC
MORRO BAY POWER PLANT MARINE TERMINAL DECOMMISSIONING PROJECT

February 2018

CEQA Lead Agency:
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, California 95825

Applicant:
Dynegy Morro Bay, LLC
1290 Embarcadero Road
Morro Bay, California 93442

MISSION STATEMENT

The California State Lands Commission provides the people of California with effective stewardship of the lands, waterways, and resources entrusted to its care through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

CEQA DOCUMENT WEBSITE
www.slc.ca.gov/Info/CEQA.html

Geographic Location (Lease PRC 1390.1)

Latitude: 120º51’35.56” W
Longitude: 35º22’24.62” N
NAD83 Datum

Cover Photo: Mark Steffy
(Photo courtesy of Pacific Gas and Electric Company)

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	µ	micron
	µPa	micropascals
A	AB	Assembly Bill
	ACOE	U.S. Army Corps of Engineers
	AIHA	American Industrial Hygiene Association
	APC	Associated Pacific Constructors
	APCD	Air Pollution Control District
	AR5	Fifth Assessment Report
	ASBS	area of special biological significance
	ASTM	American Society for Testing and Materials
	ATC	Authority to Construct
B	BAU	business as usual
	BL	Bright-Line
	BMP	Best Management Practice
C	CAAQS	California Air Quality Standards
	CalEEMod	California Emissions Estimator Model
	Caltrans	California Department of Transportation
	CAP	Clean Air Plan
	CARB	California Air Resources Board
	CCC	California Coastal Commission
	CCIC	Central Coast Information Center
	CDFW	California Department of Fish and Wildlife
	CEQ	U.S. Council of Environmental Quality
	CEQA	California Environmental Quality Act
	CESA	California Endangered Species Act
	CFC	chlorofluorocarbon
	CFR	Code of Federal Regulations
	CH_4	methane
	CHRIS	California Historical Resources Information System
	City	City of Morro Bay
	CNDDB	California Natural Diversity Database
	CNEL	Community Noise Equivalent Level
	CNPS	California Native Plant Society
	CO	carbon monoxide
	CO_2	carbon dioxide
	CO_2e	carbon dioxide equivalent
	County	County of San Luis Obispo
	CP	cathodic protection

	CRHR	California Register of Historic Resources
	CSLC	California State Lands Commission
	CWA	Clean Water Act
D	dB	decibel
	dBA	A-weighted decibels
	DPM	Diesel Particulate Matter
	DPR	dynamic pipe ramming
	DTSC	Department of Toxic Substances Control
	DWR	Department of Water Resources
	Dynegy	Dynegy Morro Bay, LLC
E	EAI	Epsilion Associates, Inc.
	EFH	Essential Fish Habitat
	EIR	Environmental Impact Report
F	FEMA	Federal Emergency Management Agency
	FESA	Federal Endangered Species Act
	FHWA	Federal Highway Administration
	FTA	Federal Transit Administration
G	GDP	gross domestic product
	GHG	Greenhouse Gas
	GWP	global warming potential
H	H_2S	hydrogen sulfide
	HF	High-Frequency
	HFC	hydrofluorocarbons
	Hz	hertz
I	IPCC	Intergovernmental Panel on Climate Change
	IS	Initial Study
K	kHz	kilohertz
L	LCP	Local Coastal Plan
	L_{dn}	day-night average sound level
	L_{eq}	average sound level over a specified period
	LF	Low-Frequency
	LOS	Level of Service
	LUP	Land Use Plan
M	m	meter
	MBPP	Morro Bay Power Plant
	MCVII	Manual of California Vegetation

	MF	Mid-Frequency
	MISP	Marine Invasive Species Program
	MLLW	mean low low water
	MM	Mitigation measure
	MMP	Mitigation Monitoring Program
	MMPA	Marine Mammal Protection Act
	MMT	Million metric tons
	$MMTCO_2e$	million metric tons of CO_2e
	MND	Mitigated Negative Declaration
	MPA	marine protected area
	MT	metric ton
	$MTCO_2e$	metric tons of carbon dioxide equivalent
	MWCP	Marine Wildlife Contingency Plan
	MWM	marine wildlife monitor
N	N_2O	nitrous oxide
	NAHC	Native American Heritage Commission
	NAS	Non-Native Aquatic Species
	NEP	National Estuary Program
	NF_3	Nitrogen trifluoride
	nm	nautical mile
	NMFS	National Marine Fisheries Service
	NMS	National Marine Sanctuary
	NO	nitric oxide
	NOAA	National Oceanic and Atmospheric Administration
	NO_2	nitrogen dioxide
	NO_x	nitrogen oxides
	NPDES	National Pollutant Discharge Elimination System
O	O_3	ozone
	OEHHA	Office of Environmental Health Hazard Assessment
	OGPP	Offshore Geophysical Permit Program
	OSHA	Occupational Safety and Health Administration
	OSPR	Office of Spill Prevention and Response
P	Padre	Padre Associates, Inc.
	PEP	Project Execution Plan
	PFC	perfluorocarbons
	PG&E	Pacific Gas and Electric Company
	PM	particulate matter
	PM_{10}	particulate matter less than 10 micrometers
	$PM_{2.5}$	particulate matter less than 2.5 micrometers

	ppm	parts per million
	PPV	peak particle velocity
	psi	pounds per square inch
	PTO	Permit to Operate
	PTS	permanent hearing threshold shifts
R	RCNM	Roadway Construction Noise Model
	RCRA	Resource Conservation and Recovery Act
	ROC	reactive organic compound
	ROG	reactive organic gases
	rms	root mean square
	RV	Recreational Vehicle
	RWQCB	Regional Water Quality Control Board
S	SAP	Strategic Action Plan
	SCCAB	South Central Coast Air Basin
	SCUBA	self-contained underwater breathing apparatus
	SEL	sound exposure level
	SF_6	Sulfur hexafluoride
	SLOEHS	County of San Luis Obispo Environmental Health Services
	SMCA	State Marine Conservation Area
	SMR	State Marine Reserve
	SMRMA	State Marine Recreational Management Area
	SPL	sound pressure level
	SO_2	sulfur dioxide
T	TAC	toxic air contaminant
	TTS	temporary hearing threshold shifts
U	U.S.	United States
	USCG	U.S. Coast Guard
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service
	USGS	U.S. Geological Survey
V	vdB	vibration decibels
	VR	Visual Resources

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EXECUTIVE SUMMARY

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California State Lands Commission (CSLC), as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), to analyze and disclose the environmental effects associated with the proposed Morro Bay Power Plant (MBPP) Marine Terminal Decommissioning Project (Project). The Project would authorize Dynegy Morro Bay, LLC (Dynegy or Applicant) to decommission the pipelines and associated features of the MBPP Marine Terminal. Use of the State tidelands for the marine terminal's offshore tanker berth component is currently authorized under the existing CSLC Lease PRC 1390.1, hereinafter referred to as the "State Lease."

The CSLC prepared an MND because it determined that, while the IS identified potentially significant impacts related to the Project, measures have been incorporated into the Project proposal and agreed to by Dynegy that avoid or mitigate those impacts to a point where no significant impacts would occur.

PROPOSED PROJECT

The remaining MBPP marine terminal facilities span five distinct segments (Figure ES-1), within which are located the 24-inch-diameter pipeline (24-inch line) and 16-inch-diameter pipeline (16-inch line) and other infrastructure components that Dynegy proposes to decommission or abandon in place in part or in whole. Table ES-1 provides a description of each of the five segments and the proposed construction activities regarding both the 24-inch and the 16-inch lines within each of the five segments.

Table ES-1. Decommissioning Project Work Segments

Segment	Description	Proposed Disposition
MBPP Facility	The MBPP Facility Segment consists of the Project area located inside the MBPP facility on the east side of the chain link fence bordering the west-southwest side of the MBPP facility where the Project's 16-inch and 24-inch lines originate. This is a semi-active work area with various infrastructure components built on or below the sand base. This segment also includes an anode bed, two anode wells, and a maintenance shed as part of the cathodic protection system that was used to protect the pipelines.	Dynegy proposes to fill the MBPP Facility Segment of the two pipelines with Class G oilfield cement or equivalent. The cement slurry plug will be installed from the pipeline's vertical riser to a point approximately 50 feet northwest of the toe of the sand dunes (under the beach). Dynegy also proposes to remove the cathodic protection support shed and equipment, excavate and remove components of the 2011 anode bed in their entirety, and excavate and remove the two 2015 anode wells.

Table ES-1. Decommissioning Project Work Segments

Segment	Description	Proposed Disposition
Sand Dune	The two pipelines travel underneath the Sand Dune Segment for approximately 1,130 feet (16-inch line) and 1,180 feet (24-inch line). They are buried from 2.5 feet to up to 18 feet below the sand. In addition, two decommissioned buried anode beds are located near the western edge of this segment. This segment is an environmentally sensitive area and a City of Morro Bay restoration site.	Dynegy proposes to abandon the two pipelines in place through the Sand Dune Segment. This segment will be filled with Class G oilfield cement or equivalent to a pre-determined point approximately 50 feet west of the toe of the Sand Dunes Segment (interface of Sand Dunes Segment and Beach Segment) prior to abandonment. Dynegy also proposes to abandon in place the two anode wells located in the Sand Dune Segment and their single conductor electrical cable that traverses the sand dunes.
Beach	The two pipelines travel underneath the Beach Segment, and the mouth of Morro Creek. The Beach Segment is an active recreational area and is approximately 810 feet in width from the toe of the sand dune to the point where the pipelines cross the approximate low tide line in the intertidal zone.	Dynegy proposes to remove the two pipelines in their entirety through the Beach Segment. Removal will start at the toe of the Sand Dune Segment (where the Sand Dune Segment intersects the Beach Segment) where the pipelines will be excavated, exposed and cut.
Surf Zone	The two pipelines pass underneath the Surf Zone Segment from the low tide line to approximately 17-foot water depth (the approximate seaward boundary of the surf zone), a distance of about 1,300 feet (16-inch line) and 1,240 feet (24-inch line).	Dynegy proposes to attempt the removal of this Surf Zone Segment of the two pipelines using dynamic pipe ramming (DPR). DPR uses a pneumatically powered ram to drive or pull pipes through soil.
Offshore	The two pipelines continue offshore, on a heading of about 303 degrees true north, approximately 2,400 feet (16-inch line) and 2,500 feet (24-inch line) from the seaward side of the Surf Zone Segment to the offshore marine terminal tanker berth in approximately 54 feet water depth. MBPP marine terminal facilities located in the Offshore Segment, in addition to the two submarine pipelines, consist of helical screw anchors that anchor the pipelines to the seafloor, possibly small concrete clump anchors left over from marker buoy placements, and possibly miscellaneous debris located on the seafloor.	Dynegy proposes to excavate, expose, and remove the two offshore pipeline segments in their entirety. Removal would start at the offshore termination and work shoreward removing all pipe up to the starting point of the Surf Zone Segment. The offshore removal would take place prior to the Surf Zone Segment removal.

FIGURE ES-1
MARINE TERMINAL FACILITY ENVIRONMENTS SCHEMATIC (SEGMENTS)

ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

The environmental factors checked below (Table ES-2) would be potentially affected by this Project; a checked box indicates that at least one impact would be a "Potentially Significant Impact" except that Dynegy has agreed to Project revisions, including the implementation of mitigation measures (MMs), that reduce the impact to "Less than Significant with Mitigation," as detailed in Section 3 of this MND. Table ES-3 lists proposed MMs designed to reduce or avoid potentially significant impacts. With implementation of the proposed MMs, all Project-related impacts would be reduced to less than significant.

Table ES-2. Environmental Issues and Potentially Significant Impacts

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

Table ES-3. Summary of Mitigation Measures

Aesthetics
MM AES-1: Lighting Plan (Offshore)
Air Quality
MM AQ-1: Standard Mitigation Measures for Construction Equipment
MM AQ-2: Best Available Control Technology for Construction Equipment
MM AQ-3: Fugitive PM10 Mitigation Measures
MM AQ-4: Emission Offsets
MM AQ-5: Idling Control Techniques
Biological Resources
MM BIO-1: Environmental Awareness Training
MM BIO-2: Biological Surveying and Monitoring
MM BIO-3: Delineation of Work Limits
MM BIO-4: Morro Creek
MM BIO-5: Nesting Birds
MM BIO-6: Site Restoration Plan
MM BIO-7: Grunion Surveys and Avoidance
MM BIO-8: Pre- and Post-Decommissioning Seafloor Debris Survey and Debris Removal

Table ES-3. Summary of Mitigation Measures

MM BIO-9: Marine Wildlife Contingency Plan (MWCP)
MM BIO-10: Dynamic Pipe Ramming Soft-Start and Ramp-Up Procedure
MM BIO-11: Dynamic Pipe Ramming Sound Source Characterization
MM BIO-12: Marine Wildlife Monitoring During Sound Source Characterization and Dynamic Pipe Ramming
MM BIO-13: Dive Surveys
MM BIO-14: Prevent Introduction of Non-Native Aquatic Species (NAS)
Cultural Resources
MM CUL-1: Cultural Resource Monitoring Plan
MM CUL-2: Discovery of Previously Unknown Cultural Resources
MM CUL-3: Unanticipated Discovery of Human Remains
Cultural Resources - Tribal
MM TCR-1: Tribal Cultural Resource Monitoring
MM TCR-2: Tribal Resources Treatment Plan
Hazards and Hazardous Materials
MM HAZ-1: Contaminated Materials Management Plan
MM HAZ 2: Hydrocarbon Contaminated Soil
MM HAZ-3: Oil Spill Response Plan
MM HAZ-4: Hazardous Materials Management and Contingency Plan
MM HAZ 5: Asbestos Work Plan
Hydrology and Water Quality
MM HWQ-1: Stream Diversion Plan
Noise
MM N-1: Scheduling
MM N-2: Advanced Notification
Transportation/Traffic
MM T-1: Scheduling
MM T-2: On-site Roads
MM T-3: Traffic Safety Plan
MM T-4: Warning Signs
MM T-5: Alternative Vehicle and Pedestrian Access
MM T-6: Prohibit Construction During Holidays
MM T-7: Established Circulation Patterns
MM T-8: Publication of U.S. Coast Guard (USCG) Local Notice to Mariners

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1.0 PROJECT AND AGENCY INFORMATION

1.1 PROJECT TITLE

Dynegy Morro Bay, LLC (Dynegy) Morro Bay Power Plant (MBPP) Marine Terminal Decommissioning Project (Project)

1.2 LEAD AGENCY AND PROJECT SPONSOR

Lead Agency	**Contact Person**
California State Lands Commission 100 Howe Avenue, Suite 100-South Sacramento, CA 95825	Jason Ramos, Senior Environmental Scientist Environmental Planning and Management Division Jason.Ramos@slc.ca.gov (916) 574-1814
Applicant	**Contact Person**
Dynegy Morro Bay LLC Morro Bay Power Plant 1290 Embarcadero Road Morro Bay, CA 93442	Ninah Rhodes Hartley, Environmental Compliance Specialist Ninah.R.Hartley@dynegy.com (805) 771-9143

1.3 PROJECT LOCATION

The Project is located directly north of Morro Bay Harbor in Estero Bay, San Luis Obispo County (Figure 1-1). The offshore tanker berth portion of the former marine terminal is located on ungranted sovereign land within California State Lands Commission (CSLC) Lease PRC 1390, approximately 0.25 to 1 mile offshore of the Morro Creek mouth. The offshore lease area also lies within the area encompassed by the Morro Bay North, California U.S. Geological Survey (USGS) 7.5-minute quadrangle map. The surf-zone area landward of and adjacent to the State lease area is on land granted to the County of San Luis Obispo pursuant to Chapter 1076, Statutes of 1947 and as amended, minerals reserved, and subsequently transferred to the City of Morro Bay.

Onshore Project components are located just south of Morro Creek within the City of Morro Bay. Prominent natural features in the Project vicinity include Morro Creek to the north and Morro Rock Natural Preserve, Morro Bay Harbor, and the Morro Bay National Estuary to the south.

1.4 ORGANIZATION OF MITIGATED NEGATIVE DECLARATION

This Mitigated Negative Declaration (MND) is intended to provide the CSLC, as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and other responsible agencies with the information required to exercise their discretionary responsibilities with respect to the proposed Project. The MND is organized as follows.

BASEMAP SOURCE: GOOGLE EARTH PRO; IMAGE DATE:8-23-2013

PRC 1390.1
DYNEGY MORRO BAY LLC
INDUSTRIAL USE
ESTERO BAY
SAN LUIS OBISPO COUNTY

0 1,000 2,000
SCALE IN FEET

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of ant State interest in the subject or any other property.

DYNEGY MORRO BAY, LLC.
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FIGURE 1-1
STATE SOVEREIGN LAND

Z:\Current Projects\1502-2741 Dynegy Morro Bay Marine Terminal\Graphics\DYNERGY MORRO BAY MARINE TERMINAL topo.dwg, 12/9/2016 4:11:43 PM

- **Section 1** provides the Project background and Project location, agency and Applicant information, Project objectives and anticipated agency approvals, and a summary of the public review and comment process.
- **Section 2** describes the proposed Project including its layout, equipment, and facilities and provides an overview of the Project's operations and schedule.
- **Section 3** provides the Initial Study (IS), including the environmental setting, identification and analysis of potential impacts, and discussion of Project changes and other measures that, if incorporated into the Project, would mitigate or avoid those impacts, such that no significant effect on the environment would occur. The CSLC prepared this IS pursuant to State CEQA Guidelines section 15063.[1]
- **Section 4** presents the Mitigation Monitoring Program (MMP).
- **Section 5** discusses other Commission considerations relevant to the Project, such as climate change and sea-level rise, commercial fishing, and environmental justice, that are in addition to the environmental review required pursuant to CEQA.
- **Section 6** presents information on report preparation and references.
- **Appendices.** The appendices include specifications, technical data, and other information supporting the analysis presented in this MND:
  - Appendix A: Abridged List of Major Federal and State Laws, Regulations, and Policies Potentially Applicable to the Project
  - Appendix B: Project Execution Plan
  - Appendix C: Marine Safety and Anchoring Plan
  - Appendix D: Air Quality and Greenhouse Gas Calculations
  - Appendix E: Offshore Special-Status Species Descriptions
  - Appendix F: Biological Resources Survey Report
  - Appendix G: Essential Fish Habitat Assessment
  - Appendix H: Stream Diversion Plan
  - Appendix I: Preliminary Marine Wildlife Contingency Plan
  - Appendix J: Preliminary Site Restoration Plan
  - Appendix K: Contaminated Materials Management Plan
  - Appendix L: Oil Spill Response Plan

1.5 PROJECT BACKGROUND AND OBJECTIVES

The marine terminal was used to offload tanker ships supplying fuel oil to the MBPP for its power generation operations. MBPP was a dual-fuel generating facility, capable of operating on fuel oil delivered by tanker or natural gas delivered via a terrestrial pipeline. Originally constructed by Pacific Gas and Electric Company (PG&E), and placed in operation in 1954, the marine terminal last operated in November 1990, when it received

[1] The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

its last shipment of fuel oil. The CSLC and U.S. Coast Guard (USCG) changed the operational status of the marine terminal's fuel oil pipelines to "caretaker" status in May 1997 and August 1997, respectively. From 1997 until its closure in 2014, the MBPP generated electrical power from natural gas.

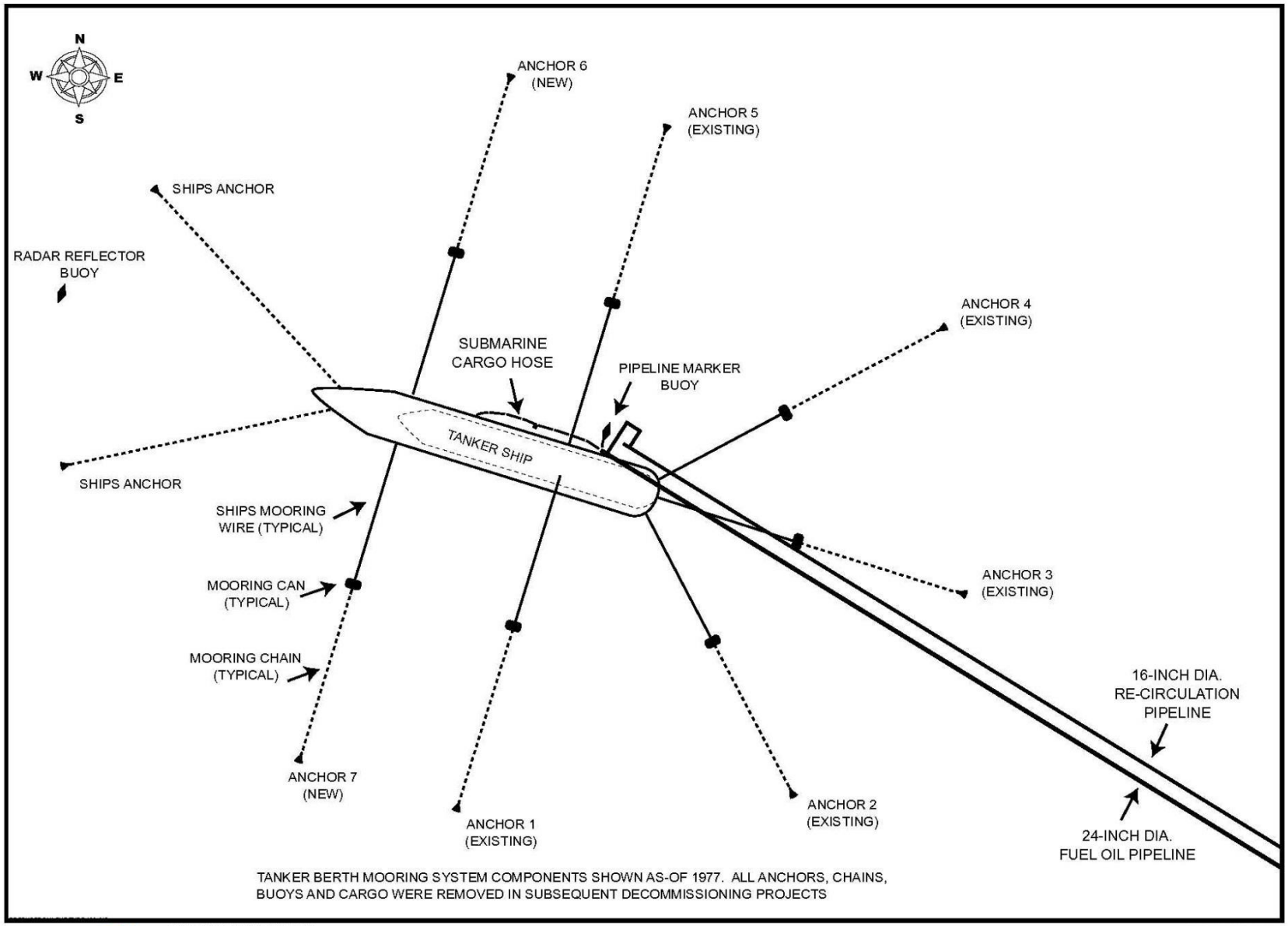
The original MBPP facilities consisted of the power plant facility, onshore fuel oil tankage, and a marine terminal. The marine terminal consisted of a five-point offshore tanker berth mooring and a 24-inch-diameter submarine pipeline (24-inch line) that was used to transfer the fuel oil from tanker ships to the onshore tankage. During operation, submarine cargo hoses were used to connect the fuel oil tankers to the 24-inch line. The cargo hoses were removed in their entirety in 1994. In 1977, a 16-inch-diameter oil re-circulation submarine pipeline (16-inch line) was added to the MBPP facility. During this period, the offshore tanker berth was also modified from a five-point mooring system to a seven-point system to accommodate 50,000 deadweight ton tanker ships (Figure 1-2).

The two pipelines originate just inside the western boundary of the MBPP, extending from this origination point in a northwesterly direction on a bearing of approximately 303 degrees true north, and offset from each other by approximately 50 feet. Both pipelines terminate in approximately 54 feet of water, approximately 3,700 to 3,740 feet offshore of the shoreline. The 24-inch and 16-inch lines measure approximately 5,740 feet and 5,700 feet overall, respectively.

The offshore terminus of the 16-inch line was connected to the offshore terminus of the 24-inch line through a series of pipe spools and cargo hoses. The purpose of the 16-inch line was to enable the power plant to circulate hot oil through the length of the 24-inch line to heat up the pipe in preparation for receiving fuel oil with a pour point that ranged from 70 to 130 degrees Fahrenheit.

During the 1977 upgrade of the marine terminal facilities, helical screw type anchors were installed to anchor the two pipelines to the seafloor. According to as-built drawings, approximately 37 pairs of anchors were installed on the 16-inch line from its offshore terminus to the offshore surf zone interface, with spacing of 40 to 80 feet between anchor pairs. As-built records also indicate that a single pair of anchors was installed near the terminus of the 24-inch line.

All the mooring system components, except for a pipeline marker (spar) buoy and subsea marker buoy concrete clump anchor, were removed in their entirety in 1994. During an annual pipeline and buoy inspection conducted on July 20, 2011, Dynegy noticed the spar buoy was missing. The buoy was not replaced.



DYNEGY

DYNEGY MORRO BAY, LLC.
MORRO BAY POWER PLANT
MARINE TERMINAL DECOMMISSIONING PROJECT

FIGURE 1-2
OFFSHORE TANKER BERTH CONFIGURATION POST-1977

The two pipelines are protected by an impressed current cathodic protection (CP) system, installed in 1977 to provide the pipelines with corrosion protection, which is comprised of sacrificial anode beds buried near the onshore segments of the pipelines. The original CP system from 1997 consisted of electrical equipment located in a support shed at the onshore origination point of the two pipelines inside the MBPP facility. An electrical cable extended from the shed approximately 1,150 feet, within a 20-foot-wide easement to the west where it terminated at three buried anodes (an anode bed) within the Sand Dune Segment. The original anode bed from 1997 was abandoned in place and replaced in 2008 with a new anode bed nearby (to the east) in the sand dunes. Due to poor performance, this second anode bed (2008) was abandoned in place, and replaced with a new shallow anode bed which was installed inside the MBPP fence in 2011. This shallow anode bed was replaced in 2015 with two deep anode wells inside the MBPP facility (see Appendix B, Project Execution Plan).

In Fall 2007, Dynegy pigged and flushed the two pipelines as a non-Project maintenance activity, thus removing residual hydrocarbons and corrosion inhibiting solution from the pipelines and ensuring that hydrocarbon levels inside the two pipelines will be below 15 ppm when opened. During this activity approximately 5 to 10 gallons of residual oil were released, which was immediately cleaned up by onsite construction personnel. All required agencies were notified of the oil release. Although not originally planned for the pigging and flushing operations, the submarine jumper hoses and pipe manifold assembly were disassembled due to the observation that they were at significant risk of failure. The hoses were removed from the pipe end location and transported onshore for proper disposal.

The Applicant is seeking authorization from the CSLC to remove the offshore marine terminal components and terminate the lease upon successful Project completion. CSLC Lease No. PRC 1390 requires the Applicant to apply to the CSLC for either (a) decommissioning/removal of the existing offshore improvements or (b) a formal proposal for re-use of the existing improvements. To comply with the PRC 1390 lease terms, the Applicant has identified the following Project objectives:

- Remove remaining marine terminal structures and facilities where feasible and restore to pre-Project conditions
- Abandon remaining marine terminal structures and facilities where removal is not feasible or avoids significant environmental impacts
- Implement decommission activities as proposed in the Project Execution Plan (Appendix B)
- Terminate CSLC Lease No. PRC 1390

1.6 PUBLIC REVIEW AND COMMENT

Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must issue a proposed MND for a minimum 30-day public review period. Agencies and the public will have the opportunity to review and comment on the document. Responses to written comments received by the CSLC during the 30-day public review period will be incorporated into the MND. In accordance with State CEQA Guidelines section 15074, subdivision (b), the CSLC will review and consider the MND, together with any comments received during the public review process, prior to taking action on the MND and Project.

1.7 APPROVALS AND REGULATORY REQUIREMENTS

All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust. The State acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion. The CSLC's authority is set forth in Division 6 of the Public Resources Code and California Code of Regulations, title 2, sections 1900–2970. The CSLC has authority to issue leases or permits for the use of sovereign land held in the Public Trust, including all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, as well as certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301, 6306). The CSLC must comply with CEQA when it undertakes an activity defined by CEQA as a "project" that must receive discretionary approval (i.e., the CSLC has the authority to approve or deny the requested lease, permit, or other approval) which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment. CEQA requires the CSLC to identify the significant environmental impacts of its actions and to avoid or mitigate those impacts, if feasible. For this Project, the CSLC received an application to amend an existing lease.

Local, state, and federal entities with statutory or regulatory jurisdiction over various aspects of the Project are shown in Table 1-1.

Table 1-1. Anticipated Approvals/Regulatory Requirements

Agency		Permit/Authorization
Local	City of Morro Bay (Planning Division, Recreation Services)	Coastal Development Permit (within Local Coastal Program jurisdiction); Public Area Use Permit
	San Luis Obispo County Air Pollution Control District	Permit to Operate/Authority to Construct (PTO/ATC); Portable Engine Permits
	San Luis Obispo County Public Health Department	Permit for Closure of Anode Wells; Hazardous Materials Business Plan
State	California State Lands Commission	Marine Terminal Lease Termination
	California Coastal Commission	Coastal Development Permit (offshore)
	Central Coast Regional Water Quality Control Board	Clean Water Act (CWA) Section 401 Water Quality Certification
	State Historic Preservation Office	Section 106 Compliance
	California Department of Fish and Wildlife	Section 1602 Lake or Streambed Alteration Agreement
Federal	U.S. Army Corps of Engineers	CWA Section 404 and Section 10 Permit (under Nationwide Permit No. 12)
	U.S. Fish and Wildlife Service	Federal Endangered Species Act (FESA) Section 7 consultation, if required
	National Marine Fisheries Service	FESA Section 7 consultation, if required; consultation on marine mammal/sea turtle protection
	U.S. Coast Guard	Notice to Mariners

2.1 PROJECT WORK AREAS

The Morro Bay Power Plant (MBPP) marine terminal facility components consist of an offshore tanker berth, two pipelines (one 16-inch-diameter [16-inch line] and one 24-inch-diameter [24-inch line]) that originate at the MBPP and extend approximately 2,500 feet offshore, and cathodic protection (CP) system components. The pipelines span five segments characterized by their physical and environmental conditions (see Table 2-1 and Figure 2-1). Table 2-2 summarizes the pipeline lengths and burial depths by segment.

Proposed final disposition of the various marine terminal facilities, identified in Table 2-1, depends on the environment (segment) where they are located, and the methodologies, staffing, and equipment needed to complete decommissioning work within each segment. For planning purposes, all Project decommissioning activities are based on their locations in one of these five segments

Table 2-1. Decommissioning Project Work Segments

Segment	Description	Proposed Disposition
MBPP Facility	The MBPP Facility Segment consists of the Project area located inside the MBPP facility on the east side of the chain link fence bordering the west-southwest side of the MBPP facility where the Project's 16-inch and 24-inch lines originate. This is a semi-active work area with various infrastructure components built on or below the sand base. This segment also includes an anode bed, two anode wells, and a maintenance shed as part of the cathodic protection system that was used to protect the pipelines.	Dynegy proposes to fill the MBPP Facility Segment of the two pipelines with Class G oilfield cement or equivalent. The cement slurry plug will be installed from the pipeline's vertical riser to a point approximately 50 feet northwest of the toe of the sand dunes (under the beach). Dynegy also proposes to remove the cathodic protection support shed and equipment, excavate and remove components of the 2011 anode bed in their entirety, and excavate and remove the two 2015 anode wells.
Sand Dune	The two pipelines travel underneath the Sand Dune Segment for approximately 1,130 feet (16-inch line) and 1,180 feet (24-inch line). They are buried from 2.5 feet to up to 18 feet below the sand. In addition, two decommissioned buried anode beds are located near the western edge of this segment. This segment is an environmentally sensitive area and a City of Morro Bay restoration site.	Dynegy proposes to abandon the two pipelines in place through the Sand Dune Segment. This segment will be filled with Class G oilfield cement or equivalent to a pre-determined point approximately 50 feet west of the toe of the Sand Dunes Segment (interface of Sand Dunes Segment and Beach Segment) prior to abandonment. Dynegy also proposes to abandon in place the two anode wells located in the Sand Dune Segment and their single conductor electrical cable that traverses the sand dunes.

Table 2-1. Decommissioning Project Work Segments

Segment	Description	Proposed Disposition
Beach	The two pipelines travel underneath the Beach Segment, and the mouth of Morro Creek. The Beach Segment is an active recreational area and is approximately 810 feet in width from the toe of the sand dune to the point where the pipelines cross the approximate low tide line in the intertidal zone.	Dynegy proposes to remove the two pipelines in their entirety through the Beach Segment. Removal will start at the toe of the Sand Dune Segment (where the Sand Dune Segment intersects the Beach Segment) where the pipelines will be excavated, exposed and cut.
Surf Zone	The two pipelines pass underneath the Surf Zone Segment from the low tide line to approximately 17-foot water depth (the approximate seaward boundary of the surf zone), a distance of about 1,300 feet (16-inch line) and 1,240 feet (24-inch line).	Dynegy proposes to attempt the removal of this Surf Zone Segment of the two pipelines using dynamic pipe ramming (DPR). DPR uses a pneumatically powered ram to drive or pull pipes through soil.
Offshore	The two pipelines continue offshore, on a heading of about 303 degrees true north, approximately 2,400 feet (16-inch line) and 2,500 feet (24-inch line) from the seaward side of the Surf Zone Segment to the offshore marine terminal tanker berth in approximately 54 feet water depth. MBPP marine terminal facilities located in the Offshore Segment, in addition to the two submarine pipelines, consist of helical screw anchors that anchor the pipelines to the seafloor, possibly small concrete clump anchors left over from marker buoy placements, and possibly miscellaneous debris located on the seafloor.	Dynegy proposes to excavate, expose, and remove the two offshore pipeline segments in their entirety. Removal would start at the offshore termination and work shoreward removing all pipe up to the starting point of the Surf Zone Segment. The offshore removal would take place prior to the Surf Zone Segment removal.

Table 2-2. Summary of Pipeline Lengths and Burial Depths by Segment

	16-inch Line		24-inch Line	
Segment	**Length (feet)**	**Burial Depth (feet)**	**Length (feet)**	**Burial Depth (feet)**
MBPP Facility	60	5	10	7.5
Sand Dune	1,130	4.5 to 18	1,180	2.5 to 18
Beach	810	6 to 19	810	7 to 19
Surf Zone	1,300	9.5	1,240	6
Offshore	2,400	3 to 10	2,500	3 to 10
Total Length	5,700		5,740	

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FIGURE 2-1
MARINE TERMINAL FACILITY ENVIRONMENTS SCHEMATIC (SEGMENTS)

2.2 ENVIRONMENTAL SETTING

The offshore work environment in Estero Bay is subject to wind and swells generally emanating from the northwest, west, and sometimes south. Offshore conditions are generally brisk year-round with occasional flat conditions in the summer/fall. Late fall and winter seas at the offshore site are historically heavy and can be extreme, particularly within the surf zone environment, which is highly dynamic and generally inaccessible to underwater construction crews and equipment. Water depths at the offshore site range up to approximately 54 feet at the marine terminal terminus of the two pipelines. The work vessel for the offshore decommissioning operations would operate in water depths of up to approximately 75 feet. The seafloor inside Estero Bay is characterized as soft bottom (fine to medium grained sands) with scattered low to moderate relief rock outcroppings.

2.3 DESCRIPTION AND PROPOSED DISPOSITION OF STRUCTURES

2.3.1 Description of Structures to be Decommissioned

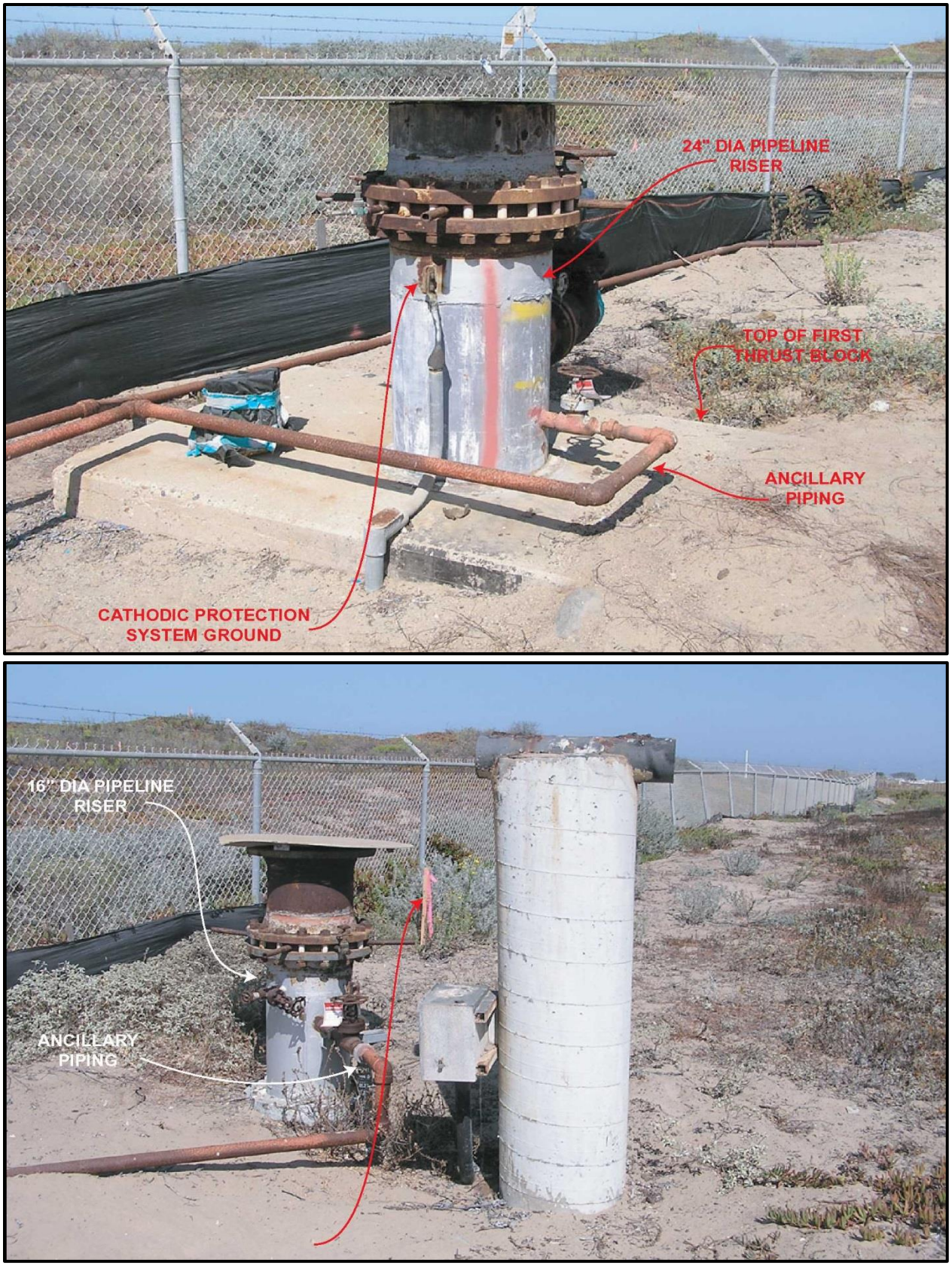
Both the 24-inch and 16-inch lines, described in Table 2-3, originate just inside the western boundary of the MBPP Facility where they consist of vertical risers with blind flanges located about 4 feet above the sand line (Figure 2-2). Two reinforced concrete thrust blocks anchor the 24-inch line onshore (Figure 2-3), while the 16-inch line passes through a 22-foot-long reinforced concrete thrust block buried about 6 to 8 feet below the sand dunes (Figure 2-4). The pipelines terminate offshore at the MBPP marine terminal.

Table 2-3. Pipeline Descriptions

The **24-inch line**, installed in 1955, consists of both terrestrial and submarine construction. • **Terrestrial-type**. The terrestrial-type pipe is approximately 1,400 feet long and lies beneath the Sand Dune and Beach Segments. This pipe consists of 0.375-inch wall, American Society for Testing and Materials (ASTM) A-53 Grade A, steel pipe externally coated with a 0.75-inch thick coating of somastic. Laboratory analysis indicated that the somastic coating contains about 1 percent non-friable amosite asbestos. • **Submarine-type**. The submarine-type pipe is approximately 4,340 feet long and lies below part of the Beach Segment extending through the Surf Zone and Offshore Segments to its terminus. This pipe consists of a 0.50-inch wall, ASTM A-53 Grade A, welded steel pipe externally coated with a 0.75-inch thick coating of somastic and a 1.25-inch coating of gunite weight coating with 2-inch by 4-inch, 13-gauge crimped wire mesh embedded in the gunite. The gunite weight coating is asbestos free. *
The **16-inch line** was installed in 1977 in the same right-of-way as the 24-inch line, parallel to and offset approximately 50 feet to the north. The pipeline is constructed entirely of 0.375-inch wall, American Petroleum Institute 5LX, Grade X42, welded steel pipe, and externally coated with thin film epoxy. Approximately 3,700 feet of the 16-inch line extending from the Beach Segment to the offshore terminus has 2 inches of concrete weight coating with a density of approximately 140 pounds per cubic foot. The laboratory analysis indicated that the weight coating of the 16-inch line does not contain asbestos. *

* Based on samples of the external coatings of the 24- and 16-inch lines collected in September 2004. Neither pipeline has an internal coating.

Figure 2-2. Onshore Originations of 24-Inch and 16-inch Lines



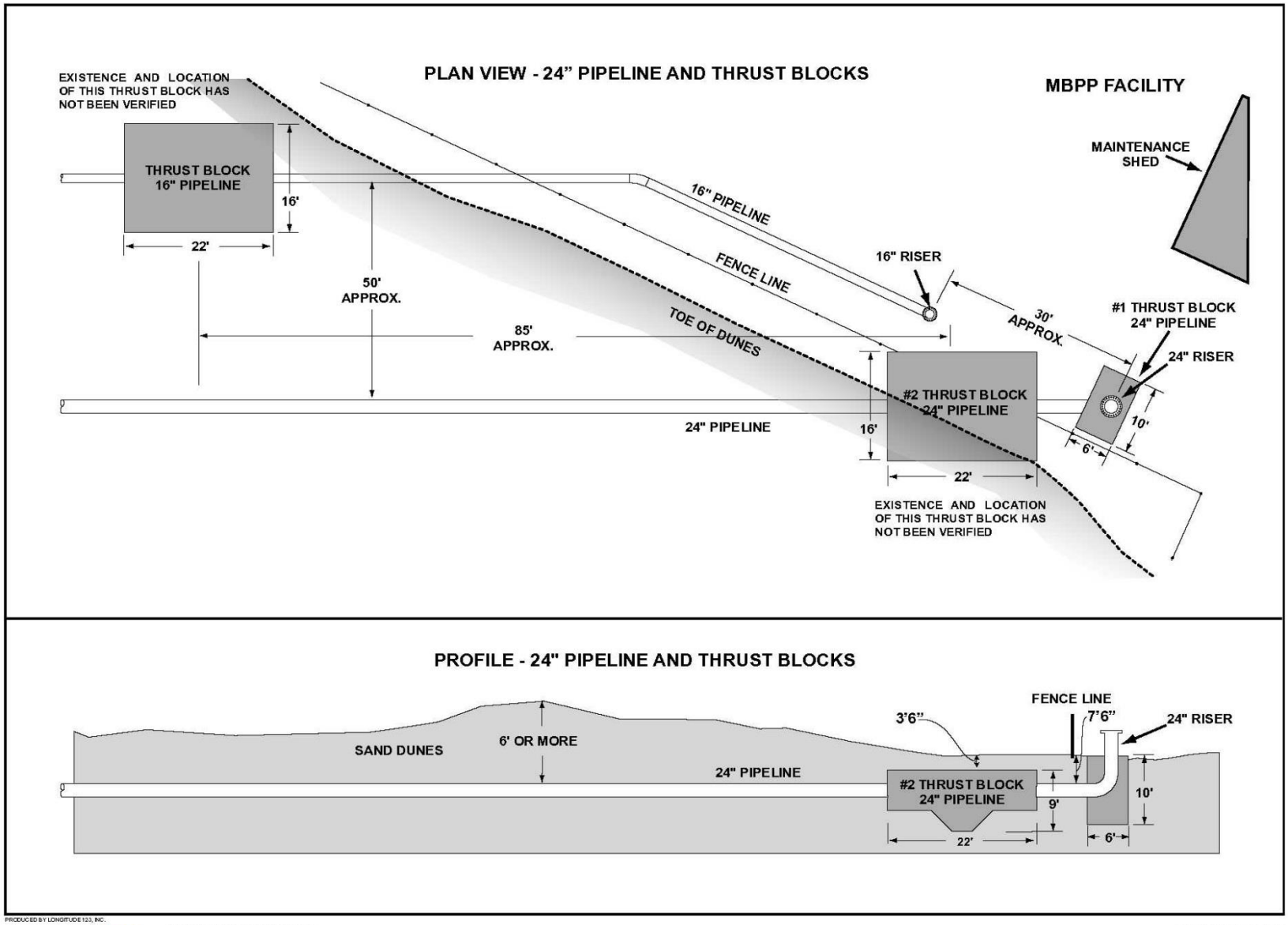


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FIGURE 2-3
24-INCH PIPELINE THRUST BLOCK SCHEMATIC

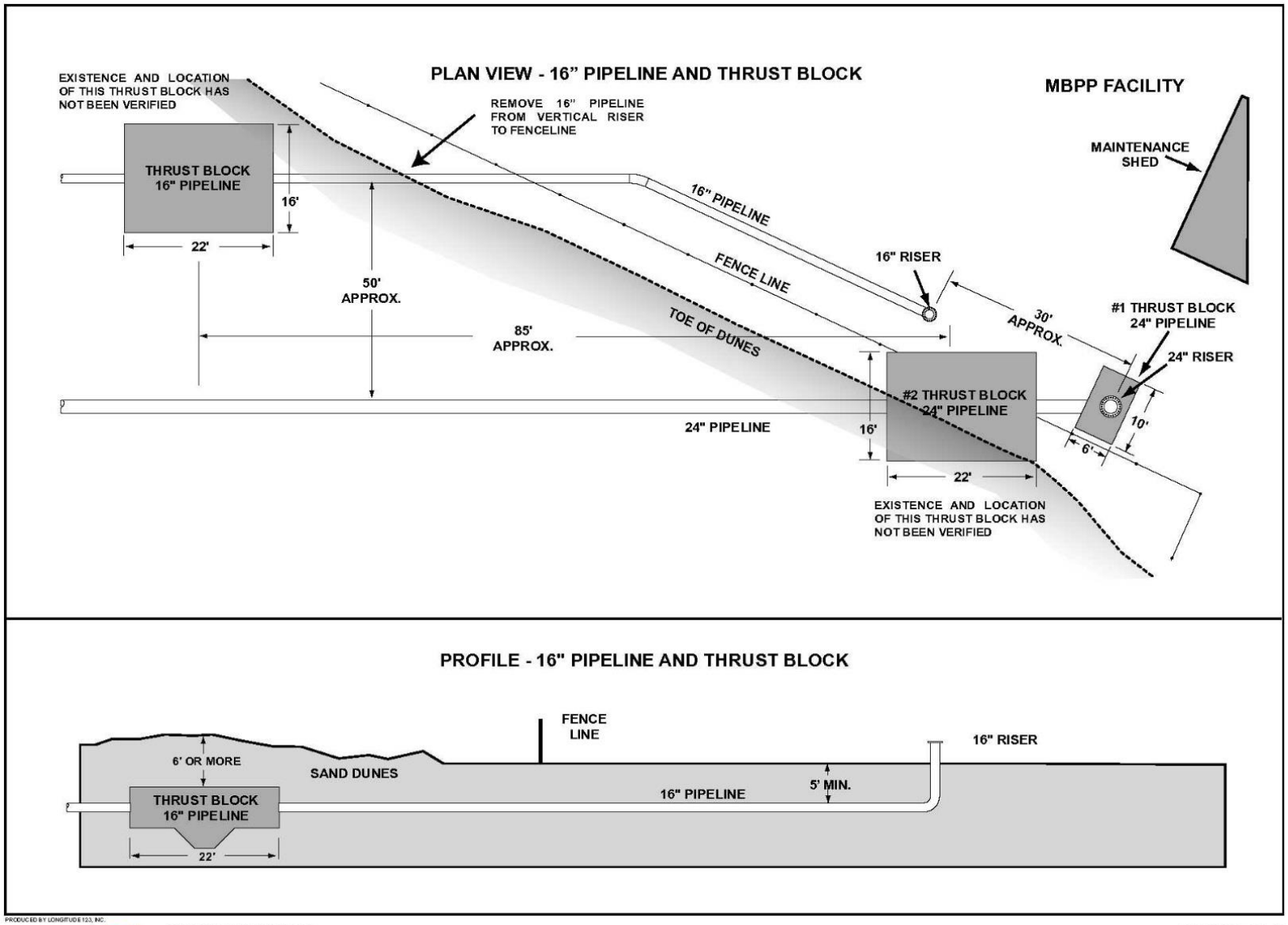

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FIGURE 2-4
16-INCH PIPELINE THRUST BLOCK SCHEMATIC

The two pipelines are thought to be all that remains of the MBPP marine terminal's offshore tanker berth. One or two abandoned anchor clumps (1 cubic yard) and some seafloor debris associated with tanker berth operations may also be present. Seafloor surveys at the underwater site conducted in 2004 and 2015 identified some anomalies (targets). In 2005, divers investigated the targets identified in the 2004 side scan sonar and magnetometer survey but found no debris or material. Rock and cobble were identified, which was likely the anomalies identified in the 2004 survey.

2.3.1.1 MBPP Facility Segment

As noted above, the two pipelines originate as vertical risers and blind flanges inside the western boundary of the MBPP Facility (Figure 2-2). Ancillary piping is present and taps into the side of the 24-inch line riser to connect the 24-inch line with the 16-inch line to facilitate monthly maintenance re-circulation operations between the two pipelines. From its origination point, the 16-inch line extends on a bearing of approximately 333 degrees true north for approximately 60 feet, turns about 30° to the west, and exits the MBPP facility underneath the fence line boundary on a heading of approximately 303 degrees. The total length of the 16-inch line inside the MBPP facility is approximately 60 feet and it is buried approximately 5 feet throughout the MBPP facility. The two thrust blocks that anchor the 24-inch line onshore (Figure 2-3) are described below.

- The first thrust block is located underground and below the beach valve flange located inside the MBPP Facility Segment, and encases a turn in the pipeline of approximately 90° between the vertical riser and the horizontal line. This thrust block measures 6 feet in width, 10 feet in length, and 10 feet in height, with a top elevation currently at the same elevation as the surrounding natural contours.
- The second thrust block was built in 1977 and encapsulates the horizontal pipeline approximately 11 feet to the west of the first thrust block. This thrust block measures approximately 16 feet in width, 22 feet in length and 9 feet in height, with a top elevation more than 3.5 feet below natural contours. The top of the pipeline is buried approximately 7.5 feet below natural contours. The site of this thrust block is located to the west of the MBPP boundary and inside the Sand Dune Segment.

Dynegy has maintained both pipeline's CP systems continually until present time. Ultrasonic thickness gauging of the pipe walls indicate that the two pipelines have retained their original wall thickness (see Appendix B). The two pipelines were last hydrostatically tested in 1990 to 250 pounds per square inch (psi) and are designed for an approximate burst pressure of 937 psi (24-inch line) and 1,406 psi (16-inch line). The original CP system from 1977 consisted of electrical equipment located in a support shed at the onshore origination point of the two pipelines inside the MBPP facility. An electrical cable extended from the shed approximately 1,150 feet, within a 20-foot-wide easement to the west where it terminated at three buried anodes (an anode bed) within the Sand Dune Segment. The original anode bed from 1977 was abandoned in place and replaced

in 2008 with a new anode bed nearby (to the east) in the sand dunes. Due to poor performance, this second anode bed (2008) was abandoned in place, and replaced with a new shallow anode bed which was installed inside the MBPP fence in 2011. This shallow anode bed was replaced in 2015 with two deep anode wells inside the MBPP facilities (see Appendix B, Project Execution Plan). The anode beds abandoned in 2008 and 2011 and the original 8-gauge, single conductor anode wire remain buried beneath the Sand Dune Segment and MBPP Facility Segment. There are no records of these structures or the pipelines being exposed in the MBPP Facility Segment.

2.3.1.2 Sand Dune Segment

After exiting the MBPP facility's western boundary, the two pipelines extend below the Sand Dune Segment on an approximate 303-degree heading for approximately 1,130 feet. Within this segment, the pipelines are buried between approximately 2.5 and 18 feet (24-inch line), and 4.5 and 18 feet (16-inch line) (see Appendix B). About 39 feet west of the MBPP fence line, the 16-inch line passes through a 22-foot long reinforced concrete thrust block buried approximately 6 to 8 feet below the sand dunes (Figure 2-4). The original 8-gauge, single conductor anode wire ends in the anode beds in the Sand Dune Segment. The anode beds abandoned in 2008 and the original 8-gauge, single conductor anode wire remain buried beneath the Sand Dune Segment. There are no records of these structures or the pipelines being exposed in the Sand Dune Segment.

2.3.1.3 Beach Segment

From the Sand Dune Segment, the two pipelines continue underground through the Beach Segment. Burial depths range from approximately 7 to 19 feet (24-inch line) and 6 to 19 feet (16-inch line). There are anecdotal reports that the pipelines have historically become exposed at the Morro Creek mouth during winter storms.

2.3.1.4 Surf Zone Segment

Through the Surf Zone Segment, recent surveys found the 24-inch and 16-inch lines are buried approximately 17 feet at the shoreline. These extreme as-found burial depths are indicative of their original installation method, using a trestle and cofferdam construction method to pre-excavate through the surf zone prior to laying the pipelines. Offshore of the surf zone in approximately 17 feet of water (the nearest point an underwater survey crew could safely work into the surf zone from the seaward side) the 24-inch and 16-inch lines are buried about 6 and 9.5 feet, respectively. There is no history of either pipeline becoming exposed through the Surf Zone Segment.

2.3.1.5 Offshore Segment

On average, the pipelines are buried 3 to 10 feet throughout the Offshore Segment, except for the offshore termination point just beyond the closure depth (the approximate

depth or bathymetric contour beyond which the seafloor is perpetually stable). The seafloor depth for the Offshore Segment ranges from approximately 17 feet beyond the surf zone, to 54 feet near the termination point of the pipelines. Inshore of the closure depth (between the closure depth and the shoreline), the seafloor elevation changes with seasonal sand migration. The offshore pipeline endpoints are located approximately 40 feet offshore (west) of the closure depth. The pipelines are buried approximately 3 feet at their entry into the closure depth sediment wall (Figure 2-5).

Prior to Project construction, pipe termination will consist of a 24-inch-diameter and 16-inch-diameter flanged pipeline end with a blind flange attached. The contents of the two pipelines at the start of construction will consist of seawater with a total petroleum hydrocarbon level of less than 15 parts per million (ppm).

A single helical screw anchor system anchors the offshore termination of the 24-inch line to the seafloor. The Offshore Segment of the 16-inch line is anchored to the seafloor with helical screw anchors at 37 locations, spaced 40 to 80 feet apart. Each helical anchor system consists of two helical screw anchors and a single pipe saddle. During a 2005 diver verification survey, the bottom tips of these helical screws were found buried to a depth of 8 feet below the seafloor (Figure 2-6). As noted above, only the two pipelines, one or two abandoned anchor clumps, and potentially seafloor debris associated with the tanker berth operations remain at the MBPP marine terminal's offshore tanker berth.

2.3.2 Proposed Final Disposition for Decommissioned Structures

This section describes the final disposition of the marine terminal facilities by each segment. Table 2-4 provides a summary of the proposed final disposition of the pipelines and other marine terminal components.

Table 2-4. Proposed Disposition of Marine Terminal Components by Segment

Segment	16-inch Line and 24-inch Line	Cathodic Protection System and Tanker Berth Components
MBPP Facility	Excavate, cut, and remove	Remove cathodic protection support shed and equipment (anode bed and wells)
Sand Dune	Fill with cement and abandon in-place	Abandon the two anode beds in-place
Beach	Excavate, cut, and remove	N/A
Surf Zone	Remove by DPR*	N/A
Offshore	Excavate, cut, and remove	Remove abandoned anchor clumps and associated seafloor debris

* If dynamic pipe ramming (DPR) is unsuccessful in pipeline removal, alternative techniques (e.g., surf sled-based removal, trestle-based removal, and an "abandon in-place option") may be implemented.

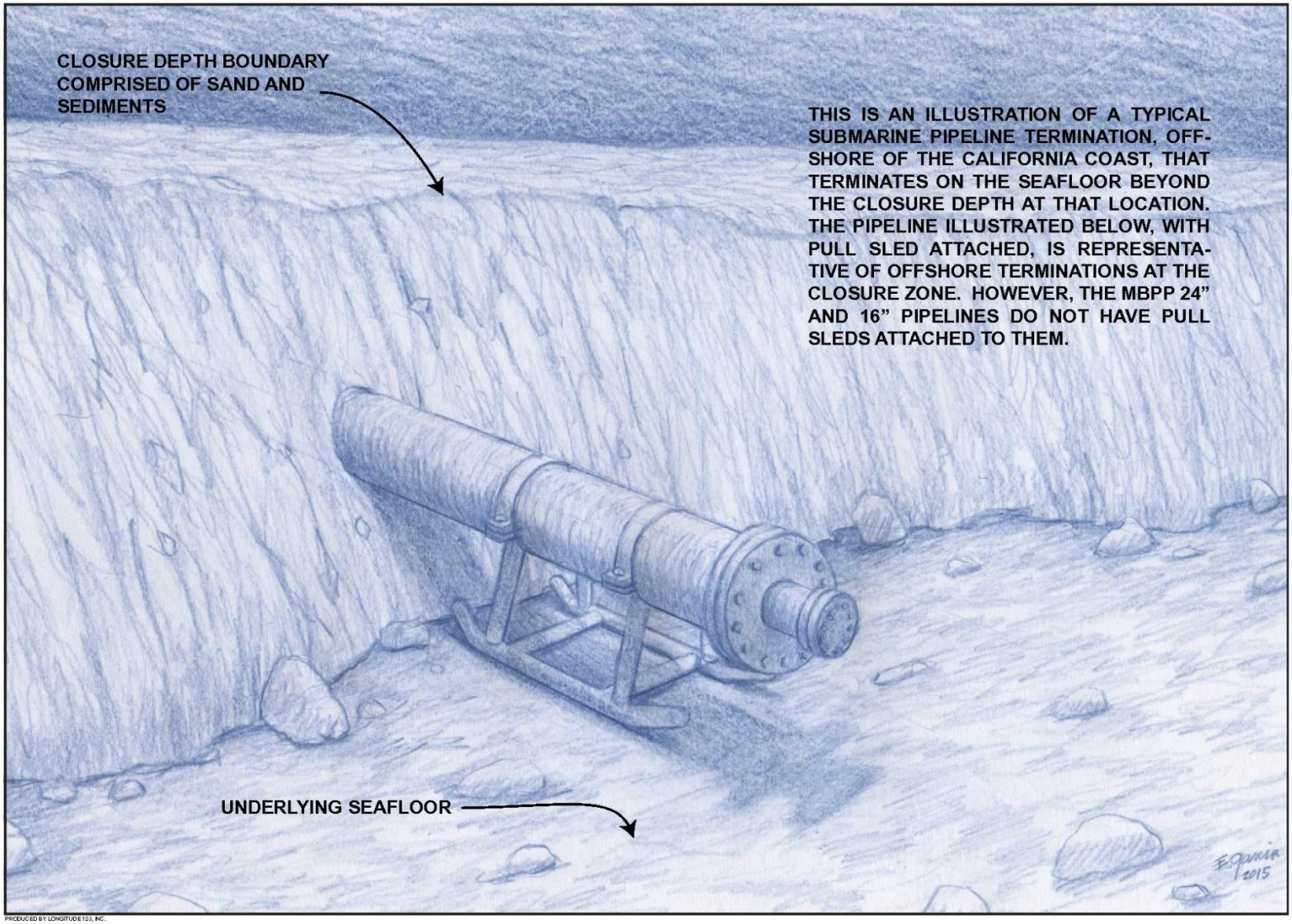

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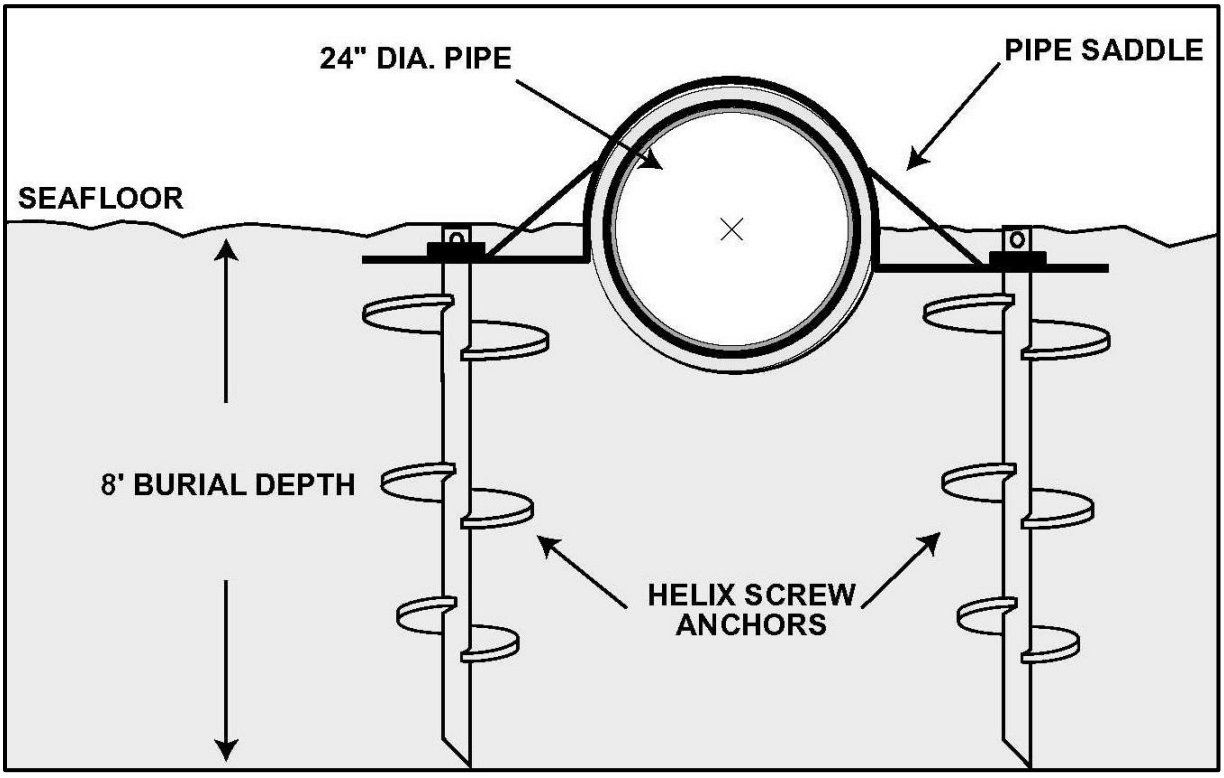
FIGURE 2-5
CLOSURE DEPTH AND PIPELINE TERMINATION ILLUSTRATION (TYPICAL)

Figure 2-6. Helical Screw Anchors System



2.3.2.1 Pre-and Post-Decommissioning Work

Dynegy pigged and flushed the two pipelines as a non-Project maintenance activity during the summer of 2017 to ensure that hydrocarbon levels inside the two pipelines are below 15 ppm, before they are opened to the seawater. At the start of the decommissioning Project, the offshore terminations of the two pipelines will be opened to the seawater, and the water inside the two pipelines will naturally bleed down until the elevation of the water inside the two pipelines is at sea level. This will leave the beach pipeline segments empty in preparation for removal.

A baseline seafloor debris survey will be conducted prior to the arrival of the decommissioning contractor's marine equipment at the underwater work site. The baseline debris survey shall consist of a high-resolution side scan sonar survey with 400 percent coverage and a bathymetric survey of the underwater work site. After the decommissioning work is complete, the debris survey will be repeated using high resolution side scan sonar with 400 percent coverage and bathymetry. The survey map produced from this survey shall be compared with the baseline survey and used to identify any items of seafloor debris introduced into the underwater worksite by the decommissioning operations or items related to the marine facilities. Both the pre-decommissioning survey map and the post-decommissioning survey map will be provided to the agencies for approval and sign-off of Project completion.

2.3.2.2 MBPP Facility Segment

A Class G oilfield cement, or equivalent, cement slurry plug will be installed from each pipeline's vertical riser to a point approximately 50 feet northwest of the toe of the sand dunes (under the beach). Dynegy proposes to excavate and remove both pipeline risers at both pipeline origination points inside the MBPP facility, demolish and remove the first 24-inch-diameter pipeline concrete thrust block (encapsulates 24-inch-diameter pipe riser and 90° pipe turn), remove both horizontal pipelines to the MBPP fence line, cut and cap the remaining underground pipe ends with a steel plate, and backfill and compact the excavation (Figure 2-7).

For the CP system within the MBPP Facility Segment, Dynegy proposes to.

- Remove the support shed, the fuel piping and testing equipment, the CP support equipment and all wiring in their entirety.
- Excavate and remove the components of the 2011 anode bed in their entirety including the 15 cast iron anodes, the coke breeze bedding and backfill material, and all connecting wiring. The surface will be returned to the existing contours.
- Excavate and remove the concrete pads that cap the two installed 2015 anode wells. The two wells will be excavated to a minimum depth of 5 feet below existing contours and the top 5 feet of the well casings, cement grout, vent pipes and connecting wires will be removed. The excavations will be backfilled with the spoils from those excavations. The remaining components, consisting of the remaining plastic casing, cement grout, vent pipe, wiring, anodes and coke breeze, will be abandoned in place below the 5-foot cut off due to their extreme depths, making successful removal unlikely and impossible without extraordinary excavation.

See section 2.2.2 of Appendix B for further information on decommissioning activities within the MBPP Facility Segment.

2.3.2.3 Sand Dune Segment

Dynegy proposes to abandon in place within the Sand Dune System the two pipelines, all abandoned anode beds that were part of the CP System, and the 24-inch and 16-inch line concrete anchor blocks underneath this segment. The pipelines are well buried, approximately 2.5 to 18 feet (24-inch line) and 4.5 to 18 feet (16-inch line), have no history of exposure, and will not create a safety hazard. Within the Sand Dune Segment for both pipelines, cement slurry plugs will be installed from the initiation point of the two pipelines inside the MBPP Facility, and will be set within the pipelines at a predetermined point located approximately 50-feet west of the toe of the dunes at the interface with the beach, and at the MBPP fence line. This segment will be filled with Class G oilfield cement or equivalent prior to abandonment. See section 2.3.1 of Appendix B for further information on cement slurry plug installation.

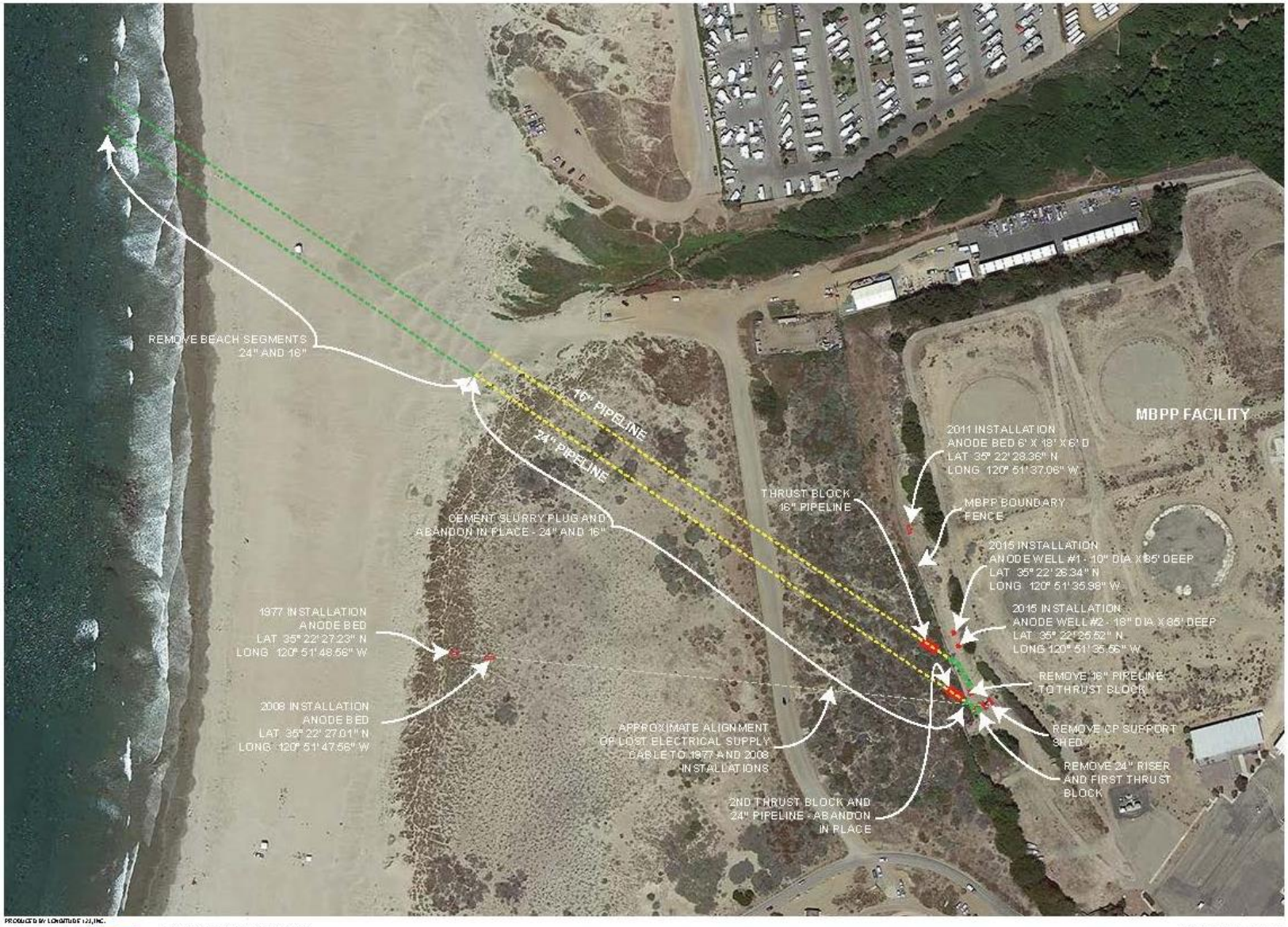


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FIGURE 2-7
ONSHORE DECOMMISSIONING SCHEMATIC

2.3.2.4 Beach Segment

Dynegy proposes to remove the two pipelines in their entirety through the Beach Segment. Removal will start at the toe of the Sand Dune Segment (where the Sand Dune Segment intersects the Beach Segment) where the pipelines will be excavated, exposed and cut. The cut will be made within the cement slurry plug installed in the pipelines at the start of the decommissioning process. Once cut, the Sand Dune Segment side of the pipelines will be capped with a welded steel plate.

Working seaward from this cut point, the two pipelines will be excavated, exposed, and removed to a pre-determined location on the landward boundary of the Surf Zone Segment. Two excavators will excavate the sand cover until approximately 70-feet of each pipeline is exposed in the bottom of the trench. The trench crown dimensions will measure approximately 166-feet wide by 180-feet long, based on a minimum 2:1 slope. The pipelines will be cut in segments (approximately 20 to 30-feet) for transport by trucks, and removed as they are excavated and exposed. The trenches will be backfilled immediately after pipeline removal to minimize the size of the excavation on the beach and impacts to beach users. The estimated total excavation volume is 92,700 cubic yards for both pipelines. The estimated total disturbed area for beach segment excavation (for both pipelines) is 134,460 square feet. See section 2.2.3 of Appendix B for further details on pipeline excavation, removal, disposal, and trench backfill methods.

To avoid construction in the Morro Creek mouth, the creek may need to be diverted or dewatered prior to construction activities. Morro Creek fluctuates seasonally throughout the year. At times, Morro Creek may or may not fully connect to the Pacific Ocean. If there is no connection, a lagoon forms at the mouth near the Morro Bay Strand Beach public access way. If the creek or lagoon is present, and has potential to be affected by proposed construction activities for the Beach Segment, the creek or lagoon would need to be diverted or dewatered pursuant to the Stream Diversion Plan (see Appendix H). If the creek or lagoon is not present, or within proximity to the construction area, then implementation of the Stream Diversion Plan would not be required. In summary, the Stream Diversion Plan includes two alternatives.

- Morro Creek Mouth Lagoon - Diversion of the lagoon will be required if Morro Creek is not connected to the ocean, and the lagoon could be affected at the time of construction. If tidewater gobies or steelhead are present in the lagoon and the south outlet is closed, then the excavation site should be screened off to prevent fish access. A screen of sediment filter fabric or a fine-mesh block net (3-millimeter mesh) will be placed between the lagoon and the pipeline. The screen's bottom edge will be anchored with rebar or other weights and covered with sand. Poles will support the upper part of the screen. After placing the screen, the area will be seined to remove any trapped fish, which will be placed in the lagoon. The screen should remain in place until a sandy berm is constructed to isolate the pipelines.

- Morro Creek Mouth Connection to Pacific Ocean - If Morro Creek mouth is connected to the ocean, and the creek could be affected during construction, the Project site will be isolated up and downstream using cofferdams constructed out of sandbags and visqueen. One downstream and two upstream cofferdams will be used to ensure an isolated Project site. Morro Creek mouth will be diverted using a diversion culvert or artificial channel.

2.3.2.5 Surf Zone Segment

Dynegy proposes to attempt the removal of the Surf Zone Segment of the two pipelines using dynamic pipe ramming (DPR). DPR uses a pneumatically powered ram to drive or pull pipes through soil. The surf zone removals will be attempted sequentially with the 16-inch pipeline attempted first, and the 24-inch pipeline second. Surf zone removal will require both onshore and offshore work spreads to support DPR operations. Onshore, the pipelines will be uncovered by excavation on the shoreline (same methods used for excavation of Beach Segment), beginning where the Beach Segment pipelines were terminated, and excavation will continue out into the surf zone as far as low tides will permit. A DPR hammer will be fastened to the onshore end of the pipeline being extracted; a pair of industrial air compressors will be stationed onshore to power the DPR hammer.

The marine work spread will anchor over the offshore pipeline terminations and will use a Toyo pump or other underwater lightweight excavation tool to surgically excavate any sand cover on top of the pipelines, from their termination points to as far into the surf zone as high tides will permit a supporting derrick barge to safely operate. The pipe end will be lifted out of the water by the derrick barge crane to the deck of the derrick barge, and a DPR hammer and pull winch wire will be attached to the pipeline end. In operation, the onshore DPR hammer and offshore DPR hammer will be activated simultaneously and the pipeline will be pushed and pulled offshore. The extracted pipeline will be laid out on the seafloor in the approximate alignment of the Offshore Segment, where the pipeline will be sectioned (approximate 30-foot sections), placed on a materials barge, and transported to the decommissioning contractor's shore base (see Section 2.4, *Site Access*). See section 2.4 of Appendix B for further information on Surf Zone Segment construction methods.

Removal of the pipelines in the Surf Zone Segment using DPR has never been attempted and cannot be assured. This is because the pipelines are buried approximately 17 feet deep at the shoreline. The 24-inch line is buried 6 feet, and the 16-inch line is buried at 9.5 feet offshore of the surf zone (in 17 feet of water). All excavations on the beach will take place in beach sand and will be backfilled with beach sand. Groundwater generated during the shoreline excavations will be discharged directly into the ocean. Removal of both pipelines using DPR is anticipated to be completed within one summer/fall season.

Should DPR fail to remove the pipelines within the Surf Zone Segment, the Surf Zone Segment will be removed to the greatest extent possible using onshore crews and equipment, and working from the shoreline out into the surf zone during extreme low tides. Offshore crews and equipment would work from the offshore towards the surf zone as far as possible, using periods of extreme high tide and fair sea conditions. Dynegy proposes to abandon in place any remaining portion of the Surf Zone Segment that cannot be removed. Pipeline removal is scheduled so removal efforts will take place during favorable summer/fall wave conditions.

2.3.2.6 Offshore Segment

Dynegy proposes to remove the single helical screw anchor for the 24-inch line in its entirety, and the 37 helical screw anchors for the 16-inch line in their entirety, which are located near the offshore termination points for both pipelines. Dynegy proposes to excavate, expose, and remove the offshore pipelines in their entirety. Removal would start at the offshore termination points and work shoreward, removing all pipe up to the starting point of the Surf Zone Segment. Offshore removal would take place prior to surf zone removal. Offshore removal may require significant underwater excavation, as the offshore pipelines are buried between 3 to 10 feet throughout their length. Removal of the helical screw anchors and pipelines will involve seafloor excavation, through use of a hydraulic dredge pump, or equivalent, suspended from a derrick barge crane. A materials barge will also be used for storage and transport of the recovered structures. The pipeline removals will require sectioning (cutting) to make them recoverable and transportable. Two methods, with potential variations, may be used to section and recover the pipelines. These methods consist of divers working on the seafloor sectioning the pipelines, or by deck crews working on the deck of the derrick barge sectioning the pipelines. The recovered pipe will be transported to the decommissioning contractor's shore base, and the recovered pipe will be offloaded dockside onto end dump trucks and shipped to an approved landfill or recycler (see Section 2.4, *Site Access*, for further information). An estimated 14,444 cubic yards would be excavated to expose both pipelines and remove the helical screw anchors. The estimated total disturbed area for both pipelines is 60,000 square feet. Underwater excavations will be backfilled by natural seafloor processes. See section 2.3.2 of Appendix B for further details on offshore pipeline excavation, removal, transport, and disposal. Removal of both pipelines for the Offshore Segment is anticipated to be completed within one summer/fall season.

Dynegy has defined a debris field boundary around the offshore tanker berth based on an offset of approximately 500 feet outside of the original locations of the tanker berth's seven-point anchor system, and 500 feet on either side of the pipeline right-of-way (see Appendix B). One or two abandoned anchor clumps and associated seafloor debris will be removed.

2.4 SITE ACCESS

2.4.1 Operational Base and Equipment Laydown Areas

Decommissioning operations will be supported by an operational base and laydown areas for MBPP and beach equipment. The Project's operational "shore base" will be the Associated Pacific Constructors (APC) main office and dockside facility located at 495 Embarcadero, Morro Bay (Figure 2-8). This shore base will provide administrative support for the decommissioning operations and ample dock space for loading and offloading equipment for the marine operation. Offshore sections of pipeline recovered during the decommissioning operations will be barged to the APC dock and offloaded onto trucks for transportation to an approved landfill or recycle facility.

Onshore decommissioning operations will require an equipment laydown area within the MBPP facilities near the pipeline origination points and the facilities main gate, for quick access to the Sand Dune Segment (Figure 2-9). The beach decommissioning operations will require a portion of the unpaved parking area at the north end of Embarcadero, just south of Morro Creek. This area will be used to stage and refuel equipment used to support the pipeline removal operations on the beach. This area will measure approximately 100 feet by 200 feet, and will be delineated by traffic safety equipment (traffic safety cones, plastic safety tape, etc.) (Figure 2-9). A final detailed equipment laydown plan, and a parking and site access plan will be provided with the Contractor's Work Plan.

2.4.2 Ingress/Egress to Onshore and Marine Work Sites

Ingress and egress to the onshore work sites (MBPP facilities and the beach) shall be via established, existing roads, driveways, and parking lots (Figure 2-9). Crew ingress and egress to the marine work site will use Morro Bay port facilities for daily crew transfers between the APC Morro Bay facilities and the MBPP tanker berth via a crew boat (Figure 2-10). The crew boat will travel between the entrance of Morro Bay Harbor and the MBPP tanker berth site using the most direct, safe route. The route may vary slightly on a per-trip basis, depending on offshore sea state conditions between the entrance to Morro Bay Harbor and the offshore work site at the time of transit. Light equipment and supplies may also be delivered to the offshore work site via the crew boat.

The Project's derrick barge and materials barge will also use the APC marine facilities in Morro Bay. Neither barge is self-propelled. They will be towed individually by a tugboat between the entrance of Morro Bay Harbor and the MBPP tanker berth site using the most direct, safe route (Figure 2-11). At the start of the offshore work, the derrick barge will be mobilized dockside at APC marine facilities and then towed to the offshore work site when the marine work starts. The derrick barge may return temporarily to APC marine facilities in Morro Bay in the event of unsafe seas at the offshore work site, in the event of equipment breakdowns, or any other unscheduled shutdowns that may occur.

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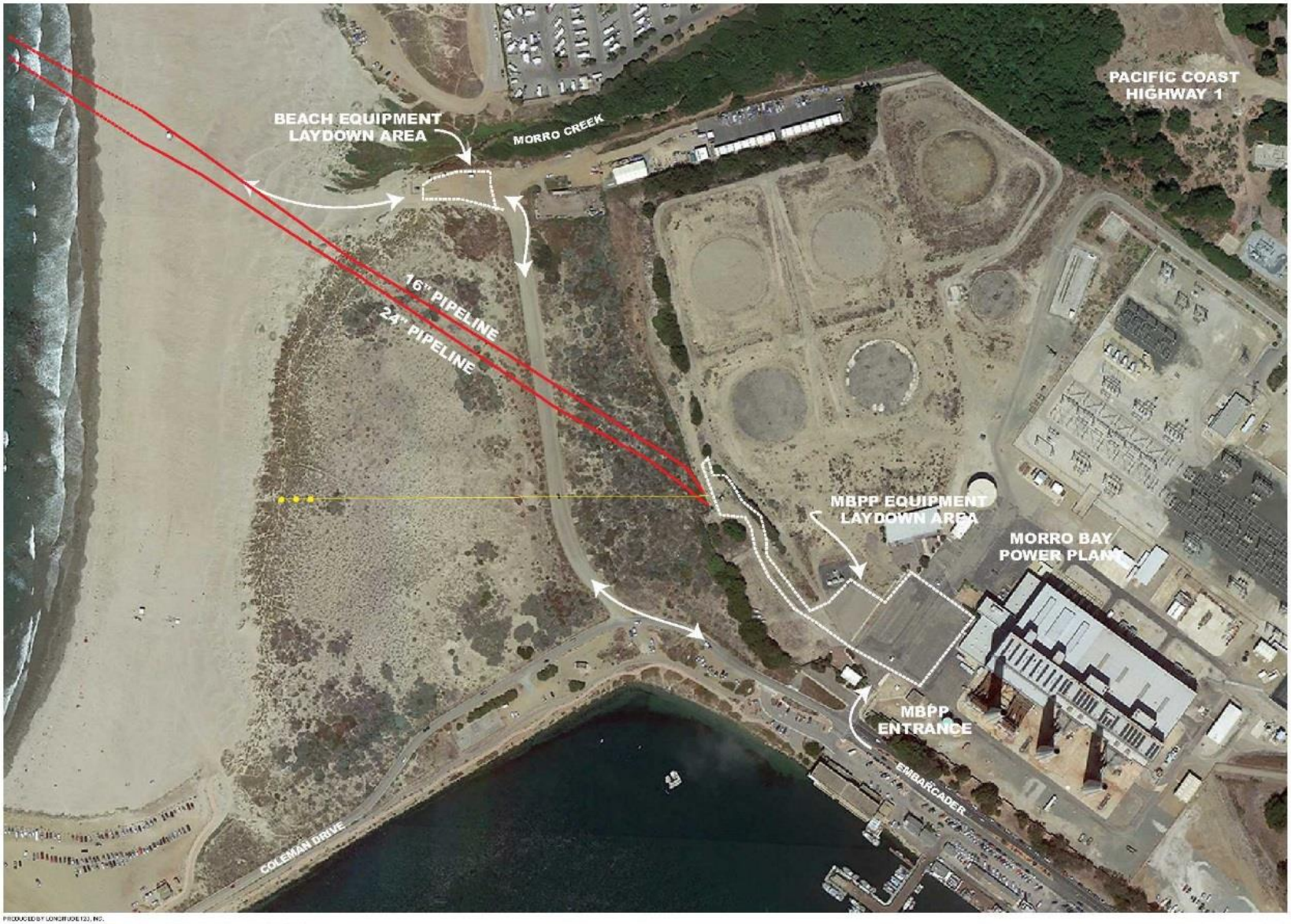
MARINE TERMINAL DECOMMISSIONING PROJECT

FIGURE 2-8
APC MARINE FACILITIES



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MARINE TERMINAL DECOMMISSIONING PROJECT

FIGURE 2-9
MBPP AND BEACH EQUIPMENT LAYDOWN AREAS & ONSHORE INGRESS AND EGRESS

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MARINE TERMINAL DECOMMISSIONING PROJECT

FIGURE 2-10
OFFSHORE INGRESS AND EGRESS

The decommissioning contractor will use a materials barge (deck barge) to receive the pipeline as it is recovered offshore. The recovered pipeline will be hauled to the APC marine facilities. The recovered pipeline will be offloaded by crane and loaded onto trucks that will transport the recovered pipeline to an approved landfill or recycle facility. The frequency of the materials barge trips between the offshore work site and the APC marine facilities will depend on the carrying capacity of the materials barge selected for the Project, and speed at which the pipelines are recovered from the seafloor.

2.5 PROJECT SCHEDULE

Dynegy proposes to start decommissioning work during the summer of 2018 (see Table 2-5) following receipt of all applicable agency approvals, so that offshore decommissioning work can be performed during calm summer sea conditions. The duration of the site work activities provided in the Preliminary Decommissioning Schedule are based on working 7 days per week, 12 hours per day. Additional hours, including 24-hour operations, may be required to complete these activities to maintain the Project schedule. The schedule does not include any additional time needed due to poor weather conditions or other conditions or agency requirements unknown at this time.

Table 2-5. Project Milestones

Project Activity	Date
Receive all Regulatory Agency Permits	2018
Decommissioning Final Planning Starts	January 2018
Contractor Work Plan and Mitigation Monitoring Plan Submitted	April 2018
Contractor Work Plan and Mitigation Monitoring Plan Approved	June 2018
Begin Onsite Decommissioning (Onshore & Offshore Work Spreads)	June 2018
Complete Decommissioning Work	October 2018
Complete Post-Decommissioning Reporting	November 2018

3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

This section contains the Initial Study (IS) that was completed for the proposed Morro Bay Power Plant Marine Terminal Decommissioning Project (Project) in accordance with the requirements of the California Environmental Quality Act (CEQA). The IS identifies site-specific conditions and impacts, evaluates their potential significance, and discusses ways to avoid or lessen impacts that are potentially significant. The information, analysis, and conclusions included in the IS provide the basis for determining the appropriate document needed to comply with CEQA. For the Project, based on the analysis and information contained herein, California State Lands Commission (CSLC) staff has found that the IS shows that there is substantial evidence that the Project may have a significant effect on the environment, but revisions to the Project would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur. As a result, the CSLC has concluded that a Mitigated Negative Declaration (MND) is the appropriate CEQA document for the Project.

The evaluation of environmental impacts provided in this IS is based in part on the impact questions contained in Appendix G of the State CEQA Guidelines. These questions, which are included in an impact assessment matrix for each environmental category (Aesthetics, Agriculture/Forestry Resources, Air Quality, Biological Resources, etc.), are "intended to encourage thoughtful assessment of impacts." Each question is followed by a check-marked box with column headings that are defined below.

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more "Potentially Significant Impacts," a Project Environmental Impact Report (EIR) would be prepared.
- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would reduce the identified effect(s) to a less than significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant effects. The Project's impact is less than significant even without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any impact in the category or the category does not apply.

The environmental factors checked below would be potentially affected by this Project; a checked box indicates that at least one impact would be a "Potentially Significant Impact" except that the Applicant has agreed to Project revisions, including the implementation of mitigation measures, that reduce the impact to "Less than Significant with Mitigation."

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

Detailed descriptions and analyses of impacts from Project activities and the basis for their significance determinations are provided for each environmental factor on the following pages, beginning with Section 3.1, *Aesthetics*. Relevant laws, regulations, and policies potentially applicable to the Project are listed in the Regulatory Setting for each environmental factor analyzed in this IS (also see Appendix A). Impacts are analyzed either within each Project work segment or for the entire Project (all segments as a whole) (see Table 2-1).

AGENCY DETERMINATION

Based on the environmental impact analysis provided by this Initial Study:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed 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 proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

_____ _____

Signature Date

Jason Ramos, Senior Environmental Scientist
Division of Environmental Planning and Management
California State Lands Commission

3.1 AESTHETICS

AESTHETICS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

3.1.1 Environmental Setting

The Project site lies in and along the western edge of the City of Morro Bay (City), San Luis Obispo County, where Morro Creek meets the Pacific Ocean, between the Pacific Coast Highway (Highway 1) and the Estero Bay shoreline. According to the City's General Plan Visual Resources and Scenic Highway Element, the City is in a physical setting with spectacular visual qualities that serve as valuable assets to both City residents and visitors. The Project vicinity includes moderately sloping hillsides containing areas of residential development and annual grassland habitat. A portion of the Project is located within Morro Rock Beach, and surrounded by visual resources including Morro Rock and Coleman Park (to the south), and Atascadero State Beach (to the north).

Morro Rock, a major focal point of the area, rises out of the Pacific Ocean directly north of the Morro Bay harbor entrance. The existing pipeline segments and appurtenant equipment extend from a maintenance shed within the Morro Bay Power Plant (MBPP) Facility Segment, and into Estero Bay between Morro Rock to the south and Morro Rock Beach to the north. There are no visible components of the idle marine terminal, as the marker buoy at the pipeline terminus was lost sometime after 2005. The Morro Bay area includes diverse natural features, including the Pacific Ocean and long beaches, the bay, sand spit, wetlands, and harbor areas.

Morro Rock Beach is an expansive sandy beach with inland low-lying protective dunes that offers campsites and other recreational opportunities. Embarcadero Road provides access to a public parking area located south of the Morro Creek mouth and lagoon area. Additional parking areas exist north of Morro Creek and east of Morro Rock, accessible via Atascadero Road and Coleman Drive, respectively. The beach area tends to be heavily populated, more so than other nearby beaches with less available public access.

Pacific Coast Highway (Highway 1) is located approximately 2,000 feet east of the Project site. In 1999, the State legislature recognized the portion of Highway 1 north of Highway 101 in San Luis Obispo County as possessing outstanding scenic quality and declared it an official scenic highway. Six of the approximately 53 miles of scenic Highway 1 in San Luis Obispo County are in the City. The ocean and beach are not generally visible from Highway 1 within the vicinity of the Project area due to tall berms and dense landscape vegetation, including shrubs and trees. However, just north of the Project site, both northbound and southbound travelers along Highway 1 have partial views of the Pacific Ocean and offshore Project area. Residences with direct views of the Project area consist primarily of a small mobile home park located directly north of Morro Creek. Residences with long-range views of the Project area include those located east of Morro Rock Beach, and along the hillsides in north and south Morro Bay.

3.1.2 Regulatory Setting

Federal and state laws and regulations pertaining to aesthetics and relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included within the City's General Plan (1988) and Local Coastal Plan (1981) are applicable to marine water quality and oceanography within the Project area.

- General Plan Visual Resources and Scenic Highways Element Policy Visual Resources (VR)-2: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic and coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated on Figure VR-1, shall be subordinate to the character of its setting (LCP-226).
- LCP VR Policy 12.01. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic and coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas.

3.1.3 Impact Analysis

The Project involves the complete removal of the several remaining aboveground pipe risers within the boundary of the Morro Bay Power Plant (MBPP). It also includes removal of several subsurface segments of pipelines from the MBPP Facility Segment, Beach Segment, Surf Zone Segment, and the Offshore Segment of the marine terminal. The pipelines within the Beach Segment will be abandoned in place.

a) Have a substantial adverse effect on a scenic vista?

MBPP Facility, Sand Dune, Beach, Surf Zone, & Offshore Segments (Less than Significant Impact). Varying views of the onshore work area occur from residences on the hillsides surrounding Morro Bay, beach residences north within the Project area, several local roadways including Embarcadero Road, Atascadero Road, and Coleman Drive, and the three public parking facilities associated with these roads. During Project implementation, views from sections of these roadways, parking areas, Recreational Vehicle (RV) park, and residences would be temporarily impaired, particularly by large construction equipment (e.g., excavator and loader). This temporary effect would include local visitors and tourists that tend to frequent the beach areas immediately north and south of the Project site due to the existing public access facilities (i.e., parking facilities, beach access routes, etc.). Although the potential number of persons affected by this temporary change in coastline views could be substantial, due to the short-term nature of the Project, this is considered only a temporary short-term aesthetic impact.

The Offshore Segment would also be visible from many of the same viewpoints discussed above. Additionally, a portion of the Offshore Segment may be visible from Highway 1, primarily the portion located northeast of the Project site. As such, the proposed activities within the Offshore Segment would cause a minimal obstruction of the ocean view from surrounding areas and roadways. Specifically, there would be several marine work vessels (including a derrick barge, materials barge, tugboats, and utility vessel) visible from the beaches within and surrounding areas of the Project site. Boats in the area would also have an obstructed view of the shoreline because of the offshore Project equipment. However, marine work vessels (e.g., commercial fishing vessels, charter boats, etc.) from Morro Bay Harbor are common in the area and the additional work vessels that would be present on-site during Project activities would be present only for approximately 4 months (June 2018 through September 2018) during summer sea states that are critical to successful Project completion. These short-term inconveniences to scenic vistas would not result in a significant long-term impact to the visual resources of the Project area.

Sand Dune Segment (No Impact). The Sand Dune Segment would be abandoned in place; thus, no impact would result.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

b) and c). All Project Segments (No Impact). Short-term, but not substantial, visual impacts would result from the presence of construction equipment needed during decommissioning operations. Barges, dive support vessel and tugboats would have a short-term visual impact on the near-shore coastal area. In addition, excavation of the

Beach Segment would require construction related equipment. This equipment would be visible from nearby beaches, ocean vessels, and from the Embarcadero Road extension. The viewshed change would occur only during the Project construction period so is not considered a substantial visual impact. There would be no alteration to natural land forms nor would there be any permanent structures erected. The Sand Dune Segment would be abandoned in place; thus, no impact would result. The successful completion of the Project would result in removal of the existing maintenance shed and below-ground structures that could become exposed during high storm events.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

MBPP Facility, Sand Dune, Beach, Surf Zone, & Offshore Segments (No Impact). Decommissioning activities within the MBPP Facility Segment, Beach Segment, and Surf Zone Segment would not occur at night, nor would the Project result in the introduction of glare to the area. Therefore, no impacts associated with lighting would result. The Sand Dune Segment would be abandoned in place; thus, no impact would result.

Offshore Segment (Less than Significant with Mitigation). The derrick barge would remain in the Offshore Segment at night and would have some limited lighting on the barge and anchor crown buoys to avoid a navigational hazard to existing marine traffic. This lighting would meet all applicable U.S. Coast Guard navigational standards as described in the Marine Safety and Anchoring Plan that would be included with the Contractor Work Plan (see Appendix C). Implementation of the following mitigation measure (MM) would reduce impacts to less than significant:

> **MM AES-1: Lighting Plan (Offshore).** The Applicant shall submit to the California State Lands Commission (CSLC) a Lighting Plan, subject to CSLC review and approval prior to commencement of construction activities for the Offshore Segment. The Applicant shall prepare a Lighting Plan to specify that outdoor light intensity on the derrick barge anchored or moored overnight shall be limited to nautical lights necessary for vessel safety and that barge security lighting shall be shielded where feasible or directed downwards.

3.1.4 Mitigation Summary

Implementation of the following MM would reduce potential for Project-related aesthetics impacts to less than significant:

- MM AES-1: Lighting Plan (Offshore)

3.2 AGRICULTURE AND FORESTRY RESOURCES

AGRICULTURE AND FORESTRY RESOURCES[2] - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**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 Natural Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.2.1 Environmental Setting

The offshore tanker berth is in State tidelands approximately 0.25 to 1 mile offshore of the Morro Creek mouth and Morro Strand State Beach, within Estero Bay, San Luis Obispo County. The Morro Bay Power Plant (MBPP) and onshore Project components are located directly north of Morro Bay Harbor, and just south of Morro Creek within the city of Morro Bay. No agricultural or forestry resources are present in the Project area.

3.2.2 Regulatory Setting

Federal and state laws and regulations pertaining to agriculture and forestry resources and relevant to the Project are identified in Appendix A. At the local level, there are no

[2] In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

goals, policies, or regulations applicable to this issue area for the Project due to its location and the nature of the activity.

3.2.3 Impact Analysis

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 Natural Resources Agency, to non-agricultural use?*

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?*

d) Result in the loss of forest land or conversion of forest land to non-forest use?

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?

a) through e). All Project Segments (No Impact). No farmland or forest lands are located near the onshore or offshore Project segments; therefore, the Project would not impact agriculture or forest lands.

3.2.4 Mitigation Summary

The Project would have no impacts to agricultural and forestry resources; therefore, no mitigation is required.

3.3 AIR QUALITY

AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

3.3.1.1 Local Climate and Meteorology

The Project would occur in the South Central Coast Air Basin (SCCAB). The SCCAB consists of San Luis Obispo County and the portion of Santa Barbara County north of the Santa Ynez Mountain ridgeline. The climate in the Project area is dominated by marine influences, as indicated by relatively low summer temperatures and a narrow range between high and low temperatures. Summers are mild and often characterized by early morning and afternoon fog. Winters are usually cool and wet with the rainy season extending from late October to early April. According to weather station #045866 located at the Morro Bay Fire Department, the average maximum temperature was 71 degrees Fahrenheit in 2015, and the average minimum temperature was 48 ºF in 2015. The average annual rainfall is 17.53 inches, with 95 percent falling between October and April (Weather Warehouse 2016; U.S. Climate 2016).

Airflow plays an important role in the movement and dispersion of air pollutants in the region. The speed and direction of local winds are controlled by the location and strength of the Pacific high-pressure system and other global patterns, topographical factors, and circulation patterns resulting from temperature differences between the land and sea. During the spring and summer, when the Pacific High attains its greatest strength,

onshore winds from the northwest generally prevail during the day. As evening approaches, onshore winds die down, and the wind direction reverses with weak winds flowing down the coastal mountains and valleys to form light easterly breezes. In the fall, onshore surface winds decline, and the marine layer grows shallow, allowing an occasional reversal to a weak offshore flow. This, along with the diurnal alteration of land-sea breeze circulation, can sometimes produce a sloshing effect. Under such conditions, pollutants may accumulate over the Pacific Ocean and subsequently be carried back onshore with the return of sea breezes.

Normally, air temperatures in the atmosphere decrease as altitude increases. A reversal of this temperature gradient can occur at varying distances above the earth's surface. Such a condition, called an inversion, is simply a warm layer of air over a layer of cooler air. Inversions can have the effect of limiting the vertical dispersion of air pollutants, trapping them near the earth's surface.

Inversions common to the San Luis Obispo area include weak surface inversions and subsidence inversions. Radiational cooling of air in contact with the cold surface of the earth at night can cause weak surface inversions. In valleys and low-lying areas, this condition is intensified by the addition of cold air flowing down from hills and pooling on valley floors. During the winter, particularly on cold mornings, surface inversions are common throughout San Luis Obispo County. These surface inversions gradually dissipate throughout the day as the sun warms the earth and air near the ground. During the summer, subsidence inversions can occur when the summertime presence of the Pacific high-pressure cell can cause the air mass aloft to sink. As the air descends, compressional heating warms the air to a higher temperature than the air below. This highly stable atmospheric conditioning can act as a nearly impenetrable lid to the vertical mixing of pollutants. Subsidence inversions can persist for 1 or more days, causing air stagnation and the buildup of pollutants (APCD 2001).

3.3.1.2 Criteria Pollutants

Criteria air pollutants are those contaminants for which state and federal ambient air quality standards have been established for the protection of public health and welfare. Criteria pollutants include ozone (O3), carbon monoxide (CO), nitrogen oxides (NOX), sulfur dioxide (SO2), particulate matter with a diameter of 10 microns (µ) or less (PM10), and particulate matter with a diameter of 2.5 µ or less (PM2.5).

- **Ozone**. O_3 is formed in the atmosphere through a series of complex photochemical reactions involving NO_X, reactive organic gases (ROG) (also known as ROCs or reactive organic compounds), and sunlight occurring over several hours. Since O_3 is not emitted directly into the atmosphere, but is formed by photochemical reactions, it is classified as a secondary or regional pollutant. Because these O_3-forming reactions take time, peak O_3 levels are often found downwind of major source areas. O_3 is considered a respiratory irritant and prolonged exposure can

reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to O_3 (APCD 2001).

- **Carbon Monoxide**. CO is primarily formed through the incomplete combustion of organic fuels. Higher CO values are generally measured during winter when dispersion is limited by morning surface inversions. Seasonal and diurnal variations in meteorological conditions lead to lower values in summer and in the afternoon. CO is an odorless, colorless gas that affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects, especially to those with cardiovascular disease, and affect mental alertness and vision (APCD 2001).

- **Nitric Oxide**. Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly oxidize to form nitrogen dioxide (NO_2), a brownish gas. The highest NO_2 values are generally measured in urbanized areas with heavy traffic. Exposure to NO_2 may increase the potential for respiratory infections in children and cause difficulty in breathing even among healthy persons and especially among asthmatics (APCD 2001).

- **Sulfur Dioxide**. SO_2 is a colorless, reactive gas that is produced by burning sulfur-containing fuels, such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways, leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease (APCD 2001).

- **Particulate Matter**. Ambient air quality standards are set for PM_{10} and $PM_{2.5}$. Both consist of different types of particles suspended in the air, such as: metal, soot, smoke, dust, and fine mineral particles. Depending on the source of particulates, toxicity and chemical activity can vary. Particulate matter is a health concern, because when inhaled, it can cause permanent damage to the lungs. The primary sources of PM_{10} emissions appear to be soil via roads, construction, agriculture, and natural windblown dust. Other sources of PM_{10} include sea salt, particulate matter released during combustion processes, such as those in gasoline or diesel vehicles, and wood burning. Fugitive emissions from construction sites, wood stoves, fireplaces, and diesel truck exhaust are primary sources of $PM_{2.5}$. Both sizes of particulates can be dangerous when inhaled; however, $PM_{2.5}$ tends to be more damaging because it remains in the lungs once inhaled (APCD 2001; CARB 2005). Diesel Particulate Matter (DPM) is a toxic air contaminant that is released during the conduction of diesel fuels. According to CARB, 70 percent of the cancer risk in California caused by toxic air contaminates is related to DPM. There is currently no identified threshold for exposure to DPM. Aside from being toxic, DPM

exposure is also known to exacerbate asthma and allergy symptoms (APCD 2005; CARB 2016b).

3.3.2 Regulatory Setting

Federal and state air quality laws and regulations relevant to the Project are identified in Appendix A. The U.S. Environmental Protection Agency (USEPA) has jurisdiction under the Federal Clean Air Act. The California Air Resources Board (CARB) has jurisdiction under the California Clean Air Act and California Health and Safety Code. The USEPA and CARB classify an area as attainment, unclassified, or non-attainment, depending on whether the monitored ambient air quality data show compliance, insufficient data to determine compliance, or non-compliance with federal or state ambient air quality standards, respectively.

3.3.2.1 Air Quality Standards

Air quality standards are specific concentrations of pollutants that are used as thresholds to protect public health and the public welfare. The USEPA has developed two sets of National Ambient Air Quality Standards; a primary standard to provide an adequate margin of safety to protect human health and a secondary standard to protect the public welfare from any known or anticipated adverse effects. The CARB has developed air quality standards for California (CAAQS), which are generally lower in concentration than federal standards. California standards exist for O_3, CO, suspended PM_{10}, visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride. The federal O_3 standard is based on an 8-hour averaging period (vs. 1-hour), recognizing that prolonged exposure is more damaging. The federal PM standard is based on finer 2.5 µ and smaller particles (vs. 10 µ and smaller), recognizing that finer particles may have a higher residence time in the lungs and cause greater respiratory illness. Table 3.3-1 lists applicable ambient air quality standards at the Project site.

3.3.2.2 Air Toxic Health Risks

Combustion of diesel fuel in internal combustion engines produces exhaust containing several compounds identified as hazardous air pollutants by the USEPA and as toxic air contaminants (TACs) by the CARB. Particulate matter from diesel exhaust has recently been identified as a TAC. In 2000, the CARB developed a Risk Reduction Plan to reduce particulate matter emissions from diesel-fueled engines and vehicles to establish new emission standards, certification programs, and engine retrofit programs to control exhaust emissions from diesel engines and vehicles (CARB 2000). The CARB has also passed fuel standards that enable diesel engines to incorporate advanced technologies to lower emission levels (e.g., a fuel sulfur limit of 15 parts per million [ppm] was phased in starting in 2006).

Table 3.3-1. Ambient Air Quality Standards

Pollutant		Averaging Time	California Standard	Federal Standard
Ozone (O_3)		1-Hour	0.09 ppm	--
		8-Hour	0.07 ppm	0.07 ppm
Carbon Monoxide (CO)		8-Hour	9.0 ppm	9.0 ppm
		1-Hour	20 ppm	35 ppm
Nitrogen Dioxide (NO_2)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm
		1-Hour	0.18 ppm	0.100 ppm
Sulfur Dioxide (SO_2)		Annual Arithmetic Mean	--	0.030 ppm
		24-Hour	0.04 ppm	0.14 ppm
		3-Hour	--	0.5 ppm (secondary)
		1-Hour	0.25 ppm	0.075 ppm (primary)
Respirable Particulate Matter	PM_{10}	Annual Geometric Mean	20 µg/m^3	--
		24-Hour	50 µg/m^3	150 µg/m^3
Fine Particulate Matter	$PM_{2.5}$	Annual Geometric Mean	2 µg/m^3	12 µg/m^3 (primary)
				15 µg/m^3 (secondary)
		24-Hour	--	35 µg/m^3
Hydrogen Sulfide (H_2S)		1-Hour	0.03 ppm	--
Vinyl Chloride		24 Hour	0.01 ppm	--
Sulfates		24 Hour	25 µg/m^3	--
Lead		--	30-day average: 1.5 µg/m^3	Rolling 3-month average: 0.15 µg/m^3 Calendar quarter: 1.5 µg/m^3
Visibility Reducing Particles		8-Hour	Extinction coefficient of 0.23 per km - visibility of 10 miles or more due to particles when relative humidity is < 70 percent	--

Source: USEPA 2016; CARB 2016a
Acronyms: km = kilometer; m^3 = cubic meters; ppm = parts per million; µg = micrograms

3.3.2.3 Regional/Local

At the regional level, the Project site is located within the San Luis Obispo County Air Pollution Control District (APCD). The APCD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are attained within the County. The APCD has jurisdiction under the California Health and Safety Code to develop emission standards (rules) for the County, issue air pollution permits, and require emission controls for stationary sources in the County. The APCD is also responsible for the attainment of state and federal air quality standards in the County. The APCD's plan for maintaining attainment status is outlined in the Clean Air Plan (CAP) and the Updated Strategic Action Plan (Updated SAP) (APCD 2001; APCD 2012c).

The APCD operates a network of monitoring stations throughout the County to determine air pollutant levels. Based on federal air quality standards, in May 2012, the USEPA designated the eastern portion of the County as a non-attainment zone for the 8-hour O_3 federal standard (APCD 2016). The federal 8-hour O_3 standard was lowered from 0.075 ppm to 0.07 ppm in October 2015. The new standard was exceeded on 4 days in 2015, while the old standard was exceeded only once. When compared to the 2014 data, O_3 exceeded the old standard on 3 days, where the new standard would have been exceeded on 10 days.

The County is currently designated in attainment for all other federal air quality standards; however, it exceeded the federal 24-hour standard for suspended PM_{10} and could be designated as non-attainment by the USEPA if exceedances continue (APCD 2016). The APCD has further identified the County as a non-attainment area for the 1-hour and 8-hour CAAQS for O_3, and the 24-hour and annual CAAQS for PM_{10} (APCD 2016). The County has exceeded state O_3 and PM_{10} concentration levels measured at many air monitoring stations in the County every year for over 10 years. According to CARB (2016a), the air monitoring station in Morro Bay (the station closest to the Project site), however, only recorded a violation pursuant to the CAAQS in O_3 in 1999, 2008 and 2010 and PM_{10} in 2002, 2006, and 2008 (the station stopped monitoring for PM_{10} in 2011).

The APCD has adopted two sets of significance thresholds: one for project construction phase (see Table 3.3-2) and one for project operation. The Project does not have an operational phase; therefore, only the construction phase thresholds of significance apply.

Table 3.3-2. County APCD Thresholds of Significance (Construction)

Pollutant	Threshold [1]		
	Daily (pounds)	Quarterly Tier 1 (tons)	Quarterly Tier 2 (tons)
NO_x + ROG (combined)	137	2.5	6.3
DPM	7	0.13	0.32
Fugitive Particulate Matter (PM_{10}), Dust [2]	--	2.5	

Source: APCD 2012a

Acronyms: CO_2 = carbon dioxide, CH_4 = methane, N_20 = nitrous oxide, HFC = hydrofluorocarbons, CFC = chlorofluorocarbon, SF_6 = sulfur hexafluoride

Notes:

[1] Daily and quarterly emission thresholds are based on the California Health and Safety Code and the CARB Carl Moyer Guidelines.

[2] Any Project with a gradient area greater than 4 acres of worked area can exceed the 2.5-ton PM_{10} quarterly threshold.

Project construction would occur in nine phases: pre-Project debris survey; Dune Segment cementing; thrust block demolition; Beach Segment pipeline removal; Offshore Segment 24-inch and 16-inch pipeline removals; offshore dynamic pipe ramming (DPR) spread; onshore DPR spread; and post-Project debris survey. Mitigation is required when projected fugitive and combustion emissions equal or exceed the construction thresholds.

3.3.3 Impact Analysis

Air quality emissions were evaluated for the Project as a whole; therefore, impacts are not broken out by individual Segments.

a) Conflict with or obstruct implementation of the applicable air quality plan?

All Project Segments (Less than Significant Impact). San Luis Obispo County is currently designated as a non-attainment area for the state ozone and PM_{10} air quality standards. Due to the Project's short-term construction activities (approximately 128 days), and no long-term operation, the Project would not conflict or obstruct implementation of the APCD's Clean Air Plan (CAP) and Updated Strategic Action Plan (SAP). Therefore, the Project would result in a less than significant impact pursuant to the APCD's CAP and Updated SAP.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

All Project Segments (Less than Significant Impact with Mitigation). Tables 3.3-3 and 3.3-4 present estimated Project criteria pollutant emissions for the nine decommissioning phases, using equipment specific emission factors and load factors obtained from the following sources (see Appendix D): CalEEMod Default Data Table; EMFAC2014 Version 1.0.7; and Puget Sound Maritime Air Emissions Inventory (Environ 2016; CARB 2014b; Starcrest 2012).

Table 3.3-3. Projected Project Peak Day Emissions

Source	Peak Day Emissions (pounds/day)						
	NO_x	ROG	PM_{10}[1]	$PM_{2.5}$	DPM	CO	SO_2
Pre-Project Debris Survey	25.40	1.02	1.12	1.12	1.26	19.18	4.84
Dune Segment Cementing	16.08	1.79	0.55	0.55	1.34	12.06	0.03
Thrust Block Demolition	20.72	1.27	0.34	0.33	0.73	7.73	0.01
Beach Segment Removal	32.68	5.37	1.26	1.23	3.96	29.46	0.09
24-Inch Pipeline Removal	141.16	13.20	6.30	6.30	9.80	116.62	9.22
16-inch Pipeline Removal	141.16	13.20	6.30	6.30	9.80	116.62	9.22
Offshore DPR[2] Spread	153.36	16.62	6.33	6.33	12.80	113.61	6.05
Onshore DPR Spread	103.33	14.73	3.90	3.89	9.30	63.06	0.19
Post-Project Debris Survey	12.74	0.52	0.56	0.56	0.63	9.87	2.42
Peak Day	***153.36***	***16.62***	***6.33***	***6.33***	***12.80***	***116.62***	***9.22***

Notes:
[1] PM_{10}, $PM_{2.5}$ and DPM emissions are calculated as exhaust.
[2] DPR = Dynamic Pipe Ramming

Table 3.3-4. Projected Project Total Emissions

Source	Annual Emissions (tons/year)						
	NO_x	ROG	PM_{10}	$PM_{2.5}$	DPM	CO	SO_2
Pre-Project Debris Survey	0.025	0.001	0.001	0.001	0.001	0.019	0.005
Dune Segment Cementing	0.041	0.006	0.002	0.002	0.003	0.057	0.000
Thrust Block Demolition	0.027	0.002	0.001	0.001	0.001	0.014	0.000
Beach Segment Removal	0.245	0.040	0.009	0.009	0.030	0.221	0.001
24-Inch Pipeline Removal	2.117	0.198	0.095	0.094	0.147	1.749	0.138
16-Inch Pipeline Removal	2.073	0.197	0.094	0.094	0.147	1.746	0.138
Offshore DBR Spread	0.895	0.094	0.039	0.039	0.070	0.737	0.045
Onshore DBR Spread	0.572	0.083	0.022	0.022	0.051	0.370	0.001
Post-Project Debris Survey	0.013	0.001	0.001	0.001	0.001	0.010	0.002
Total Annual Emissions	***6.009***	***0.622***	***0.263***	***0.262***	***0.450***	***4.924***	***0.331***

Notes:
PM_{10}, $PM_{2.5}$ and DPM emissions are calculated as exhaust.

As indicated in the APCD CEQA Air Quality Handbook, fugitive dust emissions result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic over temporary roads at the construction site (APCD 2012a). Excavations and pipeline removal that occur underwater would not be a source of fugitive dust. Dust generated during weight coat removal on the deck of the support barge would be minimized, due to the wet surface of the weight coating while this activity is performed, thus reducing fugitive dust emissions from marine decommissioning operations to negligible levels.

The proposed methodology for terrestrial decommissioning includes excavations to unearth the beach pipeline segments prior to removal. This activity has the potential to generate fugitive dust emissions; however, the emissions would be less than a typical excavation because wet sand will not create mud dust. Fugitive dust emissions have been evaluated in comparison to the APCD's screening tool for fugitive dust emissions, and thresholds for mitigation. Specifically, any Project with a grading area greater than 4 acres of continuously worked area, would exceed the threshold and require mitigation (APCD 2012a). As proposed, grading activities would be limited to small areas at any one time (less than 2 acres), the Project is not expected to exceed the threshold for fugitive dust emissions and does not require mitigation. However, several measures identified in the APCD CEQA Air Quality Handbook have been adopted as best management practices to further reduce potential fugitive dust emissions (as discussed below).

The Project is expected to last approximately 128 days (two quarters) and, according to the APCD CEQA Air Quality Handbook, is considered a short-term construction Project (APCD 2012a). Due to the Project's decommissioning nature, no facilities or equipment would be constructed or added to the Project site that could result in the long-term addition of air emissions. As shown in Tables 3.3-3 and 3.3-4, total Project emissions have been estimated at 6.009 tons NO_X, 0.622 tons ROG, 0.263 tons PM_{10}, 0.262 tons $PM_{2.5}$, 0.450

tons DPM, 4.925 tons CO, and 0.331 tons SO_2. Implementation of the Project would result in exceedances of both daily and quarterly Tier 1 APCD emissions thresholds for NOx and ROGs combined (approximately 3.316 tons per quarter) and DPM (approximately 3.316 tons per quarter). Implementation of the following mitigation measures (MMs) would reduce impacts to less than significant:

MM AQ-1: Standard Mitigation Measures for Construction Equipment. The following standard mitigation measures for reducing nitrogen oxides, reactive organic gases, and diesel particulate matter emissions from construction equipment shall be implemented during construction activities:

- Equipment will be maintained in proper tune according to manufacturers' specifications
- All off-road and portable diesel-powered equipment will be fueled with CARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road)
- The use of land based diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines and comply with the State off-road regulations
- Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and job sites to remind drivers and operators of the 5-minute idling limit
- Diesel idling within 1,000 feet of sensitive receptors is not permitted
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors
- Use electrical equipment when feasible
- Substitute gasoline-powered equipment in place of diesel-powered equipment, where feasible
- Use alternatively fueled construction equipment on-site, where feasible, such as compressed natural gas, liquefied natural gas, propane or biodiesel

MM AQ-2: Best Available Control Technology for Construction Equipment. The following best available control technology for construction equipment measures shall be implemented during construction activities:

- Use Tier 3 and Tier 4 off-road and 2010 on-road compliant engines
- Repower equipment with the cleanest engines available

- Install California Verified Diesel Emission Control Strategies such as those listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

MM AQ-3: Fugitive PM10 Mitigation Measures. The following measures shall be implemented during construction activities to reduce fugitive dust emissions.

- Reduce the amount of the disturbed area where possible.
- Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minue period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. Please note that since water use is a concern due to drought conditions, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control. Please refer to the following link for potential dust suppressants to select from to mitigate dust emissions: http://valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm
- All dirt stock pile areas should be sprayed daily and covered with tarps or other dust barriers as needed.
- Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities.
- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD.
- All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.

- "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified.
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water used where feasible. Roads shall be pre-wetted prior to sweeping when feasible.
- All PM10 mitigation measures required should be shown on grading and building plans.
- The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork, or demolition.

MM AQ-4: Emission Offsets. If emission offsets are required by the District, Dynegy will work closely with the District to determine the most appropriate way to offset emissions over the established thresholds.

MM AQ-5: Idling Control Techniques. To help reduce sensitive receptor emissions impact of diesel vehicles and equipment used to construct the Project, Dynegy shall implement the following idling control techniques:

- <u>California Diesel Idling Regulations</u>
  - On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:

- Shall not idle the vehicle's primary diesel engine for greater than 5-minutes at any location, except as noted in Subsection (d) of the regulation; and
- Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5-minutes at any location when within 1,000 feet of a restricted area, except as noted in Section (d) of the regulation.

  - Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use Off-Road Diesel regulation.
  - Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the State's 5-minute idling limit.
  - The specific requirements and exceptions in the regulations can be reviewed at: https://www.arb.ca.gov/msprog/truck-idling/factsheet.pdf and https://www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf

- Diesel Idling Restrictions Near Sensitive Receptors. In addition, to the State required diesel idling requirements, Dynegy shall comply with these more restrictive requirements to minimize impacts to nearby sensitive receptors:
  - Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors.
  - Diesel idling within 1,000 feet of sensitive receptors shall not be permitted.
  - Use of alternative fueled equipment is recommended.
  - Signs that specify the no idling areas must be posted and enforced at the site.

c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

All Project Segments (Less than Significant Impact with Mitigation). The region of the county in which the Project is located is currently in attainment status for all federal standards and in non-attainment status for O_3 and PM_{10} pursuant to the CAAQS. The Project would produce emissions of NO_X, ROGs, and PM_{10}; however, the emission sources are not permanent sources, and mitigation measures would be implemented to reduce these emissions. Implementation of the **MMs AQ-1** through **AQ-5** would reduce impacts to less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

All Project Segments (Less than Significant Impact with Mitigation). Several sensitive receptors are located near the Project area, including Morro Strand State Beach

(the nearest sensitive receptor, located within the Project site), Coleman Park (located approximately 450 feet south of the maintenance shed), and Morro Dunes RV Park (located approximately 500 feet to the north-east of the Sand Dune Segment). In addition, Morro Bay High School and several residential areas are located within 0.5 mile of the Project area. Two daycare centers (Action Jackson Daycare and Latchkey Child of the Universe) are located within 1 mile of the Project area.

Emissions from land based construction equipment and marine equipment and vessels would occur within 0.25 mile of several public parks and camping areas; however, residential areas, schools, and daycare centers are located more than 0.25 mile from Project emission sources. Sensitive receptors would not be exposed to substantial pollutant concentrations due to the implementation of mitigation measures to reduce Project emissions and the short duration of the project. Implementation of **MM AQ-1** would reduce impacts to less than significant:

e) Create objectionable odors affecting a substantial number of people?

All Project Segments (Less than Significant Impact). Odors from fuel combustion would be generated by land-based construction equipment and marine equipment and vessels. Odors generated by marine equipment and vessels would be minimal and would likely dissipate in the open air before reaching shore.

3.3.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project related air quality impacts to less than significant:

- MM AQ-1: Standard Mitigation Measures for Construction Equipment
- MM AQ-2: Best Available Control Technology for Construction Equipment
- MM AQ-3: Fugitive PM10 Mitigation Measures
- MM AQ-4: Emission Offsets
- MM AQ-5: Idling Control Techniques

3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

3.4.1.1 Regional Setting

The Project site is located immediately adjacent to the City of Morro Bay (City) and the Pacific Ocean along the central coast of California. The area has a mild climate with frequent coastal fog, especially in the summer months. The prevailing wind direction is northwest to southeast off the Pacific Ocean. Annual average temperatures range from 50 to 70 degrees Fahrenheit (°F), with little diurnal or seasonal variation. Average rainfall within the area is approximately 16 inches per year; however, recent drought years have brought less than average rainfall.

The Quaternary age sand dune deposits existing within and adjacent to the Project site are characterized as two soil types: beach sand and dune lands soils. However, much of the Project site was used as a disposal site for hydraulic fill that was dredged locally and placed on the tidal flats and alluvial plains of nearby Morro Creek by the U.S. Navy in 1941 and 1942. These dredge materials consisted primarily of a gray-brown silty sand. Throughout the terrestrial portion of the Project site, vegetation and wildlife habitats on these soils consist of coastal strand, coastal foredunes, and coastal dune scrub. Local alluvial deposits derived from Little Morro Creek and Morro Creek occur in the floodplain of the drainages and where Morro Creek empties into the Pacific Ocean directly adjacent to the marine terminal pipeline corridor. The resulting rich alluvial soils support riparian woodlands, wetlands, estuarine habitat, and associated vegetation along the creeks.

As discussed above, the Project site is situated between three water bodies: the Morro Bay estuary to the south; the floodplains of Morro Creek and Little Morro Creek to the northeast; and the Pacific Ocean to the west. The Morro Bay estuary is located along the Pacific Flyway and is recognized as part of the National Estuary Program. A portion of the estuary in the City is considered a bird sanctuary. Although the existing habitats within the Project site have been substantially modified/disturbed from past and current land uses, the site, in general, is contiguous with some undisturbed habitats in nearby areas. Further, the Morro Bay area in general is characterized by high biotic diversity. This includes the offshore marine environment of the Project site due to the proximity to the Morro Bay estuary and other marine resources distributed throughout Estero Bay. Thus, the existing relatively high biotic diversity of the Project site is mainly due to its proximity and abutment with various terrestrial and marine biological communities.

3.4.1.2 Habitat Types

Biological resources of the Project area were defined and assessed based upon field surveys conducted by Padre Associates, Inc. (Padre) on September 24 and 25, 2015. The September 2015 surveys identified existing plant species composition within the varying habitat types occurring from the Project site to the intertidal zone of adjacent Morro Rock Beach and the southern section of Morro Creek. The survey area included an approximate 30-foot-wide swath on both sides of the pipeline corridor. Additionally, the survey included an inventory of existing wildlife resources (vertebrate and invertebrate species) by walking transects of opportunity through the different habitat types, and recording species observed through visual observation using 8x40 binoculars, auditory cues (calls and songs), and indirect signs (tracks, scat, skeletal remains, burrows, nests, etc.). Weather during the survey was partly cloudy with a temperature of 82 °F and a slight northwesterly wind at 10 miles per hour.

Based on species composition, life form, and community membership rules, the vegetation identified within the Project area was classified into distinct vegetation types

(i.e., alliances, associations) as described in the Manual of California Vegetation (MCVII) (Sawyer et al. 2009) or designated as site-specific vegetation types and land use areas.

Morro Bay Power Plant (MBPP) Facility Segment

Ornamental Vegetation and Disturbed Dune Habitat

Several stands of trees have been planted as windrows within the Project site. A quantitative vegetation assessment was conducted; however, there is no MCVII treatment for this assemblage of species, and Padre designated this stand of vegetation as Ornamental. Stands of trees often provide nesting habitat for birds and over-wintering habitat for monarch butterflies. The quantitative vegetation assessment identified native and non-native tree species, including Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), and eucalyptus (*Eucalyptus globulus*) as the dominant components of this Ornamental vegetation. Component species of the disturbed dune habitat include silver bush lupine (*Lupinus chamissonis*), California croton (*Croton californicus*), ice plant (*Carpobrotus edulis*), and Russian thistle (*Salsola tragus*).

Ruderal Vegetation

In this section, Ruderal vegetation describes areas that were disturbed by past land-use practices or recent ground disturbance. Ruderal vegetation occurs along the roadways, within the abandoned areas of the power plant property, and adjacent to commercial structures within the Project area. This vegetation type consists almost entirely of disturbance-adapted weedy species, including redstem filaree (*Erodium cicutarium*), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), and ice plant.

Developed

In this section, the term “developed” refers to developed land within the Project site where the land surface was modified for commercial, residential, industrial, or infrastructure use. Developed lands typically do not support vegetative cover due to the presence of impervious surfaces. Developed areas within the Project area include office facilities, paved and unpaved roads, and commercial structures.

Sand Dune Segment

Dune Mat

Dune mat (*Abronia latifolia-Ambrosia chamissonis,* Herbaceous Alliance) occurs in sand dunes of coastal river bars, river mouths, and spits along the immediate coastline, with soils that are composed of coarse to fine-textured sands. According to MCVII, this alliance is characterized by yellow sand verbena (*Abronia latifolia*) or beach bur (*Ambrosia chamissonis*) mixed with other perennial herbs, grasses, and low shrubs to form a low

canopy (Sawyer et al. 2009). Yellow sand verbena was not observed within the Project area. Dune mat was observed west of the mouth of Morro Creek, as well as immediately south of the beach access trail. Dune mat vegetation was generally sparse; however, density of component species was variable. Two locations within the Dune mat were assessed to capture the variability of component species. Within the Dune mat vegetation located north of the beach access trail, the quantitative vegetation assessment identified native and non-native herb species with beach-bur as the dominant species. Component species included sea rocket (*Cakile maritima*) and fat-hen (*Atriplex prostata*). Within the Dune mat vegetation located south of the beach access trail, the quantitative vegetation assessment identified native and non-native herbs and grasses with sticky sand verbena (*Abronia maritima*) as the dominant species. Component species included beach bur, sea rocket, European beach grass (*Ammophila arenaria*), and ice plant.

European Beach Grass Swards

European beach grass swards (*Ammophila arenaria*, Semi-Natural Herbaceous Stands) occur in dunes of coastal bars, foredunes, river mouths, and spits along the immediate coastline. This alliance is characterized by European beach grass as dominant in the herbaceous layer; canopy is intermittent to continuous (Sawyer et al. 2009). European beach grass swards were observed on the western portion of the Project area, bordering the Coastal Strand and Beach. The quantitative vegetation assessment identified European beach grass as the dominant species within this vegetation type. Component species were limited to one species: telegraph weed (*Heterotheca grandiflora*).

Mixed Dune

A distinct stand of vegetation comprised of an assemblage of upland species was observed in the central portion of the Project site. This area has been the focus of past restoration efforts, and existing vegetation varies in degree of establishment. A quantitative vegetation assessment was conducted; however, there is no MCVII treatment for this assemblage of species, and Padre designated this stand of vegetation as Mixed Dune. The quantitative vegetation assessment identified a mix of native and non-native shrub and herbaceous species. Component species include ice plant, Blochman's groundsel (*Senecio blochmaniae*), beach bur, coyote brush (*Baccharis pilularis*), and ripgut brome.

Beach Segment

Coastal Strand and Beach

The Coastal Strand and Beach habitat within the Project area is comprised of a broad, gradually sloping sandy beach area that is located to the west of the vegetated areas within the Project area and extends to the intertidal zone. Due to regular inundation of saltwater from high tides and wave activity, wind, and dynamic soils, the Coastal Strand

and Beach habitat does not support vegetation. However, deposits of kelp detritus and driftwood from extreme high tide periods provide cover for a variety of avifauna and marine invertebrates in portions of this habitat. The amount of available habitat from these deposits of kelp detritus and driftwood debris fluctuates throughout the year based on ocean tides and wave activity.

Mixed Riparian and Wetland

A distinct stand of vegetation comprised of an assemblage of riparian and wetland species was observed at the mouth of Morro Creek, in the northern portion of the Project area. A quantitative vegetation assessment was conducted; however, there is no MCVII treatment for this assemblage of species, and Padre designated this stand of vegetation as Mixed Riparian and Wetland. The quantitative vegetation assessment identified a variable mix of native and non-native shrub and herbaceous species, such as arroyo willow (*Salix lasiolepis*), white sweet clover (*Melilotus alba*), saltgrass (*Distichlis spicata*), fat-hen, marsh baccharis (*Baccharis glutinosa*), beach bur, sea rocket, and ice plant.

Arroyo Willow Thickets

Arroyo willow thicket (*Salix lasiolepis*, Shrubland alliance) occurs along stream banks and benches, slope seeps, and stringers along drainages. This alliance is characterized by arroyo willow as the dominant or co-dominant species within the shrub or tree canopy; canopy is open to continuous, and the herbaceous layer is variable (Sawyer et al. 2009). Arroyo willow thicket was observed within the channel and on the banks of Morro Creek, in the northern portion of the Project area. The quantitative vegetation assessment identified native and non-native tree, shrub, and herbaceous species, with arroyo willow as the dominant species. Component species include western sycamore (*Platanus racemosa*), marsh baccharis, blackberry (*Rubus ursinus*), fat hen, and poison hemlock (*Conium maculatum*).

Surf Zone and Offshore Segments

In November 2004, biological dive surveys of the ocean floor using self-contained underwater breathing apparatus (SCUBA), were conducted within the pipeline corridor and proposed anchor locations (de Wit 2004). Results of the survey concluded that the Surf Zone and Offshore Segments of the Project site are characterized by soft substrate and open water habitats, and therefore supports fish assemblages and wildlife species adapted to these habitats. Isolated hard substrate features were observed in a small portion of the Offshore Segment of the Project site and at several locations south of the Project site. More extensive hard substrate has been identified farther offshore, and would not be disturbed or impacted by Project activities (see Appendices E and G). The seafloor sediments in the Project site consist of larger grain sands in shallower waters and finer grain sands in areas greater than 60 feet deep. The common sediment-associated macroepibiotia include several species of echinoderms, tube-building worms, and sand

dollars. The open water habitat within the Surf Zone and Offshore Segments support migration and foraging habitat for marine mammals, reptiles, and avifauna.

3.4.1.3 Wildlife Species

An accurate account of wildlife within a given area is difficult to assess without extended periods of research, trapping, and census taking. Therefore, populations are often described based on existing literature and the quality and extent of available habitat. Few animals were observed during the transect surveys conducted on September 9, 2004, and September 24th and 25th, 2015. However, the following provides an overview of the species identified or expected to occur based on presence of suitable habitat.

MBPP Facility Segment, Sand Dune Segment, and Beach Segment

Terrestrial Invertebrates

During the surveys of the Project site, multiple shells of European snail (*Helix aspersa*) were identified primarily within the ruderal and dune scrub habitat located within close vicinity of the Project site and marine terminal pipeline corridor. Likewise, multiple shells of the Big Sur Shoulderband snail (*Helminthoglypta umbilicata*) were identified within these areas. Largest densities of snail shells were identified between the fence line of the Project site and the paved Embarcadero roadway. Based on existing literature and past surveys, the existing Mixed Dune habitat within this area also represents suitable habitat for the federally-listed Morro shoulderband snail (*Helminthoglypta walkeriana*), as discussed in further detail in Appendix F.

Mammals

Mammals observed during the terrestrial surveys were limited to California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), and multiple den sites of California ground squirrel, primarily located within the Mixed Dune habitat area. Additionally, canid scat consisting of domestic dog (*Canis domestica*), coyote (*Canis latrans*), and red fox (*Vulpes vulpes*) were identified along the pipeline alignments. Other common mammal species expected to occur in the Project area based on the presence of suitable habitat are the following: Virginia opossum (*Didelphis virginiana*), brush rabbit (*Sylvilagus bachmani*), black-tailed jack rabbit (*Lepus californicus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and domestic (feral) cat (*Felis catus*).

Amphibians

No amphibians were observed during surveys of the Project area. However, the following species are expected to occur within the Dune mat and Mixed Dune habitat areas of the pipeline corridor: Ensatina (*Ensatina eschscholtzii*), California slender salamander (*Batrachoseps attenuatus*), black-bellied slender salamander (*Batrachoseps nigriventris*),

and arboreal salamander (*Aneides lugubris*). Additionally, the existing nearby riparian habitat of Morro Creek provides suitable habitat for several amphibian species including Sierran treefrog (*Pseudacris sierra*), California toad (*Anaxyrus boreas halophilus*), and the federally-listed California red-legged frog (*Rana draytonii*). For more information regarding the California red-legged frog, see Appendix F.

Reptiles

Reptiles observed during the surveys were limited to western fence lizard (*Sceloporus occidentalis*). Based on the presence of suitable dune scrub habitat, the following reptile species area expected to occur throughout the site: western skink (*Eumeces skiltonianus*), southern alligator lizard (*Elgaria multicarinata*), striped racer (*Masticophis lateralis*), gopher snake (*Pituophis melanoleucus*), California king snake (*Lampropeltis getula californiae*), and western rattlesnake (*Crotalus viridis*). Other potential reptile species include the state special-status Blainville's horned lizard (*Phrynosoma frontale*) and California legless lizard (*Anniella pulchra*) (State Species of Special Concern), such as the black legless lizard (*Anniella pulchra nigra*) and silvery legless lizard (*Anniella pulchra pulchra*). Additionally, the existing nearby riparian habitat of Morro Creek provides suitable habitat for several reptilian species, including ringneck snake (*Diadophis punctatus*), common garter snake (*Thamnophis sirtalis*), and state special-status two-striped garter snake (*Thamnophis hammondii*) (State Species of Special Concern) and Southwestern pond turtle (*Actinemys marmorata*). For more information on the Blainville's horned lizard, California legless lizards, two-striped garter snake, and southwestern pond turtle, see Appendix F.

Fish

No fish were observed during field surveys within the Project area; however, based on the presence of suitable habitat within Morro Creek, the following fish species have the potential to occur within the Project area, including three-spined stickleback (*Gasterosteus aculeatus*), South-Central California Coast steelhead (*Oncorhynchus mykiss*), and tidewater goby (*Eucyclogobius newberryi*). For more information on the special-status fish species that have the potential to occur, see Appendix F.

Avifauna

Birds observed from the perimeter of the Project site facility through the dune scrub habitat area were limited to house finch (*Carpodacus mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), Bewick's wren (*Thryomanes bewickii*), turkey vulture (*Cathartes aura*), black-crowned night heron (*Nycticorax nycticorax*), and American crow (*Corvus brachyrhynchos*). Birds observed within the nearshore area were engaged in a variety of activities, such as resting on the beach and foraging within the intertidal zone. Additionally, several birds were observed in flight to and from Morro Bay. These birds included the following: sanderling (*Calidris alba*), semipalmated plover (*Charadrius*

semipalmatus), willet (*Catoptrophorus semipalmatus*), whimbrel (*Numenius phaeopus*), marbled godwit (*Limosa fedoa*), ring-billed gull (*Larus delawarensis*), western gull (*Larus occidentalis*), Heermann's gull (*Larus heermanni*), long-billed curlew (*Numenius americanus*), double-crested cormorant (*Phalacrocorax auritus*), California brown pelican (*Pelecanus occidentalis californicus*), and killdeer (*Charadrius vociferus*). Birds observed during surveys of Morro Creek included, black-chinned hummingbird (*Archilochus alexandri*), Anna's hummingbird (*Calypte anna*), house finch, common yellowthroat (*Geothylpis trichas*), and Say's phoebe (*Sayornis saya*).

In addition to the bird species listed above, bird species commonly associated with the sandy beaches of southern California have the potential to occur throughout the Project area. These birds include, but are not limited to: grebes (*Aechmophorus* sp. and *Podiceps* sp), scoters (*Melanitta* sp.), loons (*Gavia* spp.), various other shore birds, and gulls (*Larus* spp.). Further, federal and state special-status bird species, including but not limited to, western snowy plover (*Charadrius alexandrines nivosus*) (federally threatened) and peregrine falcon (*Falco peregrinus*) (State Fully Protected) are known to occur within the Project area. For more information on special-status bird species, see Appendix F.

Surf Zone Segment and Offshore Segment

Birds

Bird species commonly associated with nearshore open waters of the central California coast have the potential to occur in the open waters of the Project site. These birds include, but are not limited to grebes, loons, pelicans (*Pelecanus* spp.), cormorants (*Phalacrocorax* spp.), gulls, scoters, eiders (*Somateria spectabilis*), and murres (*Uria aalge*). These marine bird species feed on small schooling fish, squid, and zooplankton, and forage in open water where prey is concentrated near the water's surface.

Marine Invertebrates

The nearshore subtidal habitat in Estero Bay is predominantly sedimentary, and interspersed with isolated rocky features, especially the area around Morro Rock. The epifauna of the shallower sedimentary habitats, including the Project site, typically includes several species of macro-invertebrates, including sea stars (*Patiria* sp. and *Pisaster* spp.), Pacific sand dollars (*Dendraster excentricus*), and slender crabs (*Cancer gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota, comprised of macrophytic algae, urchins (*Strongylocentrotus* spp.), sea stars, and cnidarians (anemones and solitary corals).

Wave exposure, sediment grain size, and depth are the main physical factors that influence the composition of subtidal benthic communities. The November 2004 marine biological dive survey observed coarser grained sands in water depths less than 30 feet and finer grained sand in water depths greater than 30 feet and concluded that 95 percent

of the seafloor observed within the proposed anchor locations was sedimentary and 100 percent of the seafloor was sedimentary within a 20-foot-wide corridor (de Wit 2004). Sand dollars are exceedingly abundant off many beaches along the outer coast and would be expected to occur within the Project site. Most species of benthic invertebrates are non-contiguously distributed, many are highly mobile, and as a group are well adapted to recolonizing habitat disturbed by wave action or predators.

Sand dollars are disc-shaped echinoderms that typically occur in dense populations, only partially buried, and feed on suspended material swept by ocean currents. They move towards shore during calm conditions, and into deeper water during rough conditions. As with many marine invertebrates, sand dollars are broadcast spawners, meaning that gametes are dispersed into the water column where fertilization and larval development take place. Upon completion of larval development, recruits settle in areas containing adequate sandy substrate. Occasional winter storms may be severe enough to disrupt the sand dollar bed structure, resulting in the removal or mortality of individual sand dollars. The elimination of existing sand dollars, however, results in open space that may be colonized by other sand dollars, tube worms (*Diopatra ornate*), or other benthic organisms that reside within the sand. Because sand dollars have been observed within the pipeline corridor, they would likely be impacted by pipeline removal activities.

Marine Fish

Fish assemblages off central California are comprised of both year-round residents and migratory species. The abundance of some year-round residents, such as northern anchovy (*Engraulis mordax*), may fluctuate considerably as new cohorts of juveniles migrate inshore or develop from larvae during spring and summer months. Substrate composition, wave exposure, depth, and presence of kelp or seagrass often determine fish species composition in a particular area. In Estero Bay, and at the Project site, many species are demersal types, such as sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*), or Pacific staghorn sculpin (*Leptocottus armatus*) that are associated with soft substrates. Other species such as white croaker (*Genyonemus lineatus*) or barred surfperch (*Amphisticus argenteus*) inhabit the water column but feed on invertebrates living in the substrate. Still others are restricted mainly to the water column, such as anchovy, sardine (*Sardinops sagax*), topsmelts (Atherinidae), striped bass (*Morone saxatilis*), or white seabass (*Atractoscion nobilis*), where they feed on midwater plankton or other midwater fishes (de Wit 2004).

The Project site is comprised mostly of soft substrate and open water habitats, and therefore supports fish assemblages adapted to these habitats. Isolated hard substrate features occur at a small portion of the Project site. Hard substrate located farther offshore and to the south would not be disturbed or impacted by Project activities. These sites attract different assemblages of fishes, which could transit through the Project site during localized movements. Recreational fishery statistics have shown that in San Luis Obispo

County, the Pacific staghorn sculpin, white croaker, and various species of surfperches were the most commonly caught species. Other species commonly caught by pier fishers include jacksmelt (*Atherinopsis californiensis*) and, during warm water years, Pacific mackerel (*Scomber japonicus*). California halibut is a prized species targeted by recreational anglers in Estero Bay, particularly during summer months when larger individuals tend to move within the nearshore areas of Morro Bay harbor.

Grunion (*Leuresthes tenuis*) is a member of the silverside family (Atherinidae) that uses sandy beaches from Monterey Bay to Central Baja California for spawning. Twice a month, at new and full moons between March and early September, grunions come ashore during the 2 or 3 nights following the highest tide. Grunion bury their eggs 4 to 5 inches below the surface, with maturation occurring in 10 days. The next spring high tide reaches the eggs, induces them to hatch, and carries the larvae offshore where they mature. Grunion have the potential to use the beaches within Estero Bay for spawning, and may seasonally occur within the Project site.

Marine Mammals and Sea Turtles

All marine mammals are protected under the 1972 Marine Mammal Protection Act (MMPA), and all sea turtles in U.S. waters are listed under the Federal Endangered Species Act (FESA). These laws are overseen by the National Marine Fisheries Service (NMFS). Baleen whales, toothed whales (including dolphins), sea lions (including the California sea lion (*Zalophus californianus*)), harbor seals (such as the Pacific harbor seal (*Phoca vitulina richardsi*)), and Southern sea otter (*Enhydra lutris nereis*) could occur in the Project site's offshore component, while haul-out areas for harbor seals are present in the general Project vicinity. Disturbing, harassing, injuring, or killing a protected species is prohibited by the MMPA. Table 3.4-1 lists species that could be encountered by support vessels operating in Estero Bay and their estimated densities. Table 3.4-2 details marine wildlife occurrences and distribution in central California. Where seasonal differences occur, individuals may also be found within the area during the off-season and, depending on the species, the numbers of abundant animals present in their off-season may be greater than the numbers of less common animals in their on-season.

Although rarely encountered, marine turtles occur within waters off the central California coast, and could potentially occur within the offshore Project area. Populations of marine turtles have been greatly reduced due to over harvesting and loss of nesting sites in coastal areas. Sea turtles breed at sea and the females return to their natal beaches to lay their eggs; however, sea turtles do not nest anywhere along the California coast. The four listed sea turtles that may occur within the Project site include the endangered Leatherback turtle (*Dermochelys coriacea*) and Loggerhead turtle (*Caretta caretta*), and the threatened Green turtle (*Chelonia mydas*) and Olive Ridley turtle (*Lepidochelys olivacea*). Although several occurrences of sea turtles have been documented off the central coast, the likelihood of their occurrence in the Project site is considered low.

Table 3.4-1. Marine Wildlife Species of the Central California Coast

Common Name *Scientific Name*	Minimum Population Estimate (Stock)	Current Population Trend
REPTILES		
Cryptodira*		
Green turtle *Chelonia mydas*	3,319 to 3,479 (Eastern Pacific Stock)	Increasing
Leatherback turtle *Dermochelys coriacea*	961 (Eastern Pacific)	Decreasing
Loggerhead turtle *Caretta caretta*	7,138 (CA)	Decreasing
Olive Ridley turtle *Lepidochelys olivacea*	1.15 to 1.62 million (Eastern Tropical Pacific)	Increasing
MAMMALS		
Mysticeti		
Blue whale *Balaenoptera musculus*	1,551 (Eastern North Pacific)	Stable
California gray whale *Eschrichtius robustus*	20,125 (Eastern North Pacific)	Increasing
Fin whale *Balaenoptera physalus*	2,598 (CA/OR/WA)	Increasing
Humpback whale *Megaptera novaeangliae*	1,855 (CA/OR/WA)	Increasing
Minke whale *Balaenoptera acutorostrata*	202 (CA/OR/WA)	No long-term trend suggested
Northern Pacific right whale *Eubalaena japonica*	25 (Eastern North Pacific)	No long-term trend suggested
Sei whale *Balaenoptera borealis*	83 (Eastern North Pacific)	No long-term trend suggested
Odontoceti		
Baird's beaked whale *Berardius bairdii*	446 (CA/OR/WA)	No long-term trend suggested
Common bottlenose dolphin *Tursiops truncatus*	684 (CA/OR/WA Offshore)	No long-term trend suggested
	290 (CA Coastal)	No long-term trend suggested
Cuvier's beaked whale *Ziphius cavirostris*	4,481 (CA, OR, WA)	Decreasing
Dall's porpoise *Phocoenoides dalli*	32,106 (CA/OR/WA)	Unable to determine
Dwarf sperm whale *Kogia sima*	Unknown (CA, OR, WA)	No long-term trend suggested
Harbor porpoise *Phocoena phocoena*	2,102 (Morro Bay)	Increasing
	2,480 (Monterey Bay)	Unable to determine
	23,749 (Northern CA/Southern OR)	No long-term trend suggested
Killer whale *Orcinus orca*	82 (Eastern North Pacific Southern Resident)	Decreasing
	240 (Offshore CA/OR/WA)	Unable to determine

Table 3.4-1. Marine Wildlife Species of the Central California Coast

Common Name *Scientific Name*	Minimum Population Estimate (Stock)	Current Population Trend
Long-beaked common dolphin *Delphinus capensis*	76,224 (CA)	Unable to determine
Mesoplodont beaked whales	389 (CA/OR/WA)	Decreasing
Northern right whale dolphin *Lissodelphis borealis*	6,019 (CA/OR/WA)	No long-term trend suggested
Pacific white-sided dolphin *Lagenorhynchus obliquidens*	21,406 (CA/OR/WA Northern and Southern)	No long-term trend suggested
Pygmy sperm whale *Kogia breviceps*	271 (CA/OR/WA)	No long-term trend suggested
Risso's dolphin *Grampus griseus*	4,913 (CA/OR/WA)	No long-term trend suggested
Short-beaked common dolphin *Delphinus delphis*	343,990 (CA/OR/WA)	Unable to determine
Short-finned pilot whale *Globicephala macrorhynchus*	465 (CA/OR/WA)	No long-term trend suggested
Sperm whale *Physeter macrocephalus*	1,332 (CA/OR/WA)	No long-term trend suggested
Striped dolphin *Stenella coeruleoalba*	8,231 (CA/OR/WA)	No long-term trend suggested
Pinnipedia		
California sea lion *Zalophus californianus*	153,337 (U.S.)	Increasing
Guadalupe fur seal *Arctocephalus townsendi*	3,028 (Mexico; Undetermined in CA)	Increasing
Northern (Steller) sea lion *Eumetopias jubatus*	36,551 (Eastern North Pacific)	Decreasing in California
Northern elephant seal *Mirounga angustirostris*	81,368 (CA Breeding)	Increasing
Northern fur seal *Callorhinus ursinus*	6,722 (CA)	Increasing
Pacific harbor seal *Phoca vitulina richardsi*	27,348 (CA)	Increasing
Fissipedia		
Southern sea otter *Enhydra lutris nereis*	2,944**	Increasing

Sources: National Marine Fisheries Service (NMFS) 2014; Allen et al. 2011.
Acronyms: CA = California; OR = Oregon; WA = Washington
Notes:
* Estimates are based on number of current numbers of nesting females.
** Estimate provided by U.S. Geological Survey 2014.

Table 3.4-2. Marine Wildlife Species and Periods of Occurrence

Family / Common Name		Month of Occurrence[1]											
		J	F	M	A	M	J	J	A	S	O	N	D
REPTILES													
Cryptodira	Green turtle (T)[2]	■	■	■	■	■	■	▨	▨	▨	■	■	■
	Leatherback turtle (E)[2]	■	■	■	■	■	■	▨	▨	▨	■	■	■
	Loggerhead turtle (T)[2]	■	■	■	■	■	■	▨	▨	▨	■	■	■
	Olive ridley turtle (T)[2]	■	■	■	■	■	■	■	■	■	■	■	■
MAMMALS													
Mysticeti	Blue whale (E)	□	□	□	□	□	■	■	■	■	■	■	□
	California gray whale	▨	▨	▨	▨	▨	□	□	□	□	□	▨	▨
	Fin whale (E)	□	□	□	□	■	■	■	■	■	■	■	□
	Humpback whale (E)	□	□	□	□	■	■	■	■	■	■	■	□
	Minke whale	■	■	■	■	■	■	■	■	■	■	■	■
	Northern right whale (E)	■	■	□	□	□	□	□	□	□	■	■	■
	Sei whale (E)	■	■	■	■	■	■	■	■	■	■	■	■
Odontoceti	Baird's beaked whale	■	■	■	■	■	▨	▨	▨	▨	▨	▨	■
	Common bottlenose dolphin	■	■	■	■	■	■	■	■	■	■	■	■
	Cuvier's beaked whale	■	■	■	■	■	■	■	■	■	■	■	■
	Dall's porpoise	▨	▨	▨	▨	▨	■	■	■	■	■	■	▨
	Dwarf Sperm Whale	■	■	■	■	■	■	■	■	■	■	■	■
	Harbor porpoise	■	■	■	■	■	■	■	■	■	■	■	▨
	Killer Whale	■	■	■	■	■	■	■	■	■	■	■	■
	Long-beaked common dolphin	▨	▨	▨	▨	▨	▨	■	■	■	■	■	▨
	Mesoplodont beaked whales	■	■	■	■	■	■	■	■	■	■	■	■
	Northern right whale dolphin	■	■	■	■	■	□	□	□	□	□	□	■
	Pacific white-sided dolphin	■	■	■	▨	▨	▨	▨	▨	▨	■	■	■
	Pygmy sperm whale	■	■	■	■	■	■	■	■	■	■	■	■
	Risso's dolphin	■	■	■	■	■	■	■	■	■	■	■	■
	Short-beaked common dolphin	▨	▨	▨	▨	▨	▨	■	■	■	■	■	▨
	Short-finned pilot whale	■	■	■	■	■	■	■	■	■	■	■	■
	Sperm whale	■	■	■	■	■	■	■	■	■	■	■	■
	Striped dolphin	■	■	■	■	■	■	■	■	■	■	■	■
Pinnipedia	California sea lion	■	■	■	■	■	■	■	■	■	■	■	■
	Guadalupe fur seal	■	■	■	■	■	■	■	■	■	■	■	■
	Northern elephant seal[3]	▨	▨	▨	■	■	■	■	■	■	■	▨	▨
	Northern fur seal[4]	□	▨	▨	▨	▨	▨	▨	▨	▨	□	□	□
	Pacific harbor seal	■	■	■	■	■	■	■	■	■	■	■	■
	Steller sea lion	■	■	■	■	■	■	■	■	■	■	■	■
Fissipedia	Southern sea otter (T)[5]	■	■	■	■	■	■	■	■	■	■	■	■

Code : Expected to occur in Project area ■; Relatively uniform distribution ■; Not expected to occur □; More likely to occur due to seasonal distribution ▨

Source: Allen et al. 2011; National Centers for Coastal Ocean Science 2007.

Acronyms: E = federally-listed endangered species; T = federally-listed threatened species.

Notes:

1 Where seasonal differences occur, individuals may also be found in off-season. Also, depending on the species, the numbers of abundant animals present in their off-season may be greater than the numbers of less common animals in their on-season.

2 Rarely encountered, but may be present year-round. Greatest abundance: July through September.

3 Common near land during winter breeding season and spring molting season.

4 Only a small percent occurs over continental shelf (except near San Miguel rookery, May-November).

5 Only nearshore (diving limit 100 feet).

Non-Native Aquatic Species

Non-native aquatic species (NAS), also known as non-indigenous aquatic species, include plants, animals, and micro-organisms that have been introduced to new regions through various human activities. In coastal environments, commercial shipping is the most significant vector for invasions, and vessel biofouling and ballast water are considered the primary contributors of NAS. Once established, NAS can cause significant ecological, economic, and human health problems in the receiving environment, including altering the structure and function of ecosystems, causing declines in native and commercial fisheries, and spreading human pathogens. The California Department of Fish and Wildlife (CDFW) recognizes 347 NAS with established populations in California coastal waters (CDFW Office of Spill Prevention and Response [OSPR] 2014). The origin of many NAS is unknown; however, the majority of NAS in California appear to be native to the northwest Pacific or northeast Atlantic.

The CSLC is the lead implementing agency for the State's Marine Invasive Species Program (MISP), which strives to prevent NAS release from commercial vessels to California waters. The MISP began in 1999 with the passage of California's Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of NAS introduction through ships' ballast water. In 2003, the Marine Invasive Species Act (MISA) was passed, reauthorizing, and expanding the 1999 Act, which directed the CSLC to formulate recommendations to prevent or minimize the introduction of NAS discharges for vessels 300 gross registered tons or greater, capable of carrying ballast water, operating in State waters. All vessels that depart a California port or place are required to submit to the CSLC a Ballast Water Reporting Form that includes information about port of origin, how the ballast water was managed, and how much ballast water was discharged (CSLC 2014).

The CSLC also regulates vessel biofouling under the MISA. Since 2008, the CSLC has required vessels subject to the MISA to submit an annual Hull Husbandry Reporting Form, and regularly remove vessel biofouling. These data, in conjunction with results of CSLC-funded biological research, help in the identification of management practices to reduce the risk of NAS introduction through vessel biofouling. The CSLC has proposed regulations to amend the California Code of Regulations (specifically tit. 2, div. 3, ch. 1, art. 4.8) that would establish management requirements for vessel biofouling, including the use of a biofouling management plan specific to the vessel, biofouling log book, and use of antifouling systems or practices to deter or prevent species attachment.

3.4.1.4 Plant Species

MBPP Facility Segment, Sand Dune Segment, and Beach Segment

Field surveys were completed in September, which falls within the blooming periods for some, but not all, of the special-status plants occurring within 5 miles of the Project site.

See Table 3.4-3 for the blooming periods for special-status plant species that occur within the habitat types observed in the Project site.

Table 3.4-3. Blooming Periods for Potentially Occurring Special-Status Plants

	Blooming Period[1] (month)											
Common Name[2]	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Arroyo de la Cruz manzanita	■	■	■									■
Beach spectaclepod			■	■	■	■	■	■				
Blochman's groundsel					■	■	■	■	■	■	■	
Blochman's leafy daisy						■	■	■	■	■		
California seablite							■	■	■	■		
Coast woolly-heads			■	■	■	■	■	■	■			
Coastal goosefoot				■	■	■	■	■	■	■		
Coulter's goldfields		■	■	■	■	■						
Indian knob mountainbalm			■	■	■	■						
Marsh sandwort					■	■	■	■				
Miles' milk-vetch			■	■	■	■						
Morro manzanita	■	■	■									■
Popcorn lichen[3]	-	-	-	-	-	-	-	-	-	-	-	-
Salt marsh bird's-beak					■	■	■	■	■	■		
Southern curly-leaved monardella				■	■	■	■	■	■			
Sticky sand verbena		■	■	■	■	■	■	■	■	■	■	■

Notes:
[1] Blooming period information from Baldwin et al. 2012; California Native Plant Society (CNPS) 2015.
[2] Species in italics are detectable outside of breeding period.
[3] Non-blooming species.

The presence, absence, and abundance of special-status plants associated with the habitats occurring within the Project site can vary based on annual fluctuations in precipitation, fire, non-native and invasive species, human disturbance, agricultural operations, and seed banks that can stay dormant for several years. Additional botanical surveys are recommended during the appropriate blooming period to determine the presence of special-status plants that have potential to occur within the Project site.

During 2015 field surveys, sticky sand verbena and Blochman's groundsel were observed within the Project site. No additional special-status plant species were identified within the Project site at that time. However, based on presence of suitable habitat, the following special-status plant species have the potential to occur within the Project site: Arroyo de la Cruz manzanita (*Arctostaphylos cruzensis*), beach spectaclepod (*Dithyrea maritima*), Blochman's leafy daisy (*Erigeron blochmaniae*), California seablite (*Suaeda californica*), coast woolly-heads (*Nemacaulis denudata* var. *denudata*), coastal goosefoot (*Chenopodium littoreum*), Coulter's goldfields (*Lasthenia glabrata*), Indian Knob

mountainbalm (*Eriodictyon altissimum*), marsh sandwort (*Arenaria paludicola*), Miles' milk-vetch (*Astragalus didymocarpus*), Morro manzanita (*Arctostaphylos morroensis*), popcorn lichen (*Cladonia firma*), salt marsh bird's-beak (*Chloropyron maritimum* ssp. *maritimum*), and southern curly-leaved monardella (*Monardella undulata*).

The beach habitat within the Project area is comprised of a broad, gradually sloping sandy beach area that is located to the west of the vegetated areas within the Project area and extends to the intertidal zone. Due to regular inundation of saltwater from high tides and wave activity, wind, and dynamic soils, the beach does not support vegetation. However, deposits of kelp detritus and driftwood from extreme high tide periods (wrack line) provide refuge for marine invertebrates and foraging habitat for a variety of avifauna. The amount of available habitat from these deposits of kelp detritus and driftwood debris fluctuates throughout the year based on ocean tides and wave activity.

Surf Zone Segment

No plants occur in the Surf Zone Segment.

Offshore Segment

Dive surveys completed in November 2004 did not observe any vascular plants within the Offshore Segment (i.e., surf grass [*Phyllospadix torreyi*] or eel grass [*Zostera marina*]). Algal species present during the 2004 surveys included an unidentified red algae (de Wit 2004). There were no observations of kelp beds within the Project site.

3.4.1.5 Special-Status Species

For the purpose of this section, special-status species are animal taxa listed or proposed for listing as threatened or endangered under the FESA, California Endangered Species Act (CESA), Federal Species of Concern or State Species of Special Concern, and candidates for listing.

MBPP Facility Segment, Sand Dune Segment, and Beach Segment

A list of special-status species that have been reported within 5 miles of the Project site was compiled based on a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB), a query of the CNPS database, California Rare Plant Ranking System, and other sources of technical survey information from the Project vicinity. Tables 4-1 and 4-3 in Appendix F provide a likelihood of occurrence analysis based on the species range and habitat requirements, and the habitats present within the Project site. Descriptions of special-status species with the potential to occur within the Project site are also included in Appendix F. Additional information and figures regarding these species are also discussed in Appendix F.

Surf Zone Segment and Offshore Segment

Special-status marine species that may occur in the Project area are summarized in Table 3.4-4 (see also descriptions in Appendix E).

Table 3.4-4. Special-Status Marine Species that May Occur in the Project Area

Common Name	Scientific Name	Status	Critical Habitat	Regulatory Agency
Fish				
Bocaccio	*Sebastes paucispinis*	Species of Concern	2	NMFS
Cowcod	*Sebastes levis*	Species of Concern	1	NMFS
Sea Turtles				
Pacific olive Ridley sea turtle	*Lepidochelys olivacea*	Threatened	1	NMFS
Green sea turtle	*Chelonia mydas*	Threatened	2	NMFS
Loggerhead sea turtle	*Caretta caretta*	Threatened	1	NMFS
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	3	NMFS
Birds				
California least tern	*Sterna antillarum browni*	Endangered	1	USFWS
Western snowy plover	*Charadrius alexandrinus nivosus*	Threatened	3	USFWS
Xantus's murrelet	*Synthliboramphus hypoleucus*	Candidate	1	USFWS
Marbled murrelet*	*Brachyramphus marmoratus*	Endangered	2	USFWS
Short-tailed albatross*	*Phoebastria albatrus*	Endangered	1	USFWS
Marine Mammals				
Blue whale	*Balaenoptera musculus*	Endangered	1	NMFS
Humpback whale	*Megaptera novaeangliae*	Endangered	1	NMFS
Fin whale	*Balaenoptera physalus*	Endangered	1	NMFS
Southern sea otter	*Enhydra lutris nereis*	Threatened	1	USFWS

Acronyms: NMFS = National Marine Fisheries Service; USFWS = U.S. Fish and Wildlife Service.
Notes:
[1] Project site may be outside of the geographic range or depth requirements for species indicated with an (*).
[2] Critical Habitat Code: 1. No Critical Habitat designated; 2. Critical Habitat designated, but none in Project area; and 3. Critical Habitat in Project area.

3.4.1.6 Special-Status Habitats

Based on a query of the CDFW CNDDB and the U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal, several habitats occur in the region that are afforded protection by a federal, state, or local authority and may support special-status plants and wildlife. For the purpose of this section, sensitive habitats include the following:

- Critical Habitat defined by the FESA under Section 3, and protected by the USFWS or National Marine Fisheries Service (NMFS)
- Special-status natural communities defined by the CESA and protected by the CDFW or local agencies
- Marine protected areas (MPAs) afforded protection by CDFW under the Marine Life Protection Act
- Sensitive habitats protected by the county of San Luis Obispo
- Rare habitats protected by local professional organizations or the scientific community

Sensitive habitats occurring within 5 miles of the Project area are discussed in the following sections.

General Project Area

Based on the 2015 field surveys, two Natural Communities of Special Concern, Central Dune Scrub and Central Coast Riparian Scrub (Holland 1986) were identified within the Project area. These Natural Communities were described in Section 3.4.1.2 as Mixed Dune and Arroyo Willow Thicket based on MCVII nomenclature.

MBPP Facility Segment

No special-status habitats occur within this segment.

Sand Dune Segment

Morro Shoulderband Snail Critical Habitat

USFWS-designated Critical Habitat for Morro shoulderband snail was finalized in March 2001 (USFWS 2001). Critical Habitat designated by the USFWS includes the following elements: (1) sand or sandy soils which are necessary for reproduction; (2) to permit movement, no greater than a 10 percent slope; and (3) native coastal dune scrub vegetation. Morro shoulderband snail Critical Habitat occurs within 0.5 mile southeast of the Project area but does not extend into the Project area.

Beach Segment

California Red-Legged Frog Critical Habitat

USFWS-designated Critical Habitat for California red-legged frog was finalized in March 2001 for core areas selected based on the following criteria: (1) areas that are occupied by California red-legged frog; (2) areas where populations of California red-legged frog appear to be source populations; (3) areas that provide connectivity between source

populations; and (4) areas that represent areas of ecological significance (USFWS 2002). Critical Habitat may include an area that is not currently occupied by the species but is important for its recovery. Further, California red-legged frogs are ultimately protected if occurring outside designated Critical Habitat areas. California red-legged frog Critical Habitat is located within 1 mile to the northeast of the Project area but does not extend into the Project area.

Steelhead Critical Habitat

Steelhead are federally listed as threatened under the FESA. NMFS is responsible for designating Critical Habitat for this species. The South-Central California Coast Distinct Population Segment is defined as naturally spawned anadromous populations below impassable barriers from Pajaro Creek south to, but not including, Santa Maria River. Steelhead Critical Habitat includes Morro Creek within the Project area.

Tidewater Goby Critical Habitat

Tidewater goby are federally listed as endangered under the FESA, and USFWS-designated Critical Habitat includes all locations where this species is known or likely to occur. The nearest tidewater goby Critical Habitats, referred to as SLO-8 and SLO-9, are located within Toro Creek approximately 2.5 miles northwest of the Project area and Los Osos Creek, approximately 3.9 miles southeast of the Project area. Critical Habitat does not extend into the Project area.

Western Snowy Plover Critical Habitat

The Pacific Coast population of western snowy plover is federally listed under the FESA as threatened. USFWS-designated Critical Habitat for this species was finalized in June 2012 for areas along the coasts of California, Oregon, and Washington. Critical Habitat areas for western snowy plover consist of sandy beaches, dune systems immediately inland of an active beach face, salt flats, and mud flats that were selected based on the following criteria: (1) areas that will allow the species to move and expand; (2) known breeding areas; (3) known wintering areas; (4) habitat that is unique or that provides interchange between otherwise widely separated units; (5) areas to maintain connectivity of habitat; and (6) areas in which restoration activities will occur. Western snowy plover Critical Habitat occurs within the coastal dune habitat within the Project area.

Morro Bay Kangaroo Rat Critical Habitat

The USFWS-designated Critical Habitat for Morro Bay Kangaroo Rat (*Dipodomys heermanni morroensis*) was finalized August 1977. The Critical Habitat was originally delineated because it contained a significant population of the species. Since the designation, the population has decreased and is now restricted to an area of approximately 5 miles, generally corresponding to the distribution of Baywood fine sand,

south and southeast of Morro Bay. The species has not been observed in the wild since 1986. Morro Bay Kangaroo Rat Critical Habitat occurs 4 miles south of the Project area within Montaña De Oro State Park. Critical Habitat does not extend into the Project area.

Surf Zone Segment

Intertidal Zone

The intertidal zone is a dynamic environment characterized in part by daily tidal fluctuations (leading to high concentrations of sunlight and periods of aerial exposure) and wave forces. Organisms residing within the intertidal zone are typified by hardy species that are capable of withstanding stresses associated with waves and daily tidal fluxes. Areas with hard substrate within the intertidal zone (i.e., rocky intertidal) can be areas of rich species diversity and abundance. Hard substrate provides habitat structure and a permanent surface that algae and benthic and sessile organisms may attach to, which allows for the establishment of long-lived complex communities. Although no hard substrate habitat exists directly within the Project site, hard substrate occurs directly to the south of the Project site.

The intertidal zone within the Project site consists entirely of sandy beaches, which account for the majority of the intertidal habitat of Estero Bay. As indicated above, relatively few species are able to live in this unstable habitat. Characteristic macroepibiota observed during the 2004 marine biological surveys included sand dollars, the short-spined sea star (*Pisaster brevispinus*), and the sand star (*Astropecten armatus*) (de Wit 2004). Common crustaceans include sand crab (*Emerita analoga*) and the spiny mole crab (*Blephoripoda occidentalis*). Pismo clams (*Tivela stultorum*) and razor clams (*Siliqua patula*) occur on broad sandy beaches exposed to strong surf; however, the local population of Pismo clams in Morro Bay has declined significantly since the recreational fishery was overharvested and the expansion of the southern sea otter's range (California Department of Fish and Game 2006).

Offshore Segment

Subtidal Zone

As with the intertidal zone, subtidal areas containing hard substrate typically support a wide variety of organisms. In subtidal areas off the southern California coast where hard or rocky substrate is available, giant kelp (*Macrocystis pyrifera*) communities (i.e., kelp forests) are often present. Kelp forests are an important part of the marine ecosystem in that they provide habitat structure and substrate surfaces for many epibiotic, benthic, and sessile organisms and provide food, shelter, and nursery habitat for migratory and resident species of fish, marine mammals, and invertebrates (National Ocean Service 2015). The nearest kelp forest is located to the north of Cayucos.

The diversity and abundance of species is generally less for soft-substrate habitats within the subtidal zone than areas with hard substrate. However, sandy subtidal environments support communities of organisms that are adapted to, and in some cases unique to, this environment, and are important to marine ecosystems. Organisms typically found in sandy subtidal environments include: tube worms, sand dollars, and various species of crabs, sea stars, snails, bottom dwelling fishes, etc. See Appendix E and G for a description of those species observed within soft-bottom habitats of the Project site.

Seagrasses

Eelgrass (*Zostera* spp.) and surf grass (*Phyllospadix* sp.) are two important seagrass species found on the U.S. west coast. These grasses are vascular plants, not algae, forming dense beds of leafy shoots year-round in the lower intertidal and subtidal areas. Eelgrass is found on soft-bottom substrates in intertidal and shallow subtidal areas of estuaries and in some nearshore areas, such as the Channel Islands and Santa Barbara Channel. Eelgrass provides shelter for invertebrates and juvenile fish, contributes to the detrital food chain, and is considered a Critical Habitat for some vertebrate and invertebrate species.

Surf grass occurs on hard-bottom substrates along higher energy coastlines. Studies have shown seagrass beds to be among the areas of highest primary productivity in the world. During low tide, surf grass often appears as an emerald green belt fringing the shoreline. Surf grass is characteristically the predominant plant in this low intertidal/shallow subtidal zone, providing important refuge and nursery habitat for invertebrates and fishes (National Oceanic and Atmospheric Administration [NOAA] 2015). The width of the surf grass zone and patch sizes of surf grass are largely dependent on the slope of the shoreline, topographical relief, and substrate availability. In addition to growing on rocks, both species of *Phyllospadix* grow in sandy areas, attached to rocks buried beneath the sand, and the rhizomes and dense blades, in turn, stabilize the sand.

Although no quantitative seagrass mapping of the area has been completed to date, the water depths and seafloor bottom within the Project site may be conducive to seagrasses. The last surveys of the seafloor within the Project site; conducted in 2004 (de Wit 2004), did not identify any seagrass habitat. Pre-construction surveys (see **Mitigation Measure (MM) BIO-8** and Appendices C and I) will be conducted prior to anchoring or decommissioning and, if seagrass habitat is found within the Project site, avoidance measures would be implemented to avoid any disturbance. Avoidance measures include moving anchor locations to avoid disturbing seagrass beds. Post-Project dive surveys would be performed to record the state of any potential seagrass beds after Project completion.

Leatherback Sea Turtle Critical Habitat

Critical Habitat for federally endangered leatherback sea turtle was proposed in 2010, and revised and finalized on January 26, 2012, for the eastern Pacific Ocean population (NMFS 2012). The Project area is within Area 7 of the designated Critical Habitat, which encompasses the neritic waters between Point Arena and Point Arguello. Area 7 encompasses 33,936 square miles. Satellite telemetry data indicate that foraging behavior occurred within the 6,500 feet isobath, west of Monterey Bay and Big Sur, and west of Morro and Avila bays. Foraging typically occurs during the spring and early summer when neritic waters are cool. Leatherback sea turtles that foraged in this area eventually move further east or north into Area 1 during the late summer (NMFS 2012). Project activities are scheduled to occur in the fall, after the foraging period of the species in the Project area. One primary constituent element has been identified for leatherback sea turtle Critical Habitat is the occurrence of prey species, primarily scyphomedusae of the order Semaeostomeae (e.g., *Chrysaora*, *Aurelia*, *Phacellophora*, and *Cyanea*), of sufficient condition, distribution, diversity, abundance, and density necessary to support individuals, as well as population growth, reproduction, and development of the leatherback sea turtle.

Marine Protected Areas

MPAs are afforded protection with the CDFW under the Marine Life Protection Act. The following designations are managed within the Central Coast MPA network: State Marine Reserve (SMR), State Marine Conservation Area (SMCA), and State Marine Recreational Management Area (SMRMA). The nearest MPA to the Project area is the Morro Bay SMRMA occurring within the Morro Bay Estuary, south of Morro Rock, which is approximately 2.5 miles south of the Project area. Project activities are not proposed to occur within any MPAs.

Essential Fish Habitat

Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Fishery Conservation and Management Act and NOAA as "…those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity." "Waters," as used in this definition, are defined to include "aquatic areas and their associated physical, chemical, and biological properties that are used by fish." These may include "…areas historically used by fish where appropriate; 'substrate' to include sediment, hard bottom, structures underlying the waters, and associated biological communities." "Necessary" means, "the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem." EFH is described as a subset of all habitats occupied by a species. Based on the existing habitat type, the following managed fish taxa could occur at the Project Site: Pacific Coastal Pelagics, Pacific Salmon, and Pacific Highly Migratory

and Pacific groundfish species. An EFH Assessment was prepared in support of the Project and can be found as Appendix G.

3.4.2 Regulatory Setting

Federal and state laws and regulations pertaining to biological resources and relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included within the City's General Plan (1988) and the City's Local Coastal Plan (LCP) (1981) are applicable to biological resources within the Project area.

- General Plan Program Land Use (LU)-55.2: Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall maintain the habitats' functional capacity (LCP 209).
- General Plan Program LU-55.4: Prior to the issuance of a coastal development permit, all projects on parcels containing environmentally sensitive habitat as depicted on the Land Use Plan (LUP) map or habitat maps included within the LUP and on the adopted U.S. Fish and Wildlife wetland inventory map, or projects on parcels within 250 feet of all designated areas (except wetlands where projects on parcels within 1,000 feet is the criterion). Or projects having potential to affect an environmentally sensitive habitat area must be found to be in conformity with the applicable habitat protection policies of the Land Use Plan. All development plans, grading plans, etc., shall show the precise location of the habitat(s) potentially affected by a proposed project. Projects which could adversely impact an environmentally sensitive habitat area shall be subject to adequate environmental impact assessment by a qualified biologist(s). In areas of the City where sensitive habitats area suspected to exist but are not presently mapped or identified in the City's Land Use Plan, projects shall undergo an initial environmental impact assessment to determine whether or not these habitats exist. Where such habitats are found to exist, they shall be included in the City's environmentally sensitive habitats mapping included within the LUP (LCP 209-10).
- General Plan Program LU-55.7: Only native vegetation shall be planted in the habitat areas of rare or endangered species. Where feasible, use of drought tolerant plants of a native variety shall be used in coastal zone areas. (LCP 211).
- General Plan Program LU-55.8: A minimum buffer strip along the streams shall be required as follows: (1) A minimum buffer strip of 100 feet in rural areas; (2) A minimum buffer strip of 50 feet in urban area. If the Applicant can demonstrate that the implementation of the minimum buffer on previously subdivided parcels would render the subdivided parcel unusable for its designated use, the buffer may be adjusted downward only to a point where the designated use can be accommodated. In no case shall the buffer be reduced to less than 50 feet for rural areas and 25 feet for urban areas, and only when all other means of Project

modifications are found inadequate to provide for both the use and the larger minimum buffer. The lesser setback shall be established in consultation with U.S. Fish and Wildlife and the California Department of Fish and Game and shall be accompanied by adequate mitigations. The buffer area shall be measured landward from the landward edge of riparian vegetation or from the tip of the bank (e.g., in channelized streams). Maps and supplemental information may be required to determine these boundaries. (LCP 211).

- Adjustments to the minimum buffer must protect the biological productivity and water quality of the streams. Assessment of impact shall include, but not be limited to the following factors: (a) Soil type and stability of stream corridors; (b) How surface water filters into the ground; (c) Slope of land on either side of the stream; and (d) Location of the 100-year flood plain boundary. Where riparian vegetation has been previously removed except for stream channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible (LCP 212).
- General Program LU-55.11: All permitted development; including dredging, filling, and grading within streambeds and setback buffer areas shall be limited to activities necessary for the construction of uses specified in the above policy. When activities require removal of riparian plant species, revegetation with local native riparian species shall be required. Projects which would cause removal of vegetation shall be subject to review and comment by U.S. Fish and Wildlife Service and the Department of Fish and Game (LCP 212).

3.4.3 Impact Analysis

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?

The potential for the injury and mortality of special-status species varies by segment and species, as discussed below.

MBPP Facility & Beach Segments (Less than Significant with Mitigation). Heavy equipment operation and associated noise, dust from grading and excavation, and an increase in human presence have the potential to disrupt foraging and denning activities of some wildlife, including special-status species. Wildlife using the proposed impact area during Project activities may be temporarily displaced into adjacent habitats and may experience greater competition for food and nest sites. Wildlife injury or mortality due to vehicle, equipment, or foot traffic may also occur during Project activities. However, due to the short-term nature of the Project, impacts to wildlife are considered temporary and would be reduced to less than significant with the implementation of environmental

awareness training (**MM BIO-1**), biological monitoring and pre-activity surveys (**MM BIO-2**), and delineation of work limits (**MM BIO-3**).

MM BIO-1: Environmental Awareness Training. The approved biological monitor(s) shall be responsible for conducting an environmental awareness training for all Project personnel to familiarize workers with surrounding common and special-status species and their habitats, applicable regulatory requirements, and measures that must be implemented to avoid or minimize potential impacts to biological resources.

MM BIO-2: Biological Surveying and Monitoring. A qualified biological monitor shall be present on site to survey the work area prior to the commencement of Project activities to minimize the potential for impacts to any sensitive species or other wildlife that may be present during Project implementation. In addition, the biological monitor shall be on site at all times during Project operations. If at any time during Project operations special-status species (including but not limited to western snowy plovers and California least terns) are observed within the Project site, or within a predetermined radius surrounding the onshore portion of the Project site (as to be determined by the on-site biologist), all work shall be stopped or redirected to an area within the Project site that would not impact these species.

MM BIO-3: Delineation of Work Limits. Prior to the start of the Project construction, the limits of the onshore construction area shall be clearly flagged and limited to the minimum extent necessary. Natural areas outside of the construction zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time.

Globose dune beetle (*Coelus globosus*), Monarch butterfly (*Danaus plexippus*), obscure bumblebee (*Bombus caliginosus*), Morro shoulderband snail, Morro Bay blue butterfly (*Icaricia icarioides moroensis*), mimic tryonia (*Tryonia imitator* =California brackishwater snail), and sandy beach tiger beetle (*Cicindela hirticollis gravida*) are invertebrate species that are associated with habitats occurring within the Project area. Project impacts to these special-status invertebrates or their potential suitable habitat within the Project site would be considered less than significant with the incorporation of avoidance and minimization measures, such as pre-activity surveys (**MM BIO-2**) and delineation of work limits (**MM BIO-3**).

South-Central California Coast steelhead is an anadromous fish species that has been observed within Morro Creek as recently as July 2000, and during years of sufficient inundation, portions of Morro Creek may still support inland migrating or reproducing fish. Tidewater goby is a fish species that has the potential to occur within Morro Creek due to the periodic formation of a brackish lagoon at the mouth of Morro Creek. Should Project-related activities coincide with periods when Morro Creek intersects the proposed impact

area, impacts may occur to migrating steelhead or tidewater goby. In this event, the intersecting portion will have to be de-watered and diverted for a period long enough to remove the pipelines within the beach segment and back fill; these activities would impact USFWS designated steelhead Critical Habitat (see Appendix H, Stream Diversion Plan). While tidewater goby are non-migratory, South-Central California Coast steelhead usually emigrate to or from the ocean in late winter or early spring. A variety of factors influences the timing of emigration such as photoperiod, streamflow, temperature, and breach of a sandbar at a river's mouth (NMFS 2016). In some watersheds, juveniles may rear in a lagoon or estuary for several weeks or months prior to entering the ocean. Project activities are estimated to occur between June and October; therefore, stream diversion would not likely impact the migration of South-Central California Coast steelhead trout. Juvenile, freshwater-phase steelhead and tidewater goby could occur within a spring or summer lagoon at the mouth of Morro Creek. The impacts caused by these activities are considered temporary and no permanent loss of habitat would occur. Further, with the implementation of avoidance and minimization measures, such as pre-construction aquatic surveys, the installation of filter fabric upstream and downstream of the Project site, fish removal and relocation to pre-designated areas, disuse of heavy equipment within Morro Creek channel, and daily continued monitoring (**MM BIO-4**), impacts would be considered less than significant.

MM BIO-4: Morro Creek. In the event that Morro Creek is in direct contact with the ocean or flows beneath one of the pipelines, the following measures shall be implemented to avoid and minimize impacts to migrating steelhead or tidewater goby:

- A pre-construction aquatic survey shall be conducted by a USFWS-approved biologist to determine the presence or absence of steelhead and tidewater goby within Morro Creek. The survey will involve a visual survey of the stream channel both upstream and downstream of the proposed work area. If conditions allow (i.e., sufficient water depths), sein-netting surveys would also be conducted within the upstream estuarine portion of the stream channel to determine approximate abundance and distribution of special-status and native fish species in the Project vicinity.
- Sediment filter fabric or a fine-mesh screen or block net (3-millimeter [mm] mesh) will be placed between the lagoon and the pipeline at the south outlet. The screen's bottom edge will be anchored with rebar or other weights and covered with sand. Poles will support the upper part of the screen. After placing the screen, the area will be seined to remove any trapped fish, which will be placed in the lagoon. The screen should remain in place until a sandy berm is constructed to isolate the pipelines.
- The following measures shall be implemented to the extent feasible based on environmental conditions at the time of pipeline removal operations within the active stream channel of Morro Creek:

- Heavy equipment operation within the stream channel shall be minimized to the extent feasible during Project operations. As necessary, equipment access through the stream channel shall be limited to the mouth of Morro Creek below the mean high tide line to avoid impacts to the bed and banks of the active channel.
- Pipelines shall be cut on both sides of the active creek channel using construction methodologies congruent with those procedures proposed for nearshore abandonment to avoid or reduce potential contamination that would occur from risk of upset (e.g., covered pipe ends, containment). The shortened segment shall be covered and removed by lifting it vertically or pulling it horizontally out of the stream channel in a gradual, slow motion to minimize or avoid the short-term turbidity impacts within the stream channel.
- In the event surface water is present within Morro Creek, the Project Stream Diversion Plan (See Appendix H) shall be implemented to avoid and minimize impacts to waters (see HWQ-1).

Southwestern pond turtle and California red-legged frog are species that use both upland and aquatic habitats for portions of their life cycle. These species have been documented within 5 miles of the Project area and have the potential to be impacted by Project activities. The Project would increase human presence and use of heavy equipment in suitable habitat areas for these species. Impacts due to Project activities proposed within and along Morro Creek are considered temporary and no permanent loss of habitat would occur. With the implementation of avoidance and minimization measures, such as environmental awareness training (**MM BIO-1**) and pre-activity surveys and construction monitoring (**MM BIO-2**), impacts would be considered less than significant.

Blainville's horned lizard, black legless lizard, and silvery legless lizard are species that use upland habitats, specifically sandy soils, which occur within the Project area. However, the Project area lacks vegetation, which decreases the likelihood of encountering these species. Initial grading activities may result in the mortality of these species during Project activities. Project grading activities would not create any significant migration barriers and suitable habitat would not be significantly removed as a result of the Project. Impacts to Blainville's horned lizard, black legless lizard, and silvery legless lizard from Project activities are considered temporary, and with the implementation of avoidance and minimization measures, such as environmental awareness training (**MM BIO-1**), pre-activity surveys and construction monitoring (**MM BIO-2**), and delineation of work limits (**MM BIO-3**), these impacts would be considered less than significant.

Several bird species could potentially nest in the coastal dune habitat and riparian habitat along Morro Creek within the Project site. These include ground nesters (e.g., western snowy plover) and small tree or shrub nesters (e.g., loggerhead shrike (*Lanius ludovicianus*)). In addition, raptors may use trees in or near the Project area for roosting sites, such as Cooper's hawk (*Accipiter cooperii*) and white-tailed kite (*Elanus leucurus*).

With the implementation of avoidance and minimization measures including daily nest surveys during the nesting season (**MM BIO-5**), impacts to nesting birds would be reduced to less than significant.

MM BIO-5: Nesting Birds. To the extent feasible, onshore Project activities shall be conducted during the fall months (September through October) to reduce potential impacts to nesting birds, including western snowy plovers. In the event that some or all of the proposed operations need to occur during the summer months, the following conditions designed to protect special-status bird species shall be implemented:

- No more than 1 week prior to the start of the Project construction, an intensive survey of the flagged construction area shall be conducted by a qualified biologist to determine the presence or absence of active nests or foraging activities by western snowy plovers or other birds. In addition, daily pre-activity nesting bird surveys shall be conducted to identify active nests within or near the work areas. If active snowy plover nests are found, all areas within a 500-foot radius of the nesting site shall be clearly marked and avoided during construction. If active nests of other bird species are identified, a protective buffer of 200 feet (or other appropriate length as determined by a qualified biologist) shall be established around the nest. No disturbances shall occur within the protective buffer(s) until all young birds have fledged, as confirmed by the biologist.
- A qualified biological monitor shall be retained by Dynegy and shall be on site at all times during Project operations. If at any time during Project operations special-status species (including but not limited to western snowy plovers and California least terns) are observed within the Project site or within a predetermined radius surrounding the onshore portion of the Project site (as to be determined by the on-site biologist), all work shall be stopped or redirected to an area within the Project site that would not impact special-status birds.

Although Project impacts are expected to be less than significant for most common non-special-status and special-status bird species, Project operations would result in impacts to USFWS-designated Critical Habitat for western snowy plover. Project impacts could result in significant impacts to western snowy plovers, which are known to nest within the Project vicinity (Morro Strand State Beach) and forage within the Project site. The proposed Project would result in impacts to known foraging areas and areas that are suspected to be used for mate pairing activities during the mating season and potentially random nesting sites. Therefore, the Project has the potential to result in an indirect impact on the abundance of western snowy plovers by disrupting mate pairing and foraging behaviors. Ordinarily, the large amount of surrounding suitable habitat would be sufficient to provide ample foraging and mating areas. However, due to the threatened status of these birds, the potential impacts to surrounding areas and important habitats,

the Project may result in significant impacts to western snowy plover populations in the area. Implementation of **MM BIO-1**, **MM BIO-2**, **MM BIO-3**, and **MM BIO-5**, which have been developed through coordination with resource agencies (e.g., USFWS and CDFW) on similar projects, would reduce the potential impacts of the Project to a less than significant level. As described in further detail below, all measures would be implemented and monitored during construction to ensure compliance. If additional mitigation measures are identified by the USFWS or the U.S. Army Corps of Engineers (ACOE) as part of other Project permits or agreements, such measures would be implemented as part of the proposed Project and monitored during construction to ensure compliance.

Project impacts on vegetation and potentially-occurring special-status plant species would be avoided by conducting pre-activity surveys, delineating work areas, and restricting disturbance to the greatest extent feasible (**MM BIO-2** and **MM BIO-3**). Implementation of the Preliminary Site Restoration Plan (**MM BIO-6**; Appendix J) would also reduce Project impacts on native vegetation and special-status plant species to a less than significant level.

MM BIO-6: Site Restoration Plan. Procedures identified in the Site Restoration Plan prepared for the Project shall be implemented to reduce impacts to existing vegetation and plant communities to a less than significant level.

Surf Zone & Offshore Segments (Less than Significant with Mitigation). The Project could result in impacts to grunion if construction activities occur during the months of March through September. If scheduled during these months, **MM BIO 7** would be implemented to reduce the likelihood of impacts to season grunion runs.

MM BIO-7: Grunion Surveys and Avoidance. Intertidal activities will be scheduled outside of the grunion spawning season, which is generally 3 or 4 nights after the highest tide associated with each full or new moon, and then only for a 1- to 3-hour period each night following high tide from late February to early March, to August or early September. If the Project schedule cannot avoid grunion spawning periods, intertidal grunion surveys will be conducted during grunion spawning tidal periods to document that grunion have not used the site. Intertidal activities shall not occur if grunion spawning is observed in the Project area. Work will be initiated only after the site is clear of new grunion eggs**.**

Offshore Segment: Underwater Noise Impact from Pre- and Post-Decommissioning Surveys (Less than Significant with Mitigation). Pre- and post-decommissioning sea floor debris surveys would be conducted using geophysical survey equipment (a side-scan sonar or equivalent) within the Project area. The purpose of the pre-decommissioning survey is to provide a baseline image of the seafloor that can be used to check against the results of a post-decommissioning survey to ensure that any decommissioning-related debris is identified and recovered. The post-decommissioning

survey would aid in identifying targeted debris items that were missed or may have resulted from offshore decommissioning operations. These surveys would require the use of a marine vessel and geophysical equipment that generate noise during the data acquisition. **MM BIO-8** requires the Applicant to obtain a geophysical survey permit through the CSLC's Low-Energy Offshore Geophysical Permit Program (OGPP).

MM BIO-8: Pre- and Post-Decommissioning Seafloor Debris Survey and Debris Removal. Decommissioning activities shall begin and end with seafloor debris surveys. The Applicant's contractor shall perform a side-scan sonar (with 400 percent coverage) and bathymetric survey, or multi-beam sonar survey, of the underwater work area prior to the arrival of the contractor's marine equipment spread on the work area. The survey shall encompass the entire underwater worksite bordered by the contractor's planned derrick barge anchorages plus an offset of approximately 500 feet. Derrick barge anchorages shall be positioned to avoid rock outcroppings and seagrass beds. A map shall be produced by the surveyor and shall serve as the baseline for the seafloor conditions at the underwater worksite prior to the start of work.

All surveys employing low-energy geophysical equipment, including remotely operated vehicle surveys, must be conducted by an entity holding a valid geophysical survey permit under the CSLC OGPP (see www.slc.ca.gov/Programs/OGPP.html). Therefore, the Applicant shall obtain a valid permit prior to initiating the surveys.

The OGPP includes requirements to protect marine wildlife from potential noise impacts associated with such surveys. Appendix I contains a preliminary Marine Wildlife Contingency Plan (MWCP) prepared for these surveys that has the following information:

- Survey location, schedule, and proposed survey track lines
- Survey vessel(s)
- Survey equipment (e.g., frequency, source level)
- Safety zones
- Qualification, number, location, and authority of onboard marine wildlife monitors (MWMs)
- Information on marine wildlife that may occur in the proposed survey area
- Distance, speed, and direction transiting vessels would maintain when in proximity to marine mammal or reptile
- Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife
- Other site-specific considerations relevant to the survey design

With the inclusion of **MM BIO-8**, noise impacts associated with pre- and post-decommissioning seafloor debris surveys would be reduced to less than significant. After decommissioning work is complete, the contractor shall be required to perform a second side-scan sonar and bathymetric survey in the same underwater work area. The surveyors will produce another map of the survey area and use it to identify any items of seafloor debris introduced into the underwater work site by decommissioning activities. The contractor will remove all debris, if any, related to the offshore terminal facilities and the decommissioning activities. The Applicant will provide: (1) the pre-decommissioning survey map to CSLC staff and permitting agencies for approval at least 60 days prior to Project implementation; and (2) the post-decommissioning map to CSLC staff with 30 days of survey completion for agency sign-off.

Offshore Segment: Marine Vessel and Marine Wildlife Interactions (Less than Significant with Mitigation). Project-related vessel activity in the Project area, and to and from the Project's shore base, would increase the probability of vessel and marine wildlife interactions, including collisions. The shore base for offshore marine operations would be in Morro Bay Harbor, about 1.5 miles southeast of the Project area. Dolphins, seals, and sea lions may use the Project area for foraging, while humpback and gray whales may pass through on their migratory routes. Sea turtles may also occur in the Project area. Removal of the 24-inch and 16-inch pipelines is not expected to substantially disrupt marine wildlife habitat, but operations may temporarily deter wildlife from the Project area. However, these potential impacts would be temporary, and any affected marine wildlife would be adequately served by the abundant habitat provided by nearby areas. Potential impacts to marine wildlife from interactions with Project vessels (i.e., harassment or strikes) during transit are possible and would be avoided or minimized to less than significant through **MM BIO-9**, which requires the preparation and implementation of a MWCP. Appendix I contains the Project's preliminary MWCP.

MM BIO-9: Marine Wildlife Contingency Plan (MWCP). A MWCP shall be prepared for review and approval by California State Lands Commission staff prior to the commencement of decommissioning activities. The MWCP would include, but not be limited to, the following elements:

- Description of the pre-decommissioning training seminar that will be provided to educate Project personnel on identifying marine wildlife in Project area and to provide an overview of the wildlife mitigation measures to be implemented
- Qualifications, number, location, and authority of onboard Marine Wildlife Monitors (MWMs)
- Acoustic safety zone radius that will be enforced by the MWMs during dynamic pipe ramming (DPR) activities
- Protocols on how DPR operations will be ceased if marine wildlife enter the acoustic safety zone

- Distance, speed, and direction of transiting vessels will maintain when in proximity to a marine mammal or reptile
- Discussion of how impacts associated with marine wildlife entanglement in Project vessel anchor lines will be minimized
- Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife

Once on site, Project vessels would be anchored during decommissioning activities, creating the potential for marine wildlife entanglement in the vessels' anchor lines. However, with the implementation of **MM BIO-9**, the potential for marine wildlife entanglement in anchor lines would be reduced to less than significant.

Offshore Segment: General Underwater Noise Impacts (Less than Significant Impact). Sound is a physical phenomenon consisting of minute vibrations that travel through a medium such as air or water. Several variables can characterize sound, including frequency and intensity. Frequency describes the pitch of a sound and is measured in hertz (Hz), while intensity describes the loudness of a sound (i.e., sound pressure level [SPL]) and is measured in decibels (dB), which are measured using a logarithmic scale (e.g., a 10-dB increase represents a 10-fold increase in sound intensity). Sound intensity for underwater applications is typically expressed in dB referenced to in units of pressure in micropascals (1 μPa[3]). Sound may be measured as either an instantaneous value (in this context peak SPL) or as the total sound energy present in a sound event (i.e., sound exposure level [SEL], a common unit of total sound energy used in acoustics to describe short-duration events). The SEL is the total sound energy in an impulse that accumulates over the duration of that pulse normalized to 1 second, thus the unit for SEL is dB referenced to 1 μPa^2s. Resource agencies use peak SPL and SEL to assess effects of underwater noise on marine species.

General underwater Project activities such as jetting, pipe-cutting, vessel transit, as well as construction equipment on the surface, have the potential to temporarily increase ambient noise levels in the local marine environment. While tidal currents and waves produce hydrodynamic sounds, which register at very low frequencies (<100 Hz), ship traffic and underwater construction noise can range from 10 to 1000 Hz (ACOE 2015).

The major contributors to underwater noise from excavation jetting include sounds involving the movement of sediment, water, and air against the seabed, and ship machinery sounds associated with the lowering and lifting of equipment. Project vessels produce noise primarily with their propellers, motors, and gears. The faster the propeller rotates the more cavitation noise, and the higher the frequency of noise produced (i.e., a slowly rotating propeller generates low frequencies [below 10 Hz] and a faster spinning propeller can produce frequencies up to 20 kilohertz [kHz]). Noise levels from marine

[3] 1 µPa is the reference sound pressure for sound in water.

vessels can range from <150 dB re 1 µPa^{2}s to over 190 dB re 1 µPa^{2}s at 1 meter from the sound source (ACOE 2015). Similarly, underwater pipe-cutting increases noise levels in the immediate work area with disturbance of sediments and operating machinery.

At close ranges, underwater equipment sound levels can have physiological and behavioral effects on fish and marine wildlife; however, marine wildlife will likely avoid underwater work areas and equipment, and would not stay close enough to the equipment to experience injury or mortality. Marine wildlife will likely leave the area of their own volition, and disperse to available and suitable habitat within the greater Estero Bay; therefore, impact to marine wildlife from general construction equipment underwater is less than significant.

Offshore Segment: Underwater Noise Impacts from Dynamic Pipe Ramming (Less than Significant with Mitigation). The Surf Zone Segment of the pipe would be removed using a dynamic pipe ramming (DPR) technique that generates in-water noise which could impact marine wildlife. DPR uses a hammer that is pneumatically or hydraulically powered to drive (push) or extract (pull) an attached section of pipeline. At close ranges, these sound levels can have physiological effects on fish and marine wildlife. At greater distances from the source or at lower sound levels, the potential effects include masking of biologically important sounds or the effects on behavior (Dahl et al. 2015).

As of December 2017, there are no previous projects that used DPR methods for submarine pipeline removal; therefore, actual underwater acoustic levels created by DPR activities and how marine wildlife would be impacted are unknown. Although no published data are available on the underwater sound levels and frequency composition of DPR, the physical characteristics of DPR are similar to a non-impulsive, continuous sound source which lacks the rapid rise times to peak pressures, in contrast to impulsive sound sources. DPR's characteristics can be compared to those of vibratory pile driving; however, due to the burial depth of the pipelines underneath the seafloor, the DPR sound source would be insulated and the noise levels at the Project site would be less than vibratory pile driving in similar conditions. Further, DPR operations are expected to be short-term.

Similar to vibratory pile driving, the DPR sound energy is estimated to occur over a broad range of frequencies. The highest SPL is estimated to be approximately 180dB referenced to 1 µPa (root-mean-square [rms][4]) (Caltrans 2015), and the frequency range with the highest energy is estimated from 400 Hertz (Hz) to 2.5 kHz (CSLC 2017b).

The hearing ranges of all marine species have the potential to overlap with the sound frequencies produced by the DPR activities. Potential impacts to marine species are dependent on sound source levels and frequencies, animal hearing sensitivity, proximity to the sound source, noise duration, and time of operation.

[4] rms is the average of the squared sound pressure over some duration.

Hearing sensitivities of marine species vary depending upon their anatomy and physiology. Some species, such as marine mammals, seem to be more sensitive to the sound pressure component of sound, while some fish appear to be more sensitive to the particle motion component of sound. Additionally, a species' hearing sensitivity to sound also varies depending upon the frequency of the sound since not all marine species hear equally well at all frequencies. Potential acoustic related impacts associated with DPR on marine species found within the Project area are discussed below.

Marine Mammals

NMFS, a division of NOAA, has identified acoustic threshold (received sound level) criteria above which marine mammals are predicted to experience changes in their hearing sensitivity, either permanent or temporary hearing threshold shifts (PTS or TTS, respectively). Physiological responses such as auditory or non-auditory tissue injuries are known as Level A Harassment in the MMPA and harm in the FESA. Level A Harassment becomes a concern when the sound levels from human-made sounds reach or exceed the acoustic thresholds associated with auditory injury in marine species. PTS is a permanent, irreversible increase in an animal's auditory threshold within a given frequency band or range of the animal's normal hearing. TTS is a temporary, reversible increase in the threshold of audibility at a specific range of frequencies. While TTS is not an injury, it is considered Level B Harassment by the MMPA and harassment by the FESA. In addition, along with TTS, Level B harassment includes behavioral impacts.

In July 2016, NMFS, in collaboration with the National Ocean Service, Office of National Marine Sanctuaries, published *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing* (Guidance) and adopted new guidelines for the assessment of underwater noise impacts for marine mammals (NMFS 2016). The Guidance identified the received levels, or acoustic thresholds, at which individual marine mammals are predicted to experience changes in their hearing sensitivity (either temporary or permanent) for acute, incidental exposure to underwater anthropogenic sound sources. However, the Guidance did not include marine mammal species under the USFWS jurisdiction (i.e., southern sea otter). The Guidance updates and provides a new method for calculating the onset of PTS, or Level A harassment, for various marine mammal groups based on the groups' hearing characteristics (i.e., high-, mid-, and low-frequency cetaceans, and otariid and phocid pinnipeds) and whether a sound is considered impulsive (e.g., airguns, impact pile driving) or non-impulsive (e.g., DPR, vibratory pile driving). The Guidance, however, does not make any changes with respect to the behavioral disruption thresholds, which triggers the onset of Level B harassment; therefore, NMFS's previous acoustic thresholds for impulsive (160 dB_{rms}) and non-impulsive noise sources (120 dB_{rms}) are still applicable.

Because DPR would be used for the Project, the non-impulsive thresholds would be used. Table 3.4-5 provides a summary of marine mammal groups and hearing ranges, as well

as PTS and TTS onset thresholds for non-impulsive sounds. If a non-impulsive sound may exceed peak SPL thresholds for PTS onset associated with impulsive sounds (also provided in the table below), these thresholds should also be considered in an acoustic impact analysis.

Table 3.4-5. Summary of Marine Mammal Hearing Groups and Acoustic Thresholds (Received Level) for a Non-Impulsive Sound Source[1]

		PTS Onset		TTS Onset
Hearing Group[2]	**Generalized Hearing Range[3]**	**Impulsive (Peak SPL[4])**	**Non-Impulsive (Cumulative SEL[5])**	**Non-Impulsive (Cumulative SEL[5])**
Low-Frequency (LF) Cetaceans	7 Hz to 35 kHz	219 dB	199 dB	179 dB
Mid-Frequency (MF) Cetaceans	150 Hz to 160 kHz	230 dB	198 dB	178 dB
High-Frequency (HF) Cetaceans	275 Hz to 160 kHz	202 dB	173 dB	153 dB
Phocid Pinnipeds (PW) (underwater)	50 Hz to 86 kHz	218 dB	201 dB	181 dB
Otariid Pinnipeds (OW) (underwater)	60 Hz to 39 kHz	232 dB	219 dB	199 dB

Source: NMFS 2016.

Acronyms: dB = decibel; Hz = Hertz; kHz = kilohertz; PTS = permanent threshold shift; SEL = sound exposure level; TTS = temporary threshold shift.

Notes:

[1] If a non-impulsive sound may exceed peak SPL thresholds associated with impulsive sounds, these thresholds should also be considered; therefore, peak SPL thresholds are also provided.

[2] LF cetaceans = baleen whales; MF cetaceans = dolphins, toothed whales, beaked whales, bottlenose whales; HF cetaceans = true porpoises, Kogia, river dolphins, cephalorhynchid, Lagenorhynchus cruciger, L. australis; PW pinnipeds = true seals; OW pinnipeds = sea lions and fur seals.

[3] Represents the generalized hearing range for the entire group as a composite (i.e., all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans and PW pinnipeds (approximation).

[4] Peak SPL has a reference value of 1 µPa. Peak SPL thresholds are not weighted.

[5] Cumulative SEL has a reference value of 1 µPa2s. Cumulative SEL acoustic threshold levels incorporate marine mammal auditory weighting functions. and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (i.e., varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds would be exceeded.

The Guidance does not provide acoustic thresholds for sea otters, which are under the jurisdiction of the USFWS, nor does it provide in-air acoustic thresholds for pinnipeds, which could be hauled out on nearby rocks. There are no underwater or aerial acoustic thresholds established for sea otters; however, a recent study by the Bureau of Ocean Energy Management and University of California Santa Cruz, concludes that sea otters retain acute aerial hearing sensitivity that is comparable to other terrestrial carnivores and

is estimated to be less sensitive at lower frequencies (Reichmuth and Ghoul 2012). The USFWS recently used NMFS's acoustic thresholds for otariids to determine underwater acoustic impacts to sea otters for pile driving activities in Elkhorn Slough, Monterey County (USFWS 2017). The in-air thresholds for both PTS and TTS were 149 dB_{peak} re 20 µPa and 144 dB (cumulative SEL) (Grebner and Kim 2015). NMFS also has thresholds for behavioral harassment of Pacific harbor seals (90 dB_{rms}) and California sea lions (100 dB_{rms}) from airborne noise. The acoustic thresholds presented in the Guidance for PTS onset, as well as the non-impulsive threshold for behavioral disruption (120 dB_{rms}) would be used to inform the safety zone radii implemented during DPR activities. If pinnipeds are hauled out near the Project site, their respective in-air thresholds would also be used.

Humpback and gray whales are low-frequency cetacean species that have the potential to occur in the Project area during their annual migrations and, therefore, could be impacted by DPR. During their northern migration, gray and humpback whales are abundant and often visible in nearshore waters from Point Conception to Monterey Bay. If DPR were to occur during their migration, whales have the potential to be exposed to the underwater noise. Proximity to the sound source is important for these species; however, impacts due to sound duration should be temporary since these whales are predominantly migrating and should not be impacted by any short divergences from their path. Presently, the offshore phase of the Project is scheduled during late summer/early fall to avoid the peak whale migration season.

Mid-frequency cetacean hearing only partially overlaps with the expected DPR frequency, so impacts to mid-frequency cetaceans are expected to be minimal, except for the coastal bottlenose dolphin (*Tusiops truncatus*) and long-beaked common dolphin (*Delphinus capensis*). While these species may detect DPR noise, the impact is expected to be low. Coastal bottlenose dolphins are observed less frequently in the Project area than long-beaked common dolphins; however, both spend a significant amount of time within 1,640 feet (500 m) of shore. DPR sound levels are potentially highest at approximately 1 kHz, which is a region of low hearing sensitivity for bottlenose and common dolphins. Meanwhile, the region of their greatest sensitivity (approximately 10 kHz) corresponds to frequencies at which the energy content of DPR is potentially low. If these coastal dolphins are in the area, their foraging, communication, and normal swimming trajectories could be impacted, as well as vocal communication masked.

Harbor porpoise are the only high-frequency cetacean that occur in the Project area. The species is highly provincial in movement and rarely migrate long distances. Harbor porpoise populations are regional and have been broken into six genetically distinct geographic stocks, Morro Bay being one of the stocks. High frequency cetaceans hearing range only partially overlaps with the estimated frequency range of the DPR, so impacts to high frequency cetaceans are expected to be minimal. Based on the estimated levels, high frequency cetaceans' hearing would be less sensitive in regions where the DPR sound levels are at their highest (1 kHz). However, if harbor porpoises are present in the

Project area, their foraging, communication, and normal swimming trajectories could be impacted, as well as vocal communication masked.

The hearing ranges for both California sea lions and Pacific harbor seals overlap the entire estimated frequency range of the DPR activities. Furthermore, the highest sound levels for the pile driver proxy overlap frequencies at which pinniped and otariid hearing is most sensitive. Harbor seals and California sea lions that may be seen near the Project area are likely local inhabitants that swim close to shore. Both the sound level and duration of exposure to DPR would increase the impact on these species. While seals and sea lions are capable of swimming away from the Project site, some individuals may remain in the immediate area while foraging and may be disoriented by the sound. As a result, DPR could result in a potentially significant impact to harbor seals and California sea lions that are in the water within the work area.

The NMFS also has in-air sound thresholds for sea lion and harbor seals that are set at 100 dB and 90 dB, respectively. The nearest pinniped haul-out or rookery is located on Cayucos beach approximately 2.3 miles north from the Project area; therefore, Project activities will not occur in the vicinity of a pinniped haul-out site or rookery.

Southern sea otters inhabit and are frequently observed foraging in the Project area. An in-air hearing test on a sea otter showed similar hearing thresholds to sea lions, with their best hearing threshold around 70 dB at 8 kHz. In contrast, underwater hearing sensitivity of the sea otter was greatly reduced compared to underwater hearing in sea lions and other pinnipeds, indicating that sea otters are better adapted for airborne hearing (Grebner and Kim 2015). In-air and underwater noise from DPR activities could impact sea otter behavior or have other physiological effects.

Given the information above and the temporary use of DPR, the implementation of **MM BIO-9** (see above), **MM-BIO 10**, **MM BIO-11**, and **MM-BIO 12** would ensure that potential impacts to marine mammal species are avoided or mitigated to less than significant.

MM BIO-10: Dynamic Pipe Ramming (DPR) Soft-Start and Ramp-Up Procedure. A soft start shall be used during DPR to give marine mammals, sea turtles, fish, and birds an opportunity to move out of the area away from the sound source. The contractor conducting DPR operations shall begin the procedure at a reduced level and repeat the sound producing activity, gradually increasing the intensity of the operation prior to initiating normal operating levels. The duration of the ramp-up during Project operations shall be determined by a qualified marine biologist and based upon the findings of a sound source characterization study for DPR. This procedure will be used any time DPR operations are initiated.

MM BIO-11: Dynamic Pipe Ramming Sound Source Characterization. At the start of DPR operations, a marine acoustics specialist shall be retained to conduct underwater noise measurements during a trial operation of the equipment at the

Project site. In coordination with National Marine Fisheries Service (NMFS), the results of the underwater noise measurements shall be used to determine exclusion and safety zone radii for marine wildlife (mammals and reptiles) during DPR operations based on NMFS's acoustic thresholds in place at the time of Project operations for permanent threshold shifts and behavioral harassment. A copy of the sound source characterization study shall be provided to California State Lands Commission and NMFS within 2 weeks of completion.

MM BIO-12: Marine Wildlife Monitoring During Sound Source Characterization and Dynamic Pipe Ramming (DPR). Qualified marine wildlife monitors (MWMs) shall be on site and present throughout sound source characterization and DPR operations. During sound source characterization, the initial exclusion zone will be 1,000 meters. The final exclusion and safety zones to be implemented during DPR will be modified as necessary based on results from the sound source characterization and will reflect the permanent hearing threshold shifts, temporary hearing threshold shifts, and behavioral harassment thresholds in place at the time of Project operations. Once the marine wildlife exclusion and safety zone radii have been determined, MWMs shall be located such that he or she has a clear view of the marine waters within the safety zone and beyond. The MWMs shall indicate that a designated exclusion and safety zone is clear of marine wildlife (mammals and reptiles) prior to the start of DPR operations and shall have the authority to stop DPR operations if marine wildlife is observed at any time within the exclusion zone.

As indicated above, a 1,000-meter exclusion zone would be implemented temporarily during sound source characterization. Due to the lack of sound source data for DPR operations, the initial exclusion zone is based on noise impact analysis for vibratory pile driving in the *Poseidon Seawater Desalination at Huntington Beach Project Environmental Impact Report* for which CSLC (2017b) calculated a 1,000-meter threshold radius for Level B Harassment (120 dB) to reduce the likelihood of injury (Level A Harassment) to marine mammals. DPR sound levels are expected to be less than those of vibratory pile driving (due to insulation of energy since pipe is buried under the sand); therefore, the 1,000-meter exclusion zone is an appropriate distance to reduce the likelihood of impacts to marine mammals to less than significant. The results of the underwater noise measurements conducted during sound source characterization shall be used to determine final exclusion and safety zone radii for marine wildlife (mammals and reptiles) that is specific to sound levels created by DPR activities and is based on NMFS's acoustic thresholds in place at the time of Project operations for permanent threshold shifts and behavioral harassment.

Sea Turtles

Sea turtles appear to be sensitive to low-frequency sounds with a functional hearing range of approximately 100 Hz to 1.1 kHz. It has been suggested that sea turtle hearing thresholds should be equivalent to TTS thresholds for low-frequency cetaceans when animals are exposed to impulsive and non-impulsive anthropogenic sounds. However, more recently, the Acoustical Society of America standards committee suggested that sea turtle hearing was probably more similar to that of fishes than marine mammals. Turtles have been presumed to have the same thresholds as those fishes with swim bladders not involved in hearing. Thus, sea turtle mortality and mortal injury would be expected at sound levels greater than a cumulative sound exposure level (SEL) of 210 dB and a SPL of 207 dB_{peak} (Grebner and Kim 2015).

With respect to sea turtles, the hearing range of sea turtles and the estimated frequencies of DPR overlap; however, the DPR frequency of maximum energy (1 kHz) is potentially at the upper end of their hearing range, where their ability to detect the sound is expected to be poor. The sound level and duration of exposure are likely important components for sea turtles since they are slow swimmers, and it would take longer for them to leave an area. Leatherback sea turtles may be the most impacted by noise exposure due to their broader hearing range (i.e., 200 Hz to 1 kHz); however, this species is unlikely to be in the Project area. Some potential responses of sea turtles to human-made sounds include increased surface time, decreased foraging, displacement, and startle reactions. Leatherback sea turtles and loggerhead sea turtles are endangered species, and both green and olive ridley sea turtles are threatened species, so extra precautions and potential mitigation are warranted if they enter the area. As a result, DPR could result in a potentially significant impact to sea turtles found near the Project area. Given the information above and the temporary use of DPR, along with the implementation of **MM BIO-9**, **MM BIO-10**, **MM BIO-11**, and **MM BIO-12**, impacts to sea turtles would be avoided or mitigated to less than significant.

Fish

Hearing capabilities vary considerably between fish species and within fish groups. Fish species within a group may also differ substantially in terms of their hearing structures. Fish hear when hair cells are directly stimulated by particle motion in the water. Some fishes also have swim bladders or other air sacs that can detect and convert the pressure component of a sound field into particle motion, which directly stimulates the inner ear, allowing the fishes to detect sound. The majority of fishes are hearing generalists, which usually only hear sounds up to 1.5 kHz. Hearing specialists, some of which can hear sounds up to 3.0 to 4.0 kHz or more, have adaptations that lower their hearing threshold, thereby enhancing their ability to detect sounds in their hearing range (Popper 2003; Hastings and Popper 2005). For instance, unlike hearing generalists, whose primary hearing is provided by direct stimulation of the inner ear, hearing specialists have evolved

several mechanisms to acoustically couple the swim bladder to the middle ear. Specializations that enhance hearing vary among species and may include an extension of the swim bladder, a direct mechanical connection between the swim bladder and inner ear, or a separate bubble of gas near the ear (Hastings and Popper 2005; Popper et al. 2014). Mortality and injury to fish as a result of sound varies depending upon the anatomy and physiology of the fish. For example, mortality and potential mortal injury thresholds for fishes with swim bladders are lower than for fishes without swim bladders.

The only U.S. regulatory guidelines for the effects of sound on fish were developed by the Fisheries Hydroacoustic Working Group, which stated a SPL of 206 dB_{peak} for the onset of physiological effects of pile driving on fish. In 2014, the Acoustical Society of America developed guidelines for sound exposure criteria for fish and grouped them into four categories: (1) fish with no swim bladder; (2) fish with a swim bladder not involved in hearing; (3) fish with a swim bladder involved in hearing; and (4) eggs and larvae. These guidelines suggest that mortality and mortal injury would be expected for fish with swim bladders, and eggs and larvae, at sound levels greater than a cumulative SEL of 210 dB and a SPL of 207 dB_{peak}. For fish with no swim bladders, mortality and mortal injury would be expected at sound levels greater than a cumulative SEL of 219 dB and a SPL of 213 dB_{peak} (Grebner and Kim 2015).

Fishes in the Pacific Ocean are thought to be mostly hearing generalists (Hastings and Popper 2005). Hearing thresholds for fish that may be in the Project area partially overlap with the frequency region of high energy for the pile driver proxy (Table 4 of Grebner and Kim 2015, provides impact pile driving exposure criteria for fishes). Considering hearing sensitivity alone, the northern anchovy, a hearing specialist, would be able to detect the highest energy levels of the pile driver proxy and may be the most sensitive to sound levels emitted by DPR. However, fish injuries are more related to particle motion than pressure and increased sound levels may affect sensory cilia located along their bodies and in their inner ears. In general, fishes are especially sensitive to sound and those within close proximity to a loud or prolonged sound source may be impacted by death, hearing loss, and non-auditory tissue damage. Non-fatal responses of fish to sound include changes in swimming behavior, water column position, and schooling patterns and may also elicit startle responses, area evacuation, and freezing in place reactions. Since fishes have such diverse ecologies, both the sound level exposure and duration would be important to the overall fish environment in the Project area. In the case of DPR operations at the Project site, fishes, depending upon their proximity to the noise source, may be fatally injured or exhibit non-fatal responses such as displacement or temporary avoidance. Because DPR activities would be temporary and the likelihood of protected fish species in the Project area is low, in addition to the implementation of **MM BIO-10**, this impact would be considered less than significant.

Birds

Birds have relatively consistent auditory structures and hearing capabilities regardless of size. The center-frequency and high-frequency limits of bird hearing, however, are inversely proportional to the bird's size and weight (Grebner and Kim 2015). On average, a bird's hearing ranges from 500 Hz to 6 kHz, with some exceptions, and no birds are known to hear over 15 kHz. While there are no official criteria for airborne or underwater noise thresholds for birds, Caltrans (2007) has recommended interim in-air guidelines to assess noise effects on birds, which are 125 dBA for PTS and 93 dBA for TTS for in-air noise levels. Additionally, the U.S. Navy (2011) convened the Marbled Murrelet Science Panel, to examine the potential impacts to the marbled murrelet due to underwater noise. The panel discussed a range of potential threshold levels between 183 and 206 dBA. Although noise impacts to birds would vary by species, this threshold would be generally applicable to other similarly sized seabirds.

The estimated frequency regions of high-energy levels for DPR coincide with the greatest in-air hearing sensitivity for diving birds (1 to 3 kHz) and for birds, in general (approximately 1 to 4 kHz). Diving birds are especially vulnerable approaching a sound source not only because birds have higher thresholds of hearing (i.e., less sensitive hearing) than humans, but also because the sound-reflecting nature of the air-sea interface tends to trap waterborne sounds beneath the sea surface. Birds are likely to detect lower-level DPR sounds only shortly before encountering the operating equipment, and there likely would be few or no indicators of underwater DPR noise until a bird lands upon or dives into the water. Birds on the water or diving in the area have the potential to be exposed to the maximum sound energy from DPR. Near a pile driving site off Point Loma, California, least tern counts were lower on days with pile driving compared to days without pile driving. Potential indicators of behavioral stresses due to noise on birds may include a startle response, difficulty detecting prey or predators, masking of communication sounds, and physical displacement. Additionally, behavioral changes in seabird activity in-water would most likely indirectly correlate to behavioral changes in fish, as the birds are diving to pursue fish species. Awareness of bird species and their responses are especially important since some of the birds in the area are listed as federally threatened or endangered species.

Since the duration of underwater sound exposure for diving birds is expected to be short, TTS and PTS resulting from DPR are unlikely. Impacts to birds above water would likely be limited to startle responses and avoidance of the area during DPR. Further, DPR operations are scheduled to occur outside of the bird breeding and nesting season, so breeding and nesting activities would not be impacted. Given the information above, the temporary use of DPR, and the implementation of **MM BIO-5**, **MM BIO-8**, and **MM BIO-9**, this impact would be considered less than significant.

Sand Dune Segment (No Impact). The Sand Dune Segment would be abandoned in place; thus, no impact would result.

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?

The potential for substantial adverse effects on riparian habitats or other sensitive natural communities (e.g., **USFWS Critical Habitat or EFH) varies by species and segment.**

MBPP Facility & Sand Dune Segments (Less than Significant). No impacts to riparian habitat or sensitive natural communities would occur within the developed MBPP Facility Segment; however, previously disturbed dune habitat may be temporarily impacted. No impacts would occur in the Sand Dune Segment because this section of pipeline would be abandoned in place.

Beach Segment (Less than Significant with Mitigation). Pipeline excavation activities within the Coastal Strand/Beach areas of the Project site would cause temporary impacts to USFWS-designated Critical Habitat for western snowy plover. All excavations would be backfilled, topped with salvaged topsoil/sand, and re-contoured to similar pre-excavation and adjacent conditions, according to the Preliminary Site Restoration Plan (**MM BIO-6**; Appendix J). Therefore, temporary impacts to this habitat would be considered less than significant with mitigation.

If Project operations coincide with periods when Morro Creek intersects the proposed impact area, the intersecting portion would have to be dewatered and diverted. The impacts caused by these activities are considered temporary and no permanent loss of habitat would occur. Further, with the implementation of **MM BIO-4**, described above, these impacts would be considered less than significant.

The nearshore excavation of the beach pipeline segments could potentially disturb sand crabs, razor clams, and Pismo clams. Sand crabs normally re-burrow immediately when dislodged; however, if covered by too much sand they may not be able to dig to the sediment surface and would soon suffocate. As clams also require good aeration and do not usually survive well when exposed to intertidal wave stresses, they would probably not survive the excavation activities within this area.

The Project site is surrounded by sandy habitat and sandy intertidal zone habitat observed to be extensive along the Morro Strand north of Morro Rock, and thus constitutes a small area compared to the sandy habitat areas along the San Luis Obispo County coast. The intertidal portion of the Project site is expected to be repopulated following Project operations by species from immediately adjacent or distant sandy beaches. Re-population of the sand crabs would be rapid due to their short maturation rate and annual breeding cycle that would occur in the Project region the following spring.

Two clam species expected to be impacted (razor clams, and Pismo clams) would require longer periods (possibly years) to repopulate the affected area with adults of a size that may presently occur at the Project site. However, the overall area of impact is expected to be minimal and restricted to the width of the pipeline corridor. Smaller species of intertidal fauna are mostly short-lived and reproduce annually and, therefore, are expected to repopulate the disturbed area within a year. Considering the above, impacts of the Project to the intertidal community are expected to be less than significant.

Surf Zone Segment (Less than Significant Impact). Proposed Project activities include complete removal of the pipeline segments within the Surf Zone Segment using work barges and tender vessel. Temporary disturbance of any Pacific sand dollar beds as a result of Project operations (e.g., anchoring, jetting, etc.) would likely result in mortality of all or some of the individual sand dollars within a given bed. However, due to the relative abundance of Pacific sand dollar beds in the area, rapid re-colonization of empty space by individual Pacific sand dollar recruits would be expected. Therefore, impacts to the Pacific sand dollar would be less than significant.

Offshore Segment (Less than Significant with Mitigation). Organisms residing on the seafloor along the pipeline corridor and adjacent to the excavation areas could be suspended in water, possibly exposing them to fish and macroinvertebrate predators during the excavation process. Therefore, some mortality of benthic organisms residing within the seafloor sediments in areas within or adjacent to underwater excavations is assumed. Large, mobile organisms (e.g., fish, large crustaceans) are expected to depart the area during the disturbance.

In addition to the excavation trench, a zone of adjacent sediment deposition would smother any organisms that could not move fast enough to depart the area. The extent of mortality in this situation would be dependent upon the volume of material removed, conditions (e.g., current, direction, tide), and number of organisms in the deposition area. Due to the short-term effects to the seafloor that would occur as a result of proposed activities (i.e., increased turbidity, smothering of benthic organisms, and temporary displacement), and the limited area of disturbance in relation to the surrounding area, the implementation of planned operations within the offshore portions of the Project site would not result in any significant, long-term impacts to marine organisms.

Implementation of **MM BIO-13**, a dive survey of the habitat within the proposed anchor locations and existing pipeline corridor would be performed and the results of the survey would be used to minimize impacts to the seafloor by the avoidance of sensitive habitats (e.g., moderate to high-relief rock, hard bottom habitat, or eelgrass/seagrass habitat). **MM-BIO-13** would be completed within 1 month of initiation of the decommissioning activities to ensure that avoidance would be achieved by relocating the anchor locations and to verify the presence or absence of the invasive algal species *Caulerpa taxifolia*.

Consequently, short- and long-term impacts to hard bottom habitat areas as a result of anchoring the offshore barge would be minimized and considered less than significant.

MM BIO-13: Dive Surveys. At least 1 month prior to the initiation of decommissioning activities, a dive survey shall be conducted at proposed anchor locations to ensure that avoidance of sensitive species and hard bottom habitat areas is achieved and to determine the presence or absence of the invasive algae (*Caulerpa taxifolia*) and seagrasses. The results of the pre-activity dive survey shall be documented in a report for distribution to the appropriate regulatory agencies. If sensitive seagrass species are identified, anchor locations will be relocated to avoid impacts to these protected habitats and post-decommissioning surveys would be conducted to verify seagrass beds had not been impacted by Project-related activities.

The impacts discussed above to subtidal organisms would be short-term and would not impact any protected species. Sediment contours within the impacted areas would be gradually recontoured by natural wave action and subsequent colonization by benthic organisms would be expected to occur rapidly. Considering the above and with implementation of the identified MMs, impacts of the Project to the subtidal community would be less than significant.

Due to the use of marine vessels, the Project may result in the spread of NAS through ballast water and vessel biofouling. However, the potential spread of NAS would be addressed through the implementation of existing CSLC programs, including the CSLC's Ballast Water Management Program and Biofouling Removal and Hull Husbandry Reporting, and through implementation of **MM BIO-14**.

MM BIO-14: Prevent Introduction of Non-Native Aquatic Species (NAS). All Project vessels will: (1) originate from Morro Bay Harbor, San Francisco Bay area harbors, or Port of Long Beach/Los Angeles area; (2) be continuously based out of Morro Bay Harbor, San Francisco Bay area harbors, or Port of Long Beach/Los Angeles area since last dry docking; or (3) have underwater surfaces cleaned before entering California waters at vessel origination point and immediately prior to transiting to the Project site. Additionally, and regardless of vessel size, ballast water for all Project vessels must be managed consistent with CSLC ballast management regulations, and Biofouling Removal and Hull Husbandry Reporting Forms shall be submitted to CSLC staff. Project vessels shall also be available for inspection by CSLC staff. Project vessels shall also be available for inspection by CSLC staff for compliance. Further, as part of the Project kickoff meeting, a qualified marine biologist, approved by CSLC staff, will provide information to all Project personnel about the spread of NAS in California waters and the programs that will be implemented to minimize this hazard.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coast, etc.) through direct removal, filling hydrological interruption, or other means?

MBPP Facility & Sand Dune Segments (No Impact). No wetlands occur within the developed MBPP Facility Segment. No impacts would occur in the Sand Dune Segment because this section of pipeline would be abandoned in place.

Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). Wetlands and other waters of the U.S. would be temporarily impacted during Project activities, including the removal of pipelines from below Morro Creek and the seafloor. In addition, if Project operations coincide with periods when Morro Creek intersects the proposed impact area, the intersecting portion would have to be dewatered and diverted. Impacts to wetlands and other waters because of Project activities would be temporary, short-term, and would result in no permanent impacts. In addition, implementation of **MM BIO-4** and **MM BIO-6** would further reduce these temporary, short-term impacts. Therefore, impacts would be less than significant with mitigation.

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?

All Project Segments (Less than Significant with Mitigation). The Project may affect the movement of terrestrial and marine wildlife (e.g., western snowy plover, steelhead) due to the temporary presence of decommissioning activities within certain areas of the land and ocean, as described in item *a)*. However, due to the short-term nature of the Project and implementation of **MM BIO-1** through **MM BIO-13**, the Project would not significantly interfere with the movement of migratory fish or wildlife species, or impede the use of native wildlife nursery sites; therefore, the impact would be less than significant with mitigation.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

All Project Segments (Less than Significant with Mitigation). The City and County goals, objective, and policy, as described in Section 3.4.2, Regulatory Setting, seek(s) to preserve natural resources by protecting fish, wildlife, and riparian and native habitats. As described above under item *a)*, the Project has the potential to adversely impact riparian habitats, steelhead migration, nesting special-status birds, grunion, rocky reef habitats, and significantly impact other sensitive marine wildlife; however, to avoid or reduce potential impacts to fish and wildlife to less than significant, **MM BIO-1** through **MM BIO-14** would be implemented, which would also meet the intent of the relevant local government goals, objective, and policy.

f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

All Project Segments (No Impact). The Project does not conflict with local, regional, or state habitat conservation plan provisions; therefore, there would be no impact.

3.4.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to biological resources to less than significant:

- MM BIO-1: Environmental Awareness Training
- MM BIO-2: Biological Surveying and Monitoring
- MM BIO-3: Delineation of Work Limits
- MM BIO-4: Morro Creek
- MM BIO-5: Nesting Birds
- MM BIO-6: Site Restoration Plan
- MM BIO-7: Pre-activity Grunion Surveys and Avoidance
- MM BIO-8: Pre- and Post-Decommissioning Seafloor Debris Survey and Debris Removal
- MM BIO-9: Marine Wildlife Contingency Plan
- MM BIO-10: Dynamic Pipe Ramming Sound Source Characterization
- MM BIO-11: Soft-Start and Ramp-Up Procedure
- MM BIO-12: Marine Wildlife Monitoring During Sound Source Characterization and Dynamic Pipe Ramming
- MM BIO-13: Dive Surveys
- MM BIO-14: Prevent Introduction of Non-Native Aquatic Species (NAS)

3.5 CULTURAL AND PALEONTOLOGICAL RESOURCES

CULTURAL AND PALEONTOLOGICAL RESOURCES - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

On October 2, 2015, Padre ordered a records search from the Central Coast Information Center of the California Historical Resources Information System (CCIC-CHRIS) located at the University of California, Santa Barbara. The CCIC, an affiliate of the State Office of Historic Preservation, is the official State repository of archaeological and historic records and reports for San Luis Obispo and Santa Barbara counties.

The records search sought to identify previously recorded cultural resources and the survey coverage of prior investigations within a 0.25-mile radius of the Project site. Sources examined during the records search included maps pinpointing cultural resources locations, survey coverage maps, site record and report files, the State Historic Property Data Files, National Register of Historic Places, National Register of Determined Eligible Properties, California Points of Historic Interest, and the California Office of Historic Preservation Archaeological Determinations of Eligibility. The records search identified one previously recorded cultural resource adjacent to the eastern edge of the Project site (CA-SLO-2124) and two previously recorded cultural resources within 0.25 mile of the eastern edge of the Project site (CA-SLO-16 and CA-SLO-29).

- Site CA-SLO-2124 is a Late Period seasonal shellfish collection and processing camp approximately 9.2 to 11.8 feet below the ground surface. Archaeologists tested CA-SLO-2124 in 2001 and determined the site eligible for listing on the California Register of Historical Resources (CRHR) (Parker 2001).
- Site CA-SLO-16 is a prehistoric habitation site and CA-SLO-29 is a prehistoric shell mound. Both sites have been determined CRHR-eligible; however, CA-SLO-29 is believed to be destroyed by previous construction (Singer 1991; Ramieriz and Haas 2014).

For the purposes of CEQA, CA-SLO-2124, CA-SLO-16 and CA-SLO-29 qualify as historical resources; however, the latter two sites are located outside the area of potential impacts for the Project. The records search also indicated that portions of the Project site have been previously surveyed for cultural resources (Table 3.5-1).

Table 3.5-1. Previously Conducted Surveys at Project Site

Author	Date	Title	Results
Dills, C. E.	1977	Archaeological Potential of Morro Sands Development	Negative
Singer and Atwood	1991	Cultural Resources Survey and Impact Assessment for the City of San Luis Obispo Desalination Project at Morro Bay	Identified cultural resources outside of Project site
Parker and Associates	1999	Cultural Resource Evaluation of the Morro Bay Power Plant Property sites CA-SLO-16 and CA-SLO-239	
	2001	Archaeological Monitoring of Trenching for the Placement of Biological Fencing in the Tank Farm Area, Duke Power Plant	Negative

Historic offshore cultural resources in the Project region consist primarily of shipwrecks. The most sensitive areas for shipwrecks along the California coast occur where concentrated shipping traffic coincides with navigational hazards such as reefs, headlands, and prevailing bad weather or fog. Some sensitive areas include offshore islands, seaports, and obstructions. Less sensitive areas include open sea and coastline away from established shipping routes. Shipwrecks are common along much of the Central California coastline but are especially concentrated in Port San Luis and the San Simeon area. The California State Lands Commission (CSLC) Shipwrecks Database identifies four known shipwrecks in Morro Bay (see Table 3.5-2).

Table 3.5-2. Known Shipwrecks in Vicinity of Morro Bay

Ship Name	Type	Year Sunk	Cause	Owner	Power	Latitude	Longitude
Lena	Schooner	1866	Grounded			35º22’18’N	120º51’20’W
Otsego	Schooner	1872	Stranded		Sail	35º22’18’N	120º51’20’W
Golden Gate	Schooner	1873	Parted Cable		Sail	35º22’18’N	120º51’20’W
Challenge	Three-Masted Schooner	1877	Wrecked	Menzies	Sail	35º22’18’N	120º51’20’W

Source: CSLC Shipwreck Database Search Results

No shipwrecks have been identified near the Project site, due likely to the low concentration of navigational hazards in the area, and the historic construction of the Morro Bay Strand, which would have destroyed any remnants of historic shipwrecks.

The Project site is also located within Core Area One of the proposed Chumash Heritage National Marine Sanctuary, which would extend from Gaviota Creek in Santa Barbara to

Santa Rosa Creek in Cambria and as far west as the Santa Lucia Escarpment (see Section 3.6.1.5, *Cultural Resources – Tribal*).

3.5.2 Regulatory Setting

Federal and state laws and regulations pertaining to cultural and paleontological resources and relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included within the City of Morro Bay (City) General Plan (1988) and the City's Local Coastal Plan (LCP) (1981) are applicable to cultural and paleontological resources within the Project site.

- MB LCP Archaeology Policy 4.01: Where necessary significant archaeological and historic resources shall be preserved to the greatest extent possible on both public and privately held lands.
- MB LCP Archaeology Policy 4.03: An archaeological reconnaissance performed by a qualified archaeologist shall be required as part of the permit review process for projects with areas identified as having potential archaeological sites. An archaeological reconnaissance would be required for all projects requiring an Environmental Impact Report under CEQA.
- MB LCP Archaeology Policy 4.04: Where archaeological resources are found as a result of a preliminary site survey before construction, the City shall require a mitigation plan to protect the site.
- MB LCP Archaeology Policy 4.05: Where archaeological resources are discovered during construction of new development, or through other non-permit activities (such as repair and maintenance of public works projects), all activities shall cease until a qualified archaeologist knowledgeable in Chumash culture can determine the significance of the resource and designate alternative mitigation measures. Development that impacts archaeological resources shall be required to mitigate impacts in one of the following manners:
  - Removal of artifacts
  - Dedication of impacted area as permanent open space
  - Coverage of archaeological site by at least 24 inches of sterile sand

3.5.3 Impact Analysis

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

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

a) and b). Morro Bay Power Plant (MBPP) Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). The Project involves the removal of

the MBPP Facility Segment, Surf Zone Segment, Beach and Offshore Segments of a 24-inch-diameter and a 16-inch-diameter pipeline. As stated above, one previously recorded cultural resource (CA-SLO-2124) was identified adjacent to the eastern edge of the Project site and two previously recorded cultural resources (CA-SLO-16 and CA-SLO-29) were identified within 0.25 mile. All three sites have been determined CRHR-eligible and historical resources; however, CA-SLO-29 is believed to be destroyed by previous construction (Singer 1991; Parker 2001; Ramieriz and Haas 2014). The records search did not identify any known resources within the Surf Zone or Offshore Segments.

Although the removal and excavation would occur within areas where no historical or unique archaeological resources have been identified, the possibility exists that previously unknown archaeological resources could be encountered during Project activities. To ensure that potential impacts to archaeological resources are avoided or mitigated to less than significant, implementation of **Mitigation Measures (MMs) CUL-1 and CUL-2** would ensure cultural resource impacts are avoided or mitigated to less than significant in the event of accidental discovery.

MM CUL-1: Cultural Resource Monitoring Plan. Prior to Project ground-disturbing activities including the removal of the anode bed and wells within the MBPP Facility Segment, a Cultural Resource Monitoring Plan will be completed. The Plan will require monitoring by a County-approved archaeologist during ground disturbing activities. In addition, the archaeological monitor will give workers associated with Project activities an orientation regarding the probability of exposing cultural resources, tips on recognizing such resources, and directions as to what steps are to be taken if a find is encountered.

MM CUL-2: Discovery of Previously Unknown Cultural Resources. In the event that intact archaeological resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until a County-approved archaeologist has evaluated the nature and significance of the discovery. In the event that a potentially significant archaeological resource is discovered, Dynegy, the California State Lands Commission (CSLC), and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required such notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Impacts to previously unknown significant archaeological resources shall be avoided through preservation in place if feasible. A treatment plan developed by the archaeologist shall be submitted to CSLC staff for review and approval. If the archaeologist believes that damaging effects to the archaeological resource would be avoided or minimized, then work in the area may resume.

Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission.

a) and b). Sand Dune Segment (Less than Significant Impact). Based on the results of the records search, the Sand Dune Segment is located within a highly sensitive cultural area. The pipelines within the Sand Dune Segment would be filled with cement (from the MBPP Facility Segment) and abandoned in place; therefore, no work would occur outside of the pipelines within the Sand Dune Segment. Impacts within the Sand Dune Segment are expected to be less than significant.

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

All Project Segments (No Impact). Impacts to a unique paleontological resource or site or unique geologic resource were evaluated for the Project as a whole; therefore, impacts are not broken out by individual Segments. The Project site is located along the western flank of the southern Santa Lucia Range. The Santa Lucia Range is composed predominantly of Jurassic- to Cretaceous-age sedimentary, volcanic, metavolcanic, and metamorphic rocks and earth materials of the Franciscan Formation. The Franciscan Formation contains a sparse, but diverse, fossil assemblage of mostly microfossils. Vertebrate fossils are extremely rare in the Franciscan Formation (Hilton 2003). Thus, unique paleontological or geologic resources would not be encountered or disturbed during Project activities. No impact would result.

d) Disturb any human remains, including those interred outside of formal cemeteries?

MBPP Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). Of the three cultural resources identified in the Project vicinity, CA-SLO-16 (prehistoric habitation site) and CA-SLO-29 (prehistoric shell mound) have the potential to yield human remains; however, CA-SLO-16 is located outside the area of potential impacts for the Project and CA-SLO-29 is believed to be destroyed by previous construction (Singer 1991; Ramieriz and Haas 2014). The Project is not expected to impact human burials; however, in the unanticipated event that burials are encountered, they must be managed in accordance with state law. To ensure that potential impacts to human remains are avoided or mitigated to less than significant, the following MM would be implemented.

MM CUL-3 Unanticipated Discovery of Human Remains. If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed.

Work shall stop within 100 feet of the discovery and a County-approved archaeologist must be contacted immediately within 24 hours, who shall consult with the County Coroner. In addition, California State Lands Commission staff shall be notified within 24 hours. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission within 24 hours of this determination and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.

Sand Dune Segment (No Impact). Human remains would not be impacted because the Sand Dune Segment would be abandoned in place; therefore, no impacts would result.

3.5.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to cultural and paleontological resources to less than significant:

- MM CUL-1: Cultural Resource Monitoring Plan
- MM CUL-2: Discovery of Previously Unknown Cultural Resources
- MM CUL-3: Unanticipated Discovery of Human Remains

3.6 CULTURAL RESOURCES – TRIBAL

CULTURAL RESOURCES - TRIBAL - Would the Project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
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, subdivision (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.	☐	☒	☐	☐

3.6.1 Environmental Setting

3.6.1.1 Background

Archaeological evidence suggests that San Luis Obispo County (County) has been inhabited for over 9,000 years. Archaeologists have established a detailed cultural chronology based upon excavations and site surveys across the County (Greenwood 1972; Jones and Waugh 1995). The prehistory of the central coast is divided into five periods; Paleoindian, Millingstone, Early, Middle, and Late.

The Paleoindian Period (11,000-8,500 B.P.) represents the earliest known human occupation in North America. This period coincides with the entry of people into the Americas during the latter part of the Wisconsin glaciation. The Cross Creek site (CA-SLO-1797), which is located near Diablo Canyon Power Plant, is the only known representation of the period in the region.

The Millingstone Period (8,500-5,500 B.P.), is best defined by the predominance of handstones and milling slabs, indicating a reliance on hard seeds and other plant foods. Flaked stone tools also occur, and include leaf-shaped bifaces, oval bifacial knives, choppers, and scrapers. *Olivella* beads and fishing equipment such as grooved net sinkers and bi-pointed gorges are also characteristic of the Millingstone Period (Æ 2004).

Two sites excavated by Greenwood (1972) at the Diablo Canyon Power Plant have been fundamental to our understanding of the Millingstone period on the central coast.

The Early Period (5,500-3,000 B.P.) exhibits similar artifact assemblages to the Millingstone period; however, flaked stone tools consist of large side-notched, square-stem, and contracting-stem projectile points (*Æ* 2004). Major changes in subsistence technology occurred. Mammals and fish became increasingly important in the diet, while shellfish consumption became increasingly less important. The introduction of mortar and pestle technology also reflects a more intensive use of plant resources (Jones and Waugh 1995).

The Middle Period (3,000-1,000 B.P.) is characterized by artifact assemblages that include contracting-stemmed projectile points, shell fishhooks, and a wide array of shell beads and ornaments. While many subsistence-settlement trends remained constant from pre-3,000 B.P., there was an intensification in the use of small schooling fish and an even further decline in the reliance on shellfish (Jones and Waugh 1995).

The Late Period (700 B.P.-Historic) settlements maintained a terrestrial orientation, focusing on the procurement of acorns and a variety of other interior plants and animal foods. The artifact assemblage at CA-SLO-1303, a site located at the original extent of the Morro Bay estuary, illustrates a high frequency of Franciscan chert, a material more common inland. The prevalence of this material suggests that people were coming to the coast from an inland residential base (*Æ* 2004).

The placement of Salinan and Chumash territorial boundaries with regards to the Project site is a complex issue. The territorial boundary likely moved up and down along the coast over time rather than staying fixed. There may also have been territorial clashes between the Salinan and the Chumash in and around the Morro Bay and San Luis Obispo area prior to the Mission period, making a definitive tribal “border” difficult to discern. Currently, the Native American Heritage Commission (NAHC) states that both Tribes claim affiliation in and around the general Project area.

The establishment of the missions had a direct impact on the native people of the region, as they were forced to convert and live within the mission grounds. The combined effects of forced acculturation, disease, and outright conflict rapidly reduced both the Salinan and Obispeño Chumash populations (Berg and Hildebrandt 2000). Given these tragic historical events, it is not surprising that modern academic cultural historic approaches have had limited success in tying ethnographic Salinan settlement with archaeological sites. Notable exceptions include a list of sites recorded in Monterey County that can be associated with recorded Salinan place names collected by Harrington in 1942 (Rivers and Jones 1993); the record of interviews conducted by Mason (1912) and Harrington (1942) with Salinan members also preserves a few ethnohistoric details. The Salinan

themselves, however, possess a rich cultural historic perspective of their people from which we can understand their seasonal movements and tribal practices.

The Xolon Salinan Tribe states that Salinan society was centered around the ancient Salinan region of Lima, where the San Antonio Mission was placed, and then where Fort Hunter Liggett was subsequently built. Salinan precontract territory also included California Central coastal areas, including the Morro Bay region north to the Big Sur area. Along the coast, seasonal villages would be established to fish and gather other food, as well as collect shells and various materials for Tribal survival, trade, ceremony, and other practices. The largest part of their subsistence came from gathering nuts and seeds, particularly acorns. The acorns were stored in bent twig granaries before processing. Wild oats, fruit, sage seeds, and berries were also collected. Wild game was hunted, such as deer and rabbit, and fishing was practiced by both coastal and inland groups using C-shaped fishhooks (Hester 1978).

3.6.1.2 Salinan

In general, Salinan prehistory is poorly understood due to the limited number of sites excavated and the frequent lack of cultural stratigraphy and chronological control (Hester 1978). Cultural historic approaches have had limited success in tying ethnographic Salinan settlement with archaeological sites. Notable exceptions include a list of sites recorded in Monterey County that can be associated with recorded Salinan place names collected by Harrington in 1942 (Rivers and Jones 1993).

Salinan is part of the Hokan language family, which has been in the American Southwest for around 9,000 years (Hoover 1977). Moratto (1984) sees the Salinans as being descendants of early Hokan settlers in the South Coast Ranges. Salinan may have become a distinct language 6000 to 8000 B.P. or earlier. At the time of contact, there were at least two mutually intelligible Salinan dialects. The northern dialect is referred to as *Antoniaño* due to its association with the *Mission of San Antonio de Padua* and the southern dialect was associated with the San Miguel Mission, which lends the name *Migueleño*.

There are few details known about Salinan culture, and what is known survives thanks to interviews conducted by Mason (1912) and Harrington (1942). The largest part of their subsistence came from gathering nuts and seeds, particularly acorns. The acorns were stored in bent twig granaries before processing. Wild oats, fruit, sage seeds, and berries were also collected. Wild game was hunted, such as deer and rabbit, and fishing was practiced by both coastal and inland groups using C-shaped fishhooks (Hester 1978).

Because the northern boundaries of the Obispeño and the southern boundaries of the Salinans were so close, and most likely very fluid through time, extensive trade was practiced between the groups. The establishment of the missions had a direct impact on the native people of the region, as they were forced to convert and live within the mission

grounds. The combined effects of forced acculturation, disease, and outright conflict rapidly reduced both the Salinan and Obispeño Chumash populations (Berg and Hildebrandt 2000).

3.6.1.3 Chumash

The Chumash have been divided into several geographic groups, each associated with a distinct language dialect (Hoover 1986). The Obispeño Chumash, the northernmost of the Chumash speakers, occupied land from the Pacific coast east to the crest of the Coast Range and from the Santa Maria River north to approximately Point Estero. This group was named for their association with the Spanish Mission of *San Luis Obispo de Tolosa*, founded in 1772 (Greenwood 1978). Overall, Chumash people likely inhabited an area of over 7,000 square miles, from Malibu to as far north as Ragged Point (Collins pers. Comm.; Santa Ynez Chumash 2009).

The Chumash were a non-agrarian culture and relied on hunting and gathering for their sustenance. Archaeological evidence indicates that the Chumash exploited marine food resources from the earliest occupation of the coast at least 9,000 years ago (Greenwood 1978). Much of their subsistence was derived from pelagic fish, particularly during the late summer and early fall (Hoover 1986). Shellfish were also exploited, including mussel and abalone from rocky shores and cockle and clams from sandy beaches. Acorns were a food staple; they were ground into flour using stone mortars and pestles and then leached to remove tannic acid. In addition, a wide variety of seeds, including *chia* from various species of sage, was used. A number of plants were harvested for their roots, tubers, or greens (Hoover 1986).

The coastal Chumash practiced a regular seasonal round of population dispersal and aggregation in response to the location and seasonal availability of different food resources (Landberg 1965). In this way, large coastal villages would have been fully populated only in the late summer when pelagic fishing was at its peak. Through winter, the Chumash depended largely on stored food resources. During the spring and summer, the population dispersed through inland valleys to harvest wild plant resources (Landberg 1965).

The Chumash lived in large, hemispherical houses constructed by planting willows or other poles in a circle and bending and tying them together at the top. These structures were then covered with tule mats or thatch. Structures such as this housed 40 to 50 individuals, or three- to four-member family groups. Dance houses and sweathouses are also reported for the Chumash (Kroeber 1925). Archaeological evidence supports observations that twin or split villages existed on opposite sides of streams or other natural features, possibly reflecting the moiety system of native California (Greenwood 1978).

3.6.1.4 Submerged Tribal Cultural Resources

Underwater Tribal cultural resources are defined as submerged sites having some cultural affiliation. These can take the form of submerged prehistoric sites or isolated prehistoric artifacts. Several submerged archaeological sites are located offshore in central coast California. Many of these sites contain a variety of prehistoric artifacts, including manos, mutates, choppers and pestles (Bickel 1978; URS Corporation 1986). Most of these known submerged archaeological sites and associated artifacts are in relatively shallow water. Many of the shallow water sites may be a result of cliff erosion and are most likely associated with archaeological sites located on the cliffs above. Other submerged artifacts are the consequence of random loss and some may have been purposefully discarded in association with ceremonial rituals or other events.

The Late Pleistocene was dominated by erosional and depositional events related to sea level fluctuations from glacial and interglacial stages. Recently, researchers have begun to reconstruct the early coastline of California, which has become inundated with rising sea levels in the Late Holocene. Reconstructions use detailed bathymetric maps of the ocean bottom in conjunction with graphed curves representing sea-level rise during the Holocene and the chronology of land uplift or submergence (Glassow 1999).

The sea level began dropping approximately 30,000 years ago from a level near or slightly below the present sea level. At the climax of the Wisconsin glaciation, 18,000 to 24,000 years ago, the sea level was as much as 394 feet below present sea levels. About 18,000 years ago, a warming trend caused the sea level to rise again due to melting ice sheets. At 11,000 years ago, about the time of earliest coastal occupation in California, the sea level was approximately 151 feet below present levels.

This has many implications for early coastal archaeological sites that have become submerged by modern sea levels and comprise a comparatively understudied area of archaeology due to their lack of visibility and accessibility. Although marine resources are not represented abundantly in archaeological sites until the Middle Holocene, Early Holocene Native Americans still recognized coastal habitats and littoral zones as regions that produced desirable resources, either for subsistence or for craft. Thus, prehistoric groups would have settled these now-submerged coastal regions.

3.6.1.5 Proposed Chumash Heritage National Marine Sanctuary (NMS)

The Project site is located within Core Area One of the proposed Chumash Heritage NMS. The proposed sanctuary, in its entirety, is located along the central California coastline from Gaviota Creek in Santa Barbara, California to Santa Rosa Creek in Cambria, California, and as far west as the Santa Lucia Escarpment. According to the nomination form prepared by the Northern Chumash Tribal Council, Core Area One is the nearshore area from mean high tide line out 3 to 13 miles offshore. The area contains “submerged Chumash archaeological sites ranging from villages to possible solstice alignments.” The

Project site is also located within Core Area Six, which includes the Pecho Coast between Point San Luis and the Morro Bay Sandspit (Collins 2015). On October 5, 2015, the National Oceanic and Atmospheric Administration (NOAA) determined that the nomination meets the national significance criteria and managements considerations. The nomination has been added to the inventory of areas that NOAA may consider in the future for national marine sanctuary designation. The full designation process will require public input, Congressional review, and preparation of the appropriate federal environmental documents.

3.6.2 Regulatory Setting

Federal and state laws and regulations pertaining to Tribal cultural resources and relevant to the Project are identified in Appendix A. At the local government level, there are no goals, policies, or regulations applicable to this issue area for the Project, due to its location and the nature of the activity.

Prior to preparation of the Mitigated Negative Declaration (MND), the California State Lands Commission (CSLC) did not receive any requests for consultation pursuant to Assembly Bill 52 from tribes in the Project area. Under Assembly Bill 52, lead agencies must avoid damaging effects to Tribal cultural resources, when feasible, regardless of whether consultation occurred or is required. Therefore, the CSLC proceeded with outreach to the NAHC. On October 12, 2016, the CSLC submitted a Sacred Lands File Search List Request Form to the NAHC. On October 13, 2016, the NAHC responded to the CSLC with a list of tribes with traditional lands or cultural places located within the boundaries of the Project area county. The list included the following tribes:

- Barbareno/Ventureno Band of Mission Indians
- Coastal Band of the Chumash Nation
- Northern Chumash Tribal Council
- Salinan Tribe of Monterey and San Luis Obispo Counties
- Santa Ynez Band of Mission Indians
- Xolon Salinan Tribe
- yak tityu tityu – Northern Chumash Tribe

On December 16, 2016, the CSLC provided a notice of the Project to all tribes on the list provided by the NAHC. At the time the Draft MND was released for public review, the CSLC had received comments from the Xolon Salinan Tribe and the Salinan Tribe of Monterey and San Luis Obispo Counties.

On February 10, 2017, CSLC staff met with the Chairperson and staff from the Xolon Salinan Tribe to discuss the Project and receive information regarding potential sensitive resources, impacts, mitigation measures, and information sources to assist with preparation of the MND. CSLC staff has coordinated and will continue to coordinate

Project information with the Tribe, to seek the Tribe's assistance concerning tribal resource impacts, and incorporation of requested mitigation measures for the Project.

On February 23, 2017, the CSLC received e-mail correspondence from the Salinan Tribe of Monterey and San Luis Obispo Counties. The Tribe requested an update on the Project, expressed potential impact concerns with pipeline removal, and requested a cultural resource monitor during ground disturbing activities. The CSLC's Tribal Liaison responded to the Tribe and offered the same level of assistance as with the Xolon Salinan Tribe.

3.6.3 Impact Analysis

Would the project cause a substantial adverse change in the significance of a Tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

(i) Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (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.

Morro Bay Power Plant (MBPP) Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). The Project would involve the removal of a 24-inch-diameter and a 16-inch-diameter pipeline. On October 2, 2015, Padre Associates Inc. ordered a records search for the Project area from the Central Coast Information Center of the California Historical Resources Information System, located at the University of California, Santa Barbara. The records search identified one previously recorded Tribal cultural resource (CA-SLO-2124) adjacent to the eastern edge of the Project site, and two previously recorded Tribal cultural resources (CA-SLO-16 and CA-SLO-29) within 0.25 mile. All three sites have been determined CRHR-eligible and historical resources; however, CA-SLO-29 is believed to be destroyed by previous construction (Singer 1991; Parker 2001; Ramieriz and Haas 2014).

Although the removal and excavation of the pipelines will occur within the MBPP Facility, Beach, Surf Zone, and Offshore Segments where no Tribal cultural resources have been identified, previously unknown Tribal cultural resources could be encountered during Project activities. To ensure that potential impacts to Tribal cultural resources are avoided

or mitigated to less than significant, the following mitigation measures (MM) would be implemented.

MM TCR-1: Tribal Cultural Resource Monitoring. Prior to Project related ground-disturbing activities, including the removal of the anode bed and wells within the MBPP Facility Segment, the Applicant shall prepare a Tribal Cultural Resources Monitoring Plan subject to California State Lands Commission (CSLC) approval. The Plan shall be prepared in coordination with the CSLC and a California Native American tribe that is culturally-affiliated to the Project site. The Plan shall include, but not be limited to the following measures:

- The Applicant shall retain a monitor from a California Native American tribe that is culturally-affiliated to the Project site during all ground disturbing activities
- The Applicant shall provide a minimum 5-day notice to the tribal monitor prior to all scheduled ground disturbing activities
- The Applicant shall provide the tribal monitor safe and reasonable access to the Project site
- Procedures for tribal monitoring for the Surf Zone and Offshore Segments, including availability of resources and information to monitor excavation activities
- Guidance on identification of potential tribal resources that may be encountered
- The tribal monitor will provide construction personnel with an orientation on the requirements of the Plan, including the probability of exposing tribal resources, guidance on recognizing such resources, and direction on procedures if a find is encountered
- Preparation of a Treatment Plan (see MM TCR-2 below) if tribal resources are discovered during excavation activities

MM TCR-2: Tribal Cultural Resources Treatment Plan. Should intact tribal cultural deposits be uncovered during Project implementation, California State Lands Commission (CSLC) staff and the tribal monitor shall be contacted immediately within 24 hours. A Treatment Plan developed in consultation with the tribal monitor shall be submitted to CSLC staff for review and approval. CSLC staff in consultation with the tribal monitor, shall have the authority to temporarily halt all work within 100-feet of the find. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Additional measures to meet these requirements include assessment of the nature and extent of the deposit, and subsequent recordation and notification of relevant parties based upon the results of the assessment. Impacts to previously unknown significant Tribal cultural resources shall be avoided through preservation in place if feasible.

Sand Dune Segment (No Impact). Based on the results of the records search, the Sand Dune Segment of the pipelines is located within an area that is highly sensitive for Tribal cultural resources. Abandonment in place of the Sand Dune Segment would reduce impacts to less than significant.

3.6.4 Mitigation Summary

Implementation of the following mitigation measures (MMs) would reduce the potential for Project-related impacts to Tribal cultural resources to less than significant:

- MM TCR-1: Tribal Cultural Resource Monitoring
- MM TCR-2: Tribal Cultural Resources Treatment Plan

3.7 GEOLOGY AND SOILS

GEOLOGY AND SOILS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.7.1 Environmental Setting

3.7.1.1 Regional Setting

The Morro Bay Power Plant (MBPP) is located within the southernmost portion of the Coast Range Geomorphic Province of California. The Coast Range consists of a sequence of northwest-trending mountains and valleys, aligned with and adjacent to the California coastline. The Coast Range is on average 60 miles wide, extending from the Pacific Coast inland to the San Joaquin Valley. The regional geology of Morro Bay, California is dominated by the Franciscan formation, a heterogeneous assemblage of oceanic and terrigenous rock units that form the core complex of the Coast Range. The Franciscan complex consists of marine sandstone that is interbedded with chert. The rocks range in age from the late Jurassic (140 million years old) to the late Cretaceous

(75 million years old). Volcanic rocks, including tuff and basalts, are also present within the Franciscan formation. Ultramafic rocks, consisting largely of serpentinite and other altered rocks, comprise the remainder of the Franciscan formation. Morro Rock, located south of the marine terminal, is a volcanic unit made of dacite, a granitic rock (Norris and Webb 1990).

3.7.1.2 Site-Specific Setting

Geologic materials near the Project site consist of alluvial sediments from Morro Creek and beach sand deposits and sand dunes (Hall and Prior 1975). Extensive geotechnical investigations (Hushmand 2000) identified geological materials including dune sand, artificial fill, estuarine deposits, and alluvial deposits. Franciscan formation sandstone and shale underlie these deposits at depths ranging from 55 to 69 feet below mean low low water elevation (MLLW). Based on geologic logs completed during the Hushmand investigation, and prior Fluor Daniel Phase II environmental site assessments (Fluor-Daniel 1997), geologic materials that would be encountered during the Project activities are expected to consist of mostly beach sand and older sand dune deposits.

The MBPP is located in a region of complexly-faulted and folded basement rocks. While there are faults in the region, no active faults are known to pass within the immediate vicinity of the MBPP.

Onshore topography in the Project area includes both sand dunes and flat graded areas. Onshore elevation ranges from sea level to 21 feet within the coastal dune area. East of the active beach area is a grouping of foredunes that have been modified by dredge spoil disposal and filling activities. Soils at the onshore area include beach sand and dune lands. Both soils are characterized as sand with very rapid permeability and a high erosion hazard. Neither soil is listed as a prime agricultural soil.

The Surf Zone Segment of the marine terminal follows a nearshore alignment through the southern portion of an established sand disposal site that is periodically used by the city of Morro Bay (City) during maintenance dredging of the navigation channel in Morro Bay. The overall sediment transport system responsible for the movement of beach material through the Morro Bay region is only partially understood. Modeling studies, historical data, and analyses of current and wave climate indicate that sedimentation within the channel is caused by both northerly and southerly movements. This information further indicates that on a micro-oceanographic scale, there may also be a small “gyre” (spiral motion/whirlpool) operating in the area, which begins offshore and north of Morro Rock, continues south around Morro Rock, turns toward shore some distance south, and returns to the north, completing its movement at the entrance to Morro Bay Harbor. It appears that the northern transport of material is driven by cross-shore currents that exist no deeper than -16.4 feet MLLW (CCC 1997). Additional sources of sediments at the Project

site include transport through nearshore/offshore currents and circulation patterns, as well as Alva Paul Creek, Morro Creek, Chorro Creek, and Los Osos Creek.

3.7.2 Regulatory Setting

Federal and state laws and regulations pertaining to geology and soils and relevant to the Project are identified in Appendix A. At the local level, the City covers the potential for ground-shaking, liquefaction, landslides, and erosion in the Safety Element of its Local Coastal Plan. The following policies and programs are applicable to the Project.

- **Policy S-5.** The City will continue to enforce measures to ensure seismic safety hazards are minimized.
  - Program S-5.2 The Technical section of the General Plan should be made available to developers for review and use when land development is proposed.
- **Policy S-7.** Measures should be instituted to reduce the incidence of erosion.
  - Program S-7.1 For permitted grading operations on hillsides, the smallest practical areas of land shall be exposed at any one time during development, and the length of the exposure shall be kept to the shortest practicable amount of time. Where a proposed grading operation has the potential for causing significant erosion or sedimentation of water bodies, the grading shall be commenced and concluded during the dry season of April 1 to October 31 of each year. Grading permits shall include requirements for sediment catch basins, revegetation within a specified period of time and other slope stabilization measures. All measures for capturing sediments and stabilizing slopes including revegetation shall be in place before the beginning of the rainy season and shall be implemented in conjunction with the initial grading operations.
  - Program S-7.3 Temporary vegetation, seeding, mulching, or other suitable stabilization methods shall be used to protect soils subject to erosion that have been disturbed during grading or development. All cut-and-fill slopes shall be stabilized immediately with planting of native grasses and shrubs, appropriate nonnative plants, or with accepted landscaping practices.

3.7.3 Impact Analysis

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

(ii) Strong seismic ground shaking?

(iii) Seismic-related ground failure, including liquefaction?

(iv) Landslides?

All Project Segments (No Impact). The Project site is not located within or adjacent to a delineated Alquist-Priolo Earthquake Fault Zone. The nearest fault is the Los Osos fault, 5 miles to the south of the Project site. While the Project is in a seismically active region, there is no risk beyond that experienced daily by the public.

Project infrastructure and workers could be subjected to seismic ground shaking if a significant earthquake occurred in the region during Project implementation. However, decommissioning activities would not create adverse effects to people or structures related to ground shaking; therefore, no impact would occur.

The Project site is located within an area susceptible to liquefaction with the occurrence of a large earthquake; however, the decommissioning nature of the Project, and that no new structures would be added to the Project site, make potential risks negligible.

The Project area is on a coastal plain and does not include slopes or other features that would have the potential to become unstable and result in a landslide. Therefore, this Project is not likely to expose people or structures to potential substantial adverse effects due to landslides. Landslides are not expected to occur in the Surf Zone or Offshore Segments; therefore, no impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

MBPP Facility & Beach Segments (Less Than Significant Impact). The Project may result in the temporary diversion of the Morro Creek mouth if the creek is flowing or if a large lagoon is present at the time of Project activities (see Appendix H). Implementation of the Stream Diversion Plan, if needed, would not result in soil erosion or topsoil loss as the use of cofferdam structures and a diversion culvert or artificial channel would reduce water flow through the Project site. The temporary diversion would have minor temporary alterations to the creek mouth within the Beach Segment, but would not result in erosion or siltation impacts. Disturbed areas would be properly backfilled to re-establish pre-Project conditions. Because of the nature of the activity and location within a beach environment, the Project would not result in substantial soil erosion or loss of topsoil.

Sand Dune, Surf Zone & Offshore Segments (No Impact). No soil erosion or loss of topsoil would occur because the Sand Dune Segment would be abandoned in place. Due to the marine environment, excavated areas within the Surf Zone and Offshore Segments would naturally re-establish to pre-Project conditions. Therefore, no impacts would result.

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?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

c) and d). All Project Segments (No Impact). The Project area is on a coastal plain and does not include slopes or other features that would have the potential to become unstable and result in a landslide, lateral spreading, subsidence or collapse. The nature of the work would prevent any risks from liquefaction. Therefore, this Project is not likely to expose people or structures to potential substantial adverse effects. Similarly, landslides, lateral spreading, subsidence, liquefaction, or collapse are not anticipated to occur within excavation areas of the Surf Zone or Offshore Segments. Finally, no expansive soils are known to be present on any of the work segments. Therefore, no impact would occur.

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?

All Project Segments (No Impact). The Project does not require a wastewater disposal system; therefore, no impacts would occur.

3.7.4 Mitigation Summary

The Project would not result in significant impacts to geology; therefore, no mitigation is required.

3.8 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

This section evaluates the potential for the proposed Project to generate direct or indirect greenhouse gas (GHG) emissions in the Project area. The section describes expected impacts associated with GHG emissions from Project activities, equipment and scheduling and evaluates the significance of those impacts relative to the existing setting. Potential air quality impacts are discussed in Section 3.3, *Air Quality*. The section begins with a discussion of GHG science and the existing GHG setting within the Project area

3.8.1 Environmental Setting

GHGs are defined as any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). These GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the greenhouse effect. There is overwhelming scientific consensus that human-related emissions of GHGs above natural levels have contributed significantly to global climate change by increasing the concentrations of the gases responsible for the greenhouse effect, which causes atmospheric warming above natural conditions.

According to the National Oceanic and Atmospheric Administration (NOAA), the atmospheric concentration CO_2 measured at Mauna Loa, Hawaii in May 2016 was 407.70 parts per million (ppm) (NOAA 2017) compared to the pre-industrial levels of 280 ppm +/- 20 ppm (Intergovernmental Panel on Climate Change [IPCC] 2007). NOAA's Mauna Loa data also show that the mean annual CO_2 concentration growth rate is accelerating, where in the 1960s it was about 0.9 ppm per year and in the first decade of the 2000s it was almost 2 ppm per year, and from May 2015 to May 2016 it was nearly 4 ppm. Because GHG emissions are known to increase atmospheric concentrations of GHGs, and increased GHG concentrations in the atmosphere exacerbate global warming, a project that adds to the atmospheric load of GHGs adds to the problem. To avoid disruptive and potentially catastrophic climate change, annual GHG emissions must not only stabilize but must be substantially reduced. The impact to climate change due to the increase in ambient concentrations of GHGs differ from criteria pollutants (see Section

3.3, *Air Quality*), in that GHG emissions from a specific project do not cause direct adverse localized human health effects. Rather, the direct environmental effect of GHG emissions is the cumulative effect of an overall increase in global temperatures, which in turn has numerous indirect effects on the environment and humans.

The IPCC completed a Fifth Assessment Report (AR5) in 2014 that contains information on the state of scientific, technical, and socio-economic knowledge about climate change. The AR5 includes working group reports on basics of the science, potential impacts and vulnerability, and mitigation strategies[5]. Global climate change has caused physical, social, and economic impacts in California, such as land surface and ocean warming, decreasing snow and ice, rising sea levels, increased frequency and intensity of droughts, storms, and floods, and increased rates of coastal erosion. In its Climate Change 2014 Synthesis Report, which is part of the AR5, the IPCC (2014) notes:

> *Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems…warming of the climate system is unequivocal, and, since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen.*

The potential of a gas or aerosol to trap heat in the atmosphere is called global warming potential (GWP). The GWP of different GHGs varies because they absorb different amounts of heat. CO_2, the most ubiquitous GHG, is used to relate the amount of heat absorbed to the amount of the gas emissions; this is referred to as CO_2 equivalent (CO_2e). CO_2e is the amount of GHG emitted multiplied by the GWP. The GWP of CO_2, as the reference GHG, is 1. Methane has a GWP of 25; therefore, 1 pound of methane equates to 25 pounds of CO_2e. Table 3.8-1 shows a range of gases with their associated GWP, their estimated lifetime in the atmosphere, and the GWP over a 100- year timeframe (per federal and state reporting requirements).

Table 3.8-1. Global Warming Potential of Various Gases

Gas	Life in Atmosphere (years)	100-year GWP (average)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	120	298
HFCs	1.5-264	12-14,800
Sulfur hexafluoride	3,200	22,800

Source: U.S. Environmental Protection Agency (USEPA) 40 CFR Part 98, Subpart A, Table A-1, (USEPA 2017a) The 40 CFR Part 98 approach is used to estimate GHG emissions per million British Thermal Units, assuming 99.9 percent combustion efficiency (Appendix D).
Note: GWP = global warming potential; HFC = hydrofluorocarbon.

[5] For additional information on the Fifth Assessment Report, see https://www.ipcc.ch/report/ar5/

3.8.1.1 Context for Emission Inventories and Projections

In 2012, estimated global and California emissions were 53,937 million metric tons of CO_2e ($MMTCO_2e$) and 6,525 $MMTCO_2e$, respectively (European Commission 2016; U.S. Environmental Protection Agency [USEPA] 2014). In California, the California Air Resources Board (CARB) is the primary agency responsible for providing information on implementing the GHG reductions required by Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, and its 2016 update, Senate Bill (SB) 32. Together, these laws require CARB to develop regulations that reduce GHG emissions to 1990 levels by 2020 and to 40 percent below 1990 levels by 2030. CARB developed and approved its first Scoping Plan, describing its approach to meeting the AB 32 goal, in 2008 (CARB 2014a). With enactment of SB 32, CARB (2017b) prepared a 2017 Climate Change Scoping Plan Update. In addition to the Scoping Plan, CARB maintains an online inventory of GHG emissions in California. The most recent inventory, released June 6, 2017, includes emissions from 2000 to 2015. This inventory is an important companion to the Scoping Plan because it documents the historical emission trends and progress toward meeting the 2020 and 2030 targets, which are 431 $MMTCO_{2e}$ and 260 $MMTCO_{2e}$, respectively.

To monitor progress in emissions reduction, the Scoping Plan includes a modeled reference scenario, or "business as usual" (BAU) projection that estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. Prior BAU emissions estimates assisted CARB in demonstrating progress toward meeting the 2020 goal of 431 $MMTCO_2e$. The 2030 BAU reference scenario was modeled for the 2017 Scoping Plan Update, representing forecasted state GHG emissions with existing policies and programs but without additional action beyond that to reduce GHGs. This modeling shows that the California is expected to achieve the 2020 target but that a significant increase in the rate of GHG reductions is needed to meet the 2030 and 2050 targets (CARB 2017a).

3.8.1.2 National

The primary source of GHG in the U.S. is energy-use related activities, which include fuel combustion and energy production, transmission, storage, and distribution. Energy related activities generated 84 percent of the total U.S. emissions in 2012. Fossil fuel combustion represents the majority of energy-related GHG emissions with CO_2 being the primary GHG. The U.S., which has about 4.4 percent of the global population, emits roughly 12 percent of all global GHG emissions.

3.8.1.3 State

California, which has approximately 0.51 percent of the global population, emits less than 0.85 percent of the total global GHG emissions, which is approximately 40 percent lower per capita than the overall U.S. average. Despite growing population and gross domestic product (GDP), gross GHG emissions continue to decrease, as do emissions per capita

(per capita emissions have dropped from 14 tons to 11.4 tons), exhibiting a major decline in the "carbon intensity" of California's overall economy. The transportation sector remains responsible for the largest share of GHG emissions in the 2016 Inventory, accounting for approximately 36 percent of the total. While transportation and electric power sector emissions are decreasing year to year, other sectors have been flat or rising slightly (CARB 2016). Since its 2004 peak, California has reduced its total annual emissions by 9.4 percent; transportation sector emissions are 13 percent lower.

Even though California is aggressively moving to reduce its annual GHG emissions, it is already experiencing the effects of GHG-related climate change, which is a relevant aspect of the environmental setting. A 2013 report entitled *Indicators of Climate Change in California* (Office of Environmental Health Hazard Assessment [OEHHA] 2013) concludes that the changes occurring in California are largely consistent with those observed globally. These climate change indicators show the following.

- Annual average temperatures in California are on the rise, including increases in daily minimum and maximum temperatures.
- Extreme events, including wildfire and heat waves, are more frequent.
- Spring runoff volumes are declining as a result of a diminished snowpack.
- The number of "winter chill hours" crucial for the production of high-value fruit and nut crops, are declining.
- Species are on the move, showing up at different times and locations than previously recorded, including both flora and fauna at higher elevations.

For the purposes of this assessment, the Project site is located within the jurisdiction of the San Luis Obispo County Air Pollution Control District (APCD).

3.8.2 Regulatory Setting

Federal and state laws and regulations pertaining to GHG emissions and relevant to the Project are identified in Appendix A. At the regional level, the San Luis Obispo County APCD, in 2012, adopted GHG thresholds in effort to meet the GHG reduction goals of AB 32 (APCD 2012a and APCD 2012b). The three GHG significance thresholds that have been established for residential and commercial projects are as follows:

- Compliance with Qualified GHG Reduction Strategy
- Bright-Line Threshold of 1,150 Million metric tons of carbon dioxide equivalent (MTCO2e) per year
- Efficiency Threshold of 4.9 MTCO2e/Service Population (residents + employees)/year

Emissions from construction-only projects (e.g., roadways, pipelines, etc.) would be amortized over the life of the Project, and compared to an adopted GHG Reduction Strategy or the Bright-Line Threshold only. Over time, implementation of AB 32 through the newly implemented APCD GHG thresholds shall mitigate and reduce GHG emissions from industrial sources in the central coast region.

3.8.3 Impact Analysis

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

All Project Segments (Less than Significant Impact). Table 3.8-2 presents estimated Project GHG emissions for the nine decommissioning phases, using equipment specific emission factors and load factors obtained from the following sources (see Appendix D): CalEEMod Default Data Table; EMFAC2014 Version 1.0.7; and Puget Sound Maritime Air Emissions Inventory (Environ 2016), (CARB 2014b), and (Starcrest 2012).

Table 3.8-2. Projected Project GHG Emissions

Source	Peak Day Emissions (lbs/day)			Annual Emissions (tons/year)			
	N_2O	CH_4	CO_2	N_2O	CH_4	CO_2	$MTCO_2e$
Pre-Project Debris Survey	0.02	0.12	2,833.7	0.0000	0.0001	2.834	2.579
Dune Segment Cementing	0.04	0.24	5,117.6	0.0002	0.0012	21.607	19.682
Thrust Block Demolition	0.04	0.18	7,482.1	0.0001	0.0003	10.790	9.815
Beach Segment Removal	0.11	0.66	13,179.0	0.0008	0.0049	98.843	89.999
24" Pipeline Removal	0.27	1.58	33,738.4	0.0040	0.0237	506.076	460.719
16" Pipeline Removal	0.27	1.58	33,738.4	0.0039	0.0237	493.555	449.348
Offshore DPR Spread	0.31	1.88	39,055.6	0.0019	0.0114	231.407	210.695
Onshore DPR Spread	0.20	1.35	26,002.3	0.0012	0.0081	150.849	137.345
Post-Project Debris Survey	0.01	0.07	1,554.5	0.0000	0.0001	1.555	1.415
Average Pounds/Day	***0.14***	***0.85***	***18,077.98***	***-***	***-***	***-***	***-***
Peak Day Within San Luis Obispo County	***0.31***	***1.88***	***39,055.64***	***-***	***-***	***-***	***-***
Total Annual Emissions Within San Luis Obispo County	***-***	***-***	***-***	***0.012***	***0.073***	***1517.514***	***-***
GHG - $MTCO_2e$ Conversions				***298***	***25***	***1***	***-***
Total $MTCO_2e$ / year				***1,381.598***			
$MTCO_2e$ / year Amortized Over 25 Years				***55.3***			

Acronyms: DPR = Dynamic Pipe Ramming
Notes: PM10, PM2.5 and DPM emissions are calculated as exhaust.

Based on the projected GHG emissions, Project activities would emit a total of approximately 0.012 tons of N_2O, 0.073 tons of CH_4, and 1,517 tons of CO_2. Converting N_2O, CH_4, and CO_2 to $MTCO_2e$ yielded a total GHG emission estimation of 1,381 $MTCO_2e$ for the Project. The estimated 1,381 $MTCO_2e$ is slightly above the APCD GHG

Bright-Line (BL) threshold of 1,150 $MTCO_2e$. Based on the construction-only nature of the Project, the APCD requires the $MTCO_2e$ to be amortized over the operational Project life span or 25 years whichever is longer. Then the amortized $MTCO_2e$ is added to the calculated operational emissions (APCD 2012b). Based on the estimated $MTCO_2e$ of 1,381, the amortized value is 55.3 $MTCO_2e$. The amortized $MTCO_2e$ of 55.3 is well below the BL threshold of 1,150 $MTCO_2e$; therefore, no mitigation is required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

All Project Segments (No Impact). The Project would not conflict or obstruct implementation of the APCD's Clean Air Plan and Updated Strategic Action Plan Update.

3.8.4 Mitigation Summary

No significant impacts resulting from GHGs would occur. However, as previously discussed in Section 3.3, *Air Quality*, **MMs AQ-1** through **AQ-5** would be implemented to further reduce and minimize impacts from GHG emissions.

3.9 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	☒
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?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

3.9.1 Environmental Setting

3.9.1.1 Project Location and Surroundings

The Project site is located on a coastal plain, adjacent to the northern shore of Morro Bay and the Pacific Ocean, along the central coast of California. Morro Bay High School is the nearest school, located approximately 0.5 mile north of the Morro Bay Power Plant (MBPP). The Family Partnership Charter School and Del Mar Elementary School are also nearby, 0.9 mile and 2.6 miles away, respectively. The region includes several small

airfields, but these are more than 20 miles from the Project site. The nearest municipal airport is 34 miles away in Paso Robles, California.

3.9.1.2 Online Review

Four listings pertaining to the Project area were found during the online review of the Department of Toxic Substances Control (DTSC) Envirostor database and Regional Water Quality Control Board (RWQCB) Geotracker Site on January 16, 2017. Two military sites requiring further investigation within 1 mile of the Project site were also revealed (DTSC 2017). While searching the Geotracker Site, a listing for the MBPP indicates that DTSC is the lead agency on any actions at the Project site (RWQCB 2017).

The first listing reviewed is a historical Resource Conservation and Recovery Act (RCRA) listing stemming from Pacific Gas & Electric Company (PG&E) control of the Project site. Two solid waste management units were subject to corrective actions following a 1986 RCRA Facility assessment. Closure for the inactive landfill was achieved in February 1995 and for the oil transfer pond in 1997. Subsequent Phase II Investigations performed by PG&E led to a Corrective Action Consent Agreement with the DTSC regarding potential releases related to six aboveground fuel tanks. Additionally, several areas of concern, including the 1S Tank Farm Soil, the 1GW Tank Farm groundwater, the 2S Beach Valve Area groundwater, the Fire House No 1 soil, the Storage Area Soil, the 5S Switchyard area soil, the 5GW Switchyard area groundwater, and other multi-use soils were indicated for investigation. Action at additional areas of concern are contingent upon access after decommissioning activities are completed by Dynegy, the current facility owner. These areas include the 7S Power Building soil, the 7GW building groundwater, the 8S metal waste cleaning pond soil, and the 8GW metal waste cleaning pond groundwater (DTSC 2017).

Three listings for the Project site are associated with use of the facility by Duke Energy and Dynegy. Two listings are due to the facility being permitted as a hazardous waste facility (EPA ID CAT080011646) to store liquid hazardous waste, primarily boiler cleaning solution, in three surface impoundments. The permit was valid from July 30, 1999 to June 30, 2009, and the Project site was previously listed as a hazardous materials site per Government Code section 65962.5. The triple-lined leachate collection and detection system in place did not detect any leaks during the period of operation (DTSC 2017).

The third corrective action listing is active and open while decommissioning activities are ongoing. The Phase II investigations revealed potential releases to groundwater and soil onsite, and led to the 2006 Corrective Action consent agreement. The potential constituents of concern in the Project area include: total petroleum hydrocarbons; total extractable hydrocarbons; volatile organic compounds; polyaromatic hydrocarbons; polychlorinated bi-phenyls; and asbestos. The Project site is currently not located on a site that is included on a list of hazardous materials sites per the provisions of Government

Code section 65962.5, commonly referred to as the "Cortese List" (RWQCB 2017; DTSC 2017).

3.9.2 Regulatory Setting

Federal and state laws and regulations pertaining to hazards and hazardous materials and relevant to the Project are identified in Appendix A. At the local level, the following objectives, policies, and programs were taken from the Safety Element of the Morro Bay Local Coastal Plan (LCP) (City of Morro Bay 1988).

- **LCP Objectives** include: minimize injury and loss of life; minimize damage to public and private property; minimize social and economic dislocations resulting from injuries, loss of life and property damage; and insure the continuity of vital services and functions.
- **Policy S-1:** To the extent feasible the City will ensure that development within the City's jurisdiction is designed to withstand natural and man-made hazards to acceptable levels of risk.
- **Program S-7.5:** Degradation of the water quality of groundwater basins, nearby streams, or wetlands shall not result from development of the site. Pollutants such as chemicals, fuels, lubricants, raw sewage and other harmful waste, shall not be discharged into or alongside coastal streams or wetlands either during or after construction.
- **Program S-7.6:** To protect the sensitive Morro Bay Estuary, the City shall require all development, including any interim agricultural uses to follow the Best Management Practices of the Regional Water Quality Board within the City limits and will urge the County to adopt the use of Best Management Practices for all land uses within the Morro Bay watershed. These best management practices, as determined by the Regional Water Quality Control Board, are designed to minimize runoff and erosion.

3.9.3 Impact Analysis

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

a) and b). MBPP Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). The Project is not expected to create a health hazard. Public safety would be considered during all phases of the Project for both the public and

Project personnel. At the end of the Project period, all disturbed areas would be returned to their natural state, leaving no potential health hazard.

The 24-inch pipeline contains a non-friable asbestos coating. The contractor will appropriately abate the asbestos coating prior to cutting the pipe into segments during removal, recover asbestos coating that is dislodged during removal to the extent feasible, and abate or dispose of the segments and recovered coating as asbestos waste. The non-friable asbestos coating does not pose a risk to the public. All contaminated materials would be handled in accordance with the Contaminated Materials Management Plan to ensure that no hazards to the public or environment would occur. The Contaminated Materials Management Plan (Appendix K) would be used if contaminated materials are encountered during decommissioning activities.

The pipelines were pigged and flushed as a non–Project maintenance activity during the summer of 2017. Therefore, "layup" fluids (anti-corrosion solution) would not be released during the Project. In the unlikely event of a contaminated substance spill, emergency response equipment (sorbent pads, sorbent boom and containment boom) would be onsite at all times to facilitate initial response. In addition, an oil spill response contractor would be retained by Dynegy. These issues are discussed in the Contaminated Materials Management Plan and the Oil Spill Response Plan (Appendix L). Considering the above, the impacts associated with the upset or release of contaminated substances are considered less than significant with the incorporation of mitigation measures **MM HAZ-1** through **MM HAZ-3**.

MM HAZ-1: Contaminated Materials Management Plan. The Contaminated Materials Management Plan shall be submitted to the County of San Luis Obispo County Environmental Health Services Department (SLOEHS) for review and approval prior to the initiation of construction activities. The Contaminated Materials Management Plan shall be used if contaminated materials are encountered during the course of the Project. The plan shall identify the actions and notifications to occur if evidence of soil contamination is encountered during onshore excavation. Action and notification steps will include, at a minimum, sampling and analysis by a qualified environmental consultant and State-certified analytical laboratory to confirm the nature and extent of contamination. The Applicant shall notify SLOEHS within 24 hours of discovery of contaminated materials encountered during the course of Project construction activities.

MM HAZ-2: Hydrocarbon Contaminated Soil. Should hydrocarbon contaminated soil be encountered during construction activities, the Air Pollution Control District must be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an Air Pollution Control District Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal.
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH-non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate.
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted.
- The air quality impacts from the excavation and haul trips associated with removing the contaminated soil must be evaluated and mitigated if total emissions exceed the Air Pollution Control District's construction phase thresholds.
- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance.
- Clean soil must be segregated from contaminated soil.

MM HAZ-3 Oil Spill Response Plan. The Applicant shall ensure the Oil Spill Response Plan for the Project will be activated in the event of a release of oil or contaminants during pipeline removal activities.

Decommissioning activities include the use of offshore vessels and offshore and onshore equipment that may result in the accidental release of hazardous materials, and subsequent environmental and human exposure, due to accidental spills of petroleum (including diesel fuel) from Project vessels or equipment. To ensure that potential impacts associated with the accidental release of hazardous substances are avoided or mitigated to a level of less than significant, **MM HAZ-4** would be implemented, in addition to the Oil Spill Response Plan required under **MM HAZ-3** above.

MM HAZ-4 Hazardous Materials Management and Contingency Plan. The Applicant shall develop and implement hazardous materials management and contingency plan measures for onshore operations. The measures shall be provided to the California State Lands Commission (CSLC) staff prior to Project implementation, and subject to CSLC review and approval. Measures shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, daily equipment inspection schedule, a spill response plan, and spill response supplies to be maintained onsite.

The 24-inch pipeline is known to contain a non-friable asbestos-containing coating. Proper worker training and handling and disposal methods are required as per state and federal regulations. **MM HAZ-5** would be implemented to properly handle and dispose of the 24-inch pipeline segments removed during the Project.

MM HAZ-5: Asbestos Work Plan. The Applicant shall retain a certified asbestos consultant to prepare an Asbestos Work Plan for the Project. The Asbestos Work Plan shall be used if asbestos containing material requires disposal during the course of the Project. The Asbestos Work Plan shall be submitted to the San Luis Obispo County Air Pollution Control District for review and approval as part of a National Emissions Standard for Hazardous Air Pollutants Asbestos Demolition Notification at least 10 working days prior to start of removal of asbestos-containing materials.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no impacts to the public or environment would result.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

All Project Segments (No Impact). The Project site is not anticipated to emit any hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The Project site is not within 0.25 mile of any existing or proposed school.

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?

All Project Segments (Less than Significant Impact with Mitigation). The Project site was previously listed as a hazardous materials site. Contaminated materials encountered would be handled in accordance with the approved Contaminated Materials Management Plan (**MM HAZ-1**) and would not result in a significant hazard to the public or environment.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

e) and f) All Project Segments (No Impact). The Project site is not located within an airport land use plan or within 2 miles of a public or private airstrip.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

All Project Segments (No Impact). The Project would occur within the MBPP Facility Segment, Beach Segment, Surf Zone Segment, and Offshore Segment. The proposed construction activities would not interfere with evacuation plans for the MBPP. Therefore, Project activities would not interfere with any MBPP emergency response plans. In

addition, all Project activities would be conducted in accordance with the selected contractor's standard health and safety protocols and procedures. Project activities would also not interfere with any MBPP emergency response plans because the Sand Dune Segment will be abandoned in place; therefore, no impact would result.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

All Project Segments (No Impact). Much of the Project activity would take place over water or in a beach environment, and would increase fire hazards. Decommissioning procedures on land are also not expected to result in any increased fire hazards.

3.9.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts from hazardous materials to less than significant:

- MM HAZ-1: Contaminated Materials and Management Plan
- MM HAZ-2: Hydrocarbon Contaminated Soil
- MM HAZ-3: Oil Spill Response Plan
- MM HAZ-4: Hazardous Materials Management and Contingency Plan
- MM HAZ-5: Asbestos Work Plan

3.10 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
e) 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?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

3.10.1 Environmental Setting

3.10.1.1 Surface Waters

Surface water resources near the Dynegy Morro Bay Power Plant (MBPP) pipelines include: Estero Bay; Morro Bay harbor and estuary; Morro and Willow Camp Creeks; and freshwater and saltwater marshes within Morro Creek and the Morro Bay beach area. A network of storm water drainage systems carries runoff to Morro Bay and the ocean. Within Morro Bay harbor, an inactive cooling water system exists for the power station which took water from the Morro Bay harbor, circulated it through the condensers, and discharged it back to the ocean via an outfall adjacent to Morro Rock pursuant to Dynegy Energy's National Pollutant Discharge Elimination System (NPDES) permit.

Estero Bay is a shallow, sandy bottom bay that lies between Estero Point to the north and Point Buchon to the south. The bay is a little over 15 miles in length and arcs inland a distance of about 5.5 miles. The gently sloping bottom of the bay has a maximum depth of about 300 feet (50 fathoms), and the 120-foot (20-fathom) depth contour lies 1 to 3 miles offshore. Most of the bay is characterized by a subtidal sandy bottom. The center of the bay's shoreline is a broad sandy beach that decreases in width and transitions into a rocky intertidal zone near both Estero Point and Point Buchon.

Offshore, water transport along the northern and central portions of the California coast, including Estero Bay, is primarily driven by the California Current. The California Current is generally characterized as a broad, shallow, slow moving southerly current. During the winter, the California Current is occasionally displaced by the northerly moving Davidson Current. The nearshore manifestations of the California Current can vary in both speed and direction as winds, tides, and surf conditions can dramatically alter local conditions. Winds along this section of the coastline are predominately from the northwest, and tend to establish a counterclockwise gyre (circular current) within Estero Bay.

Nearshore ocean temperatures along the California coast north of Point Conception are largely regulated by the California and Davidson currents and the seasonal upwelling of deeper ocean water. Surface water temperatures within Estero Bay typically range from 48 to 68 degrees Fahrenheit (°F) with a mean value of 57°F. The winds promote the offshore movement of the surface water mass and its subsequent replacement by the upwelling of cold, nutrient-rich water from deeper layers. Seasonal upwelling plays an important role in temperature and nutrient cycling within the bay and along the entire coast of California. Upwelling is not restricted temporally, and can occur at any time during the year when the necessary wind conditions persist. The seasonal variability in ocean water salinity and dissolved oxygen is low, reflecting the limited variation in the marine nearshore environment of Morro Bay, and adjacent coastal waters.

Morro Creek is located directly adjacent to the pipeline corridor. The Creek originates from inland groundwater sources located east of the Project site and is fed by several

drainages, including Willow Camp Creek, which flows westward into Morro Creek north of the former MBPP tank farm facility and northeast of the marine terminal alignment. After the confluence of Willow Camp Creek with Morro Creek, Morro Creek continues to the Pacific Ocean adjacent and north of the pipeline corridor. Freshwater and saltwater marsh habitats exist within this drainage prior to its terminus with the Pacific Ocean.

Morro Bay's inclusion in the U.S. Environmental Protection Agency (USEPA) National Estuary Program (NEP) occurred in part from the threat from several priority water quality problems, including contamination by pathogens, suspended sediment, nutrients and heavy metals. The Morro Bay estuary is considered impaired for sediment, pathogens, and dissolved oxygen under section 303(d) of the Federal Clean Water Act.[6] Specifically, high levels of bacteria, including fecal coliform, have been detected in Morro Bay, generally in the southern half of the bay (Morro Bay NEP 2012). Bay water in the location of the MBPP tends to have low bacteria levels due to the proximity of the harbor entrance and tidal flushing. Nutrient enrichment, primarily nitrogen and sometimes phosphorous, has been identified as a problem in both the back-bay and the freshwater creeks flowing into Morro Bay (Morro Bay NEP 2012). Nutrient run-off is correlated with irrigated agriculture and surface run-off from urban areas. Nutrient contamination is not considered to be a water quality issue in the tidal areas near the pipeline corridor. Inactive mines in the upper Morro Bay watershed are believed to have contributed to high levels of heavy metals, in addition to "antifouling" paints used for marine vessels, and copper from brake pad dust (Morro Bay NEP 2012). Heavy metal contamination appears to be most prevalent in the creek sediment and back-bay mud of Morro Bay.

3.10.1.2 Groundwater

The Project area lies within the southwestern portion of the Morro Hydrologic Subarea of San Luis Obispo County, which is bordered by the Los Padres National Forest on the east, north and south and by Morro Bay on the west. Water-bearing formations include the upper Pleistocene old dune sands, recent quaternary alluvium, and recent dune sand. Underlying the water-bearing formations is essentially non-water-bearing Jurassic Franciscan Formation (Department of Water Resources [DWR] 2016). The primary source of groundwater in the Morro Hydrologic Subarea is infiltration of precipitation. Precipitation over the basin falls on the Jurassic Franciscan Formation and either infiltrates through joints and fractures, runs off into the tributaries of Morro Creek, or is lost by evapotranspiration.

The entire pipeline corridor is included within the recent dune sand water-bearing formation. This layer attains a maximum thickness of 25 feet and is limited to areas within 0.25 mile of the coastline. It is saturated only during high water conditions, and does not yield significant quantities of water. It is moderately permeable when saturated. The depth

[6] Pursuant to section 303(d), a water body is listed as "impaired" if evidence exists that a violation of a water quality standard has occurred, or there is a potential for a future violation.

of groundwater within the onshore Project site varies from approximately 0.0 to 15 feet below the ground surface, from the intertidal zone to the onshore valve boxes.

3.10.1.3 Flooding

The Project site beach area is within the Federal Emergency Management Agency (FEMA) designation of Zone A (100-year floodplain) for Morro Creek and the shoreline, according to the city of Morro Bay (City) Safety Element (City of Morro Bay 1988).

3.10.2 Regulatory Setting

Federal and state laws and regulations pertaining to hydrology and water quality and relevant to the Project are identified in Appendix A. At the local level, the City's General Plan – Safety Element discusses the potential for flooding and includes policies to reduce safety issues. For example, Policy S-4 states "New development should be protected from potential flooding."

3.10.3 Impact Analysis

a) Violate any water quality standards or waste discharge requirements?

MBPP Facility Segment (Less than Significant Impact). The Applicant proposes to remove the vertical riser, one concrete thrust block, remove sections of pipe within the fence line of the MBPP facility, and remove one equipment shed. These activities will temporarily disturb the soils and vegetation in the immediate area of the excavations and demolition activities. Temporary and minor water quality impacts could result from the discharge of construction-related storm water from the Project site. However, soils in the work area vicinity are comprised of beach sand with high permeability and low runoff potential. This is considered a less than significant impact.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no impacts would result.

Beach Segment (Less than Significant with Mitigation). The onshore portions of the pipelines are buried beneath up to 20 feet of sand. Some of this sand may have originated in Morro Bay, which is routinely dredged. The dredged sediments have been placed within the existing dune complex located along the onshore pipeline route. In addition, dredged sediments have also been discharged immediately offshore of the Project site. The offshore discharge sand is then carried by the currents to near-shore areas and deposited. Beach sand would be temporarily excavated to remove the pipelines. The excavations would be backfilled immediately following pipeline removal. The temporary disturbance of beach sand due to excavation and stockpiling is anticipated to result in a less than significant impact to water quality. Excavations close to the surf zone may require dewatering to maintain a safe excavation while work is occurring. Dewatering of

the excavations near the water line could result in erosion if not properly discharged. Impacts to water quality during dewatering activities is considered a significant but mitigable impact. See mitigation measures **HAZ-2, HAZ-3** and **HAZ-4** for measures to prevent and respond to the potential for hazardous materials release during the Project.

Surf Zone Segment (Less than Significant Impact). Removal of the Surf Zone Segment of both pipelines with DPR would result in the potential for increased turbidity near the seafloor during pipe ramming activities within the pipeline corridor. The surf zone naturally contains highly turbid water. However, the increased turbidity resulting from the Project would be temporary and would persist for a short period of time, and would not result in any significant impacts to water quality.

Offshore Segment (Less than Significant with Mitigation). Offshore pipeline excavation may suspend sand and silt near the work area, thereby increasing local turbidity. In addition to the sand and silt that would be stirred up, additional organic matter contained within the sand and sediments would be introduced into the water column. Large-scale increases of organic matter within a water column (e.g., ocean upwelling, lake mixing, etc.) can increase dissolved nutrient concentrations, resulting in increased algal blooms. However, the amount of organic matter that Project activities would introduce into the water column is expected to be minimal, and the associated water turbidity would not greatly inhibit photosynthesis by phytoplankton. The presence of suspended organic matter would result in increased organic decomposition within the water column. The expected minor decrease in photosynthesis and increased organic decomposition has the potential to result in slightly decreased dissolved oxygen levels for the area impacted by the Project. However, the Project would impact a small volume of water, and the resulting turbidity would be temporary. In addition, the increased water turbidity and associated water quality issues that could result are expected to be less severe than commonly occur with winter storms. As such, disturbances to water quality (e.g., turbidity, decreased dissolved oxygen levels, etc.) are expected to be minor.

Project activities could also result in a minor oil spill (less than 5 barrels). Primary sources of oil or petroleum hydrocarbons would be leakage or spillage of fuel or lubricants from the work vessels or equipment used during decommissioning activities. Both pipelines were flushed as a maintenance activity during the summer of 2017, thus reducing the potential that decommissioning the marine pipelines would result in the release of residual hydrocarbons. Dynegy's contractor would maintain oil spill response equipment (sorbent pads, sorbent boom, and containment boom) onsite during decommissioning activities per the Oil Spill Response Plan prepared for the Project (Appendix L, Oil Spill Response Plan). The primary offshore support vessel used during the offshore Project component would be required to maintain an oil spill response capability. Dynegy would contract with an oil spill response contractor to provide additional assistance in the unlikely event of a release beyond the capabilities of the onsite oil spill response team (see Appendix L, Oil

Spill Response Plan). Implementation of mitigation measure (MM) **HAZ-2** would mitigate the impact to less than significant.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

MBPP Facility and Beach Segments (Less than Significant with Mitigation). The Project would not alter the course, flow, direction, or quality of groundwater in the area. As this Project would be on the coastline, the water table would be very close to the surface. The excavation of subsurface piping would create some subsurface alterations in groundwater flow. However, all alterations would be temporary. At the completion of the Project, the sandy soils would be re-compacted and impacted vegetation would be restored to its natural state, thus restoring natural groundwater recharge rates in the area. As discussed in greater detail below, contaminated materials could be released at the surface. Such contaminants could seep into underlying groundwater. Contaminated soil and groundwater may also be encountered at the beach valve area. Implementation of **MM HAZ-1** and **MM HAZ-2** and the protection and waste management measures outlined in the Contaminated Materials Management Plan (Appendix K), and Oil Spill Response Plan (Appendix L) would mitigate the impact to less than significant.

Sand Dune, Surf Zone, & Offshore Segments (No Impact). The Sand Dune Segment will be abandoned in place; therefore, there no impacts to groundwater would result. Similarly, due to the marine nature of the Surf Zone and Offshore Segments; no impacts to groundwater would result.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

MBPP Facility, Sand Dune, Surf Zone, & Offshore Segments (No Impact). Project activities within the MBPP Facility Segment would not alter existing drainage patterns, nor occur near a stream or river; therefore, no impacts would result. The Sand Dune Segment will be abandoned in place and not affect drainage. Similarly, due to the marine nature of the Surf Zone and Offshore Segments; no impacts to drainage would result.

Beach Segment (Less than Significant with Mitigation). As explained in sub-section 2.3.2.4 of Section 2, the Project may result in the temporary diversion of the mouth of Morro Creek, if the creek is flowing or if a large lagoon is present at the time of Project activities (see Stream Diversion Plan, Appendix H). Following completion of Project activities within the Beach Segment, the creek would be allowed to return to its natural state and no long-term impacts would occur. The temporary diversion would have minor

temporary alterations to the creek mouth within the Beach Segment, but would not result in erosion or siltation impacts to existing roadways, trails, parking areas, or other land uses east of the Project site. Implementation of **MM HWQ-1** would mitigate the impact to less than significant.

> **MM HWQ-1 Stream Diversion Plan.** The Applicant shall ensure the Stream Diversion Plan prepared for the Project will be implemented in the event stream diversion or dewatering is required. Prior to commencement of stream diversion activities, the Plan shall be subject to review and approval by the California Department of Fish and Wildlife and National Marine Fisheries Service, and if applicable, the U.S. Fish and Wildlife Service.

Beach sand would be temporarily excavated to remove the pipelines. The excavations would be backfilled immediately following pipeline removal. The temporary disturbance of beach sand due to excavation and stockpiling is anticipated to result in a less than significant impact to the existing drainage pattern of the Project area.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

MBPP Facility, Sand Dune, Surf Zone, & Offshore Segments (No Impact). Project activities within the MBPP Facility Segment would not alter the existing drainage pattern, alter a stream or river, or substantially increase the rate of surface runoff; therefore, no impacts would result. The Sand Dune Segment will be abandoned in place and not affect drainage or runoff. Similarly, due to the marine nature of the Surf Zone and Offshore Segments; no impacts to drainage would result.

Beach Segment (Less than Significant with Mitigation). The Project may result in the temporary diversion of the mouth of Morro Creek if the creek is flowing or if a large lagoon is present at the time of project activities (see Stream Diversion Plan, Appendix H). Following completion of Project activities within the Beach Segment, the creek would be allowed to return to its natural state and not long-term impacts would occur. The temporary diversion would have minor temporary alterations to drainage patterns within the Beach Segment but would not result in flooding impacts to existing roadways, trails, parking areas, or other land uses east of the Project site. Implementation of MM **HWQ-1** would mitigate the impact to less than significant.

e) 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?

MBPP Facility & Beach Segments (Less than Significant with Mitigation). The Project site would be located entirely within sand substrate. Within areas of complete saturation from tidal influence or groundwater, surface runoff from the site generally flows in a westerly direction, towards the Pacific Ocean. Removal of sand and minor areas of vegetation necessary to decommission the pipelines has the potential to decrease absorption rates and increase surface runoff. As discussed in Section 2.0, *Project Description*, excavated areas would be backfilled and re-graded to natural contours upon component removal. Areas where vegetation was removed or disturbed would be restored as necessary in accordance with **MM BIO-6**, Site Restoration Plan (also see Appendix J). Changes in absorption rates and surface runoff are expected to be very localized and temporary in nature. Drainage patterns are not expected to be altered due to the short-term and relatively small size of disturbances resulting from project activities. Therefore, changes in absorption rates, drainage patterns, or surface runoff would not be significantly impacted by implementation of the Project.

Sand Dune, Surf Zone, & Offshore Segments (No Impact). The Sand Dune Segment will be abandoned in place and not generate runoff. Due to the marine nature of the Surf Zone and Offshore Segments; no impacts from runoff would result.

f) Otherwise substantially degrade water quality?

MBPP Facility Segment, Beach Segment, Surf Zone Segment, and Offshore Segment (Less than Significant with Mitigation). Impacts to water quality could result from a contaminated material release during removal of the pipelines. Contaminated soil and groundwater may be encountered at the beach valve area. The excavation spoils will be tested for the presence of hydrocarbons exceeding regulatory limits and will be stockpiled onsite for use in backfilling the excavations if the hydrocarbon content of the excavation spoils is found to be less the regulatory limits. Protection and waste management measures to be implemented are outlined in the Contaminated Materials Management Plan (Appendix K), and the Oil Spill Response Plan (Appendix L). The Contaminated Materials Management Plan describes how contaminated materials would be collected, handled, and transported to the appropriate facilities. Implementation of **MM HAZ-1, MM HAZ-2,** and **MM HAZ-3** would mitigate the impact to less than significant.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, project activities in this segment would not affect water quality.

g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

g) and h). All Project Segments (No Impact). The Project does not include housing or placing new structures within a 100-year flood hazard area; therefore, there would be no impact.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

MBPP Facility & Beach Segments (Less than Significant Impact). The proposed Project does not involve the development of any new structures; therefore, would not alter the flow of floodwaters. Temporary and minor alterations are possible from soil movement associated with the onshore decommissioning, but this would unlikely create a significant alteration to the course of floodwaters. Therefore, the potential for exposure of people or property to water related hazards is considered less than significant.

Sand Dune, Surf Zone, & Offshore Segments (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no flooding impacts would result. Surf Zone and Offshore Segments are both underwater; therefore, no flooding impacts would result.

j) Inundation by seiche, tsunami, or mudflow?

All Project Segments (Less than Significant Impact). The Project activities are temporary in nature and no long-term structures would be constructed as part of the Project. In the event of a tsunami warning, the Applicant's contractor would evacuate the Project site and move to higher ground in accordance with instructions provided by the San Luis Obispo County Office of Emergency Service warning and Project-specific health and safety procedures.

3.10.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to hydrology and water quality to less than significant:

- MM BIO-6: Site Restoration Plan
- MM HAZ-1: Contaminated Materials Management Plan
- MM HAZ-2: Hydrocarbon Contaminated Soil
- MM HAZ-3: Oil Spill Response Plan
- MM HAZ-4: Hazardous Materials Management and Contingency Plan
- MM HAZ-5: Asbestos Work Plan
- MM HWQ-1: Stream Diversion Plan

3.11 LAND USE AND PLANNING

LAND USE AND PLANNING - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

3.11.1 Environmental Setting

The Project area is within the City of Morro Bay (City) in the following City zoning districts: Open Area 1 and 2, Coastal Dependent Industrial, Commercial/Recreation Fishing, Planned Development, and Interim Use. The Project site occupies less than 2 acres on three parcels and consists of open beach and the Morro Bay Power Plant (MBPP) marine terminal. Individual Project segments of the MBPP marine terminal are within the jurisdictional boundaries of local and state agencies. The California State Lands Commission (CSLC) is serving as the lead agency for the Mitigated Negative Declaration as lessor of the offshore marine terminal components, the City has review authority over the onshore component above the mean high tide line, and the California Coastal Commission (CCC) has regulatory review over areas of the Project in the Coastal Zone.

Land uses adjacent to the MBPP include industrial, light industrial, commercial, marine, residential, and recreational. Morro Strand State Beach continues north of the Project site. To the east of the Project site are industrial land uses including the MBPP, Morro Bay City Wastewater Treatment Plant, Morro Bay City Maintenance Yard, and an aggregate plant. Also to the east (on property owned by Dynegy and leased to the City) are storage facilities for local fishermen, a recreational vehicle campground and storage yard, and Lila Keiser Park. South of the Project site are Coleman Park and Morro Bay. Coleman Drive runs from the Embarcadero past Coleman Park to the Morro Rock parking area and the surf lookout. From the junction with Coleman Drive, Embarcadero Road continues north and dead ends at Morro Creek.

3.11.2 Regulatory Setting

Federal and state land use and planning laws and regulations relevant to the Project are identified in Appendix A. At the local level, the Project site is located within the Coastal Zone of the City. The onshore facilities and the interconnecting subsurface pipeline

corridor are located within that portion of the Coastal Zone containing a Coastal Dependent Industrial zoning area. Proposed decommissioning of the subject facilities and returning the Project area to pre-Project conditions would be consistent with this zoning designation. Therefore, no zoning changes are required for the Project as proposed.

3.11.3 Impact Analysis

Temporary closure of a small portion of the beach area during the excavation of the 24-inch-diameter and 16-inch-diameter subsurface pipelines would be necessary. However, the Project duration is temporary in nature. The Project would not result in the construction of new permanent structures or obstructions of the beach area. A small area of beach normally accessible to the public would be temporarily precluded from use for not more than 100 yards laterally. The beach is several miles long and a temporary closure of a small area of the beach would not have a significant impact on the area.

a) Physically divide an established community?

All Project Segments (No Impact). The temporary nature of the Project would not result in any physical divide of an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

All Project Segments (No Impact). The Project is consistent with applicable land use policies of overseeing agencies including the city, CCC and the CSLC.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

All Project Segments (No Impact). The Project area is not subject to a habitat conservation plan or natural community conservation plan. Dredging is required to recover the submarine pipeline. However, the Project involves the decommissioning of an existing facility; therefore, all activity would occur in previously disturbed areas with the purpose of returning the area to its original state. The beach section of the subsurface pipelines as well as an above-ground valve piping would be removed with as little grading as possible, returning the area to its original state.

3.11.4 Mitigation Summary

The Project would not result in impacts to land use and planning; therefore, no mitigation is required.

3.12 MINERAL RESOURCES

MINERAL RESOURCES - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.12.1 Environmental Setting

The Project site consists of open beach and the MBPP Marine Terminal. No mineral resource areas of value to the region, residents of the State, or of local importance exist within or adjacent to the Project area (California Department of Conservation 2017).

3.12.2 Regulatory Setting

Federal and state laws and regulations pertaining to mineral resources and relevant to the Project are identified in Appendix A. There are no local conservation goals or policies with respect to mineral resources that are applicable to the Project site.

3.12.3 Impact Analysis

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?

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?

a) and b) All Project Segments (No Impact). The Project would not result in the loss of any known mineral resource areas of value to the region, residents of the State, or of local importance, or loss of availability of any designated mineral resource recovery site.

3.12.4 Mitigation Summary

The Project would not result in impacts to mineral resource areas of regional, state, or local importance; therefore, no mitigation is required.

3.13 NOISE

NOISE - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.12.1 Environmental Setting

3.13.1.1 General Characteristics of Noise

Noise is generally defined as unwanted or objectionable sound. Measurement of sound involves determining three variables: (1) magnitude, (2) frequency, and (3) duration. Human ears respond to a very wide range of sound pressures producing numbers of awkward size when sound pressures are related on an arithmetic (1, 2, 3…) scale. It is customary to express sound pressure level in decibels (dB), which are logarithmic (1, 10, 100…) ratios comparing sound pressures to a reference pressure. The reference pressure commonly used in noise measurement is 20 microPascals (µPa or rms), which is considered to be the quietest sound a normal young adult human ear can hear in the frequency range that the ear is most sensitive to. This sound level is assigned the value 0 dB. Higher intensity sound is perceived as louder. Sound intensity is commonly measured on a weighted scale [dBA or db(A)] to correct for the relative frequency response of the human ear. The “A-weighted” noise level de-emphasizes low and very high frequencies of sound in a manner similar to the human ear’s de-emphasis of these frequencies (OSHA 2013; AIHA 2003).

Except under special conditions, a change in sound level of 1 dB cannot be perceived. Outside of the laboratory, a 3-dB change is considered a just-noticeable difference, and a change in level of at least 5 dB is required before any noticeable change in community response would be expected. Some typical sound pressure levels for common sounds are provided in Table 3.13-1 below.

Table 3.13-1. Common Sound Levels/Sources and Subjective Human Responses

Sound Level (dBA)	Typical Outdoor Noise Source	Typical Indoor Noise Sources	Typical Human Response/Effects
140	Carrier Jet takeoff (50 feet)	--	--Threshold for Pain--
130	Siren (100 feet) Live Rock Band	--	---Hearing Damage---
120	Jet takeoff (200 feet) Auto horn (3 feet)	--	--
110	Chain Saw Snow Mobile	--	---Deafening---
100	Lawn Mower (3 feet) Motorcycle (50 feet)	--	--
90	Heavy Duty Truck (50 feet)	Food Blender (3 feet)	---Very Loud---
80	Busy Urban Street, Daytime	Garbage Disposal (3 feet)	
70	Automobile (50 feet)	Vacuum Cleaner (9 feet)	---Loud---
60	Small plane at ¾ mi	Conversation (3 feet)	
50	Quiet Residential Daytime	Dishwasher Rinse (10 feet)	---Moderate---
40	Quiet Residential Nighttime	Quiet Home Indoors	---Quiet---
30	Slight Rustling of Leaves	Soft Whisper (15 feet)	---Very Quiet---
20	--	Broadcasting Studio	
10	--	Breathing	--Barely Audible--
0	--	--	--Threshold of Hearing--

Source: AIHA 2003, and OSHA 2013

When considering how noise could affect nearby sensitive receptors (residential dwellings, transient lodging, hospitals and other long-term care facilities, public or private educational facilities, libraries, churches, and places of public assembly), it is important to understand how sound level diminishes as distance from the source increases. For a "point" source (such as construction within a fixed area) of sound in free space, the rate at which the sound attenuates is inversely proportional to the square of the distance from the source. This means the sound level would drop 6 dB each time the distance from the source is doubled. Decibels, measuring sound energy, combine logarithmically. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a 3-dB increase (i.e., the resultant sound level is the sound level from a single passing automobile plus 3 dB). When the difference between two sound

levels is greater than about 10 dB, the lesser sound is negligible in terms of affecting the total level (OSHA 2013).

The duration of noise and the time period at which it occurs are important factors in determining the human response to sound. For example, noise induced hearing loss is directly related to the magnitude, frequency, and duration of exposure. Annoyance due to noise is also associated with how often noise is present and how long it persists. One approach to quantifying time-varying noise levels is to calculate the Energy Equivalent Sound Level (L_{eq}) for the time period of interest. The L_{eq} represents a sound level which, if continuous, would contain the same total acoustical energy as the actual time-varying noise which occurs during the observation period (OSHA 2013).

In a residential or other noise sensitive environment, noise is more disturbing at night than during the day. Thus, noise indices have been developed to account for the differences in intrusiveness between daytime and nighttime noise. The Community Noise Level Equivalent (CNEL) and the Day-Night Average Sound Level (L_{dn}) are such indices. CNEL and L_{dn} values result from the averaging of hourly L_{eq} values for a 24- hour period, with a weighting factor applied to the nighttime L_{eq} values (and the evening values for CNEL). The CNEL penalizes noise levels during the night (10:00 p.m. to 7:00 a.m.) by 10 dB to account for the increased sensitivity of people to noise after dark. Evening noise levels (7:00 p.m. to 10:00 p.m.) are penalized 5 dB by the CNEL. The L_{dn} also penalizes nighttime noise levels by 10 dB, but does not penalize evening levels. These two indices are generally equivalent. In general, the CNEL may be thought qualitatively as an accumulation of noise associated with individual events occurring throughout a 24-hour period. The noise of each individual event is accounted for in a separate, discrete measurement that integrates the changing sound level over time as, for example, when an aircraft approaches, flies overhead, then continues off into the distance. These integrated sound levels for individual operations are referred to as SELs. The accumulation of the SELs from each individual operation during a 24-hour period determines the CNEL for the day.

To limit population exposure to physically or psychologically significant noise levels, the state and various local cities and counties in the state have established guidelines and ordinances to control noise as discussed in the Regulatory Setting subsection below.

3.13.1.2 Site-Specific Noise Environment

Padre Associates, Inc. collected ambient (baseline) noise measurements at five onshore locations near the Project area using a Larson Davis LXT noise meter. Noise level readings were taken at five locations in 15-minute intervals using an A-weighted frequency. Table 3.13-2 describes the five locations and the results of ambient noise measurements taken on January 16, 2016, between 10:30 a.m. and 1:00 p.m. (weekday).

These measurements provide a snapshot of the existing noise environment and are representative of daytime noise levels within that timeframe only.

Table 3.13-2. Ambient (Baseline) Noise Levels

Location ID	Approximate Location	Ambient Noise Level (dBA L_{eq})
N-1	Within Project area in the beach environment of Morro Beach.	59.3
N-2	Approximately 10 feet southwest of Morro Dunes (RV) Park approximately 500 feet northeast of the Project area.	54.8
N-3	Within Project area in the sand dune environment approximately 10 feet from the edge of the Embarcadero.	54.7
N-4	Coleman Park approximately 450 feet south west of the Project area.	54.0
N-5	Near Main Gate to the Morro Bay Power Plant (Along the Embarcadero).	68.7

3.12.2 Regulatory Setting

Federal and state noise laws and regulations relevant to the Project are identified Appendix A. At the local level, the Project area is located within the City of Morro Bay (City). Local policies within the City's jurisdiction pertaining to noise are included below.

The City Noise Element was adopted in 1993 and contains information and requirements for assessing environmental noise. This includes standards for allowable sound levels at stationary sources near sensitive land uses measured at the property line (Table 3.13-3). According to the City, noise sensitive land uses include the following: residences; churches; meeting halls (auditoriums, music halls, theaters, and libraries); transient lodging (hotels and motels); playgrounds and parks; and offices.

Table 3.13-3. City of Morro Bay Stationary Source Standard Noise Level Limits

	DAYTIME (7:00 A.M. to 10:00 P.M.)	NIGHTTIME (10:00 P.M. to 7:00 A.M.)
Hourly L_{eq} (dBA)	50	45
Maximum Level (dBA)	70	65
Maximum Level, Impulsive Noise (dBA)	65	60

Source: City of Morro Bay 1993

Land uses near the Project site consist of recreational, residential, industrial, commercial, and business land uses. Recreational areas include Morro Rock Beach, Morro Strand State Beach, Coleman Park, and Morro Bay. The nearest residences are located on Scott Avenue (approximately 0.5 mile of the Project site), southeast of the Project area. Commercial uses include a commercial fishing marina, transient lodging facilities, such as Morro Dunes (RV) Park, and numerous hotels within 0.25 mile to 0.5 mile of the Project site. The central City business district is located along the Embarcadero (within 0.25 mile and 1 mile of the Project site), Main Street (within 1 mile of the Project site), and Morro

Bay Boulevard (within 1 mile of the Project site). Other than residences, potential noise sensitive land uses in the area include the Morro Bay High School (within 0.5 mile of the Project site), Morro Bay Library (within 1 mile of the Project site), and several churches (within 1 mile of the Project site). Industrial facilities near the Project site include a gravel plant and a City wastewater treatment plant, both within 0.25 mile.

3.12.3 Impact Analysis

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Morro Bay Power Plant (MBPP) Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation). The Project includes the decommissioning and removal of existing facilities. No new long-term noise sources would be created nor would existing noise levels be exacerbated. No long-term impacts would result. Decommissioning activities would generate temporary noise during the daytime in the Project vicinity. Noise levels and potential noise-related impacts at receptor points near the Project site depend on three factors: (1) location and type of noise-generating equipment (source); (2) distance between the noise sources and sensitive receptors; and (3) obstacles or barriers between the noise sources and sensitive receptors that may influence sound propagation. The closest sensitive receptors are Morro Rock Beach (within the Project area), Coleman Park, and Morro Dunes RV Park within 0.25 mile of the Project site. Residential areas are located within 0.5 mile of the Project site. To estimate noise levels at the Project site, a worst-case "noise-producing" scenario (requiring the most equipment/vessels in operation) was calculated based on:

- construction equipment and vessel noise levels during decommissioning activities in the MBPP Facility, Beach, Surf Zone, and Offshore Segments
- the percent usage factor for each piece of equipment or vessel
- the distance between each noise-generating piece of equipment or vessel and the sensitive receptor using the Federal Highway Administration Roadway Construction Noise Model (RCNM)

Table 3.13-4 provides reference noise levels at 50 feet from the source for the types of Project equipment under the modeled scenarios, as well as the expected percent usage factor for the worst-case phase/task for a given decommissioning segment (e.g., hours of operation for the piece of equipment/total operating hours [days x 12 hours per day]).[7]

[7] The modeled scenario presented above does not include (1) noise that may result from the placement of concrete debris and pipe segments into haul trucks or barges or (2) noise generated from haul trucks entering and leaving the Project area. The reference noise level for the tugboat in Table 3.13-4 is also not representative of a tugboat under load (e.g., moving a loaded barge). Equipment with usage factors of less than one percent is not included in Table 3.13-4.

Table 3.13-4. Noise Levels at 50 Feet from Select Project Equipment

Equipment Type (Number)	Noise Level (L_{max}) at 50 Feet (dBA)	Noise Level (L_{eq}) at 50 Feet (dBA)	Percent Usage Factor (%)
Pre- and Post-Project Debris Survey			
Crew Boat as Survey Boat (1)*	83	N/A	100
Onshore Decommissioning Work – Dune Segment -Cementing			
R/T Crane (1)	80.6	78.2	33
Cement Pump (1)*	80.9	75.8	7
Light Plant (1)	80.6	71.0	11
Welding Machines (2)	74.0	68.5	28
Onshore Decommissioning Work – Thrust Block Demolition			
Excavator (2)	80.7	78.9	66
Mounted Impact Hammer (1)	90.3	85.5	33
Surf Zone Decommissioning Work – Onshore DPR Work Spread			
Bulldozer (2)	81.7	80.9	83
Excavators (2)	80.7	79.9	83
Welding Machines (1)	74.0	62.5	7
Light Plant (2)*	80.6	74.9	27
Dewatering Pump (3)*	80.9	79.2	67
Industrial Air Compressor (2)	77.7	68.8	13
Onshore Decommissioning Work – Beach Segments Removal			
Excavator (2)	80.7	79	67
Wheel Loader (1)	79.1	77.4	67
R/T Crane (1)	80.6	78.9	67
Offshore and Surf Zone Decommissioning Work – 16-inch / 24-inch Pipeline Removal and DPR Work Spread			
Derrick Barge - Generator (1)	86.0	86.0	100
Derrick Barge - Crane (1)	80.6	79.8	83
Anchor Winches (2)*	79.1	74.3	33
Tugboat (2)	87.0	N/A	33
Tugboat - Generator (1)	86.0	86.0	100
Crew Boat- Mains (2)	80.0*	N/A	33
Crew Boat - Generator (1)	86.0	86.0	100
Pull Winch (1)*	79.1	76.1	50
Jet Pump (1)*	80.9	76.1	33
Industrial Air Compressor (1)	77.7	72.9	33
Welding Machine (1)	74.0	66.0	16
Electrical Generator (1)*	80.6	79.8	83
Diver's Air Compressor (1)*	63.5	N/A	83

Notes:

L_{max} - maximum sound level.

N/A – Not Available.

* - Noise Levels for tugboats and crew boats are estimated based on a sound level of 87 dBA at 50 feet for a 900 to 1,000 horse power tugboat referenced by Epsilon Associates, Inc. (EAI 2006) and an average sound level of 80 dBA for boats as stated by the U.S. Army Corps of Engineers (ACOE 1992). Anchor and Pull winch noise levels were not available; as a result, the noise levels are based on RCNM levels for a rivet buster/chipping gun. Noise levels for the light plant were not available; as a result, the noise level is based on RCNM levels for a generator (FHWA 2006). The diver air compressor noise level is from the specifications for a Nettuno Low Pressure Compressor (AC 2017).

Given the information provided in Table 3.13-4, anticipated noise levels in the Project area are listed in Table 3.13-5. Generally, a 5 dBA increase in noise level is considered noticeable to receptors; thus, a noise level increase ranging from not perceptible above ambient to 14.6 dBA (noise associated with decommissioning activities at a distance exceeding 250 feet) would likely be noticeable at the three closest sensitive receptors.

Table 3.13-5 Anticipated Noise Levels in Project Area

Source of Noise	Receptor	Range (dBA L_{eq})	Anticipated Increase in Noise Level over Ambient[1]
Surf Zone and Onshore Decommissioning Activities	Morro Beach	62.5 to 85.5	3.2 dBA to 26.2 dBA
	250 feet of Project area	48.5 to 71.5	no perceptible increase to 12.2 dBA
	Coleman Park	49.4 to 68.6	no perceptible increase to 14.6 dBA
	Morro Bay RV Park	48.5 to 65.5	no perceptible increase to 10.7 dBA
Offshore Decommissioning Activities	1,000 ft. offshore of Morro Beach from Project area	66.0 to 86.0	6.7 dBA to 26.7 dBA
	Morro Beach	46.0 to 54.6	not perceptible

Note:
[1] Derived from subtracting the ambient site-specific noise level from Table 3.13-2 from the estimated noise level from decommissioning activities

The City General Plan Noise Element focuses primarily on permanent sources of noise within the City including point sources and traffic noise along local roads. Neither the City General Plan nor City Noise Ordinance discusses thresholds for short-term construction noise. Project activities would be temporary and limited to approximately 4 months (June through September) and would not be subject to City stationary source requirements. Noise associated with construction equipment use and equipment and personnel transport would not be considered a significant impact.

Overall, Project-generated noise levels may be considered significant in some cases, as described above, where sensitive receptors would be subject to a noticeable increase in noise levels. To ensure that potential short-term noise impacts associated with Project activities are avoided or mitigated to less than significant, **mitigation measures (MMs) N-1 and N-2** would be implemented.

MM N-1: Scheduling. Trucks (delivery, hauling and transportation trucks) would be scheduled outside the A.M. and P.M. peak periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to the extent feasible.

MM N-2: Advanced Notification. Adjacent residents would be given advanced written notification of proposed construction activities, scheduling, and hours of construction. Signage will also be posted at the Project site to notify the general public and beach visitors.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no noise impacts would result.

b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

MBPP Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant Impact). The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment, and the California Department of Transportation (Caltrans) Transportation and Construction-Induced Vibration Guidance Manual recommend maximum peak particle velocity (PPV) of 0.02 inch per second PPV for the protection of residential buildings and a maximum vibration level for human exposure in residential areas is 80 vibration decibels (vdB) (FTA 2006 and Caltrans 2013). The FTA and Caltrans further indicate that a PPV of 0.04 inch per second is barely perceptible by humans. The closest sensitive receptors are Morro Beach, Coleman Park, and Morro Dunes RV Park within 0.25 mile of the Project site. Residential areas are located with 0.5 mile of the Project site.

The Project would require the temporary use of terrestrial construction equipment and vehicles. Table 3.13-6 below lists the vibration levels for select construction equipment similar to that proposed for use at the Project site and the estimated PPV values for construction equipment at a distance of 200 feet. The estimate of the attenuation of vibration levels for construction equipment shown in Table 3.13-6 was calculated using the following formula:

$$PPV_{equip} = PPV_{ref}(25/d)^{1.1}$$

Where:

PPV_{Equip} = Estimated PPV

PPV_{ref} = PPV at 25 feet (Table 3.13-6)

D = Distance in feet from equipment

$^{1.1}$ = standard attenuation rate through the ground

Table 3.13-6. Construction Equipment Vibration Levels

Equipment	PPV at 25 Feet from Source (inches/second)	Velocity Level at 25 From Source (vdB)	Attenuated PPV at 200 Feet from Source (inches/second)
Large Bulldozer	0.089	87	0.0090
Small Bulldozer	0.003	58	0.0003
Loaded Haul Trucks	0.076	86	0.0077
Vibratory Wheel Roller	0.210	94	0.0213

Source: FTA 2006

Based on the estimated PPV values the identified sensitive receptors are located far enough from the vibration source (Construction Equipment) that vibrations would be barely perceptible by humans. Project construction may result in varying degrees of temporary ground vibration in the immediate area of the Project site; however, ground

vibration outside of the immediate Project area would attenuate to be negligible. No permanent increase in ground-borne vibration would result from the Project.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no ground-borne vibration or noise impacts would result.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

All Project Segments (No Impact). The Project would not result in a substantial permanent increase in ambient noise levels above existing levels. The Sand Dune Segment will be abandoned in place; therefore, no noise impacts would result.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

MBPP Facility, Beach, Surf Zone, & Offshore Segments (Less than Significant with Mitigation).

The Project would not result in a substantial temporary increase in the Project vicinity. Implementation of **MM N-1** and **MM N-2** would reduce impacts to less than significant.

Sand Dune Segment (No Impact). The Sand Dune Segment will be abandoned in place; therefore, no ground-borne vibration or noise impacts would result.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

e) and f). All Project Segments (No Impact). The Project is not located within an airport, within 2 miles of an airport, or in the vicinity of a private airstrip; therefore, there would be no impact.

3.12.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to noise to less than significant:

- MM N-1: Scheduling
- MM N-2: Advance Notification

3.14 POPULATION AND HOUSING

POPULATION AND HOUSING - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial 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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.14.1 Environmental Setting

San Luis Obispo County's (County) population grew by 40 percent, from 155,435 to 217,162 residents, between 1980 and 1990. From 1990 to 2000, the County's population increased by just 14 percent, to a total of 246,681 residents in 2000. The County's population from 2000 to 2010, increased by only 9 percent to a total of 269,637 (San Luis Obispo County General Plan: Housing Element 2014). Between 2010 and 2015, the County's population grew by 4.4 percent from 269,593 to 281,401 residents (U.S. Census Bureau 2015b). Department of Finance (2014) population forecasts estimate that the County will grow by 10 percent (28,000 new residents) by 2035.

The City of Morro Bay (City) experienced a four percent increase in population, from 10,234 to 10,639 between 2010 and 2015 (U.S. Census Bureau 2015c). The citizens of Morro Bay passed Measure F in 1984, which placed a cap on the City's population at 12,200. Under this measure the population of Morro Bay would be unable to follow the population trends of the County.

The Project site is located on the Morro Bay coastline and includes a portion of the Morro Bay Power Plant and adjacent nearshore and offshore marine environments. The nearest housing development is approximately 0.5 mile southeast of the Project site.

3.14.2 Regulatory Setting

No federal or state laws relevant to this issue area apply to the Project. The City General Plan/Local Coastal Plan includes goals and policies for the City to meet its defined housing needs. No housing goals or policies are applicable to the Project site or Project.

3.14.3 Impact Analysis

a) Induce substantial 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)?

All Project Segments (No Impact). The Project would not affect growth. Its purpose is to remove out-of-service pipelines. Persons working on the Project during the approximate 3-month construction period may contribute to a slight increase in demand for temporary (rental) housing or hotel amenities; however, the small number of construction personnel employed would not create a significant demand for housing or substantially displace existing available housing. The Project would not change the site zoning or general plan designation, does not include home or business construction, and would not extend infrastructure that could accommodate future growth into areas that are currently undeveloped.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

All Project Segments (No Impact). County Guidelines for significance of impacts to housing pertain to removal of existing housing and creation of a significant demand for housing. The current housing market vacancy rate for Morro Bay is 23.2 percent (U.S. Census Bureau 2015a). The Project would not require a substantial number of employees that would contribute to the local population or cumulative housing demand. Given that no housing is located on or adjacent to the Project site, no housing would be displaced. Therefore, it would not be necessary to provide replacement housing.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

All Project Segments (No Impact). Pipeline removal would not displace people, necessitating the construction of replacement housing elsewhere; therefore, no impact would result.

3.14.4 Mitigation Summary

The Project would not result in significant impacts to population and housing; therefore, no mitigation is required.

3.15 PUBLIC SERVICES

PUBLIC SERVICES	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the Project 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?	☐	☐	☒	☐

3.15.1 Environmental Setting

The Project site is located at Morro Rock Beach within the City of Morro Bay (City); therefore, the City provides most of the services. The City Department of Recreation Services oversees use of Morro Rock Beach and associated public support facilities, such as parking areas, restrooms, and access roads. Other City departments also provide support services at Morro Rock Beach, such as the Harbor Department, Police Department, Public Works Department, and Morro Bay Fire Department.

The San Luis Coastal Unified School District operates an elementary school and a high school within the City: Del Mar Elementary and Morro Bay High School (San Luis Coastal Unified School District 2017). An additional private school, Family Partnership Charter School, is located in the City.

The Morro Bay Fire Department provides fire response and prevention services as well as responding to chemical spills, injuries, and vehicle accidents for the City. The Department has two stations: Fire Station 53 and Fire Station 54. Fire Station 53 provides the primary emergency and administrative services. During normal business hours, the Fire Chief, Fire Marshall, Administrative Technician, as well as the on-duty Engine Company, are located at Fire Station 53. The Engine Company is comprised of a Captain/Paramedic, two Engineer/Paramedics, and one Reserve Firefighter. Fire Station 54 is a non-staffed facility housing a single fire engine, which stores additional emergency response equipment. The Department has three fire engines, a quint (75-foot ladder truck), one rescue truck, one command and two utility vehicles, along with a mass casualty trailer, and miscellaneous equipment including breathing apparatuses, emergency medical supplies, tools, and fireproof clothing. When additional emergency assistance is required, the City Fire Department has mutual aid agreements with fire stations within San Luis Obispo County (City of Morro Bay Fire 2015).

Police protection services are provided by the Morro Bay Police Department. The Department's current staffing is comprised of the following: The Chief of Police, Commander, Support Services Manager, four sergeants, two corporals, nine officers, one part-time officer, and one part-time evidence/property technician. Officers rotate through special assignments to include Patrol, School Resource Officer, Detectives, Explorer advisor, Regional SWAT Team Operator, Bicycle Patrol, Drug Recognition Evaluator, and other assignments (City of Morro Bay Police 2016).

3.15.2 Regulatory Setting

Federal and state laws and regulations pertaining to public services and relevant to the Project are identified in Appendix A. At the local level, the City's 1988 General Plan includes goals and policies regarding public protection, fire protection, school, and public facility needs (City of Morro Bay 2015). No public services goals or policies are anticipated to be applicable to the Project. Proposed use of the public access road and public parking area on the south side of Morro Creek (see Figure 2-9) may require prior approval of a Public Area Use Permit by the City Department of Recreation Services, including coordination with other City Departments identified above, that provide support services for Morro Rock Beach.

3.15.3 Impact Analysis

a) Would the Project 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 public services including Fire protection, police protection, schools, parks, or other facilities?

Fire Protection

All Project Segments (Less Than Significant Impact). In the event of an emergency at the site, the Morro Bay Fire Department would be required to provide fire protection or other emergency services. The parking area at the south side of Morro Creek provides emergency vehicle access to the beach, which will be maintained for emergency access during Project construction staging and access activities at the parking area (see Figure 2-9). As the Morro Bay Fire Department is located approximately 1 mile from the Project site, the response time to the Project site would be minimal. Since this is a short-term Project, Fire Department would not be substantially affected, nor would the Project generate a need for additional fire or emergency personnel.

Police Protection

All Project Segments (No Impact). As the Project is short-term and of a decommissioning nature, it is not anticipated to would not create a significant security

hazard nor generate a need for additional police personnel. The shore area is under the City of Morro Bay Police Department jurisdiction, who would be notified if a security situation arose.

Schools

All Project Segments (No Impact). The Project is limited to the decommissioning of an existing marine terminal and would not involve the construction of residences that would generate demand for schools. Therefore, there would be no impact.

Parks and Public Facilities including Roads

All Project Segments (Less Than Significant Impact). Decommissioning activities associated with the Beach and Surf Zone Segments include use of the public access road and public parking area on the south side of Morro Creek (see Figure 2-9). The parking area would be used for construction staging activities and construction access to the beach, and the access road would be used by construction vehicles to and from the parking area (see Section 2.5 for Project schedule). Proposed use of the road and parking area on the south side of Morro Creek may require prior approval of a Public Area Use Permit by the City Department of Recreation Services, and coordination with other City departments the road for public use, and a portion of the parking area is expected to remain open for public use. All other additional parking areas and beach access sites, as explained in Section 3.16, *Recreation*, would remain open to the public during Project decommissioning activities.

The Project is short-term; therefore, it is not expected to result in significant impacts to the maintenance requirements for public facilities. As described in Section 3.17, *Transportation/Traffic*, the Project is not expected to create enough traffic to create a significant impact. Therefore, the Project would not have a significant maintenance impact on the roads. No other public facility would be affected, including the Morro Bay-Cayucos Sewer Outfall Pipeline that is located approximately 1,800 feet north of the marine terminal alignment. Because of its short-term and decommissioning nature, the Project would not require new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for any of the public services.

3.15.4 Mitigation Summary

The Project does not have potential for significant impacts to public services; therefore, no mitigation is required.

3.16 RECREATION

RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project 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?	☐	☒	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.16.1 Environmental Setting

The Project site has several recreational opportunities both onshore and offshore. Onshore activities include: surf fishing, walking, jogging, and sunbathing. Nearshore and offshore activities include: surfing, swimming, spear fishing, scuba diving, kayaking, boat fishing, pleasure boating, jet skiing, and sailing. Morro Rock Beach within the Project area is largely used by beachgoers and surfers. A large public parking area is located adjacent to Morro Rock and two public parking areas are located at the north side of the Project area, adjacent to both sides of Morro Creek. These are the nearest parking locations to this area of the beach.

3.16.2 Regulatory Setting

Federal and state laws and regulations pertaining to recreation and relevant to the Project are identified in Appendix A. At the local level, the following policies and programs included within the City of Morro Bay (City) General Plan and Local Coastal Plan (LCP) apply to recreational resources within the Project area that pertain to the Project (City of Morro Bay 1988 and 1981).

- LCP Shoreline Access and Recreation, Policy 1.01 and General Plan Access and Recreation Element Policy AR-2: For new developments adjacent to the bayfront or ocean, public access from the nearest public roadway to the shoreline and along the coast shall be provided except where it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, 2) adequate access exists nearby, or 3) agriculture would be adversely affected. For new development on properties adjacent to the mean high tide line, lateral easement dedications shall be from the mean high-tideline to the first line of vegetation.
- LCP Shoreline Access and Recreation, Area 1 – North Morro Bay Policy 1.08 and General Plan Access and Recreation Policy AR-10: With the exception of the Chevron U.S.A. Pier which is coastal dependent industrial use, the City shall

designate the sand area west of State Highway One between the mean high tide line and the first line of vegetation as open space/recreation use.

3.16.3 Impact Analysis

a) Would the project 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?

All Project Segments (Less Than Significant Impact with Mitigation). Pipeline decommissioning activities in the Beach and Surf Zone Segments will involve use of the parking area on the south side of Morro Creek for construction staging and access to the beach, and use of the access road to the parking area off Embarcadero for construction vehicle and equipment access (see Figure 2-9). A portion of the parking area will be temporarily used for construction staging, but the parking area is expected to remain partially open for public use during construction staging. The Project does not involve any permanent development. Impacts to beach access and beach use, and other recreational activities would be short-term. The Project would expose recreational users to short-term construction noise impacts (see Section 3.13, *Noise*); however, most of the beach would remain accessible and open to the public. Due to the short-term Project schedule, implementation of mitigation measure **MM N-2** is expected to reduce impacts on public access, parking, and construction noise for the public's use of Morro Rock Beach to less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

All Project Segments (No Impact). The Project is limited to the decommissioning of specific components of an existing facility and would not involve the construction of residences that would generate demand for recreational facilities. Therefore, no increase in demand for recreational facilities is expected.

3.16.4 Mitigation Summary

Implementation of the following MM would reduce the potential for Project-related impacts to recreation to less than significant:

- MM N-2: Advanced Notification

3.17 TRANSPORTATION/TRAFFIC

TRANSPORTATION/TRAFFIC - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☒	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

3.17.1 Environmental Setting

3.17.1.1 Onshore Transportation

The Project is located north of Morro Bay Harbor and south of Morro Creek in the City of Morro Bay (City), San Luis Obispo County (see Figure 1-1). The Project vicinity includes light industry, commercial operations, and marine, residential, and recreational uses.

San Luis Obispo County is served by a multimodal transportation system composed of a highway system, arterial streets, minor roads, local and regional transit services, bicycle and non-motorized facilities, rail, maritime and airport facilities, and specialized transportation services. Highway 1 passes through the City and is the key north-south highway serving the coastal area. Highway 1 is a scenic route through Central California. The portion of Highway 1 north of the Project site extending north through Cayucos is

designated a State Scenic Highway. Highway 101, which is located about 12 miles southeast of Morro Bay, offers an alternative north-south route through the County and is a more direct north-south regional passageway, linking the San Francisco Bay Area to the north with the cities of San Luis Obispo, Santa Barbara, and Los Angeles to the south. Highway 101 and Highway 1 are a combined route through San Luis Obispo where they split, with Highway 1 continuing as a coastal scenic route near the coast and Highway 101 continuing further inland.

Two key County roads connect Highway 101 and Highway 1. State Route 41, also known as Atascadero Road within Morro Bay City limits, branches from Highway 1 near the Cuesta hillside residences and winds east through the hills to Highway 101 at the city of Atascadero. State Route 46 branches from Highway 1 north of Morro Bay, near Cambria and extends east to Highway 101 near Templeton and Paso Robles. Most traffic in the City is handled by a few arterials. The balance of the network has relatively light traffic. Through traffic is concentrated primarily on Highway 1, Atascadero Road, Morro Bay Boulevard, and Main Street. Local traffic uses Quintana Road for access to shopping areas as well as local streets, including San Jacinto Avenue, Ironwood Avenue, Kern Avenue, Piney Way, and Kennedy Way. These streets serve as local collectors, funneling traffic to the major arterials and serving the local community.

The Project site is situated at the north end of the commercial district of the Embarcadero in the City. Primary Project site access is from Embarcadero Road. Currently, employee and delivery traffic use Embarcadero Road for access to the Morro Bay Power Plant (MBPP). The Embarcadero MBPP entrance is gated and is only open during normal business hours (7:00 a.m. to 5:00 p.m.) with access controlled by a security gate.

3.17.1.2 Offshore Transportation

Morro Bay Harbor is designated as a navigational waterway of the U.S. and is considered by the U.S. Coast Guard (USCG) as a Safe Harbor during inclement weather. It is the only fully protected harbor between Monterey and Santa Barbara. The City has primary responsibility for the enforcement of boating laws in the harbor while the USCG aids and is primarily responsible for vessel inspections, oil spill response, commerce activities and offshore search and rescue operations. The U.S. Army Corps of Engineers maintains the harbor entrance, breakwaters and the federal navigation channels (Entrance Channel, Navy Channel and Morro Channel) to channel marker 20 (Fairbanks Point). The City of Morro Bay is responsible for the mooring areas, navigation past channel marker 20 and the revetments along the waterfront. While the Morro Bay State Park marina is located within the City limits, the California Department of Parks and Recreation has maintenance authority for the marina.

The harbor has vessel size limitations due to sandbars and other obstructions in the channel, mooring, and slip areas. Presently, the harbor can accommodate a maximum

10-foot draft vessel in most slip and mooring areas. Other mooring areas are restricted to a maximum 8-foot draft and 45-foot vessel length. Two City-operated T-Piers are available for tie-up for large vessels and transient mariners. Furthermore, any vessel over 130 feet in length cannot travel beyond the first T-pier.

Between San Francisco Bay and the Port of Los Angeles and the Port of Long Beach, there are approximately 4,000 transits each year by large shipping vessels (greater than 300 gross tons), including container ships, bulk freighters, hazardous materials carriers, and tankers (Monterey Bay National Marine Sanctuary [NMS] 2016).

Coastwise, shipping lanes along the California coast are generally 4 to 20 nautical miles (nm) offshore. Members of the Western States Petroleum Association voluntarily keep laden vessels a minimum of 50 nm from the central coast's shoreline.

The USCG prohibits commercial transport vessels, including tankers and barges, from within 2 nm of the Farrallon Islands, Bolinas Lagoon, or any area of special biological significance (ASBS) in the Gulf of the Farrallones NMS and within 1 nm of an island in the Channel Islands NMS (15 CFR 922). The Channel Islands NMS boundary approximately defines the vessel routes between the Estero Marine Terminal (which is located north of the Project site) and El Segundo.

Estero Bay is used for recreational boating and commercial fishing. Commercial fishing vessels also pass through Estero Bay on the way to open water. The Oil Service Vessel Traffic Corridor Program in place for the Santa Barbara Channel and Santa Maria Basin covers Estero Bay. This program involves a designated corridor for oil service vessels and is about 1 nm wide. The purpose of the designated corridors is to minimize the risk of interactions between vessels servicing the offshore oil industry and commercial fishing gear, especially crab traps set in nearshore waters.

3.17.2 Regulatory Setting

Federal and state laws and regulations pertaining transportation or traffic and relevant to the Project are identified in Appendix A. The City does not include any policies or implementation measures within the Circulation Element associated with transportation or circulation associated with short-term construction projects like the Project.

3.17.3 Impact Analysis

Support vessels would be required to remove the offshore pipelines, which could affect marine vessel traffic. During the construction process, a derrick barge equipped with a crane would be used to remove the pipelines. Crews would be shuttled to the work site as necessary via a typical crew boat or the anchor assist vessel. The office of the Project's prime contractor, Associated Pacific Constructors (APC), is located within Morro Bay Harbor and has established, direct access to Morro Bay. Crew transport would be limited

to one round trip each workday. The offshore crew would meet at the APC offices and would be shuttled to the derrick barge each morning that offshore decommissioning activities take place. At the end of the workday, the crew would be transported back to the APC office. All vessel operations would be conducted in accordance with the Marine Safety and Anchor Plan, that would be included with the Contractor Work Plan and reviewed and approved by the CSLC, and are not expected to result in impacts to existing vessel traffic or circulation patterns. A Notice to Mariners would also be filed with the USCG to inform local mariners of the decommissioning activities.

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

All Project Segments (Less than Significant Impact). The Project would generate vehicle trips from transportation of workers and equipment as well as recyclable/waste materials to appropriate receiving facilities. Most of the Project-related traffic would be traveling to Morro Rock Beach and the Morro Bay Power Plant (MBPP) via Embarcadero Road.

The decommissioning Project would be supported with an operational base, a pipe storage area, a MBPP equipment lay-down area and a beach laydown area. A detailed equipment laydown plan, and a parking and Project site access plan would be provided with the Contractor's Work Plan. The operation base would be located at an existing office and dockside facility located in Morro Bay. These facilities provide ample dock space for loading and offloading equipment for the marine operation and contain offices that would be used to provide administrative support for the operations. The onshore decommissioning operations would also require an equipment laydown area within the MBPP facilities. The beach decommissioning operations would require use of the public dirt access road (off the north end of Embarcadero) and public parking lot on the south side of Morro Creek (see Figure 2-9).

Approximately nine people work on the primary offshore support vessel during working hours which would generate daily trips to Morro Bay Harbor at the beginning and end of each work day. As heavy equipment (dozers, cranes, excavators, etc.) would be stored onsite during periods of extended use, operators would travel to and from the Project site via other vehicles.

Based on these worst-case manpower estimates, the Project would create an estimated total of eight round trips per day from local residences or hotels where offshore workers would stay, to where the work vessels for the offshore Project site would be staged.

Additionally, the Project would result in approximately four round trips per day from local hotels or worker residences to the work site.

Therefore, considering the capacity of local streets, and the current numbers of trips, the Project is not expected to have a significant impact on local traffic congestion.

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

All Project Segments (Less Than Significant with Mitigation). Level of Service is a ranking used for intersections which ranges from A to F, with "A" indicating very good operations, to F indicating poor conditions. The City's General Plan states that where environmentally feasible, all intersections in the City are expected to operate at a minimum of a Level of Service "C." Due to anticipated construction related vehicle trips as explained above, the intersections most likely to be affected by this Project are expected to handle the small increase in traffic without worsening existing Level of Service rankings for City intersections or creating a conflict in the above-mentioned standard. Several mitigation measures (MMs) are incorporated into the Project to ensure appropriate scheduling, signage, and adherence to traffic safety plans for the duration of the Project.

MM T-1: Scheduling. Trucks (delivery, hauling and transportation trucks) shall be scheduled outside the a.m. and p.m. peak periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to the extent feasible.

MM T-2: On-site Roads. Construction related traffic shall use on-site roads wherever possible.

MM T-3: Traffic Safety Plan. Prior to commencement of onshore construction activities, a Traffic Safety Plan shall be submitted to the California State Lands Commission and City of Morro Bay Recreation Services Department for review and approval. It shall include measures, such as appropriate signage, traffic cones, and flaggers to reduce potential hazards to motorists and workers during construction.

MM T-4: Warning Signs. Warning signs shall be placed in appropriate areas prior to construction to notify through traffic of trucks entering and exiting the Project site.

MM T-5: Alternative Vehicle and Pedestrian Access. Temporary alternative vehicle and pedestrian access shall be established.

MM T-6: Prohibit Construction During Holidays. Construction activities within the Beach and Surf Zone Segments shall be prohibited on state and federal holidays.

MM T-7: Established Circulation Patterns. All Project-related vessel traffic shall use established circulation patterns to the degree feasible.

MM T-8: Publication of U.S. Coast Guard (USCG) Local Notice to Mariners. The Applicant shall ensure that its contractor submits to the USCG District 11 (https://www.navcen.uscg.gov/?pageName=lnmDistrict&region=11) a request to publish a Local Notice to Mariners, 14 days prior to operation, that includes the following information:

- Type of operation (i.e., dredging, diving operations, construction)
- Location of operation including Latitude and Longitude and geographical position if applicable
- Duration of operation including start and completion dates (if these dates change, the Coast Guard needs to be notified)
- Vessels involved in the operation
- VHF-FM Radio Frequencies monitored by vessels on scene
- Point of Contact and 24-hour phone number
- Chart Number for the area of operation

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

All Project Segments (No Impact). The Project would not affect air traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

All Project Segments (Less Than Significant with Mitigation). Primary access to the Project site would be accomplished from two locations: (1) from Embarcadero Road to the Morro Bay Power Plant entrance; (2) the access road to the parking area on the south side of Morro Creek; and (3) from Morro Bay Harbor for the offshore activities. The Project area is located within a City beach used frequently by the public. Implementation of **MM N-2, MM T-3, MM T-4, MM T-5, and MM T-6** for use of Project site roads for construction access and the parking area on the south side of Morro Creek for construction staging would ensure that hazards are not substantially increased for the public's use of these facilities during construction activities.

e) Result in inadequate emergency access?

All Project Segments (Less than Significant Impact). Primary access to the Project site would be accomplished from two locations: (1) from Embarcadero Road to the Morro Bay Power Plant entrance; (2) the access road to the parking area on the south side of Morro Creek; and (3) from Morro Bay Harbor for the offshore activities. The Project area is located within a City beach used frequently by the public. The parking area at the south

side of Morro Creek provides emergency vehicle access to the beach, which will be maintained for emergency access during Project construction staging and access activities at the parking area (see Figure 2-9). A public notice system would be implemented to notify the public about the Project and potential impacts to parking at the end of Embarcadero Extension. No significant impacts for emergency access personnel are anticipated.

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

All Project Segments (Less than Significant Impact). As bicyclists are not common on the beach, the Project is not anticipated to result in the creation of hazards or barriers that would impact bicyclists. The Project does have the potential to create hazards to pedestrians who may walk along the beach. However, the Project site would be clearly marked and access restricted so that the chance of injury to any beach walkers would be reduced to a less than significant level. In addition, the beach within the Project area is not used by pedestrians traveling to any non-recreational destinations (e.g., shops, schools, jobs, etc.); therefore, impact from barriers restricting pedestrian access are expected to be less than significant.

3.17.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to transportation/traffic to less than significant:

- MM N-2: Advanced Notification
- MM T-1: Scheduling
- MM T-2: On-site Roads
- MM T-3: Traffic Safety Plan
- MM T-4: Warning Signs
- MM T-5: Alternative Vehicle and Pedestrian Access
- MM T-6: Prohibit Construction During Holidays
- MM T-7: Established Circulation Patterns
- MM T-8: Publication of U.S. Coast Guard (USCG) Notice to Mariners

3.18 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS - Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) 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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐

3.18.1 Environmental Setting

The City of Morro Bay (City) is the nearest municipality to the Project pipeline corridor and onshore work areas. The City Water and Sewer Services provides sewer and wastewater treatment. Morro Bay Garbage is a municipal waste hauling company that provides residents with residential and commercial garbage, recycling, and green waste collection service. Solid waste is generally hauled to Cold Canyon Landfill in San Luis Obispo located approximately 21 miles to the southeast of the Project (City of Morro Bay, Garbage and Recycling 2016). Electricity for the City is generally provided by PG&E.

3.18.2 Regulatory Setting

Federal and state laws and regulations pertaining to utilities and service systems, and relevant to the Project are identified in Appendix A. At the local level, the following policies regarding utilities and service systems are applicable to the Project.

- The City of Morro Bay Waste Diversion Policy (CalRecycle.Ca.Gov 2001) promotes the reduction of the amount of waste disposed of in landfills by (1) reducing the amount of solid waste generated (solid waste reduction); (2) reusing as much solid waste as possible (recycling); (3) utilizing energy and nutrient value of the solid waste (waste to energy and composting); and (4) properly disposing of the remaining solid waste (landfill disposal).
- State Assembly Bill 939 and San Luis Obispo County Code require construction and demolition projects to recycle 50 percent of construction and demolition waste. The City of Morro Bay supports the diversion of as much waste as feasible from landfills through recycling and recovery.

3.18.3 Impact Analysis

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

All Project Segments (No Impact). No treatment of wastewater by a publicly owned wastewater treatment facility is required. Therefore, no impact would result.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

All Project Segments (No Impact). The Project is a decommissioning Project and would not introduce any new facilities or personnel that would require water or wastewater treatment facilities. Therefore, there would be no impact.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

All Project Segments (No Impact). The Project would not create any new storm water sources, or require the construction of new permanent storm water drainage facilities. Onshore Project activities would be limited to the Morro Bay Power Plant (MBPP) Segment of the two pipelines and associated equipment, the Sand Dune Segment of the two pipelines, and the Beach Segment of the two pipelines. The MBPP Segment includes filling the two pipelines with Class G oilfield cement or equivalent. Additionally, excavation and removal of the two pipeline risers at both pipeline origination points inside the MBPP facility, demolishing and removal of the first concrete thrust block, removal of the horizontal pipeline to the MBPP fence line, and cutting and capping the remaining underground pipe end with a steel plate. The Sand Dune Segment of the Project incorporates abandoning the two pipelines in place by filling those segments with Class G oilfield cement or equivalent to a pre-determined point approximately 50 feet west of the toe of the sand dune. The Beach Segment includes removal of the two pipelines from

the toe of the sand dune segment in their entirety through the beach segment. Therefore, there would be no impact.

Storm water drainage facilities do not occur in the offshore environment (Surf Zone and Offshore Segments); therefore, no impact would result.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

All Project Segments (No Impact). Project activities would occur within onshore staging or work areas as well as on board Project vessels. Water required for personnel consumption and sanitary purposes would be minimal. Supplies would be portable and brought onsite for the duration of the Project activities only. Following Project completion, no additional usage would be necessary. Local water supplies would not be affected. No new or expanded entitlements would be needed. Therefore, there would be no impact.

e) 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?

All Project Segments (No Impact). The Project would not generate wastewater that would require treatment at a wastewater service provider Therefore, there would be no impact.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

All Project Segments (Less than Significant with Mitigation). Waste generated by the Project would include general construction waste as well as the two pipelines. The 24-inch-diameter pipeline is externally coated with a 0.75-inch thick coating of somastic, which contains one percent non-friable asbestos. The 16-inch-diameter pipeline is constructed entirely of welded steel pipe. The steel pipe and any associated debris would be recycled to the extent feasible. However, if following pipeline removal, Dynegy determines that the steel pipeline or coating is not suitable for recycling, Dynegy would contract for disposal with approved vendors with the capacity and regulatory permitting to receive the classifications of waste to be disposed. Dynegy's Project Execution Plan, Section 2.2.2, provides detail regarding somastic coating debris and proper recovery and disposal methods (see Appendix B). Further, a certified asbestos work crew would remove and dispose of asbestos containing material in accordance with the Asbestos Work Plan, which is to be prepared by the certified asbestos consultant. Implementation of **Mitigation Measure (MM) HAZ-4** would mitigate the impact to less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

All Project Segments (Less than Significant with Mitigation). The steel pipe and any associated debris would be recycled to the extent feasible. Solid waste would be disposed of in accordance with local, state and federal laws and regulations as required by the Project plans and specifications. Dynegy and its contractors would dispose of all hazardous waste, should any be generated, through a permitted hazardous waste treatment, storage, or disposal facility. Non-hazardous waste would be transported to the nearby landfill facility. For detail regarding the potential hazardous wastes associated with Project decommissioning activities, see Appendix K, Contaminated Materials and Management Plan. Implementation of **MM HAZ-1** would mitigate the impact to less than significant.

3.18.4 Mitigation Summary

Implementation of the following MMs would reduce the potential for Project-related impacts to utilities and service systems to less than significant:

- MM HAZ-1: Contaminated Materials Management Plan
- MM HAZ-5: Asbestos Work Plan

3.19 MANDATORY FINDINGS OF SIGNIFICANCE

3.19.1 Introduction

The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where prior to commencement of the environmental analysis a project proponent agrees to MMs or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per State CEQA Guidelines, § 15065).

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.19.2 Impact Analysis

a) Does the project have the potential to 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, 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?

All Project Segments (Less than Significant with Mitigation). As described in Section 3.4, *Biological Resources*, the Project would not significantly adversely affect fish or wildlife habitat, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of an endangered, rare, or threatened species. With implementation of mitigation measures **MM BIO-1** through **MM BIO-12** and construction best management practices (BMPs), the minor, brief, and localized impacts to special-status species and their habitats would be less than significant.

The Project's potential effects on historic and archaeological resources are described in Section 3.5, *Cultural Resources*; no resources are known to be present within the Project footprint. This finding was based upon a cultural resources records review of the Project area. The ground disturbance during Project activities would occur in the MBPP Facility Segment and Beach Segment. Implementation of mitigation measures **MM CUL-1, MM CUL-2,** and **MM CUL-3** would reduce the potential for Project-related impacts to cultural and paleontological resources to less than significant.

b) Does the project have impacts that would be 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.).

All Project Segments (Less than Significant Impact). Past, current, and reasonable foreseeable projects within the vicinity of the proposed Project are limited to the Chevron Estero Marine Terminal Decommissioning Project (Chevron EMT Decommissioning Project), the Cayucos Sustainable Water Project, the Trident Winds, LLC Wind Energy Development Project, the AT&T China-U.S. Fiber Optic Cable Removal Project, and the Chumash Heritage National Marine Sanctuary (NMS).

- The Chevron EMT Decommissioning Project is similar in nature to the Dynegy Morro Bay Power Plant (MBPP) Marine Terminal Decommissioning Project in that both projects propose to remove pipelines, or abandon pipelines in place, from offshore and onshore habitats. However, the two projects are not likely to be completed at the same time. The Dynegy Morro Bay Power Plant (MBPP) Marine Terminal Decommissioning Project is scheduled for construction in 2018, whereas the Chevron EMT Decommissioning Project is scheduled for construction in 2020.
- The Cayucos Sustainable Water Project includes the construction of a Water Resource Recovery Facility and related conveyance infrastructure to serve the Cayucos community. The project is located outside the city of Morro Bay, and will not result in similar impacts as the Dynegy MBPP Marine Terminal Decommissioning Project. Construction of this project with the Dynegy MBPP Project could overlap; however, no cumulative impacts are anticipated.

- The Trident Winds, LLC Wind Development Project includes a proposed offshore wind facility that would generate up to 800 megawatts (MW) of power using about 100 floating foundations, each supporting a turbine that could produce up to 8 MW. A single seafloor transmission cable would bring the electricity to shore. The project would be in federal waters about 33 nautical miles northwest of Morro Bay in water depths of 2,600 to 3,300 feet. This project is still in the planning stages, with no foreseeable project schedule. Construction of this project is not anticipated to overlap with the Dynegy MBPP Project; therefore, no cumulative impacts are anticipated.
- The AT&T China-U.S. Fiber Optic Cable Removal Project includes the complete removal of the E1 and S7 cable segments from Montaña de Oro State Park to a water depth of 1,000 fathoms (~6,000 feet). The on-land conduits would remain in place for potential future use. The AT&T Removal Project is currently anticipated to take place during fall 2017/winter 2018, and will take approximately 2 to 3 days. The Dynegy MBPP Project operations will not occur at the same time; therefore, no cumulative impacts are anticipated.
- The Dynegy MBPP Project site is located within the proposed Chumash Heritage NMS, Core Area One, extends from Gaviota Creek in Santa Barbara to Santa Rosa Creek in Cambria, and as far west as the Santa Lucia Escarpment (see Section 3.6.1.5, *Cultural Resources – Tribal*). Due to the approval timeline of the Chumash Heritage NMS, designation would not likely occur prior to implementation before the Dynegy MBPP Project is implemented; therefore, no cumulative impacts are anticipated.

As provided in this MND, the Project has the potential to significantly impact the following environmental disciplines: Biological Resources, Cultural and Paleontological Resources, Cultural Resources – Tribal, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Transportation/Traffic and Utilities and Service Systems. However, measures have been identified that would reduce these impacts to a level of less than significant. For any impact to act cumulatively on any past, present, or reasonable foreseeable projects, these projects would have to have individual impacts in the same resource areas, some at the same time, or occur within an overlapping area as the proposed Project. No such project was identified that would result in cumulative impacts; therefore, this impact would be less than significant.

c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

All Project Segments (Less than Significant with Mitigation). The Project's potential to impact human beings is addressed throughout this document, including in sections (e.g., Aesthetics, Public Services, and Recreation) that affect resources used or enjoyed by the public, residents, and others in the Project area, sections analyzing public safety

and well-being (e.g., Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hydrology and Water Quality, and Noise), and sections that address community character and essential infrastructure (e.g., Land Use and Planning, Population and Housing, Transportation, and Utilities). None of these analyses identified a potential adverse effect on human beings that could not be avoided or minimized through the implementation of mitigation measures described or compliance with standard regulatory requirements. With mitigation in place, Project impacts on human beings would be less than significant.

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4.0 MITIGATION MONITORING PROGRAM

The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the Morro Bay Power Plant (MBPP) Marine Terminal Decommissioning Project (Project). In conjunction with approval of this Project, the CSLC adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15091, subdivision (d), and 15097.

The Project authorizes Dynegy Morro Bay, LLC (Dynegy or Applicant) to decommission and remove/abandon in place two pipelines (24-inch-diameter and 16-inch-diameter) in accordance with the terms and conditions of its existing CSLC Lease No. PRC 1390.

4.1 PURPOSE

It is important that significant impacts from the Project are mitigated to the maximum extent feasible. The purpose of a MMP is to ensure compliance and implementation of MMs; this MMP shall be used as a working guide for implementation, monitoring, and reporting for the Project's MMs.

4.2 ENFORCEMENT AND COMPLIANCE

The CSLC is responsible for enforcing this MMP. The Project Applicant (Dynegy) is responsible for the successful implementation of and compliance with the MMs identified in this MMP. This includes all field personnel and contractors working for the Applicant.

4.3 MONITORING

The CSLC staff may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as necessary. Some monitoring responsibilities may be assumed by other agencies, such as affected jurisdictions, San Luis Obispo Air Pollution Control District, the City of Morro Bay, or the County of San Luis Obispo. The CSLC or its designee shall ensure that qualified environmental monitors are assigned to the Project.

4.3.1 Environmental Monitors

To ensure implementation and success of the MMs, an environmental monitor must be on site during all Project activities that have the potential to create significant environmental impacts or impacts for which mitigation is required. Along with the CSLC staff, the environmental monitor(s) are responsible for:

- Ensuring that the Applicant has obtained all applicable agency reviews and approvals

- Coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation (for this Project, many of the monitoring procedures shall be conducted during the deconstruction phase)
- Ensuring that the MMP is followed

The environmental monitor shall immediately report any deviation from the procedures identified in this MMP to the CSLC staff or its designee. The CSLC staff or its designee shall approve any deviation and its correction.

Workforce Personnel. Implementation of the MMP requires the full cooperation of Project personnel and supervisors. Many of the MMs require action from site supervisors and their crews. The following actions shall be taken to ensure successful implementation:

- Relevant mitigation procedures shall be written into contracts between the Applicant and any contractors

General Reporting Procedures. A monitoring record form shall be submitted to the Applicant, and once the Project is complete, a compilation of all the logs shall be submitted to the CSLC staff. The CSLC staff or its designated environmental monitor shall develop a checklist to track all procedures required for each MM and shall ensure that the timing specified for the procedures is followed. The environmental monitor shall note any issues that may occur and take appropriate action to resolve them.

Public Access to Records. Records and reports are open to the public and would be provided upon request.

4.4 MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table 4-1) for Aesthetics, Air Quality, Biological Resources, Cultural and Paleontological Resources, Cultural Resources – Tribal, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Recreation, Transportation/Traffic, and Utilities and Service Systems. All other environmental disciplines were found to have less than significant or no impacts; therefore, are not included below. The table lists the following information by column:

- Impact (impact number, title, and impact class)
- Mitigation [or Applicant-proposed] measure (full text of the measure)
- Location (where impact occurs and mitigation measure should be applied)
- Monitoring/reporting action (action to be taken by monitor or Lead Agency)
- Timing (before, during, or after construction; during operation, etc.)
- Responsible party
- Effectiveness criteria (how the agency can know if the measure is effective)

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Aesthetics						
Night Lighting	**MM AES-1: Lighting Plan (Offshore).** The Applicant shall submit to the California State Lands Commission (CSLC) a Lighting Plan, subject to CSLC review and approval prior to commencement of construction activities for the Offshore Segment. The Applicant shall prepare a Lighting Plan to specify that outdoor light intensity on the derrick barge anchored or moored overnight shall be limited to nautical lights necessary for vessel safety and that barge security lighting shall be shielded where feasible or directed downwards.	Offshore Segment	Observe nighttime lighting positioning and compliance	Implementing MM will reduce light spillage	Applicant and CSLC	Throughout construction
Air Quality						
Construction Air Emissions	**MM AQ-1: Standard Mitigation Measures for Construction Equipment**. The following standard mitigation measures for reducing nitrogen oxides, reactive organic gases, and diesel particulate matter emissions from construction equipment shall be implemented during construction activities: • Equipment will be maintained in proper tune according to manufacturers' specifications. • All off-road and portable diesel-powered equipment will be fueled with CARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road). • The use of land based diesel construction equipment meeting CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines and comply with the State off-road regulations. • Use on-road heavy-duty trucks that meet the CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation.	Project Site	Onsite monitor to verify	Implementing MM will reduce emissions from construction equipment and vehicles	Applicant, CSLC, and in coordination with APCD	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOx exempt area fleets) may be eligible by proving alternative compliance. • All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and job sites to remind drivers and operators of the 5-minute idling limit. • Diesel idling within 1,000 feet of sensitive receptors is not permitted. • Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors. • Use electrical equipment when feasible. • Substitute gasoline-powered equipment in place of diesel-powered equipment, where feasible. • Use alternatively fueled construction equipment on-site, where feasible, such as compressed natural gas, liquefied natural gas, propane or biodiesel.					
Construction Air Emissions	**MM AQ-2: Best Available Control Technology for Construction Equipment.** The following best available control technology for construction equipment measures shall be implemented during construction activities: • Use Tier 3 and Tier 4 off-road and 2010 on-road compliant engines • Repower equipment with the cleanest engines available • Install California Verified Diesel Emission Control Strategies such as those listed at: http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm	Project Site	Onsite monitor to verify	Implementing MM will reduce emissions from construction equipment and vehicles	Applicant, CSLC, and in coordination with APCD	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Construction Air Emissions	**MM AQ-3: Fugitive PM10 Mitigation Measures.** The following measures shall be implemented during construction activities to reduce fugitive dust emissions: • Reduce the amount of the disturbed area where possible. • Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minue period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. Please note that since water use is a concern due to drought conditions, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control. Please refer to the following link for potential dust suppressants to select from to mitigate dust emissions: http://valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm • All dirt stock pile areas should be sprayed daily and covered with tarps or other dust barriers as needed. • Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities. • Exposed ground areas that are planned to be reworked at dates greater than one month after	Project Site	Onsite monitor to verify	Implementing MM will reduce emissions from fugitive dust	Applicant, CSLC, and in coordination with APCD	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established. • All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD. • All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. • All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114. • "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in California Vehicle Code Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified. • Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water used where feasible. Roads shall be pre-wetted prior to sweeping when feasible. • All PM10 mitigation measures required should be shown on grading and building plans. • The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork, or demolition.					
Construction Air Emissions	**MM AQ-4: Emission Offsets.** If emission offsets are required by the District, Dynegy will work closely with the District to determine the most appropriate way to offset emissions over the established thresholds.	Project Site	Onsite monitor to verify	Implementing MM will offset emissions	Applicant, CSLC, and in coordination with APCD	Throughout construction
Construction Phase Idling	**MM AQ-5: Idling Control Techniques.** To help reduce sensitive receptor emissions impact of diesel vehicles and equipment used to construct the Project,	Project Site	Onsite monitor to verify	Implementing MM will offset emissions	Applicant, CSLC, and in	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Dynegy shall implement the following idling control techniques: • California Diesel Idling Regulations ○ On-road diesel vehicles shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles: ▪ Shall not idle the vehicle's primary diesel engine for greater than 5-minutes at any location, except as noted in Subsection (d) of the regulation; and ▪ Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a sleeper berth for greater than 5-minutes at any location when within 1,000 feet of a restricted area, except as noted in Section (d) of the regulation. ○ Off-road diesel equipment shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use Off-Road Diesel regulation. ○ Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the State's 5-minute idling limit.				coordination with APCD	

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	○ The specific requirements and exceptions in the regulations can be reviewed at the following web sites: https://www.arb.ca.gov/msprog/truck-idling/factsheet.pdf and https://www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf • Diesel Idling Restrictions Near Sensitive Receptors. In addition, to the State required diesel idling requirements, Dynegy shall comply with these more restrictive requirements to minimize impacts to nearby sensitive receptors: ○ Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors. ○ Diesel idling within 1,000 feet of sensitive receptors shall not be permitted. ○ Use of alternative fueled equipment is recommended. ○ Signs that specify the no idling areas must be posted and enforced at the site.					
Biological Resources						
Special-Status Species and Habitat	**MM BIO-1: Environmental Awareness Training.** The approved biological monitor(s) shall be responsible for conducting an environmental awareness training for all Project personnel to familiarize workers with surrounding common and special-status species and their habitats, applicable regulatory requirements, and measures that must be implemented to avoid or minimize potential impacts to biological resources.	MBPP Facility Segment Beach Segment	Onsite monitor to verify	Implementing MM will educate construction workers regarding special-status species and habitat	Applicant and CSLC	Prior to and throughout construction
Special-Status Species and Habitat	**MM BIO-2: Biological Surveying and Monitoring.** A qualified biological monitor shall be present on site to survey the work area prior to the commencement of Project activities to minimize the potential for impacts	MBPP Facility Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	to any sensitive species or other wildlife that may be present during Project implementation. In addition, the biological monitor shall be on site at all times during Project operations. If at any time during Project operations special-status species (including but not limited to western snowy plovers and California least terns) are observed within the Project site, or within a predetermined radius surrounding the onshore portion of the Project site (as to be determined by the on-site biologist), all work shall be stopped or redirected to an area within the Project site that would not impact these species.	Beach Segment		special-status species and habitat		
Special-Status Species and Habitat	**MM BIO-3: Delineation of Work Limits.** Prior to the start of the Project construction, the limits of the onshore construction area shall be clearly flagged and limited to the minimum extent necessary. Natural areas outside of the construction zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time.	MBPP Facility Segment Beach Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to special-status species and habitat	Applicant and CSLC	Throughout construction
Special-Status Species and Habitat	**MM BIO-4: Morro Creek.** In the event that Morro Creek is in direct contact with the ocean or flows beneath one of the pipelines, the following measures shall be implemented to avoid and minimize impacts to migrating steelhead or tidewater goby: • A pre-construction aquatic survey shall be conducted by a USFWS-approved biologist to determine the presence or absence of steelhead and tidewater goby within Morro Creek. The survey will involve a visual survey of the stream channel both upstream and downstream of the proposed work area. If conditions allow (i.e., sufficient water depths), sein-netting surveys would also be conducted within the upstream estuarine portion of the stream channel to determine approximate abundance and	MBPP Facility Segment Beach Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to special-status species and habitat	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	distribution of special-status and native fish species in the Project vicinity. • Sediment filter fabric or a fine-mesh screen or block net (3-millimeter [mm] mesh) will be placed between the lagoon and the pipeline at the south outlet. The screen's bottom edge will be anchored with rebar or other weights and covered with sand. Poles will support the upper part of the screen. After placing the screen, the area will be seined to remove any trapped fish, which will be placed in the lagoon. The screen should remain in place until a sandy berm is constructed to isolate the pipelines. • The following measures shall be implemented to the extent feasible based on environmental conditions at the time of pipeline removal operations within the active stream channel of Morro Creek: o Heavy equipment operation within the stream channel shall be minimized to the extent feasible during Project operations. As necessary, equipment access through the stream channel shall be limited to the mouth of Morro Creek below the mean high tide line to avoid impacts to the bed and banks of the active channel. o Pipelines shall be cut on both sides of the active creek channel using construction methodologies congruent with those procedures proposed for nearshore abandonment to avoid or reduce potential contamination that would occur from risk of upset (e.g., covered pipe ends, containment). The shortened segment shall be covered and removed by lifting it vertically					

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	or pulling it horizontally out of the stream channel in a gradual, slow motion to minimize or avoid the short-term turbidity impacts within the stream channel. ○ In the event surface water is present within Morro Creek, the Project Stream Diversion Plan (Appendix H) shall be implemented to avoid and minimize impacts to waters (see HWQ-1).					
Nesting Birds	**MM BIO-5: Nesting Birds.** To the extent feasible, onshore Project activities shall be conducted during the fall months (September through October) to reduce potential impacts to nesting birds, including western snowy plovers. In the event that some or all of the proposed operations need to occur during the summer months, the following conditions designed to protect special-status bird species shall be implemented: • No more than 1 week prior to the start of the Project construction, an intensive survey of the flagged construction area shall be conducted by a qualified biologist to determine the presence or absence of active nests or foraging activities by western snowy plovers or other birds. In addition, daily pre-activity nesting bird surveys shall be conducted to identify active nests within or near the work areas. If active snowy plover nests are found, all areas within a 500-foot radius of the nesting site shall be clearly marked and avoided during construction. If active nests of other bird species are identified, a protective buffer of 200 feet (or other appropriate length as determined by a qualified biologist) shall be established around the nest. No disturbances shall occur within the protective buffer(s) until all	MBPP Facility Segment Beach Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to nesting bird species and habitats	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	young birds have fledged, as confirmed by the biologist. • A qualified biological monitor shall be retained by Dynegy and shall be on site at all times during Project operations. If at any time during Project operations special-status species (including but not limited to western snowy plovers and California least terns) are observed within the Project site or within a predetermined radius surrounding the onshore portion of the Project site (as to be determined by the on-site biologist), all work shall be stopped or redirected to an area within the Project site that would not impact special-status birds.					
Vegetation and Special-Status Plant Species	**MM BIO-6: Site Restoration Plan.** Procedures identified in the Site Restoration Plan prepared for the Project shall be implemented to reduce impacts to existing vegetation and plant communities to a less than significant level.	MBPP Facility Segment Beach Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to vegetation and special-status plant species	Applicant and CSLC	Throughout construction and post-construction
Grunion Spawning	**MM BIO-7: Grunion Surveys and Avoidance.** Intertidal activities will be scheduled outside of the grunion spawning season, which is generally 3 or 4 nights after the highest tide associated with each full or new moon and then only for a 1- to 3-hour period each night following high tide from late February to early March to August or early September. If schedule cannot avoid grunion spawning periods, intertidal grunion surveys will be conducted during grunion spawning tidal periods to document that grunion have not used the site. Intertidal activities shall not occur if grunion spawning is observed in the Project area. Work will be initiated only after the site is clear of new grunion eggs.	Surf Zone Segment	Onsite monitor to verify	Implementing MM will reduce the potential for impacts to grunion	Applicant and CSLC	February through September

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Seafloor Debris Survey	**MM BIO-8: Pre- and Post-Decommissioning Seafloor Debris Survey and Debris Removal.** Decommissioning activities shall begin and end with seafloor debris surveys. The Applicant's contractor shall perform a side-scan sonar (with 400 percent coverage) and bathymetric survey, or multi-beam sonar survey, of the underwater work area prior to the arrival of the contractor's marine equipment spread on the work area. The survey shall encompass the entire underwater worksite bordered by the contractor's planned derrick barge anchorages plus an offset of approximately 500 feet. Derrick barge anchorages shall be positioned to avoid rock outcroppings and seagrass beds. A map shall be produced by the surveyor and shall serve as the baseline for the seafloor conditions at the underwater worksite prior to the start of work. All surveys employing low-energy geophysical equipment, including remotely operated vehicle surveys, must be conducted by an entity holding a valid geophysical survey permit under the CSLC OGPP (see www.slc.ca.gov/Programs/OGPP.html). Therefore, the Applicant shall obtain a valid permit prior to initiating the surveys. After decommissioning work is complete, the contract shall be required to perform a second side-scan sonar and bathymetric survey in the same underwater work area. The surveyors will produce another map of the survey area and use it to identify any items of seafloor debris introduced into the underwater work site by decommissioning activities. The contractor will remove all debris, if any, related to the offshore terminal facilities and the decommissioning activities.	Offshore Segment	Obtain Offshore Geophysical Survey Permit from the CSLC	Implementing MM will provide evidence that any Project debris on the ocean floor has been recovered	Applicant and CSLC	Pre-decommission-ing activities Post-decommission-ing activities

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	The Applicant will provide: (1) the pre-decommissioning survey map to CSLC staff and permitting agencies for approval at least 60 days prior to Project implementation; and (2) the post-decommissioning map to CSLC staff with 30 days of survey completion for agency sign-off.					
Marine Vessel and Wildlife Interaction	**MM BIO-9: Marine Wildlife Contingency Plan (MWCP).** A MWCP shall be prepared for review and approval by California State Lands Commission staff prior to the commencement of decommissioning activities. The MWCP would include, but not be limited to, the following elements: • Description of the pre-decommissioning training seminar that will be provided to educate Project personnel on identifying marine wildlife in Project area and to provide an overview of the wildlife mitigation measures to be implemented • Qualifications, number, location, and authority of onboard MWMs • Acoustic safety zone radius that will be enforced by the MWMs during dynamic pipe ramming (DPR) activities • Protocols on how DPR operations will be ceased if marine wildlife enter the acoustic safety zone • Distance, speed, and direction of transiting vessels will maintain when in proximity to a marine mammal or reptile • Discussion of how impacts associated with marine wildlife entanglement in Project vessel anchor lines will be minimized • Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife	Surf Zone Segment Offshore Segment	Retain copy of MWCP and marine wildlife monitor notes	Implementing MM will ensure vessel and noise related impacts to marine wildlife are avoided	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Underwater Noise Impact on Marine Wildlife	**MM BIO-10: Dynamic Pipe Ramming Soft-Start and Ramp-Up Procedure.** A soft start shall be used during DPR to give marine mammals, sea turtles, fish, and birds an opportunity to move out of the area away from the sound source. The contractor conducting DPR operations shall begin the procedure at a reduced level and repeat the sound producing activity, gradually increasing the intensity of the operation prior to initiating normal operating levels. The duration of the ramp-up during Project operations shall be determined by a qualified marine biologist and based upon the findings of a sound source characterization study for DPR. This procedure will be used any time DPR operations are initiated.	Surf Zone Segment Offshore Segment	Onsite monitor to verify	Implementing MM will reduce impacts to marine wildlife by alerting wildlife of dynamic pipe ramming operations prior to full implementation	Applicant and CSLC	During dynamic pipe ramming
Underwater Noise Impact on Marine Wildlife	**MM BIO-11: Dynamic Pipe Ramming Sound Source Characterization.** At the start of DPR operations, a marine acoustics specialist shall be retained to conduct underwater noise measurements during a trial operation of the equipment at the Project site. In coordination with National Marine Fisheries Service (NMFS), the results of the underwater noise measurements shall be used to determine safety zone radii for marine wildlife (mammals and reptiles) during DPR operations based on NMFS's acoustic thresholds in place at the time of Project operations for permanent threshold shifts and behavioral harassment. A copy of the sound source characterization study shall be provided to California State Lands Commission and NMFS within 2 weeks of completion.	Surf Zone Segment Offshore Segment	Onsite monitor to verify	Implementing MM will provide sound source characterization and marine wildlife safety radii	Applicant and CSLC	Prior to dynamic pipe ramming operations
Underwater Noise Impact on Marine Wildlife	**MM BIO-12: Marine Wildlife Monitoring During Sound Source Characterization and Dynamic Pipe Ramming.** Qualified marine wildlife monitors (MWMs) shall be on site and present throughout sound source characterization and DPR operations.	Surf Zone Segment Offshore Segment	Retain a copy of MWM report	Implementing MM will provide protection for marine wildlife during sound	Applicant and CSLC	Prior to dynamic pipe ramming operations

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	During sound source characterization, the initial exclusion zone will be 1,000 meters. The final exclusion and safety zones to be implemented during DPR will be modified as necessary based on results from the sound source characterization and will reflect the permanent hearing threshold shifts, temporary hearing threshold shifts, and behavioral harassment thresholds in place at the time of Project operations. Once the marine wildlife safety zone radii have been determined, MWMs shall be located such that he or she has a clear view of the marine waters within the safety zone and beyond. The MWMs shall indicate that a designated safety zone is clear of marine wildlife (mammals and reptiles) prior to the start of DPR operations and shall have the authority to stop DPR operations if marine wildlife is observed at any time within the exclusion zone.			source characterization and dynamic pipe ramming operations		
Sensitive Species and Hard Bottom Habitat	**MM BIO-13: Dive Surveys.** At least 1 month prior to the initiation of decommissioning activities, a dive survey shall be conducted at proposed anchor locations to ensure that avoidance of sensitive species and hard bottom habitat areas is achieved and to determine the presence or absence of the invasive algae (*Caulerpa taxifolia*) and seagrasses. The results of the pre-activity dive survey shall be documented in a report for distribution to the appropriate regulatory agencies. If sensitive seagrass species are identified, anchor locations will be relocated to avoid impacts to these protected habitats and post-decommissioning surveys would be conducted to verify seagrass beds had not been impacted by Project-related activities.	Offshore Segment	Onsite monitor to verify	Implementing MM will ensure that avoidance of sensitive species and hard bottom habitat areas is achieved and determine presence or absence of *Caulerpa taxifolia* and seagrasses	Applicant and CSLC	Pre-construction and post-construction
Spread of Non-Native Aquatic Species	**MM BIO-14: Prevent Introduction of Non-Native Aquatic Species (NAS).** All Project vessels will: (1) originate from Morro Bay Harbor, San Francisco Bay	Hull cleaning/ biofouling	Reporting forms	Implementing MM will ensure introduction of	Applicant and CSLC	Biofouling removal prior to Project

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	area harbors, or Port of Long Beach/Los Angeles area; (2) be continuously based out of Morro Bay Harbor, San Francisco Bay area harbors, or Port of Long Beach/Los Angeles area since last dry docking; or (3) have underwater surfaces cleaned before entering California waters at vessel origination point and immediately prior to transiting to the Project site. Additionally, and regardless of vessel size, ballast water for all Project vessels must be managed consistent with CSLC ballast management regulations, and Biofouling Removal and Hull Husbandry Reporting Forms shall be submitted to CSLC staff. Project vessels shall also be available for inspection by CSLC staff. Project vessels shall also be available for inspection by CSLC staff for compliance. Further, as part of the Project kickoff meeting, a qualified marine biologist, approved by CSLC staff, will provide information to all Project personnel about the spread of NAS in California waters and the programs that will be implemented to minimize this hazard.	removal to be conducted at vessel origination site At Project kick-off meeting site	Project kick-off meeting sign-in sheet	NAS is avoided and vessel operators are made aware of NAS regulations		vessels transitioning to Project site Submit Biofouling Removal and Hull Husbandry Reporting Forms prior to Project operations During Project kick-off meeting
Cultural and Paleontological Resources						
Disturbance of Archaeological Resources	**MM CUL-1: Cultural Resource Monitoring Plan.** Prior to Project ground-disturbing activities including the removal of the anode bed and wells within the MBPP Facility Segment, a Cultural Resource Monitoring Plan will be completed. The Plan will require monitoring by a County-approved archaeologist during ground disturbing activities. In addition, the archaeological monitor will give workers associated with Project activities an orientation regarding the probability of exposing cultural resources, tips on recognizing such resources and directions as to what steps are to be taken if a find is encountered.	MBPP Facility Segment Beach Segment Surf Zone Segment Offshore Segment	Submittal of the Cultural Resource Monitoring Plan to the County for review and approval Native American monitor	Implementing MM will reduce the potential impacts to cultural archaeological resources	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Disturbance of Archaeological Resources	**MM CUL-2: Discovery of Previously Unknown Cultural Resources.** In the event that intact archaeological resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until a County-approved archaeologist has evaluated the nature and significance of the discovery. In the event that a potentially significant archaeological resource is discovered, Dynegy, the California State Lands Commission (CSLC), and any local, state, or federal agency with approval or permitting authority over the Project that has requested/ required such notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Impacts to previously unknown significant archaeological resources shall be avoided through preservation in place if feasible. A treatment plan developed by the archaeologist shall be submitted to CSLC staff for review and approval. If the archaeologist believes that damaging effects to the archaeological resource would be avoided or minimized, then work in the area may resume. Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission.	MBPP Facility Segment Beach Segment Surf Zone Segment Offshore Segment	Project monitor	Implementing MM will reduce the potential impacts to cultural archaeological resources	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Disturbance of Human Remains	**MM CUL-3 Unanticipated Discovery of Human Remains.** If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery and a County-approved archaeologist must be contacted immediately within 24 hours, who shall consult with the County Coroner. In addition, California State Lands Commission staff shall be notified within 24 hours. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission within 24 hours of this determination and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.	MBPP Facility Segment Beach Segment Surf Zone Segment Offshore Segment	Project monitor	Implementing MM will reduce the potential impacts to cultural archaeological resources	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Cultural Resources - Tribal						
Native American Monitoring	**MM TCR-1: Tribal Cultural Resource Monitoring.** Prior to Project related ground-disturbing activities, including the removal of the anode bed and wells within the MBPP Facility Segment, the Applicant shall prepare a Tribal Cultural Resources Monitoring Plan subject to California State Lands Commission (CSLC) approval. The Plan shall be prepared in coordination with the CSLC and a California Native American tribe that is culturally-affiliated to the Project site. The Plan shall include, but not be limited to the following measures: • The Applicant shall retain a monitor from a California Native American tribe that is culturally-affiliated to the Project site during all ground disturbing activities. • The Applicant shall provide a minimum 5-day notice to the tribal monitor prior to all scheduled ground disturbing activities. • The Applicant shall provide the tribal monitor safe and reasonable access to the Project site. • Procedures for tribal monitoring for the Surf Zone and Offshore Segments, including availability of resources and information to monitor excavation activities. • Guidance on identification of potential tribal resources that may be encountered. • The tribal monitor will provide construction personnel with an orientation on the requirements of the Plan, including the probability of exposing tribal resources, guidance on recognizing such resources, and direction on procedures if a find is encountered.	MBPP Facility Segment Beach Segment Surf Segment Offshore Segment	Native American monitor	Implementing MM will reduce the potential impacts to tribal cultural resources	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• Preparation of a Treatment Plan (see MM TCR-2 below) if tribal resources are discovered during excavation activities.					
Discovery of Tribal Resources	**MM TCR-2: Tribal Resources Treatment Plan.** Should intact tribal cultural deposits be uncovered during Project implementation, California State Lands Commission (CSLC) staff and the tribal monitor shall be contacted immediately within 24 hours. A Treatment Plan developed in consultation with the tribal monitor shall be submitted to CSLC staff for review and approval. CSLC staff in consultation with the tribal monitor, shall have the authority to temporarily halt all work within 100-feet of the find. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Additional measures to meet these requirements include assessment of the nature and extent of the deposit, and subsequent recordation and notification of relevant parties based upon the results of the assessment. Impacts to previously unknown significant Tribal cultural resources shall be avoided through preservation in place if feasible.	MBPP Facility Segment Beach Segment Surf Segment Offshore Segment	Native American monitor	Implementing MM will reduce the potential impacts to tribal cultural resources	Applicant and CSLC	Throughout construction
Hazards and Hazardous Materials						
Accidental Release of Hazardous Materials	**MM HAZ-1: Contaminated Materials Management Plan.** The Contaminated Materials Management Plan shall be submitted to the County of San Luis Obispo County Environmental Health Services Department (SLOEHS) for review and approval prior to the initiation of construction activities. The Contaminated Materials Management Plan shall be used if contaminated materials are encountered during the course of the Project. The plan shall identify the actions and notifications to occur if evidence of soil contamination is encountered during onshore	MBPP Facility Segment Beach Segment Offshore Segment	Submittal of the Contaminated Materials Management Plan to San Luis Obispo County Environmental Health for	Implementing MM will reduce potential of soil contamination	SLOEHS, DTSC, Applicant, and CSLC	Prior to and Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	excavation. Action and notification steps will include, at a minimum, sampling and analysis by a qualified environmental consultant and State-certified analytical laboratory to confirm the nature and extent of contamination. The Applicant shall notify SLOEHS within 24 hours of discovery of contaminated materials encountered during the course of Project construction activities.		review and approval			
Hydrocarbon Contaminated Soil	**MM HAZ-2: Hydrocarbon Contaminated Soil.** Should hydrocarbon contaminated soil be encountered during construction activities, the Air Pollution Control District must be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an Air Pollution Control District Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered: • Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal. • Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH-non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate. • Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted. • The air quality impacts from the excavation and haul trips associated with removing the contaminated soil must be evaluated and mitigated if total emissions exceed the Air Pollution Control District's construction phase thresholds.	MBPP Facility Segment Beach Segment Offshore Segment	CSLC approved monitor to ensure compliance	Implementing MM will reduce potential of release of hydrocarbon contaminated soil	San Luis Obispo County Air Pollution Control District, Applicant, and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance. • Clean soil must be segregated from contaminated soil.					
Accidental Release of Hazardous Materials	**MM HAZ-3 Oil Spill Response Plan.** The Applicant shall ensure the Oil Spill Response Plan for the Project will be activated in the event of a release of oil or contaminants during pipeline removal activities.	MBPP Facility Segment Beach Segment Offshore Segment	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce potential of release of oil or contaminants	Applicant and CSLC	Throughout construction
Accidental Release of Hazardous Materials	**MM HAZ-4 Hazardous Materials Management and Contingency Plan.** The Applicant shall develop and implement hazardous materials management and contingency plan measures for onshore operations. The measures shall be provided to the California State Lands Commission (CSLC) staff prior to Project implementation, and subject to CSLC review and approval. Measures shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, daily equipment inspection schedule, a spill response plan, and spill response supplies to be maintained onsite.	MBPP Facility Segment Beach Segment Offshore Segment	CSLC approved monitor to ensure compliance	Implementing MM will reduce potential of release of hazardous materials	Applicant, CSLC, and Department of Toxic Substances Control	Throughout construction
Asbestos	**MM HAZ-5: Asbestos Work Plan.** The Applicant shall retain a certified asbestos consultant to prepare an Asbestos Work Plan for the Project. The Asbestos Work Plan shall be used if asbestos containing material requires disposal during the course of the Project. The Asbestos Work Plan shall be submitted to the San Luis Obispo County Air Pollution Control District for review and approval as part of a National Emissions Standard for Hazardous Air Pollutants Asbestos Demolition Notification at least 10 working	MBPP Facility Segment Beach Segment Offshore Segment	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce potential of release of asbestos	San Luis Obispo County Air Pollution Control District, Applicant, and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	days prior to start of removal of asbestos-containing materials.					
Hydrology and Water Quality						
Stream Diversion	**MM HWQ-1 Stream Diversion Plan.** The Applicant shall ensure the Stream Diversion Plan prepared for the Project be implemented in the event stream diversion or dewatering is required. Prior to commencement of stream diversion activities, the Plan shall be subject to review and approval by the California Department of Fish and Wildlife and National Marine Fisheries Service, and if applicable, the U.S. Fish and Wildlife Service.	Beach Segment	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce potential for erosion and siltation impacts	California Department of Fish and Wildlife, National Marine Fisheries Service, U.S. Fish and Wildlife Service, Applicant and CSLC	Throughout construction
Violation of Water Quality Standards	Implement **MM HAZ-1: Contaminated Materials Management Plan** (see above) Implement **MM HAZ-2: Hydrocarbon Contaminated Soil** (see above) Implement **MM HAZ-3: Oil Spill Response Plan** (see above) Implement **MM HAZ-4: Hazardous Materials Management and Contingency Plan** (see above) Implement **MM HAZ-5: Asbestos Work Plan** (see above)					
Noise						
Short-Term Construction Noise	**MM N-1: Scheduling.** Trucks (delivery, hauling and transportation trucks) would be scheduled outside the A.M. and P.M. peak periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to the extent feasible.	MBPP Facility Segment Beach Segment Surf Zone Segment Offshore Segment	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce noise impacts during A.M. and P.M. peak periods	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Short-Term Construction Noise	**MM N-2: Advanced Notification.** Adjacent residents would be given advanced written notification of proposed construction activities, scheduling, and hours of construction. Signage will also be posted at the Project site to notify the general public and beach visitors.	MBPP Facility Segment Beach Segment Surf Zone Segment Offshore Segment	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will ensure effective coordination and response	Applicant and CSLC	Throughout construction
Recreation						
Public Access	Implement **MM N-2: Advanced Notification** (see above)					
Transportation/Traffic						
Traffic Circulation	**MM T-1: Scheduling.** Trucks (delivery, hauling and transportation trucks) shall be scheduled outside the a.m. and p.m. peak periods (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.) to the extent feasible.	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce traffic impacts during A.M. and P.M. peak periods	Applicant and CSLC	Throughout construction
Traffic Circulation	**MM T-2: On-site Roads.** Construction related traffic shall use on-site roads wherever possible.	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will reduce traffic impacts during A.M. and P.M. peak periods	Applicant and CSLC	Throughout construction
Traffic Circulation	**MM T-3: Traffic Safety Plan.** Prior to commencement of onshore construction activities, a Traffic Safety Plan shall be submitted to the California State Lands Commission (CSLC) and City of Morro	Project Site	CSLC approved monitor to	Implementing MM will ensure traffic safety	Applicant, CSLC, and City of Morro Bay	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Bay Recreation Services Department for review and approval. It shall include measures, such as appropriate signage, traffic cones, and flaggers to reduce potential hazards to motorists and workers during construction.		ensure compliance		Recreation Services Department	
Traffic Circulation	**MM T-4: Warning Signs.** Warning signs shall be placed in appropriate areas prior to construction to notify through traffic of trucks entering and exiting the Project site.	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will ensure safety	Applicant and CSLC	Throughout construction
Traffic Circulation	**MM T-5: Alternative Vehicle and Pedestrian Access.** Temporary alternative vehicle and pedestrian access shall be established.	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will ensure safety	Applicant and CSLC	Throughout construction
Traffic Circulation	**MM T-6: Prohibit Construction During Holidays.** Construction activities within the Beach and Surf Zone Segments shall be prohibited on state and federal holidays.	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will ensure safety during holidays	Applicant and CSLC	Throughout construction
Offshore Marine Traffic	**MM T-7: Established Circulation Patterns.** All Project-related vessel traffic shall use established circulation patterns to the degree feasible.	Project Site	California State Lands Commission (CSLC) approved monitor to	Implementing MM will ensure vessel traffic safety	Applicant and CSLC	Throughout construction

Table 4-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
			ensure compliance			
Offshore Marine Traffic	**MM T-8: Publication of U.S. Coast Guard (USCG) Local Notice to Mariners.** The Applicant shall ensure that its contractor submits to the USCG District 11 (https://www.navcen.uscg.gov/?pageName=lnmDistrict&region=11) a request to publish a Local Notice to Mariners, 14 days prior to operation, that includes the following information: • Type of operation (i.e., dredging, diving operations, construction) • Location of operation including Latitude and Longitude and geographical position if applicable • Duration of operation including start and completion dates (if these dates change, the Coast Guard needs to be notified) • Vessels involved in the operation • VHF-FM Radio Frequencies monitored by vessels on scene • Point of Contact and 24-hour phone number • Chart Number for the area of operation	Project Site	California State Lands Commission (CSLC) approved monitor to ensure compliance	Implementing MM will ensure effective coordination and response	Applicant and CSLC	Throughout construction
Utilities and Service Systems						
Accidental Release of Hazardous Materials/ Asbestos	Implement **MM HAZ-1: Contaminated Materials Management Plan** (see above) Implement **MM HAZ-5: Asbestos Work Plan** (see above)					

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5.0 OTHER COMMISSION CONSIDERATIONS

In addition to the environmental review required pursuant to the California Environmental Quality Act (CEQA), a public agency may consider other information and policies in its decision-making process. This section presents information relevant to the California State Lands Commission's (CSLC) consideration of the Morro Bay Power Plant Marine Terminal Decommissioning Project (Project). The considerations included below address:

- Climate Change and Sea-Level Rise
- Commercial Fishing
- Environmental Justice

Other considerations may be addressed in the staff report presented at the time of the CSLC's consideration of the Project.

5.1 CLIMATE CHANGE AND SEA-LEVEL RISE

Given the short duration of the Project, and because no permanent infrastructure is proposed, sea-level rise as a function of the global climate change process is not expected to have any effect on the Project. However, because climate change and sea-level rise accelerate and exacerbate natural coastal processes, such as intensity and frequency of storms, erosion and sediment transport, currents, wave action, and ocean chemistry, a brief discussion of climate change and sea-level rise is useful to understanding one of the Project objectives, which is to remove structures from the coastline at the end of their useful life.

Sea-level rise is driven by the melting of polar ice caps and land ice, as well as thermal expansion of sea water. Accelerating rates of sea-level rise are attributed to increasing global temperatures due to climate change. Estimates of projected sea-level rise vary regionally and are a function of different greenhouse gas emissions scenarios, rates of ice melt, and local vertical land movement. Compared to year 2000 levels, the central California region could see up to 1 foot of sea-level rise by the year 2030, 2 feet by 2050, and possibly over 5 feet by 2100 (National Research Council 2012). The range in potential sea-level rise indicates the complexity and uncertainty of projecting these future changes, particularly in the second half of the century, which depend on the rate and extent of ice melt. The State of California is coordinating research efforts to understand more about the individual influences of certain contributing factors, such as ice melt, and will issue findings and new planning guidance related to sea-level rise by 2018 (National Research Council 2012).

Along with higher sea levels, higher intensity and more frequent winter storms due to climate change will further impact coastal areas. The combination of these conditions will likely result in increased wave run up, storm surge, and flooding in coastal and near coastal areas. In rivers and tidally-influenced waterways, more frequent and powerful

storms can result in increased flooding conditions and damage from storm created debris. Climate change and sea-level rise will also affect coastal and riverine areas by changing erosion and sedimentation rates. Beaches, coastal landscapes, and near-coastal riverine areas exposed to increased wave force, run up, and total water levels could potentially erode more quickly than before. However, rivers and creeks are also predicted to experience flashier sedimentation pulse events from strong winter storms, punctuated by periods of drought. Therefore, depending on precipitation patterns, sediment deposition and accretion may accelerate along some shorelines and coasts.

Weather systems and extreme storms can also cause uncover dangerous coastal hazards on shorelines. The CSLC, when funding is available, implements a program to remove coastal hazards along the California coast (CSLC 2017a; see www.slc.ca.gov/Programs/Coastal_Hazards.html). Examples of hazards are remnants of coastal structures, piers, oil wells and pilings, and deteriorated electric cables and old pipelines. Many coastal hazards are located on Public Trust lands set aside for commerce, navigation, fishing, and recreation, and can impede coastal uses as well as threaten public health and safety. Governor Brown's Executive Order B-30-15 instructed all state agencies to take climate change into account in their planning and investment decisions and to give priority to actions that build climate preparedness. The preceding discussion of climate change and sea-level rise is intended to provide the local/regional overview and context that the CSLC staff considered pursuant to this Executive Order; it additionally will facilitate the CSLC's consideration of the Project, which includes decommissioning and removal of obsolete structures before they can become a hazard.

5.2 COMMERCIAL FISHING

Impacts to commercial and recreational fisheries would not be considered significant because Project activities will be short term, and due to the lack of suitable fish habitat within the Project site. Offshore recreational fishing typically occurs in areas of hard-bottom habitat and kelp beds. The Project site is located in a sedimentary area comprised entirely of a sandy seafloor. The nearest kelp beds are located near Cayucos to the north and Montaña de Oro to the south. The lack of substantial hard-bottom habitat and kelp beds near the Project site greatly reduces the amount of suitable fish habitat in the area. The lack of resources substantially limits the amount of offshore recreational fishermen that currently use the Project area. In addition, Project activities will be conducted nearshore and in water depths shallower than active commercial fishing depths. Due to these habitat limitations, the only commercial fishing that might occur would be purse seining and trap fishing for crab within the Offshore segment of the Project area.

The small area that would be occupied by Project related vessels would not result in a significant impact to the purse seine fishery and trap fishing for crab. As a result, the Project is not expected to (1) temporarily or permanently reduce any fishery in the vicinity by 10 percent or more during the season or reduce any fishery by five percent or more

for more than on season; (2) affect kelp and aquaculture harvest areas by five percent or more; (3) damage commercial fishing or kelp harvesting equipment; or (4) decrease harvesting time due to harbor closures, impacts on living marine resources and habitat, or equipment or vessel loss, damage, or subsequent replacement.

5.3 ENVIRONMENTAL JUSTICE

Environmental justice is defined by California law as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." This definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all people. The CSLC adopted an environmental justice policy in October 2002 to ensure that environmental justice is an essential consideration in the agency's processes, decisions, and programs.[8] Through its policy, CSLC reaffirms its commitment to an informed and open process in which all people are treated equitably and with dignity, and in which its decisions are tempered by environmental justice considerations.

In keeping with its commitment to environmental sustainability and access to all, California was one of the first states to codify the concept of environmental justice in statute. Beyond the fair treatment principles described in statute, environmental justice leaders work to include in the decision-making process those individuals disproportionately impacted by project effects. The goal is that through equal access to the decision-making process, everyone has equal protection from environmental and health hazards and can live, learn, play, and work in a healthy environment.

In 2016, legislation was enacted to require local governments with disadvantaged communities, as defined in statute, to incorporate environmental justice into their general plans when two or more general plan elements (sections) are updated. The Governor's Office of Planning and Research, the lead state agency on planning issues, is developing updated guidance plans and will be working with state agencies, local governments, and many partners in 2017 to create a technical assistance document.

The U.S. Council of Environmental Quality's (CEQ) Environmental Justice Guidance defines "minorities" as individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black not of Hispanic origin, or Hispanic (CEQ 1997). Total minority population is calculated by subtracting the white alone, not Hispanic or Latino population, from the total population. According to the CEQ Environmental Justice Guidelines, minority populations should be identified if:

- A minority population percentage exceeds 50 percent of the population of the affected area

[8] The CSLC anticipates it will update its environmental justice policy in 2018 (see www.slc.ca.gov/Info/EnviroJustice.html).

- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (for example, a governing body's jurisdiction, neighborhood census tract, or other similar unit)

In addition, the CEQ Environmental Justice Guidance defines "low-income populations" as populations with mean annual incomes below the annual statistical poverty level (CEQ 1997). The CEQ does not provide a discrete threshold for determining when a low-income population should be identified for environmental justice; however, for this analysis, an environmental justice population is identified if the low-income percentage of a census tract is equal to or greater than those of San Luis Obispo County.

From a regional standpoint, the Project is located in an area with average income levels compared to San Luis Obispo County and the State of California (see Table 5-1). Morro Bay is supported by many retail trade; professional, scientific, and management, and administrative and waste management services; educational services, and health care and social assistance; and arts, entertainment, and recreation, and accommodation and food services (U.S. Census Bureau 2017).

By race, persons who identified as white are the largest racial group in Morro Bay (see Table 5-1). Asian comprises the largest racial minority group (the Census Bureau classifies Hispanic as an origin, not a race). Those who identify as Hispanic can be categorized under any of the classification groups designated by the U.S. Census Bureau, including "other," in addition to Hispanic. Hispanic comprises 14.9 percent of the population of Morro Bay, and 20.8 percent of San Luis Obispo County.

For poverty, 12.9 percent of the individuals in Morro Bay, and 14.8 percent of the individuals in San Luis Obispo County have income levels below the poverty level. Therefore, the Project activities in Morro Bay would not be expected to disproportionately affect minority or low-income communities.

Since the percentage of these populations in the nearest communities are not disproportionately higher than in the surrounding area, impacts from Project activities would not disproportionately affect minority or low-income populations. In addition, the distance from the Project site to residential communities, and small scale and short-term Project duration, ensure that environmental justice impacts to all nearby residential communities would be minor, regardless of their socioeconomic makeup.

Table 5-1 Environmental Justice Statistics

Subject		California	San Luis Obispo County	City of Morro Bay	City of San Luis Obispo
Income and Population					
Total Population		37,253,956	269,637	10,234	45,119
Median household income		$61,818	$60, 691	$51,338	$46,058
Percent below the Poverty level		16.3	14.8	12.9	33.4
Employment by Industry (percentage)					
Agriculture, forestry, fishing and hunting, and mining		2.4	3.7	1.2	0.7
Construction		6.0	6.8	4.9	3.5
Manufacturing		9.8	6.8	4.6	7.1
Wholesale trade		3.1	2.2	1.9	1.9
Retail trade		11.1	11.9	11.2	14.6
Transportation and warehousing, and utilities		4.7	5.1	5.1	3.1
Information		2.9	1.6	3.7	2.3
Finance and insurance, and real estate and rental and leasing		6.2	4.7	4.0	3.9
Professional, scientific, and management, and administrative and waste management services		12.9	10.6	11.7	10.8
Educational services, and health care and social assistance		21.0	23.9	27.2	26.8
Arts, entertainment, and recreation, and accommodation and food services		10.2	12.0	16.2	16.1
Other services, except public administration		5.4	4.9	5.1	5.3
Public administration		4.5	5.7	3.3	4.0
Race					
Not Hispanic or Latino	White	40.1	71.1	79.4	75.8
	Black	5.8	1.9	0.4	1.0
	American Indian	0.4	0.5	0.6	0.3
	Asian	12.8	3.0	2.5	5.1
	Other	3.1	2.7	2.3	3.1
Hispanic or Latino		37.6	20.8	14.9	14.7

Source: https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml# (U.S. Census Bureau 2017)

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6.0 MND PREPARATION SOURCES AND REFERENCES

This Mitigated Negative Declaration (MND) was prepared by the staff of the California State Lands Commission's (CSLC) Division of Environmental Planning and Management (DEPM), with the assistance of Padre Associates, Inc. The analysis in the MND is based on information identified, acquired, reviewed, and synthesized based on DEPM guidance and recommendations.

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