Draft Environmental Impact Report
for the
PRC 421 Decommissioning Project

State Clearinghouse No. 2021060145
CSLC EIR Number: 807

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

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 based on the principles of equity, sustainability, and resiliency, through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

CEQA DOCUMENT WEBSITE

www.slc.ca.gov/ceqa/

Geographic Location

Latitude: 34°25'32" N
Longitude: 119°54'31" W
WGS84 Datum

Cover Photo:
(Photo courtesy of Google Earth)

Document prepared in coordination with:

padre associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

The following table contains the abbreviations and acronyms used in text of this document.

UNITS OF MEASUREMENT

°F	degrees Fahrenheit	ft^2	square foot/feet
BOPD	barrels of oil per day	L_{eq}	Equivalent Sound Level
cfs	cubic feet per second	msl	mean sea level
cm	centimeter	mg/kg	milligrams per kilogram
cy	cubic yard(s)	mPa	micro-Pascals
dB; dBA	decibel; decibels on the A-weighted scale	ppb	parts per billion
		ppm	parts per million
Hz	hertz	V/C	volume to capacity ratio
ft	foot/feet	yr	year

OTHER ABBREVIATIONS AND ACRONYMS

A	AB	Assembly Bill
	API	American Petroleum Institute
	APN	Assessor’s Parcel Number
B	BMP	Best Management Practices
	BP	before present
C	CalEnviroScreen	California Communities Environmental Health Screening Tool
	CalGEM	California Geologic and Energy Management Division
	CalOSHA	California Division of Occupational Safety and Health
	Caltrans	California Department of Transportation
	CAA	Clean Air Act
	CAAQS	California Air Quality Standards
	CARB	California Air Resources Board
	CCA	California Coastal Act
	CCIC	Central Coast Information Center
	CCC	California Coastal Commission
	CDFW	California Department of Fish and Wildlife
	CDFW-OSPR	California Department of Fish and Wildlife - Office of Spill Prevention and Response
	CESA	California Endangered Species Act
	CEQA	California Environmental Quality Act
	CFCs	Chlorofluorocarbons
	CH_4	Methane
	CHRIS	California Historical Resources Information System
	CINMS	Channel Islands National Marine Sanctuary
	CLRF	California red-legged frog
	CLUP	Coastal Land Use Plan

	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
	CRHR	California Register of Historical Resources
	CSC	California Species of Special Concern
	CSLC	California State Lands Commission
D	DEPM	Division of Environmental Planning and Management
	DPS	distinct population segment
	DTSC	Department of Toxic Substances Control
E	EAP	Emergency Action Plan
	EIR	Environmental Impact Report
	EMFAC	Emission Factor (model)
	EMT	Ellwood Marine Terminal
	EOF	Ellwood Onshore Facility
	ESHA	environmentally sensitive habitat areas
	ESU	evolutionary significant units
F	FB	fish block
	FEMA	Federal Emergency Management Agency
	FESA	Federal Endangered Species Act
	FPPP	Fire Prevention and Preparedness Plan
G	GHG	Greenhouse Gas
	GP	General Plan
H	H_2S	Hydrogen Sulfide
	HFCs	Hydrofluorocarbons
I	ICS	Incident Command System
	IEP	Interagency Ecological Program
	IIRT	initial incident response team
	IPCC	Intergovernmental Panel on Climate Change
L	LiDAR	Light Detection and Range
	LCP	Local Coastal Program
	LNAPL	Light non-aqueos phase liquid
	LOS	Level of Service
M	MHTL	mean high tide line
	MM	Mitigation Measure
	MMP	Mitigation Monitoring Program
	MND	Mitigated Negative Declaration
N	N_2O	Nitrous Oxide
	NAHC	Native American Heritage Commission
	NAAQS	National Air Quality Standards
	NEPA	National Environmental Policy Act
	NMFS	National Marine Fisheries Service
	NO	Nitric Oxide

	NO_2	Nitrogen Dioxide
	NO_x	Nitrogen Oxide
	NOI	Notice of Intent
	NOP	Notice of Preparation
	NPDES	National Pollutant Discharge Elimination System
	NRCS	Natural Resources Conservation Service
	NRHP	National Register of Historic Places
O	O_3	Ozone
	OEHHA	Office of Environmental Hazard Assessment
	OEM	Office of Emergency Management (Santa Barbara County)
	O&M	Operations and Maintenance
	OSAR	Open Space/Active Recreation (Zoning Designation)
	OSCP	Oil Spill Contingency Plan
	OSPR	Open Space/Passive Recreation (Zoning Designation)
	OPR	Office and Planning and Research
P	P&A	plugging and abandonment
	PAH	polycyclic aromatic hydrocarbons
	PCBs	polychlorinated biphenyls
	PERP	Portable equipment registration program
	PIC	Person-in-Charge
	PID	photoionization detector
	PM	Particulate Matter
	PM_{10}	Particulate Matter Less Than 10 Micrometers
	$PM_{2.5}$	Particulate Matter Less Than 2.5 Micrometers
	PPE	personal protective equipment
	PPV	Peak Particle Velocity
R	RAP	Remedial Action Plan
	ROC	Reactive Organic Compounds
	ROG	Reactive Organic Gases
	RWQCB	Regional Water Quality Control Board
S	SBC	Santa Barbara Channel
	SBCAPCD	Santa Barbara County Air Pollution Control District
	SBCAG	Santa Barbara County Association of Governments
	SBCFD	Santa Barbara County Fire Department
	SF_6	Sulfur Hexafluoride
	SIP	State Implementation Plan
	SIRT	sustained incident response team
	SLR	Sea level rise
	SO_2	Sulfur dioxide
	SPA	Streamside protection area
	SPL	Sound Pressure Level
	SVOC(s)	Semi-volatile organic compounds
	SWPPP	Storm Water Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
T	TAC	Toxic Air Contaminant

	TDS	treatment, storage, and disposal (facility)
	TPH	Total Petroleum Hydrocarbons
U	UCSB	University of California Santa Barbara
	USACE	U.S. Army Corps of Engineers
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service
	USGS	United States Geologic Society
V	V/C	Volume to capacity ratio
	VMC	visual modification class
	VMT	Vehicle miles traveled

BACKGROUND AND PROJECT LOCATION

The objective of this Executive Summary is to provide a brief description of the California State Lands Commission (CSLC) PRC 421 Decommissioning Project (Project). The existing facilities at the former State Oil and Gas Lease PRC 421 include two piers and caissons, Pier 421-1 and Pier 421-2, on State tide and submerged lands as well as the upland access roadway and revetment, located on private lands, below the bluffs marking the southern limit of the Sandpiper Golf Course in the city of Goleta, California[1] (Figure ES-1 and Figure 1-2). The original oil and gas lease (Lease Number 89) was issued in 1929, terminated and renewed under PRC 421 in 1949, and subsequently reassigned several times with the last assignment to Venoco, Inc. (Venoco) in 1997.

In March 2016, Venoco filed for Chapter 11 Bankruptcy to reorganize. In April 2017, Venoco again filed for bankruptcy and subsequently began liquidation of its assets which included quitclaiming its oil and gas leases back to the State of California. Lease PRC 421 and the associated two wells and pier structures were among the deserted assets turned over to the State. The wells were shut-in (non-productive) at the time the State took control of them.

In 2019, the two wells, 421-1 and 421-2, were successfully plugged to the surface under the direction and supervision of the CSLC and the Division of Oil, Gas, and Geothermal Resources (DOGGR), now known as the California Geologic and Energy Management Division (CalGEM), in compliance with regulatory specifications. With the plugging and abandonment of the last two wells remaining in the oilfield, the piers have no further use.

The proposed Project analyzed within this Environmental Impact Report (EIR) consists of two primary components, one primarily occurring on State-owned sovereign lands within the CSLC's jurisdiction and one occurring on private uplands. Component 1, located on tide and submerged lands within the jurisdiction of the Commission, includes the complete removal of both well casings and welding a cap on the two plugged and abandoned wells at bedrock or below, removal of the caissons and piers back to the existing seawall, and flushing and isolating the 2-inch-diameter and 6-inch-diameter pipelines (pipelines) from the piers to their terminus close to the Ellwood Onshore Facility (EOF). Component 2 of the Project, located on private uplands, would include removal of the two pipelines that extend from Pier 421-1, beneath the existing access roadway, and through the golf course to the 12th tee location at the golf course.

[1] Based upon mean high tide line (MHTL) survey last performed 8/14/18 by CSLC boundary staff.

Figure ES-1. Project Overview Map

Additionally, Component 2 would involve the removal of the existing pier abutments within the access roadway, as well as the supporting infrastructure (wooden seawall, rock revetment) that supports the road. Any contaminated soil encountered within the access roadway would be removed, and the roadway area would be restored as appropriate to a more natural grade.

A summary of the primary Project elements include:

Component 1 – Caisson and Pier Removal (421-1 and 421-2)

- Removal of soil and fill inside both caissons down to the existing bedrock, including all interior debris (buried timber, steel, and concrete support structures)
- Cutting and removal of well casings down to existing bedrock elevation and installation of a final welded well cap
- Removal of both caissons' external sheet pile and concrete walls including concrete footings
- Full removal of both pier structures and supports to the bedrock interface
- Flushing and isolating the 2-inch-diameter and 6-inch-diameter pipelines from the 421-1 pier back through the golf course pipeline corridor to the EOF

Component 2 – Access Roadway, Production Pipelines, Pier Abutments, Rock Revetment and Wooden Seawall Removal

- Excavation and removal of the 2-inch-diameter and 6-inch-diameter pipelines from the 421-1 pier location west to the 12th tee location at the golf course
- Complete removal of both pier abutment structures originally installed in 2001
- Removal of rock revetment from the beach (between the 12th tee and 421-2 pier area)
- Removal of wooden seawall and its structural components (from the 421-2 pier area and extending approximately 75 feet to the southeast)
- Removal of any unrecorded historical debris
- Removal of any petroleum hydrocarbon-containing soil identified within access roadway
- Sloping and restoration of access roadway area (1,600 feet) to a natural grade
- Final Site restoration

PROJECT PURPOSE AND NEED

The PRC 421 piers and facilities were installed in 1929 and 1930 for the purpose of oil and gas development of the Ellwood Oil Field. With the plugging of the last two wells remaining in the oilfield, the piers and caissons have no further use. These deteriorating piers and caissons now represent a physical coastal obstruction, a potential public safety hazard, and a potential environmental hazard represented by the known presence of hydrocarbon-impacted soil and fill contained within the pier caissons. The removal of the piers and caissons would be a significant public benefit, would allow full use of the beach coastline by the public, and would eliminate an existing threat to public safety and the environment. The existing access roadway and supporting revetment would be used for decommissioning activities of the piers, caissons, and pipelines and would also be subsequently decommissioned.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This EIR identifies potential significant impacts of the Project on the following environmental issue areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Cultural Resources – Tribal
- Geology, Soils, and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services
- Recreation
- Transportation and Traffic

Impacts within each affected environmental issue area are analyzed in relation to pertinent significance criteria. Impacts are classified as one of five categories:

- **Significant and Unavoidable**: A substantial or potentially substantial adverse change from the environmental baseline that meets or exceeds significance criteria, where either no feasible mitigation can be implemented, or the impact remains significant after implementation of mitigation measures.

- **Less than Significant with Mitigation**: A substantial or potentially substantial adverse change from the environmental baseline that can be avoided or reduced to below applicable significance thresholds.

- **Less than Significant**: An adverse impact that does not meet or exceed the significance criteria of a particular resource area and, therefore, does not require mitigation.

- **Beneficial**: An impact that would result in an improvement to the physical environment relative to baseline conditions.

- **No Impact**: A change associated with the Project that would not result in an impact to the physical environment relative to baseline conditions.

Potential significant environmental impacts anticipated during Project implementation are discussed in Section 4.0, *Environmental Impact Analysis*. With the implementation of best management practices (BMPs) and mitigation measures (MMs) identified in this EIR (see Table ES-1 at the end of this Executive Summary and Section 7.0, *Mitigation Monitoring Program*), the Project would avoid significant impacts. The CSLC staff or CSLC-contracted monitors would monitor all MMs during implementation of the Mitigation Monitoring Program.

SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires identification and evaluation in an EIR of a reasonable range of alternatives to a proposed project plus a “no project” alternative to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. Pursuant to State CEQA Guidelines[2] section 15126.6, subdivision (a), an EIR need only consider a range of feasible alternatives that would foster informed decision making and public participation; therefore, while an EIR need not consider every conceivable alternative, an EIR must include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. The range of potential alternatives that must be and are considered in this EIR are limited to those that would feasibly attain most of the Project objectives while avoiding or substantially reducing any of the significant effects of the Project. Alternatives that were considered but rejected are identified and accompanied by brief, fact-based explanations of the reasons for rejection. Among the factors that may have been used to eliminate alternatives from detailed consideration, as permitted by CEQA, are: (1) a failure to meet most of the proposed Project objectives; (2) infeasibility; or (3) inability to avoid significant impacts (State CEQA Guidelines, § 15126.6, subd. (c)). Alternatives carried forward for analysis in this EIR are summarized below and in Table ES-2.

- **No Project Alternative**. This Alternative consists of no action, such that all PRC 421 facilities would be left in their current location and condition. Natural processes would continue to degrade these existing facilities including corrosion of the pipelines, piers and caisson sheet pile, deterioration of the concrete caissons due to wave action and internal corrosion, and deterioration of the wooden seawall due to wave action and wood decomposition. The No Project Alternative does not meet the purpose of the Project or any of the Project objectives.

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

- **Single Component Abandonment Alternative**. This Alternative consists of not implementing Component 2 as described in Section 2.3.3. Therefore, the buried pipelines within the access roadway (following flushing and isolation), access roadway, pier abutments, rock revetment and wooden seawall would be left in place following the full implementation of Component 1. This Alternative meets the Project objectives as former oil and gas production facilities would be decommissioned and the beach area would be restored and appropriate for safe public access and use.

ALTERNATIVES NOT CONSIDERED FOR FULL EVALUATION

A number of alternatives were evaluated in the engineering design and were considered either infeasible or had no environmental benefits over the proposed Project and were eliminated from further consideration. The alternatives considered, but rejected, are listed below (see Section 5.3, *Alternatives Eliminated from Further Consideration*, for further details):

- Installation and use of a sheet pile cofferdam to potentially increase the work time from rising tides
- Installation and use of a portable dam to potentially increase the work time from rising tides
- Installation of an alternative temporary ramp for construction beach access in between the two piers

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Two alternatives were analyzed in detail in this EIR: the No Project Alternative and the Single Component Abandonment Alternative. Table ES-2 compares the environmental impacts associated with implementation of the proposed Project with the other alternatives. As discussed in Section 5.4.1, the No Project Alternative would not result in any new direct impacts to the environment. However, ongoing deterioration of the caissons by natural processes would ultimately lead to discharge of hydrocarbons to the ocean (from hydrocarbon contaminated fill material and possibly free oil in the caissons). The resulting discharge and related impacts to water quality and marine organisms would be greater than the proposed Project which includes procedures to remove hydrocarbons from the caissons to the extent feasible prior to caisson demolition to minimize any discharge. Because of these ongoing environmental impacts if the decommissioning Project is not implemented, the No Project Alternative is not considered the environmentally superior alternative.

The State CEQA Guidelines section 15126.6, subdivision (e)(2) states, in part, that an EIR shall identify an environmentally superior alternative among the other alternatives if the “environmentally superior alternative is the ‘no project’ alternative.” Because the No

Project Alternative is not considered the environmentally superior alternative, the State CEQA Guidelines do not require identification of an environmentally superior alternative among the remaining alternatives.

KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES

Pursuant to State CEQA Guidelines section 15123, the EIR shall identify “areas of controversy known to the lead agency including issues raised by agencies and the public.” An area of controversy known to the CSLC, as the lead agency, is the scope of the Project that the CSLC can itself undertake, as the administrator of State sovereign lands. This EIR analyzes the entirety of the Project, which includes Component 1, Component 2, and site restoration. As explained in Section 1.2 of this EIR, the area waterward of the mean high tide line (MHTL) was within the boundary of former State Oil and Gas Lease PRC 421, which was at one point leased to the Mobil Exploration and Producing, Inc. (now ExxonMobil). After Venoco, the last lessee of PRC 421, dissolved in bankruptcy, the CSLC and ExxonMobil entered into an agreement for ExxonMobil to undertake the plugging and abandonment of the two PRC 421 wells (completed in 2019) and decommissioning and removal of the PRC 421 caissons and piers (the elements of Component 1). The CSLC understands that the 2-inch-diameter and 6-inch-diameter pipelines and access roadway between Pier 421-1 and 12th hole of the Sandpiper Golf course currently reside on private uplands (Table 1-3) and outside the bounds of CSLC’s territorial and statutory jurisdiction. As of fiscal year 2021/2022, the CSLC does not have authorized funding from the California Legislature to undertake the removal of the pipelines or roadway (elements of Component 2). However, Component 2 is analyzed as part of the Project because it remains feasible and foreseeable that funding could be allocated to undertake Component 2, at some time, whether by the California Legislature, an agency of the State of California, or a local agency.

ORGANIZATION OF THE EIR

The EIR is presented in nine sections:

- **Section 1.0 – Introduction** provides background on the Project, previous related environmental review, and the CEQA process.
- **Section 2.0 – Project Description** describes the Project, its location, construction activities, monitoring, and schedule.
- **Section 3.0 – Cumulative Projects** identifies the projects that are analyzed for potential cumulative effects and the EIR’s approach to cumulative impact analysis.

- **Section 4.0 – Environmental Impact Analysis** describes existing environmental conditions, impacts of the Project, mitigation measures, and evaluates cumulative impacts.
- **Section 5.0 – Project Alternatives Analysis** describes the alternatives screening methodology, alternatives screened from full evaluation, and alternatives carried forward for analysis, and analyzes impacts of each alternative carried forward.
- **Section 6.0 – Other Required CEQA Sections and Environmentally Superior Alternative** addresses other required CEQA elements, including significant and irreversible environmental and growth-inducing impacts, comparison of the Project and alternatives, and discussion of the environmentally superior alternative.
- **Section 7.0 – Mitigation Monitoring Program** describes the monitoring authority, enforcement and mitigation compliance responsibilities, and general monitoring procedures, and presents the mitigation monitoring table.
- **Section 8.0 – Other Commission Considerations** presents information relevant to CSLC's consideration of the Project that are in addition to the environmental review required pursuant to CEQA. These include: (1) climate change and sea level rise considerations; (2) commercial fishing (socioeconomics); (3) environmental justice; and (4) state tide and submerged lands identified as possessing significant environmental values within CSLC's Significant Lands Inventory. Other considerations may also be addressed in the staff report presented at the time of CSLC's consideration of the lease application.
- **Section 9.0 – Report Preparation Sources and References** lists the persons involved in preparation of the EIR and the reference materials used.

The EIR also contains the following Appendices:

- **Appendix A** – Public Scoping Documents
- **Appendix B** – Federal and State Regulations
- **Appendix C** – Project Distribution List
- **Appendix D** – Air Quality and GHG Calculations
- **Appendix E** – Bat Study Memo
- **Appendix F** – Wetland Delineation Report
- **Appendix G** – Bluff Retreat Study
- **Appendix H** – Archaeological Report
- **Appendix I** – NV5 Coastal Processes Study

- **Appendix J** – Access Roadway and Wooden Seawall Site Assessment Report
- **Appendix K** – Asbestos and Lead-Based Paint Survey Report

Table ES-1. Impact and Mitigation Summary (Proposed Project)

Impact	Impact Class[1]	Recommended MMs
AESTHETICS		
AES-1: Effects on Public Views from Decommissioning Activities (Component 1)	LTSM	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting
AES-2: Visual Improvements due to Removal of Component 1 Infrastructure (421-1 and 421-2 Pier and Wells/Caissons)	B	None Required
AES-3: Effects on Public Views from Decommissioning Activities (Component 2)	LTSM	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands adjacent to Pier 421-2
AES-4: Potential for Cumulative Aesthetic Impacts to Public Views (Components 1 and 2)	LTSM	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting
AIR QUALITY		
AQ-1: Decommissioning-related Air Pollutant Emissions (Component 1)	LTS	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures
AQ-2: Decommissioning-related Air Pollutant Emissions (Component 2)	LTS	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures

Impact	Impact Class[1]	Recommended MMs
AQ-3: Cumulative Air Quality Impacts (Components 1 and 2)	LTS	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures
BIOLOGICAL RESOURCES		
BIO-1: Disturbance of Nesting Birds	LTSM	**MM BIO-1:** Avoidance of Active Cliff Swallow Nests
BIO-2: Loss of a Bat Roost	LTSM	**MM BIO-2:** Transitional Bat Habitat
BIO-3: Temporary Effects of Potential Hydrocarbon Discharge	LTSM	**MM HAZ-1c:** Oil Spill Contingency Plan Implementation
BIO-4: Loss of Coastal Wetlands (Component 1)	LTS	None Required
BIO-5: Disturbance of Terrestrial and Aquatic Special-Status Wildlife Species	LTSM	**MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation **MM BIO-3b:** CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits
BIO-6: Disturbance of Intertidal ESHA	LTS	None Required
BIO-7: Disturbance of Marine Special-Status Species	LTSM	**MM BIO-4:** Grunion Spawning Avoidance
BIO-8: Loss of Coastal Wetlands (Component 2)	LTSM	**MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands Adjacent to Pier 421-2

Impact	Impact Class[1]	Recommended MMs
BIO-9: Loss of Terrestrial ESHA/Sensitive Natural Communities	LTSM	**MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance
BIO-10: Loss of Special-Status Plant Species	LTS	None Required
BIO-11: Cumulative Impacts to Biological Resources (Components 1 and 2)	LTSM	**MM BIO-1:** Avoidance of Active Cliff Swallow Nests **MM BIO-2:** Transitional Bat Habitat **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation **MM BIO-3b:** CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO-3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits **MM BIO-4:** Grunion Spawning Avoidance **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands adjacent to Pier 421-2 **MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance
Cultural Resources		
CR-1: Potential Impacts to Previously Undiscovered Cultural Resources During Implementation of Decommissioning (Component 1)	LTS	None Required

Impact	Impact Class[1]	Recommended MMs
CR-2: Potential Impacts to Previously Undiscovered Cultural Resources During Implementation of Decommissioning (Component 2)	LTSM	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains
CR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	LTSM	**MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
CR-4: Cumulative Impacts to Cultural Resources (Components 1 and 2)	LTSM	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
Cultural Resources - Tribal		
TCR-1: Potential Impacts to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 1)	LTS	None Required

Impact	Impact Class[1]	Recommended MMs
TCR-2: Potential Impacts to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 2)	LTSM	**MM CUL-1/TCR-1:** Tribal Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains
TCR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	LTSM	**MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
TCR-4: Cumulative Impacts to Tribal Cultural Resources (Components 1 and 2)	LTSM	**MM CUL-1/TCR-1:** Tribal Cultural Resources Monitor (Component 2 only) **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
Geology, Soils, and Paleontological Resources		
GEO-1: Littoral Transport and Beach Width (Component 1)	LTS	None Required
GEO-2: Weathering and Erosion/Bluff Retreat (Component 1)	LTS	None Required

Impact	Impact Class[1]	Recommended MMs
GEO-3: Littoral Transport and Beach Width (Component 2)	LTS	None Required
GEO-4: Weathering and Erosion/Bluff Retreat (Component 2)	LTS	None Required
Greenhouse Gas Emissions		
GHG-1: Decommissioning-related GHG Emissions (Component 1)	LTS	None Required
GHG-2: Decommissioning-related GHG Emissions (Component 2)	LTS	None Required
GHG-3: Project Contribution to Global Climate Change (Components 1 and 2)	LTS	None Required
Hazards and Hazardous Materials Impacts		
HAZ-1: Exposure of Public or Environment to Hazardous Materials (Component 1)	LTSM	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan
HAZ-2: Use of Hazardous Materials During Decommissioning Activities (Component 1)	LTSM	**MM HAZ-2:** Hazardous Materials Management and Contingency Plan
HAZ-3: Exposure of Public or Environment to Hazardous Materials (Component 2)	LTSM	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs

Impact	Impact Class[1]	Recommended MMs
		MM HAZ-1c: Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan
HAZ-4: Use of Hazardous Materials During Decommissioning Activities (Component 2)	LTSM	**MM HAZ-2:** Hazardous Materials Management and Contingency Plan
HAZ-5: Potential Cumulative Hazardous Materials Impacts	LTSM	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan **MM HAZ-2:** Hazardous Materials Management and Contingency Plan
Hydrology and Water Quality		
HWQ-1: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 1)	LTSM/B	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HAZ-2:** Hazardous Materials Management and Contingency Plan

Impact	Impact Class[1]	Recommended MMs
HWQ-2: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 1)	LTSM	**MM HWQ-1:** Storm Water Pollution Prevention Plan
HWQ-3: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 2)	LTSM/B	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HAZ-2:** Hazardous Materials Management and Contingency Plan
HWQ-4: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 2)	LTSM	**MM HWQ-1:** Storm Water Pollution Prevention Plan
HWQ-5: Potential for Cumulative Water Quality Impacts (Components 1 and 2)	LTSM	**MM HWQ-1:** Storm Water Pollution Prevention Plan
Land Use and Planning		
LU-1: Temporary Conflicts with State and Local Policies (Components 1 and 2)	LTSM	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting **MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures **MM BIO-1:** Avoidance of Active Cliff Swallow

Impact	Impact Class[1]	Recommended MMs
		Nests **MM BIO-2:** Transitional Bat Habitat **MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation **MM BIO-3b:** CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO-3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits **MM BIO-4:** Grunion Spawning Avoidance **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands Adjacent to Pier 421-2 **MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance **MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan **MM REC-1:** Maximize Beach Access
LU-2: Cumulative Impacts of Project Implementation (Components 1 and 2)	LTSM	Same as Above

Impact	Impact Class[1]	Recommended MMs
Noise		
N-1: Noise Impacts to Sensitive Receptors (Component 1)	LTS	None Required
N-2: Noise Impacts to Sensitive Receptors (Component 2)	LTS	None Required
N-3: Cumulative Decommissioning/Construction Noise (Components 1 and 2)	LTS	None Required
Public Services		
PS-1: Potential for Short-term Impacts to Public Services During Decommissioning Activities (Components 1 and 2)	LTS	None Required
Recreation		
REC-1: Temporary Loss of Recreational Access During Decommissioning Activities (Component 1)	LTSM	**MM AES-1a:** Overnight Storage of Equipment **MM REC-1:** Maximize Beach Access
REC-2: Increase in Beach Area Associated with Removal of Piers and Caissons (Component 1)	B	None Required
REC-3: Temporary Loss of Recreational Access During Decommissioning Activities (Component 2)	LTSM	**MM AES-1a:** Overnight Storage of Equipment
Transportation and Traffic		
T-1: Decommissioning Vehicle Trip Generation (Component 1)	LTS	None Required
T-2: Traffic Safety Associated with Heavy-duty Truck Operations (Component 1)	LTSM	**MM T-1:** Truck Entrance Signage
T-3: Decommissioning Vehicle Trip Generation (Component 2)	LTS	None Required

Impact	Impact Class[1]	Recommended MMs
T-4: Traffic Safety Associated with Heavy-duty Truck Operations (Component 2)	LTSM	**MM T-1:** Truck Entrance Signage
T-5: Contribution to Cumulative Transportation/Traffic impacts (Components 1 and 2)	LTSM	**MM T-1:** Truck Entrance Signage
Utilities and Service Systems		
US-1: Generation of Project Waste During Decommissioning Activities (Component 1)	LTS	None Required
US-2: Generation of Project Waste During Decommissioning Activities (Component 2)	LTS	None Required

Notes:[1] B = Beneficial (Green); LTS = Less than Significant; LTSM = Less than Significant with Mitigation; NI = No Impact, SU = Significant and Unavoidable Impact (Red)

Table ES-2. Summary of Impacts: Proposed Project and Alternatives

Impact	Impact Class[1]		
	Proposed Project	No Project Alternative	Single Component Abandonment Alternative
Section 4.1, Aesthetics			
AES-1: Effects on Public Views from Decommissioning Activities (Component 1)	LTSM	NI	LTSM
AES-2: Visual Improvements due to Removal of Component 1 Infrastructure (421-1 and 421-2 Pier and Wells/Caissons)	B	**SU**	B
AES-3: Effects on Public Views from Decommissioning Activities (Component 2)	LTSM	NI	NI
AES-4: Potential for Cumulative Aesthetic Impacts to Public Views (Components 1 and 2)	LTSM	NI	LTSM
Section 4.2, Air Quality			
AQ-1: Decommissioning-related Air Pollutant Emissions (Component 1)	LTS	NI	LTS
AQ-2: Decommissioning-related Air Pollutant Emissions (Component 2)	LTS	NI	NI
AQ-3: Cumulative Air Quality Impacts (Components 1 and 2)	LTS	NI	LTS
Section 4.3, Biological Resources			
BIO-1: Disturbance of Nesting Birds	LTSM	NI	LTSM
BIO-2: Loss of a Bat Roost	LTSM	NI	LTSM

Impact	Impact Class[1]		
	Proposed Project	**No Project Alternative**	**Single Component Abandonment Alternative**
BIO-3: Temporary Effects of Potential Hydrocarbon Discharge	LTSM	**SU**	LTSM
BIO-4: Loss of Coastal Wetlands (Component 1)	LTS	NI	LTSM
BIO-5: Disturbance of Terrestrial and Aquatic Special-Status Wildlife Species	LTSM	NI	LTSM-
BIO-6: Disturbance of Intertidal ESHA	LTS	NI	LTS-
BIO-7: Disturbance of Marine Special-Status Species	LTSM	NI	LTSM-
BIO-8: Loss of Coastal Wetlands (Component 2)	LTSM	NI	NI
BIO-9: Loss of Terrestrial ESHA/Sensitive Natural Communities	LTSM	NI	NI
BIO-10: Loss of Special-Status Plant Species	LTS	NI	NI
BIO-11: Cumulative Impacts to Biological Resources (Components 1 and 2)	LTSM	NI	LTSM-
Section 4.4, Cultural Resources			
CR-1: Potential Impacts to Previously Undiscovered Cultural Resources During Implementation of Decommissioning (Component 1)	LTS	NI	LTS
CR-2: Potential Impacts to Previously Undiscovered Cultural Resources During	LTSM	NI	NI

Impact	Impact Class[1]		
	Proposed Project	**No Project Alternative**	**Single Component Abandonment Alternative**
Implementation of Decommissioning (Component 2)			
CR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	LTSM	NI	LTSM-
CR-4: Cumulative Impacts to Cultural Resources (Components 1 and 2)	LTSM	NI	LTSM-
Section 4.5, Cultural Resources - Tribal			
TCR-1: Potential Impacts to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 1)	LTS	NI	LTS
TCR-2: Potential Impacts to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 2)	LTSM	NI	NI
TCR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	LTSM	NI	LTSM-
TCR-4: Cumulative Impacts to Tribal Cultural Resources (Components 1 and 2)	LTSM	NI	LTSM-

Impact	Impact Class[1]		
	Proposed Project	**No Project Alternative**	**Single Component Abandonment Alternative**
Section 4.6, Geology, Soils, and Paleontological Resources			
GEO-1: Littoral Transport and Beach Width (Component 1)	LTS	NI	LTS
GEO-2: Weathering and Erosion/Bluff Retreat (Component 1)	LTS	NI	LTS
GEO-3: Littoral Transport and Beach Width (Component 2)	LTS	NI	NI
GEO-4: Weathering and Erosion/Bluff Retreat (Component 2)	LTS	NI	NI
Section 4.7, Greenhouse Gas Emissions			
GHG-1: Decommissioning-related GHG Emissions (Component 1)	LTS	NI	LTS
GHG-2: Decommissioning-related GHG Emissions (Component 2)	LTS	NI	NI
GHG-3: Project Contribution to Global Climate Change (Components 1 and 2)	LTS	NI	LTS-
Section 4.8, Hazards and Hazardous Materials Impacts			
HAZ-1: Exposure of Public or Environment to Hazardous Materials (Component 1)	LTSM	NI	LTSM
HAZ-2: Use of Hazardous Materials During Decommissioning Activities (Component 1)	LTSM	NI	LTSM

Impact	Impact Class[1]		
	Proposed Project	**No Project Alternative**	**Single Component Abandonment Alternative**
HAZ-3: Exposure of Public or Environment to Hazardous Materials (Component 2)	LTSM	NI	NI
HAZ-4: Use of Hazardous Materials During Decommissioning Activities (Component 2)	LTSM	NI	NI
HAZ-5: Potential Cumulative Hazardous Materials Impacts	LTSM	NI	LTSM-
Section 4.9, Hydrology and Water Quality			
HWQ-1: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 1)	LTSM/B	**SU**	LTSM
HWQ-2: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 1)	LTSM	NI	LTSM
HWQ-3: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 2)	LTSM/B	NI	NI
HWQ-4: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 2)	LTSM	NI	NI
HWQ-5: Potential for Cumulative Water Quality Impacts (Components 1 and 2)	LTSM	NI	LTSM-
Section 4.10, Land Use and Planning			

Impact	Impact Class[1]		
	Proposed Project	No Project Alternative	Single Component Abandonment Alternative
LU-1: Temporary Conflicts with State and Local Policies (Components 1 and 2)	LTSM	NI	LTSM-
LU-2: Cumulative Impacts of Project Implementation (Components 1 and 2)	LTSM	NI	LTSM-
Section 4.11, Noise			
N-1: Noise Impacts to Sensitive Receptors (Component 1)	LTS	NI	LTS
N-2: Noise Impacts to Sensitive Receptors (Component 2)	LTS	NI	NI
N-3: Cumulative Decommissioning/Construction Noise (Components 1 and 2)	LTS	NI	LTS-
Section 4.12, Public Services			
PS-1: Potential for Short-term Impacts to Public Services During Decommissioning Activities (Components 1 and 2)	LTS	NI	LTS-
Section 4.13, Recreation			
REC-1: Temporary Loss of Recreational Access During Decommissioning Activities (Component 1)	LTSM	NI	LTSM
REC-2: Increase in Beach Area Associated with Removal of Piers and Caissons (Component 1)	B	**SU**	B

Impact	Impact Class[1]		
	Proposed Project	No Project Alternative	Single Component Abandonment Alternative
REC-3: Temporary Loss of Recreational Access During Decommissioning Activities (Component 2)	LTSM	NI	NI
Section 4.14, Transportation and Traffic			
T-1: Decommissioning Vehicle Trip Generation (Component 1)	LTS	NI	LTS
T-2: Traffic Safety Associated with Heavy-duty Truck Operations (Component 1)	LTSM	NI	LTSM
T-3: Decommissioning Vehicle Trip Generation (Component 2)	LTS	NI	NI
T-4: Traffic Safety Associated with Heavy-duty Truck Operations (Component 2)	LTSM	NI	NI
T-5: Contribution to Cumulative Transportation/Traffic impacts (Components 1 and 2)	LTSM	NI	LTSM-
Section 4.15, Utilities and Service Systems			
US-1: Generation of Project Waste During Decommissioning Activities (Component 1)	LTS	NI	LTS
US-2: Generation of Project Waste During Decommissioning Activities (Component 2)	LTS	NI	NI

Notes:[1] B = Beneficial (Green); LTS = Less than Significant; LTSM = Less than Significant with Mitigation; NI = No Impact, SU = Significant and Unavoidable Impact (Red), "-" = less than the proposed Project

PAGE LEFT INTENTIONALLY BLANK

1.0 INTRODUCTION

The California State Lands Commission (CSLC), as representative owner of the State-owned sovereign lands known as State Lease PRC 421, is analyzing the potential environmental impacts associated with decommissioning the remaining pier infrastructures known as Pier and Well 421-1 and Pier and Well 421-2, and decommissioning/partial removal of a 2-inch-diameter and 6-inch-diameter pipeline (pipelines) leading from the 421-1 pier area back to the Ellwood Onshore Facility (EOF). CSLC is also analyzing the potential environmental impacts associated with decommissioning the access roadway, pier abutment[3] structures, and seawall/revetment along the access roadway and between the piers in this area which reside on non-sovereign (private) land. These facilities were deserted following the declaration of bankruptcy and subsequent quitclaim of the PRC 421 oil and gas lease by the previous lease operator Venoco, Inc. (Venoco) in April 2017. CSLC is the lead agency under the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.) for the PRC 421 Decommissioning Project (Project).

1.1 PROJECT LOCATION

The existing facilities at the former State Oil and Gas Lease PRC 421 include two caissons[4] and piers referred to as Pier 421-1 and Pier 421-2, on State tide and submerged lands below the bluffs marking the southern limit of the Sandpiper Golf Course in the city of Goleta, California, and extending offshore to a water depth of approximately 50 feet (Figure 1-1). The original oil and gas lease (Lease No. 89) was issued in 1929, terminated and renewed under PRC 421 in 1949, and subsequently reassigned several times with the last assignment to Venoco in 1997.

1.2 PROJECT BACKGROUND

The two existing PRC 421 piers are the last remaining production structures associated with the prolific development of the Ellwood Oil Field that occurred along the Northern Santa Barbara Channel Coast from the late 1920s to 1990s. The Ellwood Oil Field was discovered by Barnsdall Oil Company in 1928 and is approximately 4 miles long and 0.5 mile wide, and trends east-west along the shoreline just south of the Sandpiper Golf Course. The immediate Project vicinity supported numerous onshore and offshore wells from the 1930s through the 1950s, along with substantial supporting infrastructure.

---

[3] As described further in Section 2.2.1.3 of this document, the pier abutment(s) are the structures connecting the piers to the adjacent bluff. The abutments structurally stabilize the transition between the access roadway and the pier structures to allow safe access.

[4] A caisson is a watertight retaining structure used in geotechnical engineering.

Figure 1-1. Project Location Map

Peak production from the entire Ellwood Oil Field reached nearly 49,000 barrels of oil per day (BOPD) in 1930. Remnants of this infrastructure still exist today, including multiple capped wells, the old timber seawall which lines portions of the Ellwood Coast, and the surf zone production piers of PRC 421.

Construction of the PRC 421 piers began in 1928; Pier 421-1 was completed in November 1929 and Pier 421-2 was completed in April 1930. A total of nine wells were drilled within PRC 421 into the Vaqueros Reservoir (a portion of the Ellwood Oil Field), which is the source of oil produced from PRC 421. Production peaked from the associated wells in 1931 at nearly 628,000 barrels of oil per year.

By the mid-1950s, more than half of the offshore wells in the Ellwood Oil Field were plugged and abandoned. On PRC 421, all but two wells were plugged and abandoned. The two that remained were Well 421-2, a producer, and Well 421-1, a former producer that stopped production in 1972 and was converted in 1973 to an injection well for produced water. The Ellwood area oil facilities continued to be operated and developed, with active development occurring in the Ellwood area into the 1990s.

By the end of 1993, Well 421-2 became the only producing well in the Ellwood Oil Field. In May 1994, production from Well 421-2 was terminated following a leak in the 6-inch-diameter pipeline that transported the produced oil from the pier to the EOF. The leak occurred in the vicinity of the 12th tee at the Sandpiper Golf Course and was repaired, and the site remediated. Well 421-2 was never returned to active oil production. Limited production for the purpose of de-pressuring the well and reservoir was allowed in 2001 for safety purposes.

In 1997, the owner Mobil Exploration and Producing, Inc. (now ExxonMobil) sold the Ellwood facilities within the lease area, including the piers, Ellwood Marine Terminal (EMT), Ellwood Onshore Facility (EOF), and the offshore oil production facility Platform Holly to Venoco. In April 2014, CSLC certified an Environmental Impact Report (EIR) to authorize the Venoco PRC 421 Recommissioning Project to return PRC 421 to oil production from the existing Well 421-2 and process the crude oil emulsion[5] at the EOF. The EIR was revised and certified in December 2014 (Item 72); however, the project was never implemented.

In March 2016, Venoco filed for Chapter 11 Bankruptcy to reorganize. In April 2017, Venoco again filed for bankruptcy due to the loss of the ability to ship oil from the EOF following the 2015 rupture of the Plains All American Pipeline, Line 901, which remains out of service to this day, and subsequently began liquidation of its assets which included quitclaiming its three oil and gas leases (PRC 421, PRC 3120, and PRC 3242) back to the State of California. The CSLC entered into the leases formerly held by

[5] Crude oil emulsions form when oil and water (brine) come into contact with each other. Crude oil emulsions must be separated almost completely before the oil can be transported and processed further.

Venoco to ensure the preservation of human health and safety and the environment. Lease PRC 421 and the associated two wells and pier structures were among the assets turned over to the State. The wells were shut-in (non-productive) at the time the State took control of them.

In 2019, the two wells, 421-1 and 421-2, were successfully plugged to the surface under the direction and supervision of the CSLC and the Division of Oil, Gas, and Geothermal Resources (DOGGR), now known as the California Geologic and Energy Management Division (CalGEM), in compliance with regulatory specifications.

While the CSLC is the CEQA lead agency and will undertake the Project pursuant to previous contractual agreements, ExxonMobil agreed to perform the work of plugging the two wells located on the piers as well as the decommissioning and removal of the pier and caisson structures and those facilities that exist waterward of the mean high tide line (MHTL), in other words, those facilities located within the former lease PRC 421 boundaries and within the CSLC's statutory jurisdiction (Figure 1-2). For purposes of this Project, the work within this area is considered Component 1.

Component 2 of the Project, located on private uplands, would include removal of the two pipelines that extend from the 421-1 pier beneath the existing access roadway to the 12th tee location at the golf course, and flushing/isolating the pipeline from the 12th tee location to the EOF. Additionally, Component 2 would involve the removal of the existing pier abutments within the access roadway, as well as the supporting infrastructure (wooden seawall, rock revetment) that supports the road and foot of the cliff. Any hydrocarbon impacted soils within the access roadway would be removed and the roadway area would be restored as appropriate to a more natural grade.

1.2.1 Project Purpose and Need

The PRC 421 piers and facilities were installed for the purpose of oil and gas development of the Ellwood Oil Field. With the plugging of the last two wells remaining in the oilfield (421-1 and 421-2), the piers have no further use. These deteriorating piers and caissons now represent a physical coastal obstruction, a potential public safety hazard, and a potential environmental hazard represented by the known presence of hydrocarbon-impacted soil and fill contained within the pier caissons. The removal of the piers and caissons would be a significant public benefit, would allow full use of the beach coastline by the public, and would eliminate an existing threat to public safety and the environment. The existing access roadway and supporting revetment would be used for decommissioning activities of the piers, caissons, and pipelines and would also be subsequently decommissioned.

Figure 1-2. Mean High Tide Line Delineation (2018)

1.2.2 Project Objectives

The objectives for the Project are to:

- Decommission the piers, caissons, and remaining portions of the wells (the riser pipe from the top of the cement plug and wellheads) and other infrastructure, including the pipelines within the access roadway and golf course back to the tie-in points just outside of the EOF, and the access roadway and supporting rock revetment
- Restore the beach area to conditions similar to the surrounding area and appropriate for safe public access and use

1.3 OVERVIEW OF ENVIRONMENTAL REVIEW PROCESS

1.3.1 Project Context with Respect to CEQA

The actions proposed by the CSLC are subject to CEQA. Pursuant to State CEQA Guidelines section 15378, the CSLC must review "the whole of [the] action that has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." With limited exceptions, CEQA requires the CSLC, before approving a project over which it has discretionary authority, to consider the environmental consequences of the project. CEQA establishes procedural and substantive requirements that agencies must satisfy to meet CEQA's objectives, which are (State CEQA Guidelines, §§ 15002 and 15083):

- Inform governmental decision makers and the public about the potential significant environmental effects of proposed activities
- Identify ways that environmental damage can be avoided or significantly reduced
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible
- Disclose to the public the reasons why the agency approved the project in the manner the agency chose if significant environmental effects are involved
- Foster multi-disciplinary interagency coordination in the review of projects
- Enhance public participation in the planning process

Other key requirements include carrying out specific noticing and distribution actions to maximize public involvement in the environmental review process. CEQA section 21002 also states in part that it is the State's policy that public agencies:

> *… should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would*

substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.

The CSLC staff determined that the proposed Project could result in significant environmental impacts and that an EIR is required to analyze the Project and feasible alternatives. The purpose of an EIR is not to recommend either approval or denial of a project. The EIR is an informational document that assesses the potential environmental effects of a project and identifies mitigation measures and project alternatives that could reduce or avoid significant environmental impacts (State CEQA Guidelines, § 15121). Consistent with CEQA requirements, the CSLC has engaged in a good faith, reasonable effort towards full public disclosure of the potential effects of the Project.

1.3.2 Public Scoping

Through the Project's Notice of Preparation (NOP), the CSLC solicited comments on the EIR's scope during a 30-day comment period beginning on June 9, 2021, and at scoping meetings held on June 24, 2021. Table 1-1 lists commenters on the NOP (see Appendix A, *Public Scoping Documents*, for meeting transcripts and an index to where scoping comments are addressed in this EIR).

Table 1-1. NOP Commenters

Classification	Name	Written	Oral (at scoping meeting)
Agency	California Department of Fish and Wildlife – South Coast Region	●	
	City of Goleta	●	
	Santa Barbara County Air Pollution Control District	●	
	Native American Heritage Commission (NAHC)	●	
Non-Governmental Organization	California State University Channel Islands (CSUCI) – Environmental Science and Resource Management Program (Sean Anderson)		●
	Surfrider Foundation – Santa Barbara Chapter (Andrew Miller)	●	●

Classification	Name	Written	Oral (at scoping meeting)
Individual	Jacqueline Rosa		●
	Sandpiper Golf Course	●	

1.3.3 Availability of EIR

Placing CEQA documents at readily accessible sites such as local libraries can be an effective way to provide information about a project. This EIR is available for review at four sites in the proposed Project vicinity (Table 1-2). At this time, the CSLC offices are closed to the public due to public health and safety concerns regarding the Novel Coronavirus (COVID-19); therefore, it is not currently feasible to provide paper copies for review at the CSLC offices. Please contact Eric Gillies at eric.gillies@slc.ca.gov or (916) 574-1897 for the most up-to-date information on the availability of the EIR or if you would like to receive a hard copy. Please note that hard copies will be printed on demand and may take several days to produce and ship. The full document can also be viewed on the CSLC website at www.slc.ca.gov/Info/CEQA.html.

Locations to Review the EIR

Libraries:
Goleta Public Library
500 N. Fairview Avenue
Goleta, CA 93117
(805) 964-7878

Santa Barbara Public Library
40 E. Anapamu Street
Santa Barbara, CA 93101
(805) 962-7653

City/County Offices:
City of Goleta, Planning and Env. Review
Attn: Anne Wells
130 Cremona Dr., Suite B
Goleta, CA 93117
(805) 961-7557

County of Santa Barbara
Attn: Errin Briggs
123 E. Anapamu Street
Santa Barbara, CA 93101
(805) 568-2047

1.4 PURPOSE AND SCOPE OF EIR

The purpose of this EIR is to identify the significant impacts on the environment of the proposed Project, identify alternatives to the Project, and indicate the manner in which those significant impacts can be mitigated or avoided (Pub. Resources Code, § 21002.1, subd. (a)). The CSLC has prepared this EIR in accordance with CEQA and the State CEQA guidelines to document the CSLC's evaluation of the potential for environmental impacts associated with implementation of the PRC 421 Decommissioning Project.

1.4.1 Baseline Conditions

Baseline conditions for this EIR are defined as the existing physical setting that may be affected by a project (State CEQA Guidelines, § 15125, subd. (a)), which for this Project includes the PRC 421 lease area (caissons and piers), pipeline corridor and access roadway back to the EOF, and disposal hauling routes. This setting constitutes the baseline physical conditions by which the CSLC will determine whether impacts from the proposed Project and Project alternatives are significant. Impacts are defined as changes to the environmental setting that are attributable to Project components or operations. Potential impacts are often analyzed in the context of the local and regional physical environmental conditions existing at the time the NOP for the EIR was released (in this case, June 2021).

1.4.2 Potential Impacts and Summary of Alternatives Evaluated

The EIR identifies potential significant impacts of the proposed Project on the environment and indicates if and how the impacts can be avoided or reduced by mitigation measures or alternatives. As described in Section 4, *Environmental Impact Analysis*, the following resource areas would not be impacted by the Project:

- Agricultural and Forestry Resources
- Mineral Resources
- Energy
- Population and Housing
- Utilities and System Services
- Wildfire

The Project could have a significant impact on the following resource areas:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Cultural Resources – Tribal
- Geology, Soils, and Paleontological Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services
- Recreation
- Transportation and Traffic

Pursuant to State CEQA Guidelines section 15126.6, an EIR must describe and evaluate a range of reasonable alternatives that would feasibly attain most of a project's basic objectives and would avoid or substantially lessen any of the significant impacts of a project as proposed. The State CEQA Guidelines also state that the range of alternatives required to be evaluated in an EIR is governed by the "rule of reason" (§ 15126.6, subd (f)) – that is, an EIR needs to describe an evaluate only those alternatives necessary to permit a reasoned choice and to foster informed decision making and public participation. The State CEQA Guidelines also require that the EIR evaluate a "No Project" alternative and, under specific circumstances, designate an environmentally superior alternative from among the remaining alternatives. Please see Section 5.0, *Project Alternatives Analysis*, and Section 6.0, *Other Required CEQA Sections and Environmentally Superior Alternative*, for this discussion.

1.4.3 Cumulative Impact Analysis

An EIR must discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (State CEQA Guidelines, § 15130). A cumulative impact is an impact that is created through a combination of the project analyzed in the EIR and other closely related past, present, and reasonably foreseeable probable future projects in the area causing related impacts. Section 3, *Cumulative Projects*, defines the applicable geographic scope of the cumulative analysis (cumulative projects study area) and lists projects included in the cumulative environment.

1.5 PROJECT JURISDICTION AND ANTICIPATED APPROVALS

1.5.1 Project Jurisdiction

State Oil and Gas Lease PRC 421 is located within the coastal zone off the Ellwood Coast, just south of Sandpiper Golf Course, southeast of the EOF, and approximately 2,000 feet west of the Ellwood Mesa. The lease area is offshore of the city of Goleta, extending from the surf zone just above the two well locations offshore to a water depth of about 50 feet (Figure 1-3).

1.5.1.1 Project Parcels

Several parcels are included in the Project impact area (Table 1-2). The PRC 421 piers/wells (below the MHTL) are within the jurisdiction of CSLC. All other Project components above the MHTL are within the city limits of Goleta and under the jurisdiction of the California Coastal Commission within the coastal zone. Due to the Venoco bankruptcy, CSLC, through its contractor, currently staffs the property that the EOF occupies (Assessor's Parcel Number [APN] 079-210-042), including several easements with Sandpiper Golf Course (APN 079-210-059) for the access roadway leading to the PRC 421 piers and the pipelines from Platform Holly and PRC 421.

Figure 1-3. Project Parcel Map and Jurisdictions

Table 1-2. Parcels and Jurisdictions for the Project Area

APN	Description	Jurisdiction
079-210-042	Ellwood Onshore Facility (EOF)	California Coastal Commission
079-210-059	Sandpiper Golf Course (Easements for Access Roadway and Pipelines)	California Coastal Commission
079-210-059	PRC 421 Piers above MHTL	California Coastal Commission
State Tideland	PRC 421 Piers below MHTL	CSLC/California Coastal Commission
State Tideland	PRC 421 Wells	CSLC/CalGEM

1.5.2 Anticipated Project Approvals

In addition to the action by the CSLC, the Project would require the following permits and approvals outlined in Table 1-3.

Table 1-3. Agreements, Permits, and Approvals

Agency	Anticipated Agreement, Permit, or Approval
City of Goleta [1, 2]	Local Land Use Consistency
Santa Barbara County Air Pollution Control District	Permit Exemption Confirmation
County of Santa Barbara Environmental Health Services	Remedial Action Plan Approval
California Coastal Commission [1]	Coastal Development Permit
California Geologic Energy Management Division	Notice of Intention to Rework Well for Final Casing Cutting and Well Capping; Pipeline Abandonment
California Department of Wildlife, Office of Spill Prevention and Response	Oil Spill Contingency Plan Review (Review completed)
California Department of Fish and Wildlife	California Endangered Species Act Consultation
California Central Coast Regional Water Quality Control Board	Section 401 Water Quality Certification
U.S. Army Corps of Engineers	Section 404 Permit [3]
U.S. Fish and Wildlife Service	Endangered Species Act Consultation

Agency	Anticipated Agreement, Permit, or Approval
National Oceanic and Atmospheric Administration – National Marine Fisheries Services	Endangered Species Act Consultation Essential Fish Habitat Assessment and Review
State Historic Preservation Office	Section 106 Consultation

[1] Prior permits issued for emergency repair work on the PRC 421 piers (Final Development Plan 05-132-DP; 04-EMP-001; E-01-013-G; 2004015765-JCM) included mitigation conditions for the protection of wetlands and coastal resources.
[2] A revised Development Plan from the city of Goleta is required for those portions of the Project that involve onshore facilities above the MHTL, such as those portions of the access roadway, revetment, and pipelines (Component 2).
[3] Amendment of existing Permit No. SPL-2008-00769-JWM for Component 1 as part of the Santa Barbara Channel Coastal Hazards Removal Program. Component 2 activities (access roadway and revetment removal) would require a separate permit.

1.6 ORGANIZATION OF EIR

The EIR is presented in nine sections:

- **Section 1.0 – Introduction** provides background on the Project, previous related environmental review, and the CEQA process.
- **Section 2.0 – Project Description** describes the Project, its location, construction activities, monitoring, and schedule.
- **Section 3.0 – Cumulative Projects** identifies the projects that are analyzed for potential cumulative effects and the EIR's approach to cumulative impact analysis.
- **Section 4.0 – Environmental Impact Analysis** describes existing environmental conditions, impacts of the Project, mitigation measures, and evaluates cumulative impacts.
- **Section 5.0 – Project Alternatives Analysis** describes the alternatives screening methodology, alternatives screened from full evaluation, and alternatives carried forward for analysis, and analyzes impacts of each alternative carried forward.
- **Section 6.0 – Other Required CEQA Sections and Environmentally Superior Alternative** addresses other required CEQA elements, including significant and irreversible environmental and growth-inducing impacts, comparison of the Project and alternatives, and discussion of the environmentally superior alternative.
- **Section 7.0 – Mitigation Monitoring Program** describes the monitoring authority, enforcement and mitigation compliance responsibilities, general monitoring procedures, and presents the mitigation monitoring table.

- **Section 8.0 – Other Commission Considerations** presents information relevant to CSLC's consideration of the Project that are in addition to the environmental review required pursuant to CEQA. These include: (1) climate change and sea level rise considerations; (2) commercial fishing (socioeconomics); (3) environmental justice; and (4) state tide and submerged lands identified as possessing significant environmental values within CSLC's Significant Lands Inventory. Other considerations may also be addressed in the staff report presented at the time of CSLC's consideration of the proposed Project.
- **Section 9.0 – Report Preparation Sources and References** lists the persons involved in preparation of the EIR and the reference materials used.

The EIR also contains the following Appendices:

- **Appendix A** – Public Scoping Documents
- **Appendix B** – Federal and State Regulations
- **Appendix C** – Project Distribution List
- **Appendix D** – Air Quality and GHG Calculations
- **Appendix E** – Bat Study Memo
- **Appendix F** – Wetland Delineation Report
- **Appendix G** – Bluff Retreat Study
- **Appendix H** – Archaeological Report
- **Appendix I** – NV5 Coastal Processes Study
- **Appendix J** – Access Roadway and Wooden Seawall Site Assessment Report
- **Appendix K** – Asbestos and Lead-Based Paint Survey Report

2.1 PROJECT SUMMARY

The PRC 421 Decommissioning Project (Project) consists of two primary components, Component 1 and Component 2, followed by site restoration and cleanup. Component 1 of the Project includes the complete demolition and removal of the 421-1 and 421-2 caissons and piers back to the existing seawall, removal of both well casings and capping the well down to the bedrock, and the flushing and isolating of the 2-inch and 6-inch-diameter pipelines (pipelines) through the golf course to the Ellwood Onshore Facility (EOF). Component 2 involves the decommissioning and removal of the pipelines that extend from the 421-1 pier area beneath the access roadway and the subsequent removal of the pier abutments, supporting rock revetment, and wooden seawall beneath the access roadway along the bluff as well as removal of any hydrocarbon impacted soil within the roadway and sloping to a natural grade. Figure 2-1 provides an overview of the proposed Project components. The Project would be completed as follows:

Component 1

- Staging/Access (Section 2.3.1)
  - Setup construction staging areas
  - Construction of a temporary access ramp
- Caisson and Pier Removal (Section 2.3.2)
  - Removal of soil and fill inside both caissons down to the existing bedrock, including all interior debris (buried timber, steel, and concrete support structures) in sequence with the eastern, northern, and western concrete and sheet pile walls
  - Cutting and removal of well casings down to existing bedrock elevation and installation of a final welded well cap
  - Removal of both caissons' southern (ocean side) external sheet pile, H-piles, and concrete walls including concrete footings
  - Full removal of both pier structures and supports to the bedrock interface
  - Flushing and isolating the 2-inch-diameter and 6-inch-diameter pipelines beneath the golf course pipeline corridor to the EOF

Component 2

- Access Roadway, Production Pipeline Abandonment/Removal, Pier Abutment and Seawall/Revetment Removal (Section 2.3.3)
  - Excavation and removal of the pipelines from the 421-1 pier location west to the 12th tee location at the golf course

Figure 2-1. Project Overview Map

  - Complete removal of both pier abutment structures originally installed in 2001
  - Removal of rock revetment from the beach (between the 12th tee and 421-2 pier area)
  - Removal of wooden seawall and its structural components (from the 421-2 pier area and extending approximately 75 feet to the southeast)
  - Removal of any unrecorded historical debris
  - Removal of any petroleum hydrocarbon-containing soil identified within access roadway
  - Sloping and restoration of access roadway area (1,600 feet) to a natural grade
  - Final Site restoration
- Recycling and disposal of soils/materials (Section 2.3.4)

2.2 CURRENT (BASELINE) SITE CONDITIONS

2.2.1 421-1 and 421-2 Caissons, Wells, and Piers

2.2.1.1 421-1 Caisson and Well

421-1 Caisson. The current condition of the 421-1 caisson can be seen in Figures 2-2 through 2-4. The top 3.5 feet of fill has been removed from the interior of the caisson exposing several concrete interior walls, the original 1930 derrick 2 foot by 2 foot support footings (four in total), and several rows of steel piles. The caisson is approximately 68 feet wide, 42 feet long, and 20 feet above mean sea level (msl). The outer sheet piles are interlocking steel and grouted with concrete that is approximately 14 inches thick. The outer sheet pile walls are severely weathered on the northern, western, and eastern sides; however, the southern (ocean side) seawall was repaired in in 2004 and remains in good condition (Figure 2-4). The southern seawall contains 12-inch-thick precast concrete panels set inside steel H-piles that were drilled and cemented in place to a depth of approximately 15 feet below grade. The area between the precast panels and the original caisson walls were filled with clean grout during the repair install. The southern seawall on the 421-1 caisson does not have any wave deflectors. Instead, the structure was retrofitted with a 4 inch angle iron fixed to the top of the seawall to divert the wave-generated water from entry, but water into the interior of caisson 421-1 does occur.

421-1 Well. Well 421-1 plugging and abandonment operations were completed May 13, 2019. The well was cemented up to 6 feet below the bedrock (approximately 26 feet down from the top of the well cellar[6]). The wellhead and riser are secured inside a 12-foot-diameter and 12-foot-deep concrete cellar. The cellar has a steel approach floor secured to the top of the cellar and the top of the caisson wall. Figure 2-5 shows the existing condition of the 421-1 well riser in the concrete cellar.

Figure 2-2. 421-1 Caisson Interior

[6] A well cellar is the area around the wellhead that was previously dug out to provide space for equipment at the top of the wellbore.

Figure 2-3. 421-1 Sheet Pile Conditions (West and Northern Walls)

Figure 2-4. 421-1 Caisson – Repaired Southern Seawall (Southern Wall)

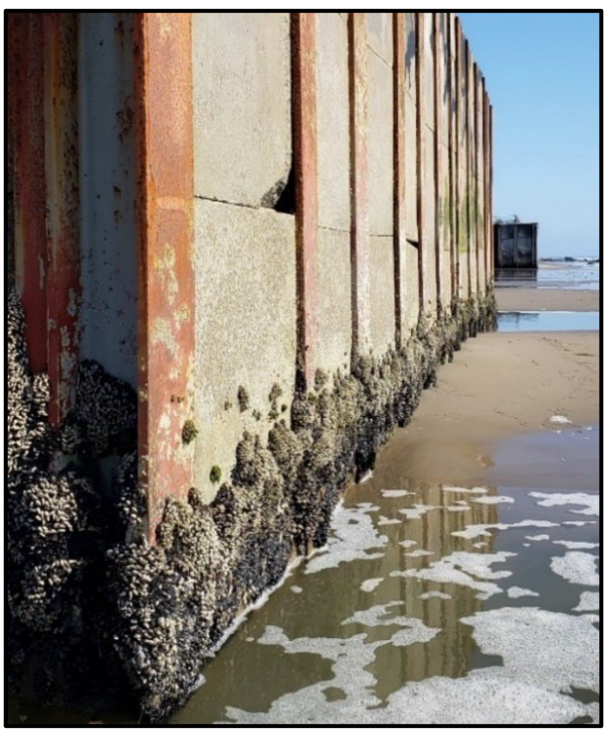


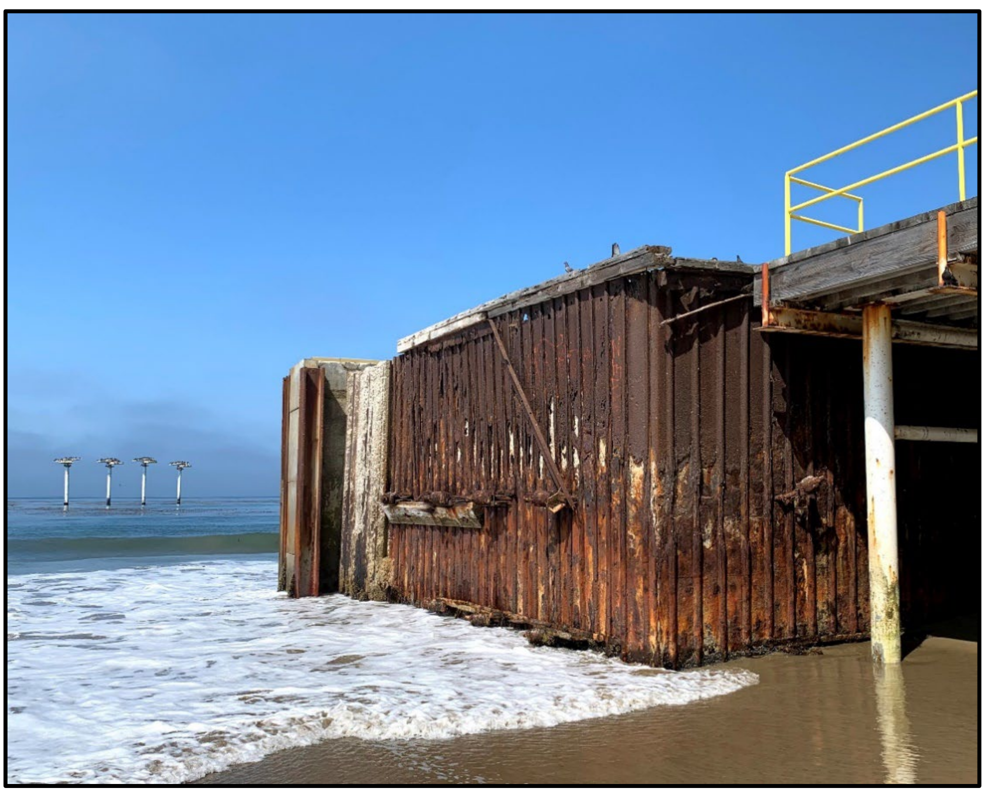
Figure 2-5. 421-1 Well Riser

2.2.1.2 421-2 Caisson and Well

421-2 Caisson. The current condition of the 421-2 caisson can be seen in Figures 2-6 and 2-7. The caisson is about the same size as the 421-1 caisson (approximately 68 feet wide, 42 feet long, and 20 feet above msl). The interior of the 421-2 caisson is filled with soil and miscellaneous debris ranging from the pier deck level to approximately 3 feet from the top of the caisson. A 4-foot-wide perimeter of soil has been left around the outer edges to facilitate access for viewing the caisson walls and seawall from above. A chain link fence is present along the outer edges of the top of the caisson. A single H-pile is currently exposed just south of the well cellar. Two of the original 1930 derrick 2 foot by 2 foot support footings and stem walls were also previously uncovered. The outer sheet piles are interlocking steel and grouted with concrete that is approximately 14 inches thick. The outer sheet pile walls are severely weathered on the northern, western, and eastern sides; however, the southern (ocean side) seawall was repaired in 2011 and remains in good condition, similar to the 421-1 caisson described above. The upper row of the 421-2 caisson includes precast concrete seawall panels with an outward-facing bullnose to redirect ocean wave energy away from the structure and keep ocean water from coming over the seaward facing wall and side returns.

Figure 2-6. 421-2 Caisson Interior

Figure 2-7. 421-2 Caisson Sheet Pile Condition



421-2 Well. Well plugging and abandonment operations on 421-2 were completed September 14, 2019. The well was cemented up to 5 feet below bedrock (approximately 15 feet down from the top of the caisson). The original concrete well cellar and approach were replaced in 2018 prior to the well abandonment. A 6-foot-tall and 12-foot-diameter steel ring was secured to the top of the remaining concrete cellar. A new steel cellar approach structure was constructed joining the retaining ring to the pier. Figure 2-8 shows the 421-2 well riser and concrete cellar ring from above.

Figure 2-8. 421-2 Well Riser (Within Concrete Cellar Ring)

2.2.1.3 Caisson Fill Soil Analysis

A soil sampling and analysis investigation was undertaken in 2019 to test soils within the 421-1 and 421-2 caissons (Padre 2019). The results of the investigation indicated that in the 421-1 caisson, the highest reported concentration of total petroleum hydrocarbons (TPH) (carbon range C_4-C_{40}) in soil is 41,000 milligrams per kilogram (mg/kg) at an approximate depth of 10 feet below topside surface grade, and TPH-containing soil was observed to a depth of approximately 19 feet at the approximate contact with the Monterey Formation siltstone/claystone bedrock. Within the 421-2 caisson, hydrocarbon-containing soil is present within the caisson at depths ranging from approximately 6 feet to 19 feet below topside surface grade. Monterey formation siltstone/claystone bedrock is present at depths greater than approximately 19 feet below topside surface grade. The laboratory analytical results indicate the highest reported TPH C_4-C_{40} concentration in soil is 56,200 mg/kg at an approximate depth of 6 feet below surface grade within the 421-2 caisson.

Laboratory analysis to date indicates the soil fill can be disposed of under Non-Hazardous Materials Manifests. Additional sampling and analysis would be required to verify non-hazardous conditions at the time of removal to determine the final disposition. The volume of soil estimated for disposal from inside the two caissons is approximately 3,550 cubic yards (gross volume). The total resulting volume may be less depending on the volume of the internal structures (concrete and steel), and other debris within each caisson.

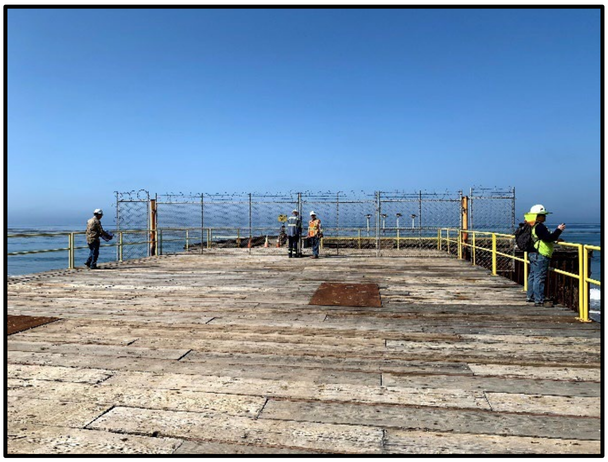
2.2.1.4 421-1 and 421-2 Piers

The primary facilities associated with PRC 421 occupy approximately 11,600 square feet of pier space and include two piers on State tidelands and submerged lands below the bluffs at the southern limit of Sandpiper Golf Course (Figure 2-9). The two piers, Pier 421-1 and Pier 421-2, are built with vertical tubular steel piles with overlying horizontal steel I-beams and wood timber decking and are approximately 325 feet apart. Each pier is approximately 80 feet in length. Venoco reinforced the pier pilings and substructures with additional steel in 2001, and the earlier pier supports were removed. New 12 inch piles were driven on average 13 feet into the underlying shale and new W16 (wide flange, 16 foot) beams were placed on top of those. These improvements increased the load-bearing capacity of the pier bridges.

Figure 2-9. PRC 421 Pier Areas

421-1 Pier. Pier 421-1 is approximately 85 feet in length and approximately 40 feet in width. The 421-1 pier is comprised of reinforced wood decking material surrounded by yellow pipe safety railing. The 421-1 caisson and well head are located at the end of the pier past a locked chain link entryway fence with razor wire across and at the western and eastern extents. A double gate provides access to the caisson and well area. Figure 2-10 shows the existing topside and underside of the 421-1 pier structure.

Figure 2-10. 421-1 Pier Structure



Topside of 421-1 Pier Looking South

Underside of 421-1 Pier Structure

421-2 Pier. Pier 421-2 is approximately 76 feet in length and approximately 30 feet in width. Similar to Pier 421-1, the 421-2 pier is comprised of reinforced wood decking material surrounded by yellow pipe safety railing. The 421-2 caisson and well head are located at the end of the pier past a locked chain link entryway fence with razor wire across and at the western and eastern extents. A double gate provides access to the caisson and well area. Figure 2-11 shows the existing topside and substructure of the 421-2 pier.

Figure 2-11. 421-2 Pier Structure

Topside of 421-2 Pier Looking North

Substructure of 421-2 Pier

Pier Supports Sampling

Sampling of the painted pier substructure was conducted in November 2021 to determine if lead-based paint was present. The sampling results indicated that no lead was present in the painted surfaces of either pier substructure within laboratory reporting limits (Appendix K)

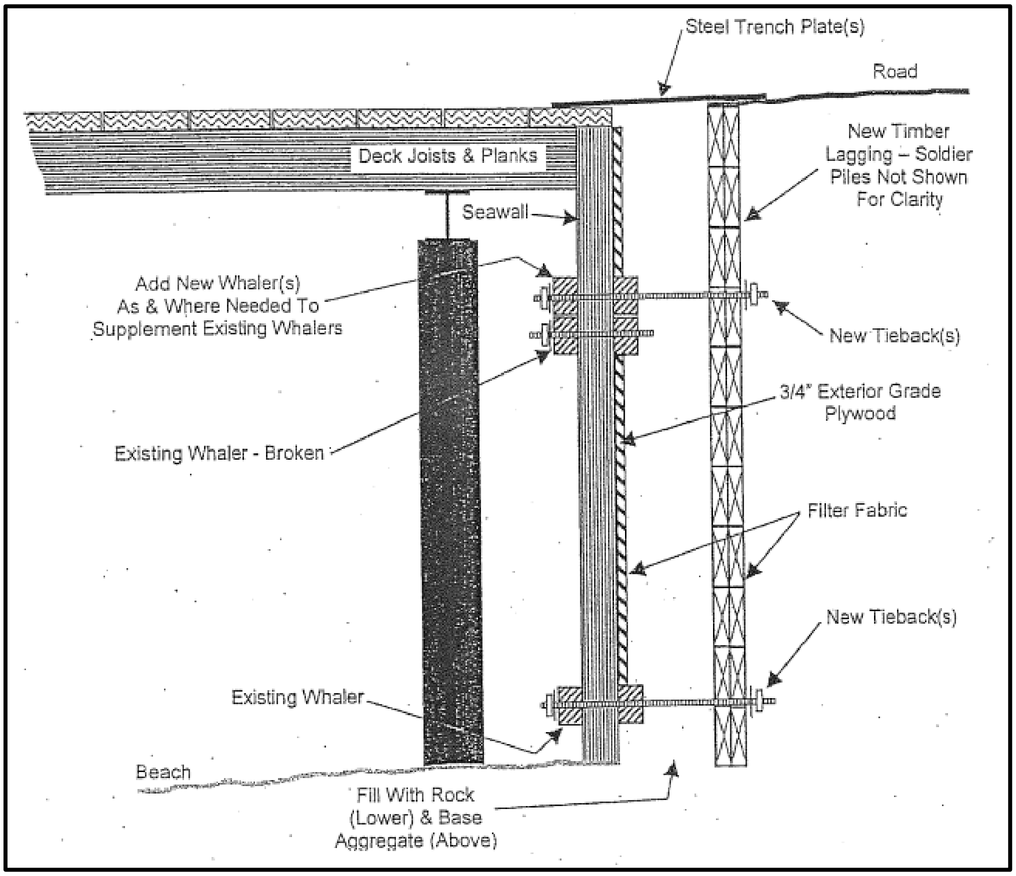
Pier Abutments. Both the 421-1 and 421-2 pier abutments (the portion of the access roadway adjacent the pier entrances) were upgraded in 2001 prior to planned well workovers to structurally stabilize the transition between the access roadway and the pier structures to allow safe access for the heavy equipment needed for the well work. Soldier piles made of H-pile beams were installed by grouting them vertically in place. Timbers were installed between the H-piles as illustrated in Figure 2-12 below. New walers[7] and tiebacks were then secured from the original seawall back to the H-piles and timber abutment wall, where they were buried below the grade of the access roadway. Additional maintenance along the road surface, the bluff, and the transition area to the rock revetment was completed to provide a safe access route to the wells for the large equipment needed for the well work. An 80,000 pound service rig and other support equipment were driven along this route and across the pier abutments during the well abandonment work with no impact.

2.2.2 Access Roadway

A dirt and gravel road originating near the EOF provides vehicle access to the two shoreline piers at PRC 421. This road was historically part of a more extensive service road that was originally built to connect at least 11 individual oil piers and nearly 50 oil wells with onshore services and oil production facilities in this area. The access roadway is located within easements granted to Venoco by the property owners of the Sandpiper Golf Course and extends in a southerly direction from the EOF for 600 feet across Sandpiper Golf Course and then turns southeast and extends approximately 1,600 feet along the base of the bluff to the PRC 421 piers (Figure 2-13). The entirety of the access roadway resides landward of the MHTL (Figure 1-2). The segment of the access roadway along the base of the bluff is protected by a rock and wooden seawall revetment (Section 2.2.4).

[7] A horizontal beam that is attached with bolts to a larger upright structure.

Figure 2-12. Side View of Pier Abutment Upgrades



As shown in Figure 2-14, the vegetation that lines the pier access roadway is dominated by coastal scrub with smaller areas of riparian habitat in localized areas. The road and remaining section of wooden seawall, along with the 421-2 pier abutment, impede water drainage from the golf course where the road terminates at the 421-2 pier, creating a well-established wetland (Figure 2-15). The wetland has been documented in previous CEQA reviews and site permit proceedings.

2.2.2.1 Access Roadway Soil Investigation

A soil investigation of the access roadway was conducted in November 2021 (Appendix J). Soil samples were collected from twenty drill hole locations spaced approximately 80 feet apart along the access roadway from the 421-2 pier back to the entrance gate of the access roadway. Soil samples were collected from each drill hole from depths ranging from approximately 4 feet to 16 feet below ground surface (bgs). Earth materials encountered included aggregate road base materials, artificial fill materials composed of lean clay with varying amounts of silt, sand, and fine-grained gravel. The potential presence of petroleum hydrocarbons was measured with handheld instruments. Field observations indicated low petroleum hydrocarbon concentrations and slight petroleum hydrocarbon odor at several drill hole locations.

Figure 2-13. Pier Access Roadway Through Golf Course

Figure 2-14. Pier Access Roadway Along Southern Boundary of Golf Course

Access Roadway Looking East

Access Roadway Looking West

Figure 2-15. Existing Wetlands Located North of Terminus of Access Roadway

The laboratory analytical results for 40 soil samples indicated the presence of TPH identified as diesel fuel (C_{13}-C_{22}) and motor oil (C_{23}-C_{40}) in 25 soil samples at depths of approximately 4 feet and 8 feet below ground surface (Figure 2-16). The laboratory analytical results indicated that the chemically analyzed soil samples did not contain VOCs, SVOCs, or PCBs constituent concentrations in excess of the analytical method reporting limits. The laboratory analytical results indicated that the soil samples contained metals concentrations that were less than the applicable ESLs or published background concentrations. Based on the laboratory analytical results for soil samples collected from within the access roadway; artificial fill materials, beach deposits, and weathered Monterey Formation materials contain detectable concentrations of weathered petroleum hydrocarbons at various depths and locations along the access roadway.

2.2.3 Pipelines

A 6-inch-diameter pipeline historically transferred produced oil, water, and gas from Lease PRC 421 to the old Line 96 just outside the EOF and former Ellwood Marine Terminal, downcoast. This pipeline extends from a valve box at the southern end of the EOF and passes under the golf course 11th fairway and green within a pipeline easement corridor. This easement also contains various pipelines that service Platform Holly and the offshore seep tents[8] approximately 2 miles offshore. In an area just above the beach face, the pipeline turns parallel to the shore and runs southeast on the ocean side of the golf course 12th tee box towards the access roadway gate. In this area, the pipeline is exposed at the surface. This pipeline continues another 1,170 feet below the surface, where it terminates in the subsurface near the 421-1 pier. Of this 1,170 foot segment, approximately 280 feet of this pipeline is located beneath the shoreline rock revetment, while the remainder of the pipeline is buried under the access roadway surface.

A 2-inch-diameter pipeline (which historically supplied natural gas from the EOF to the 421 piers) originates at a surface location in the southeast corner of the EOF. This pipeline follows beneath the road easement through the golf course corridor adjacent to the 11th fairway and continues north of the 12th tee. It continues beneath the road to a point where it begins to parallel the 6-inch-diameter pipeline described above at a point near the access road gate. From there, the 2-inch-diameter pipeline continues beneath the road to the area where it terminates near the 421-1 pier.

[8] In 1982 a seep containment device was placed on the sea floor 1.5 km east of oil platform Holly in a joint effort by ARCO and Mobil oil companies. This device comprises two steel pyramids or tents measuring 100 by 100 feet each that capture emissions from numerous hydrocarbon seeps on the sea floor.

PAGE LEFT INTENTIONALLY BLANK

Figure 2-16. Access Roadway Sampling

PAGE LEFT INTENTIONALLY BLANK

All pipelines leading from the EOF to the 421 piers and to offshore locations through the golf course easement were surveyed in May and June 2020. Additionally, the two pipelines related to the Project were re-verified utilizing a pipeline location service in November 2021. The subsurface locations and depth of burial was mapped along the onshore length of each line. Figure 2-17 shows the relationship of the 421 Project pipelines to the pipelines that lead to offshore locations and to the existing access road and rock revetment under which some of the 6-inch-diameter line is buried.

2.2.3.1 Pipeline Coating Asbestos Sampling

A representative sample on the coatings of the exposed 6-inch-diameter pipeline was tested for the presence of asbestos containing materials (ACM) in November 2021. Both the outer and inner wrap of the pipeline was sampled. No ACM were detected in the pipeline coating material(s).

2.2.4 Rock Revetment and Wooden Seawall

Armor rock protection was placed at the base of the access roadway during the 1980s, starting at the access roadway gate area at the west side of the road adjacent to the golf course. Additional revetment rock was placed prior to the 2019 well plugging to shore up the road where wave action over time caused erosion and loss of the protective rock in certain areas. This revetment currently continues southeast below the access roadway for approximately 1,400 feet until it reaches approximately 200 feet to the east of Pier 421-1 (Figure 2-18).

A wooden seawall then runs from the end of the rock revetment to approximately 75 feet to the east past PRC 421-2 (Figure 2-19). Historically, this wooden seawall extended for several thousand feet southeastward along the coast. Much of this has been compromised by storm and wave activity over many decades but remaining sections of this structure are present for a distance southeast of the subject piers. The wooden seawall is left in its original state from about 75 feet to the east of 421-2 pier along the wetlands and is generally deteriorated as shown below in Figure 2-20. Past that point, only pieces of this former structure remain. The wetlands are formed from a natural ravine originating on the Sandpiper Golf Course, closed off by the access roadway, 421-2 pier abutment, and wooden seawall. Irrigation and natural runoff drainage saturate the area in the proximal area to the north of the pier, forming the localized wetland feature. Beneath pier 421-2, the wetlands continuously drain through the wooden seawall via outfall piping and natural seep drainage. This drainage can also be observed at the far eastern end of the existing wooden seawall where it is compromised in places.

Figure 2-17. Pipelines from the EOF to the 421-1 and 421-2 Piers

Figure 2-18. Existing Rock Revetment Along Base of Access Roadway

Figure 2-19. Existing Wooden Seawall Between Pier 421-1 and 421-2

Figure 2-20. End of Wooden Seawall (75 feet east of 421-2 Pier)

2.2.4.1 Wooden Seawall Testing

Padre collected three representative samples of the wooden seawalls at the Project Site in November 2021. The wood samples were collected from biased locations using destructive sampling techniques using battery-powered coring equipment. The wood samples were contained in laboratory provided containers and were logged, labeled, and placed in a cooler with ice pending delivery to the analytical laboratory.

The laboratory analytical results for the wooden sea walls samples indicated the presence of petroleum hydrocarbons identified as diesel fuel (C_{13}-C_{22}) and motor oil (C_{23}-C_{40}), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and polynuclear aromatic compounds (PAHs) constituents which indicate the presence of wood preservative and should be managed in accordance with Assembly Bill 332 and the new Alternative Management Standards for treated wood waste that are codified in Health and Safety Code section 25230.

2.3 PROJECT DECOMMISSIONING METHODOLOGY

This section summarizes the decommissioning procedures for the removal of both PRC 421 caissons, wells, and piers (Component 1), as well as removal of the pier access roadway, two pipelines, pier abutments, and seawall/revetments (Component 2). The following provides the anticipated sequencing of each major step in each of the two Project components.

Component 1: Caisson and Pier Removal (421-1 and 421-2)

- Remove well cellars
- Remove caisson fill
- Cut corresponding north, east, and west caisson walls
- Cut well casing and weld final plug and abandonment (P&A) cap at bedrock
- Demolish oceanside (south) caisson wall
- Remove pier structures (anticipated to be 421-1, then 421-2)
- Flush, inert, and isolate the two pipelines
- Beach restoration

Component 2: Access Roadway, Production Pipeline, Revetment and Seawall Removal

- Remove pipelines from 421-1 former pier connection back to 12^{th} tee
- Remove pier abutments, wooden seawall, and rock revetment
- Removal of hydrocarbon-containing soil (where present) and final grading of former access roadway area; site restoration

Removal of the structures would require, in part, working within low tide windows that allow for the most efficient and safe operations that minimize risk and impacts to personnel, the public, and the environment. This would require operations occurring in both daylight and nighttime hours that best accommodate the low tide events, hours of possible beach closure, and other logistical, environmental, and safety concerns. Additionally, a designed wave deflector would be installed on the Pier 421-1 caisson seawall to improve the ability to prevent wave-generated water from entering the interior of the caisson.

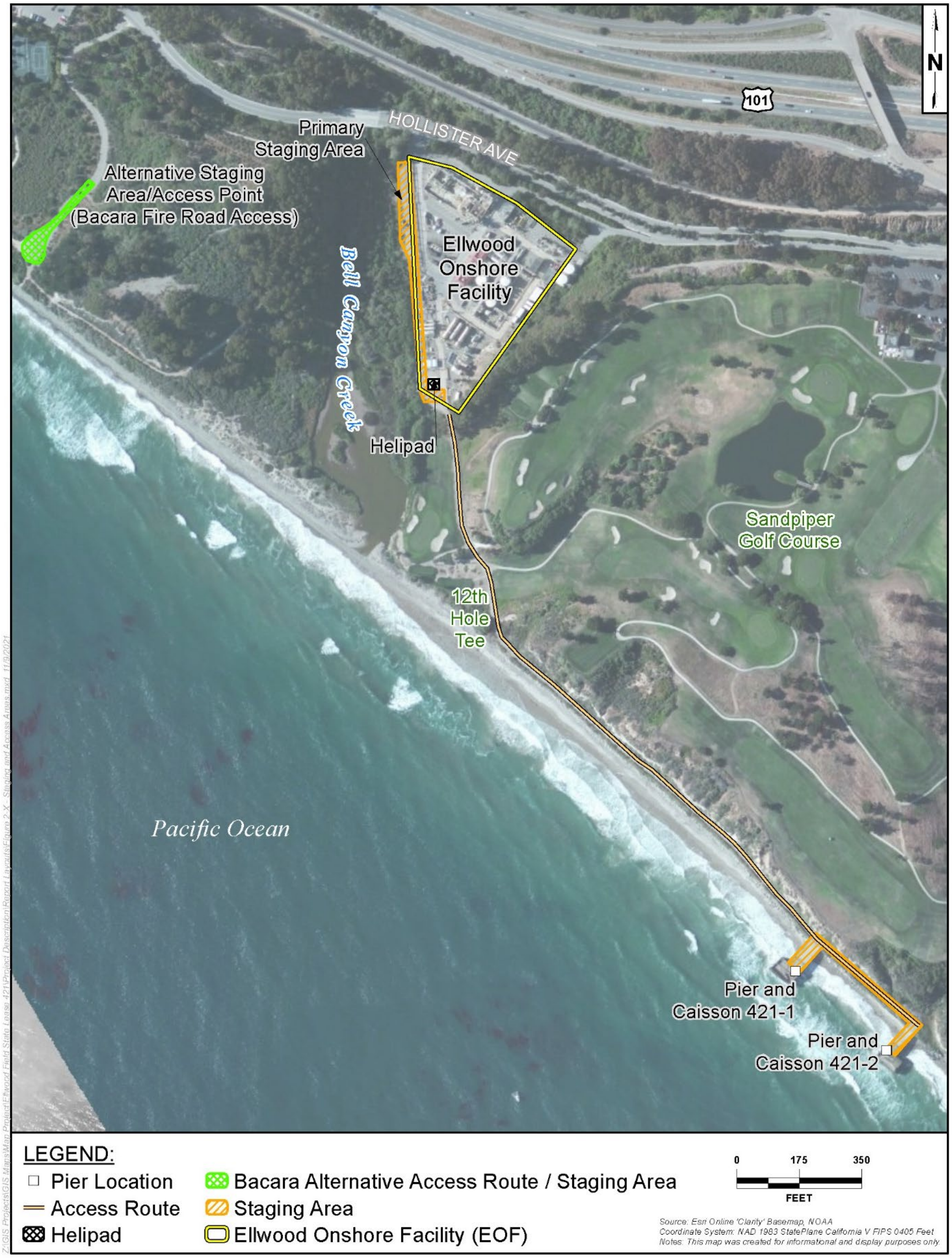
All structures and debris to be removed would be (or have been) evaluated for the presence of hazardous materials, including polychlorinated biphenyls (PCBs), metals, polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, xylene, asbestos, and other oil-related byproducts prior to demolition.

2.3.1 Staging/Access

2.3.1.1 Construction Staging Areas

Construction equipment and materials are likely to be staged in an existing easement area located immediately adjacent to the EOF western fence line (Figure 2-21). Additionally, the Bacara Resort fire road access would be utilized as a staging area (as required, primarily prior to installation of the temporary construction ramp) for staging of equipment and bins along its length as it has in previous projects (further described in

Figure 2-21. Project Staging Areas



Section 2.3.1.3 below). Additionally, an existing 30 foot by 30 foot helipad and area surrounding it at the south end of the EOF may also be available for staging of vehicles, materials, and emergency equipment. Temporary construction fencing and delineation signs currently isolate the identified wetland located immediately north of the entrance to Pier 421-2 and serve to protect the wetland from construction activities. Similar fencing would be placed along Bell Canyon Creek riparian habitat corridor and other sensitive habitat areas prior to Project implementation from the Project staging and access areas as needed. Oil spill response equipment outlined within the facilities existing Oil Spill Contingency Plan Addendum prepared on behalf of the Project (CSLC 2021) would also be mobilized and kept in the designated staging area(s).

2.3.1.2 Security Program

Access to piers 421-1 and 421-2 are restricted via 8-foot-tall chain-link fences that block entry to the caissons. The facility gates are kept closed and locked unless access is required. Security is provided to PRC 421 by a CSLC contractor as needed. Due to the site location and accessibility to the public, 24 hour security will be implemented for both site security and public safety once decommissioning operations commence.

2.3.1.3 Equipment Access

A more gradually sloped rock revetment area near the bluff access roadway gate was previously utilized as a ramp to provide beach access for maintenance work on PRC 421 or the production pipelines coming from Platform Holly (which are not associated with the Project). This location is void of the coastal scrub vegetation which lines both sides of the bluff access roadway to the east. Prior to construction, a ramp in this same area would be reestablished using heavy equipment to reposition existing rock material and importation of additional rock to establish a suitable ramp for heavy equipment access to the beach. This proposed location is approximately 1,200 feet west of the 421-1 pier and east of Bell Creek and the Holly production lines; therefore, once reconstructed for the Project, equipment use of this ramp would eliminate the need to cross the Bell Creek outfall (when present) or the Holly production lines (when seasonally exposed).

The Bacara Resort fire road access point is located west of the EOF, approximately 0.2 mile west along Hollister Avenue. This access point includes an existing access roadway that runs north to south along the eastern property line of the Bacara Resort and is maintained for emergency vehicle use (should the local fire department need to launch small rescue craft from the beach). There is a locked gate near Hollister Ave. preventing public entry. This area will be utilized as an alternative Project staging area but will also be utilized as a secondary site access point prior to construction of the temporary construction ramp. The temporary construction ramp will be the primary access due to its closer proximity to the construction areas and location past Bell Creek and the Holly production line crossing.

2.3.2 Component 1: Caisson and Pier Removal (421-1 and 421-2)

Following setup of the Project staging and access areas, caisson and pier removal activities would be conducted first. Figure 2-22 provides an overview of the Project components related to the caisson and pier removal portion of the Project.

2.3.2.1 Well and Caisson Demolition

Well Cellars and Riser Preparation. In order to access the wellhead risers for cutting, any cellar fill material must first be removed. Following removal of any fill material; the wellhead risers would be cut, and a temporary cap would be installed over the casing stub inside the well cellar. It may be possible to unbolt the well riser at the base as an alternative to a cut and install a temporary blind flange plate at that location. After the cap is installed, fill dirt would be placed from the caisson on top of the casing stub to serve as a protective layer for future cellar demolition (if any cellar remains) and prevent any exposure that could create a beach hazard.

Caisson Fill Removal/Caisson Wall Demolition (Northern, Western, and Eastern Walls). Excavators and 20 yard bins would be staged along each respective pier to facilitate excavation of caisson fill soil and fill debris (anticipated to be concrete, wood, and steel). The smaller excavators would remove the soil and associated structural debris from the caisson and temporarily stockpile it, while the larger excavator would load that material into the staged 20 yard bins. All recovered materials would be sorted into appropriate bins for disposal or recycling at appropriate receiving facilities. The caisson structures are decades old, and there are unknowns regarding the structural integrity once demolition begins. Removal of the caisson fill and associated concrete and steel pile walls will be completed in increments to ensure the structural integrity of the caisson as a whole. Project engineers would make regular evaluations regarding the structural integrity of the caisson walls and internal structures at predetermined stages throughout the removal process. Appropriate shoring steps would be taken to ensure the ongoing safety of the workers and the public during the operation. The need of temporary structural reinforcement and bracing would be evaluated on an ongoing basis and installed as necessary. As a contingency in the event of a failure in the containment capacity of the caisson wall, preliminary oil spill response equipment will be staged along the access roadway for deployment within the project area to contain soiled fill from within the caisson from spilling onto the beach and ocean (see Section 2.6.3).

Figure 2-22. Component 1: Caisson and Pier Removal Project

The interior caisson walls may be contaminated with residual hydrocarbons and would be steam cleaned or pressure washed as needed to remove residue. Contaminated water would be removed using a vacuum truck or pumped into a sealed container for disposal. The interior caisson walls remain intact and would effectively contain the hydrocarbon liquids prior to removal. Following the incremental removal of fill and cleaning of the caisson walls, excavators with concrete breakers working from inside the caisson would begin demolishing the north, east, and west caisson walls. Concrete material removed inward would be recovered and placed into the staged 20 yard bins. If any material falls outward onto the beach, attempts would be made to immediately recover the material within the tide-cycle, as practical, or removed at next low tide. An example of this type of demolition (for an unrelated Project) is provided in Figure 2-23.

The 421-2 steel well cellar ring (currently sitting on top of the remaining concrete well cellar) and the steel rig access and support platform that connects the well cellar at the surface to the pier bridge-to-caisson abutment (this formerly ensured rig structural stability during well servicing operations) would both be removed using a crane and welders. The cellar in 421-1 is the original concrete structure so no steel retaining ring would need to be removed. 421-1 also has many vertical 12 inch steel piles throughout its structure that would need to be removed as excavation proceeds.

Figure 2-23. Example of Caisson (Vault) Demolition Methodology (Unrelated Project Site)

Demolition of the concrete slabs would continue along with the remainder of the concrete well cellar. Caution would be taken while cleaning out around the previously cut well head. During excavation of the caisson, if steel piles are uncovered, these would be vibrated or cut out and removed as well. Additional interior fill material would then be removed with an excavator to uncover the top row of structural tie rods which would be cut and removed as necessary to continue excavation until bedrock is reached or conditions change, such as saturated soil or structural concerns of the caisson walls.

Cutting of Well Casing. The structural condition of the existing caisson walls would be evaluated prior to cutting the well casing. Temporary shoring would be installed around the well casing as necessary for additional protection from falling debris. The bedrock around the well casing would be excavated in preparation of cutting and removal of the casing and wellhead. The well casing would be cut, and a final plate would be welded on per CalGEM requirements.

Final or Oceanside Caisson Demolition. The newer south facing (ocean side) caisson walls and extensions have been determined by structural engineers to be safe to stand alone during the demolition of the caissons (Bengal Engineering 2020). These walls would remain at full height until the interior contaminated soil and wellhead is removed to protect against ocean tide action.

Temporary guardrails would be installed across both pier edges in preparation of demolition of the remaining beachside walls. A large crane would be mobilized and staged on each pier. Once the tide has receded, demolition equipment would also be mobilized to the beach from the temporary beach access ramp, anticipated to consist of four excavators with concrete breakers and two loaders.

As the tide allows, the excavators and loaders would demolish the remaining ocean side caisson walls. Bins would be staged on the pier and cranes would also lower empty bins to the beach to fill with scrap material. Concrete and steel materials would be loaded into separate bins. As necessary, rebar and steel would be cut into manageable sized pieces. Flatbed trucks would be staged at the entrance of the piers to receive full bins from the beach and to transport materials off-site for recycling or disposal. The Bacara Resort fire road access point and staging area adjacent to the EOF would be used to stage empty and full bins during this phase of work. Both roads can be accessed by entry off Hollister Avenue, west of the EOF. All equipment and loose material would be loaded and taken off the beach before the next high tide cycle. A freshwater truck would be brought in to rinse off all beach sand and saltwater from the equipment, at the EOF staging area, to preserve their working integrity.

Work would continue until all walls and footings of the caissons are removed to bedrock or just below (as feasible). Steel sheet piles and steel seawall H-piles would also be cut at, or slightly below bedrock (as feasible).

2.3.2.2 Pier Removal

In preparation for work, temporary barricades would be installed at both piers across the entire abutment's edge. Additionally, temporary scaffolding and containments would be hung below the pier as needed to allow cutting access and to collect any material that may fall from the area to minimize the potential for interaction with the marine environment. During low tide events tarps would be draped on the beach to collect any material that could fall during the dismantling process.

With a crane positioned behind each pier along the access roadway, the timber decking of the pier would be removed in sections. Wood joists, structural steel stringers, and cross-members would be removed, working between one section of support piles at a time. Pile cross-bracing would be removed along the way. Vertical pipe piles would be cut leaving approximately 3 foot stubs above the beach sand level.

The remaining pile sections would be removed by vibrating them out in separate steps, either by accessing them from the remaining pier sections above or from the beach level. Specifically, a 60-ton rough terrain crane would be brought onto the beach via the temporary access ramp. Temporary rig mats would be placed down the ramp surface and on the beach to mobilize the crane to the pier location. The crane would use these mats at each pile location. Using a 150 Vibro-Hammer or equivalent (larger telescoping rig with vibrating hammer) the pier piles would be vibrated out. All piles would be removed from the beach for recycling.

If pile removal to below the bedrock interface is unsuccessful with the vibratory removal method, standard cutting methods would be employed to remove the pile stub(s) at the bedrock interface. This method would continue, section by section, until the pier has been fully removed back to the pier abutments. It is likely that each pier would be removed separately for logistical reasons to reduce traffic on the access roadway and provide an area for staging.

2.3.2.3 Pipeline Flushing and Isolating

The pipelines through the golf course easement are in common trenches with the pipelines servicing Platform Holly offshore. The two PRC 421 pipelines would be flushed with freshwater to obtain a residual hydrocarbon level of 15 parts per million (ppm) or less and isolated, then grouted in place.

Starting at the 421-1 pier location, both pipeline endpoints would be exposed within the existing roadway. Likewise, both pipelines would be unearthed near their northern terminus at the EOF. The pipeline ends would be secured and prepared with proper fittings to flush both lines with fresh water, taking returns to properly stationed vacuum trucks. During flushing, both pipelines would be checked for integrity based on pipeline pressure and returns. Once the receiving water has been tested and confirmed to be at

15 ppm or less of residual hydrocarbons, the flush water would be profiled (tested to determine composition) and taken to an appropriate receiving facility for disposal. The pipelines would then be isolated by installation of an isolation flange or other capping mechanism at the 421-1 pier location.

2.3.3 Component 2: Access Roadway, Pipelines, Pier Abutments, and Rock Revetment/Wooden Seawall Removal

This part of the decommissioning program would take place sometime following the caisson and pier removal. Figure 2-24 provides an overview of the Project components related to the access roadway, pipelines, pier abutments, and rock revetment/wooden seawall removal portion of the Project.

2.3.3.1 2-Inch-Diameter and 6-Inch-Diameter Pipeline Removal

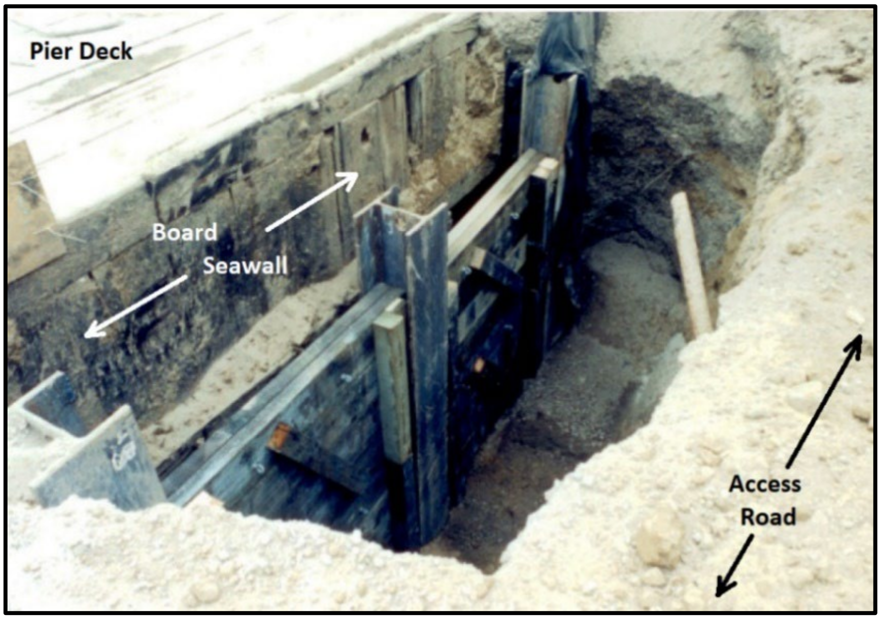
The pipelines buried beneath the access roadway (a portion of which is within the golf course) and in part of the revetment would have been flushed and isolated during Component 1, as described in Section 2.3.2 above. Starting at their terminus at the 421-1 pier location, both the 2-inch-diameter and 6-inch-diameter pipelines would be removed working back toward the golf course easement near the 12th tee area using a backhoe and removing the pipelines from the excavated trench in approximately 20 foot sections. Portions of the pipelines are buried under the revetment and not directly under the road base and soil. Therefore, the revetment would be removed to access those portions. The pipelines would be removed up to the golf course easement near the 12th tee area. At this point, the pipeline ends would be capped at the agreed location near the southern entrance to the golf course easement. The remaining portions located from the 12th tee area back to the vault near the south entrance to the EOF would remain grouted in-place. The discarded pipeline scrap would be cut and placed in waste bins for transport and disposal or recycling.

2.3.3.2 Removal of Pier Abutments, Rock Revetment, and Wooden Seawall

Pier Abutments. Removal of the pier abutments would be done with an excavator. Figure 2-25 provides a photograph of pier abutments when they were originally installed in 2001. The abutments connect to the wooden seawall and provide structural stability from the access roadway onto the pier deck. To remove these structures, they would first be exposed by excavating soils behind them within the access roadway and the excavation shall be conducted in compliance with the Cal/OSHA standards and other applicable local and State regulations.

Figure 2-24. Component 2: Access Roadway, Pipelines, Pier Abutments, and Rock Revetment/Wooden Seawall Removal

Figure 2-25. Pier Abutment During Installation (2001)



Following removal of the pier abutments, all timbers and walers connected to the wooden seawall would be cut and removed using an excavator and chainsaws. The H-piles at the bedrock interface would be torch cut and the pile stubs would be removed by the excavator. Cut wood, metal, and soil would be removed by a dump truck into staged bins on the adjacent access roadway.

Rock Revetment and Wooden Seawall. Demolition of the existing rock revetment and wooden seawall along the base of the bluffs (located along the distance of the access roadway and extending approximately 75 feet southeast of Pier 421-2) would be accomplished using excavators, cutting tools, and hand torches, as appropriate. Steel tie-back rods and all concrete block debris from the beach back to the 421-2, would also be removed. Removal of some existing vegetation that extends from behind the wooden seawall would be required to facilitate removal.

As approximately 20 foot sections of wooden seawall and rock revetment are removed, equipment would slope and compact the bank, removing hydrocarbon impacted soil as necessary and grading to achieve a safe slope. Finally, the excavator would scrape the top 6 to 12 inches of rock base from the road, where present, and remove to a staging area at the EOF.

2.3.3.3 Final Site Restoration and Cleanup

After completion of Components 1 and 2, native hydroseed or equivalent planting would be completed in accordance with the Coastal Bluff Scrub Replacement Plan to aid in slope stability and erosion control (see **MM BIO-6a**).

All surplus construction materials and equipment would be removed from the Project site and the laydown area. The access roadway through the golf course may require repair to restore it to either pre-construction condition or to any requirement dictated by the easement agreement. The temporary equipment access ramp to the beach would be returned to its pre-construction condition.

2.3.4 Recycling and Disposal of Soils/Materials

2.3.4.1 Estimated Waste Volumes and Waste Receiving Facilities

The estimated waste materials, volumes, and linear footages (where applicable) of concrete, rebar metal, rock, and wooden material that are anticipated to be generated during the decommissioning Project is provided in Tables 2-1a and b. Soil within these structures that has been impacted by hydrocarbons has been classified as non-hazardous waste based on multiple laboratory analyses completed on caisson soil taken at various levels.

Hydrocarbons may have impacted internal debris and structural members within the caissons. During the removal process, all internal concrete caisson walls would be cleaned to the extent practicable to minimize hydrocarbon residue in preparation for the demolition. All concrete would be recycled with local companies. There are five recycling companies within a 50 mile radius from the proposed Project site capable of processing the concrete waste generated. Structural steel can be sent to Standard Industries in Saticoy, near Oxnard, California, to be recycled.

Soil and related material would be analyzed for chemical profile prior to appropriate manifest and disposal. Soil material would be disposed of at a proper EPA approved Treatment, Storage, and Disposal (TSD) Facility. Examples of these within 330 miles of the Project include Clean Harbors' landfill in Buttonwillow, California; Patriot Wastewater solidification facility in Bakersfield, California; and Waste Management's Altamont landfill in Livermore, California. Clean Harbors also accepts wood products that are crude oil impacted along with other non-hazardous oil field debris material. Based upon initial sampling results, non-hazardous hydrocarbon impacted soil present within the access roadway could be taken to Santa Maria Landfill in Santa Barbara County to be utilized for landfill cover. Additionally, Tajiguas Landfill in Santa Barbara County is permitted to receive treated wood waste material.

Table 2-1a. Estimate of Materials to be Generated During Decommissioning (Component 1 - Pier and Well Removal)

Size/ Type	Description	Location	Pier 421-1	Pier 421-2	Total	Units
Contaminated Soil	In Caisson	In Caisson	1,730	1,820	3,550	Cubic Yard (CY)
Concrete/ Rebar	From Concrete Walls	In Caisson	450	476	926	CY
4 Inch H Beams	Caisson Cross Beams	Inside of Sheet Pile	40	40	80	Linear feet
6 Inch Barrier	Wave Guard	Length of Ocean Wall (Pier 421-1)	68	0	68	Linear feet
10 Inch H Beam	Perimeter Support Beams	Perimeter of Caissons	180	96	276	Linear feet
14 Inch H Beam	1. Seawall Pilings	Seawall	462	462	1,024	Linear feet
14 Inch H Beam	2. Horizontal Support Beams	Run Across Surface of Pier 421-1 Caisson	100	0	100	Linear feet
18 Inch Pipe Pile	Access to Pumps, Motors, Etc.	Scattered Around Caisson	196	184	380	Linear feet
6 Inch Pipe Pile	Pier Support Members	Connected to and Support 12 inch Pier Support Piles	288	232	520	Linear feet
12 Inch I Beam	Horizontal Pier Support Beams	Along Underside of Pier	470	370	840	Linear feet
12 Inch Pipe Pile	Pier Support Piles	Pier Vertical Piles	500	400	900	Linear feet
16 Inch I Beam	Pier Support Beams	Main Pier Structural Beams	415	385	800	Linear feet
4 x 15 Inch Wood	Pier Decking and Stringers	Piers	4,500	3,300	7,800	Linear feet

Table 2-1b. Estimate of Materials to be Generated During Decommissioning (Component 2 – Road and Revetment Removal)

Size/ Type	Description	Location	Pier 421-1	Pier 421-2	Total	Units
Removal of Hydrocarbon Impacted Soil from Road and Slope Grading	-	Access Road	-	-	4,500	CY
Rock Revetment	-	Beneath Access Road Along Bluffs	-	-	6,000	Tons
Wooden Seawall	Wood Planks – 4 x 12 x 15 foot Tall, 1,000 foot Length Plus Top and Bottom Walers	Beneath Access Road Along Bluffs	-	-	1,700	Linear feet
Wooden Seawall	Metal Tie-Back Rods and other Buried Debris/Pipelines	Beneath Access Road Along Bluffs	-	-	8	Tons
Pipelines	1,400 feet of 2-inch-diameter and 6-inch-diameter pipeline	Within Access Road Back to #12 Tee	-	-	24	Tons
Steel H-Piles and Abutments	13 piles at 15 feet	Beach Along Bluffs	-	-	11	Tons

2.3.4.2 Anticipated Truckloads

The removal of fill and structural material from the Project site would require the use of a variety of trucks including vacuum trucks, bin transport trucks, half-round dump trucks, and flatbed trailers, to facilitate the recycling and disposal of the different materials that comprise the 421 pier structures and caissons. Approximately 1,146 truck trips from the EOF staging area to various disposal facilities have been estimated based on the volume of materials that make up the pier structures, access roadway, pipelines, and wooden seawall/rock revetment removal (Table 2-2).

Table 2-2. Truckload Estimate – Material Transport

Material	Estimated Truckloads
Component 1:	**Pier and Well Removal**
Soil – Caisson Fill	175
Water – HydroEx and Standing Water Removal from Caissons	45
Steel – Caisson and Pier	30
Concrete – Caisson	240
Wood – Pier Decking and Joist Stringers	7
Total for Component 1:	**497**
Component 2:	**Pipelines, Pier Abutments and Seawall/Revetment Removal**
Soil from Road and Slope Grading	300
Rock Revetment	333
Wood – Wooden Seawall and Abutments	5
Steel-H-Piles, Pipelines, Tieback Rods	11
Total for Component 2:	**649**

2.4 EQUIPMENT AND PERSONNEL REQUIREMENTS

2.4.1 Equipment Requirements

A scenario identifying the likely primary equipment associated with the proposed Project is outlined in Tables 2-3a and 2-3b. Equipment would be removed from the beach and returned to the EOF staging area or pier access roadway at the end of each workday and during high tides. No refueling of equipment would be allowed on the beach. Refueling would take place only in designated areas within the onshore staging area(s).

Table 2-3a. Project Equipment Requirements (Component 1)

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
Well Cellar and Riser Preparation and Caisson Internal Materials Removal				
Excavator	2	272	10	55
Wheeled Loader	2	250	10	55
Hydro-Excavator	1	varies	10	40
Cutting Torch	1	NA	4	5

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
Welding Machine	1	25	8	5
Heavy-duty Truck (Water Delivery, Soil, Debris, and Wastewater Disposal)	~4	varies	10	55
Well Abandonment (Cut Casing)				
Excavator	1	272	10	4
Crane	1	275	10	4
Cutting Torch	1	NA	4	4
Welding Machine	1	25	4	2
Caisson Removal				
Excavator (with demolition breaker as needed)	4	272	10	40
Wheeled Loader	2	250	10	40
Crane (with vibratory hammer as needed)	2	275	10	40
Heavy-duty Truck (water delivery, vacuum trucks, wastewater disposal)	~6	varies	8	40
Cutting Torch	1-2	NA	10	40
Pier Removal				
Excavator	2	272	10	11
Wheeled loader	2	250	10	11
Crane (with vibratory hammer as needed)	2	275	10	11
Heavy-duty truck (steel, wood disposal)	~6	varies	10	11
Cutting torch	2	NA	10	11
Pipeline Flushing and Grouting (12th Tee Junction back to EOF)				
Backhoe	1	104	10	5
Concrete pump	1	175	10	5
Flush pump	1	20	10	5
Welding machine	1	25	10	2
Heavy-duty truck (water and	~4	varies	10	5

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
cement delivery, wastewater disposal)				
Site Restoration				
Excavator	1	272	10	3
Backhoe	1	104	10	3
Crane	1	275	10	3
Hydro-seeder	1	varies	10	1

Table 2-3b. Project Equipment Requirements (Component 2)

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
Pipeline Decommissioning and Removal				
Excavator	1	272	10	5
Backhoe	1	104	10	5
Heavy-duty truck (steel disposal)	~4	varies	10	5
Pier Abutment Removal				
Excavator	1	272	10	10
Wheeled loader	1	250	10	10
Heavy-duty truck (wood and steel disposal)	~2	varies	10	10
Wooden Seawall, Other Structures, and Buried Debris Removal				
Excavator	2	272	10	15
Wheeled loader	1	250	10	15
Backhoe	1	104	10	15
Cutting torch	2	NA	10	15
Chain saw	2	10	10	15
Heavy-duty truck (wood and debris disposal)	~4	varies	10	15

Equipment Type	Quantity	Horsepower	Operating Hours/Day	Days
Rock Revetment and Roadway Removal				
Excavator	2	272	10	30
Wheeled loader	2	250	10	30
Dozer	1	215	10	30
Heavy-duty truck (rock, soil, gravel disposal)	~10	varies	10	30

2.4.2 Personnel Accommodations

Worker personal vehicle parking may be accommodated at the EOF or the temporary laydown area west of the EOF. Workers not involved in moving equipment could access the Project site by walking or utilizing golf carts or other small worker transport vehicles. Traffic controllers would be utilized to direct personnel and equipment through the golf course corridor to minimize public disruption and ensure safety.

2.5 SCHEDULE

Component 1 would extend over approximately 143 working days over the course of approximately 5 months. Component 2 would extend over approximately 63 working days over the course of approximately 3 months. Most decommissioning tasks would take place between 7:00 a.m. and 7:00 p.m., 5 to 6 days per week. The work windows for the caisson walls removal would be dictated by the low tide events allowing heavy equipment access to the beach. Some flexibility would be needed regarding the hours of operation to allow for nighttime operations or weekend work (as necessary) due to the progression of tides and other factors during operations. The caisson removal from the beach may require a 6 to 7 day work week to take proper advantage of tide cycles.

Low tide events change daily and progress on average 30 minutes each successive day. Since the Project site is located within the tidal zone, the average low tide duration for beach access (where the caissons are completely out of the ocean) varies. The caissons can be accessed with heavy equipment at tide heights of 1 foot and below during the later winter/early springtime and tides under 2 feet during the late summer/early fall, based on field observations. Tide heights at or below the 2 foot level allow equipment to work on the caisson from the beach and time to safely retreat back to the access roadway, keeping equipment out of the ocean water.

Decommissioning of the access roadway, pipelines, abutments, and wooden seawall/rock revetment would need to take place in summer months when sand deposition on the beach is highest and the likelihood of large swell events is lowest.

Historically, summer month high tides do not reach the rock revetment or wooden seawalls, allowing equipment to freely traverse the beach.

2.6 BEST MANAGEMENT PRACTICES

2.6.1 Standard Practices

Standard safety and environmental practices would be implemented throughout the decommissioning phase of the proposed Project. The approved contractor would implement site-specific construction mitigation plans, safety plans, traffic minimization plans, equipment refueling plans, and habitat protection plans, among other site-specific plans. These plans would develop the standard practices and operational procedures necessary for protection of the environment, personnel, and the public.

2.6.2 Public Access

Every attempt would be made to keep the beach area open for public access, to the extent it is safe to do so. During caisson soil removal and wellhead removal activities, limited temporary beach access restrictions would be necessary. Access to the beach in the areas surrounding the decommissioning activities would be interrupted during pier removal and caisson demolition. Proper scheduling, agency and public notifications, and posting of access limitations would be made in advance to inform the public of construction operations and possible temporary closures. During potentially hazardous activities, safety personnel would be stationed on each side of the pier to prevent public transit through the Project site.

2.6.3 Oil Spill Response Capability and Emergency Response Equipment

Initial response oil spill containment equipment would be located onsite at the EOF staging area and along the access roadway. The EOF staging area would include a fully equipped spill response trailer including items such as bales of sorbent pads, boom, sweep, and oil snares; a skimmer with power pack and hoses; 55 gallon drums for waste; drum liners and plastic bags; plastic sheeting; decontamination pools with brushes; assortment of hand tools and personal protective equipment (PPE); traffic cones and delineators; and light plants. Spill response equipment along the access roadway would include smaller spill kits including containment boom and absorbent materials. The spill response trailer would be manned by spill response trained personnel during all phases of soil removal from the caissons, the removal of both well risers, and for any operations requiring heavy equipment on the beach such as the removal of the caisson walls and the removal of any pier piles. All other decommissioning activities would require contractors to provide spill kits on-site for smaller spills associated with equipment use such as fuel or hydraulic fluid releases of limited quantity.

In addition to the above measures, CSLC's Contract Operator operates under a comprehensive approved Oil Spill Contingency Plan (OSCP) (Beacon West 2020) that covers operations for the PRC 421, Platform Holly, and EOF facilities. The OSCP is approved by the California Department of Fish and Wildlife Office of Spill Prevention and Response (CDFW-OSPR) and Santa Barbara County Office of Emergency Management (OEM). The OSCP details response procedures, training and drills for the covered facilities, spill response capabilities, and Incident Command Structure. An addendum to the existing facilities OSCP has been developed to address the proposed Project activities (CSLC 2021).

3.0 CUMULATIVE PROJECTS

State California Environmental Quality Act (CEQA) Guidelines section 15130 requires that an Environmental Impact Report (EIR) discuss cumulative impacts of a project when the project's incremental effect may be cumulatively considerable.[9] As defined in State CEQA Guidelines section 15355:

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

State CEQA Guidelines section 15130 includes the following additional guidance.

- Subdivision (a)(1) – An EIR should not discuss cumulative impacts which do not result in part from the project evaluated in the EIR.
- Subdivision (a)(2) – When the combined cumulative impact associated with the project's incremental effect and the effects of other projects:
  - Is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR
  - Is less than significant, the lead agency shall identify facts and analysis supporting this conclusion
- Subdivision (b) – The discussion of cumulative impacts:
  - Shall reflect the severity of the impacts and their likelihood of occurrence
  - Need not provide as great detail as is provided for the effects attributable to the project alone
  - Should be guided by the standards of practicality and reasonableness
  - Should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact

[9] "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (State CEQA Guidelines, §15065, subd. (a)(3)).

  - The geographic (spatial) limits of a cumulative effect; for example, noise impacts are typically localized, while air quality impacts tend to disperse over a large area
  - The timing and duration of the proposed Project relative to the past, present, and reasonably foreseeable cumulative projects identified (such as the construction season for temporary construction projects or long-term operation if applicable)

Key elements to consider when assessing cumulative impacts include:

- The type and characteristics of the resource (e.g., aesthetics, air quality, biological resources, cultural resources)
- The geographic (spatial) limits of a cumulative effect; for example, noise impacts are typically localized, while air quality impacts tend to disperse over a large area
- The timing and duration of the proposed Project relative to the past, present, and reasonably foreseeable cumulative projects identified (such as the construction season for temporary construction projects or long-term operation if applicable)

3.1 METHODOLOGY

For the PRC 421 Decommissioning Project (Project), closely related development projects from both the city of Goleta and county of Santa Barbara that are in the planning stages, adopted, under construction, or completed were considered as outlined in Table 3-2 at the end of this section and Figure 3-1. Information on each cumulative project was provided by the city (most current list updated February 25, 2021), and the county of Santa Barbara (most current list updated March 5, 2021). Cumulative impacts evaluated in this EIR would likely represent a “worst-case” scenario since not all the cumulative projects will be approved, constructed, or coincide with the proposed Project activities. Additionally, other projects would likely be, or have been, subject to unspecified mitigation measures that would reduce their impacts and thereby reduce the potential for contributing to cumulative impacts.

To assess if impacts of the proposed Project and closely related projects are cumulatively considerable, this EIR considers the following circumstances: the type of resource affected; the proximity of the projects; where an impact might occur (e.g., offshore, onshore, both); when projects may occur; and the short-term, temporary nature of the proposed Project’s construction impacts. The geographic scope of cumulative effects may extend beyond the scope of the direct, but not indirect, Project effects. The geographic scope of cumulative effects may be broader than that illustrated in Figure 3-1 for certain environmental disciplines where impacts could combine in broad areas (e.g., air quality and marine biological resources; this is described in each section's analysis). In addition, each project has its own implementation schedule, which may or may not overlap with the proposed Project schedule.

3.1.1 Geographic Scope of Proposed Project

The cumulative projects study area is defined as the Project decommissioning area and proposed waste hauling routes as defined in Table 3-1. Where applicable, the scope of each resource evaluated includes the natural boundaries of the resource affected (e.g., topography), rather than jurisdictional boundaries. The generalized scope of cumulative analysis by resource/issue area is presented in Table 3-2.

Table 3-1. Project Activities and Location

Stage	Project Component	Location
Project Component 1	Demolition and removal of 421-1 and 421-2 piers and caissons/wells	Project Site
Project Component 2	Decommissioning and removal of two pipelines beneath the access roadway, abandonment in-place of pipelines through the golf course to the Ellwood Onshore Facility (EOF), removal of the pier abutments, rock revetment, and wooden seawall beneath the access roadway along the bluff	Project Site
Waste Hauling (Either Component)	Non-hazardous soil	Up to approximately 330 miles from Project Site: Clean Harbors – Buttonwillow, Patriot – Bakersfield, Waste Management – Livermore
	Concrete	Recycling Facility – Up to approximately 50 miles from Project Site
	Steel	Standard Industries – Up to approximately 50 miles from Project Site

Table 3-2. Generalized Scope of Cumulative Analysis by Resource/Issue Area

Resource/Issue Area	Geographic Scope of Cumulative Analysis: Localized	Geographic Scope of Cumulative Analysis: Regional
Aesthetics	Project Site	-
Air Quality	-	Santa Barbara County Air Pollution Control District
Biological Resources	Project Site	City of Goleta, Santa Barbara County
Cultural/Tribal Cultural Resources	Project Site	Santa Barbara County
Geology, Soils, and Paleontological Resources	Project Site	Southern California
Greenhouse Gas Emissions	-	Santa Barbara County Air Pollution Control District
Hazards and Hazardous Materials	Project Site	Santa Barbara County
Hydrology and Water Quality	Project Site	Santa Barbara County and Offshore (Pacific Ocean)
Land Use and Planning	Project Site	City of Goleta
Noise	Project Site	Not applicable
Public Services	Project Site	City of Goleta, Santa Barbara County
Recreation	Project Site	City of Goleta, Santa Barbara County
Transportation and Traffic	Project Site	City of Goleta, Santa Barbara County
Utilities and Service Systems	Project Site	Santa Barbara County

3.1.2 Project Timing

As indicated in Section 2.5, *Schedule*, Project Component 1 would extend over approximately 143 working days over the course of approximately 5 months. Component 2 would extend over approximately 63 working days over the course of approximately 3 months. Component 1 removal would occur during conditions where the piers and caissons can be accessed with heavy equipment at tidal heights of 1 foot and below during the later winter/early springtime and tidal heights under 2 feet during the late summer/early fall, based on field observations. Decommissioning of the access roadway, production pipelines, abutments, and wooden seawall/rock revetment would need to take place in summer months when sand deposition on the beach is highest and the likelihood of large swell events is lowest.

3.1.3 Cumulative Projects Related to Proposed Project

The following cumulative projects located within the vicinity of the proposed Project and having the potential for similar impacts have been identified for inclusion within the cumulative analysis. A summary of these cumulative projects is included in Table 3-3 and depicted in Figure 3-1.

3.1.3.1 City of Goleta Projects

Beach Hazards Removal (079-200-012, -013; 079-210-059, -069, -013, -014, and -015). This project is ongoing and contracted by the City of Goleta with the CSLC for removal of remnant oil and gas infrastructure hazards Permit Nos. 10-083-LUP and 12-165-LUP within the city coastline. Hazards are removed as they become exposed during the winter months and extreme weather events. There are a number of known hazards remaining along the coastline, including two h-beams that are located between the 421-1 and 421-2 piers along the wooden seawall as well as approximately 200 feet downcoast to the east (including, but not limited to: additional h-beams, concrete rubble, and additional segments of the wooden seawall).

Platform Holly Decommissioning (2 miles offshore). Plugging and abandonment of 32 existing oil wells. This Project is ongoing. The Platform is slated for decommissioning, but the timing of decommissioning and final disposition are currently uncertain.

Ellwood Mesa Coastal Trails and Habitat Restoration Project (APN 079-210-024, -069, -015, -014, -013, -072, -071, and 070). Improve 7.1 miles of trails, including two beach access points and 13 acres of habitat restoration. The project application has been approved by the city, but the project has not been constructed.

Bacara Beach House Relocation (8301 Hollister Avenue). Demolition of existing beach house and relocating/construction of a new beach house. This project is directly adjacent to the west of the Bacara Resort fire road access point. Once the new facilities have been construction, the existing beach house will be demolished and a new east-west segment of the existing public access trail/path will be installed along the south edge of the former beach house building footprint parallel to the ocean. The emergency shoreline protection revetment and sheeting will be removed. A Mitigated Negative Declaration (MND) was adopted for the project in April 2020. The project application has been approved by the city and CCC, but the project has not been constructed.

Security Paving (909 S. Kellogg Avenue). Construction of 11.71-acre industrial concrete and asphalt recycling facility with temporary and permanent equipment. Includes creek restoration and drainage improvements. Currently under construction.

Table 3-3. Summary of Relevant Cumulative Projects in the Project Area

Project Name/Applicant	Description	Status
City of Goleta		
Beach Hazards Removal	The removal of remnant oil and gas infrastructure hazards	Ongoing
Platform Holly Decommissioning	Plugging and abandonment (P&A) of 32 existing oil wells.	P&A in progress
Ellwood Mesa Coastal Trails and Habitat Restoration Project	Improve 7.1 miles of trails, including 2 beach access points and 13 acres of habitat restoration	Permits approved by the city and other agencies, pending construction (Parks and Open Space)
Bacara Beach House Relocation	Demolition of existing beach house and relocating/construction of a new beach house	Permits approved by the city, pending construction
Security Paving	Construction of concrete and asphalt recycling facility	Under construction
County of Santa Barbara		
Highway 101 Widening – Segment 4B and 4C	4.5 mile HOV (high occupancy vehicle) lane	Approved by the county – in progress
Plains Pipeline Line 901-903 Replacement	123.4 mile pipeline replacement	EIR in progress
ExxonMobil EIR – Interim Trucking for SYU Phased Restart	Phased restart of the existing ExxonMobil Santa Ynez Unit (SYU) Facilities by trucking limited crude oil production to receiver sites	FSEIR in progress. Recommended for denial by the Planning Commission. Second hearing scheduled for November 2021. Final Recommendations will be presented to the Board of Supervisors in a subsequent hearing
Caveletto/Noel Housing	134 new homes	Under construction

Project Name/Applicant	Description	Status
Ocean Meadows Residential Development	Develop a residential community near UCSB	Application in process with county

3.1.3.2 County of Santa Barbara Projects

Highway 101 Widening – Segment 4B and 4C (PM 4.6 to 9.2). This project adds a part-time, continuous access 4.5-mile HOV (high occupancy vehicle) lane in both the northbound and southbound directions. Segment 4B is located between postmile (PM) 4.6 to 7.5 between the city of Carpinteria and Summerland. Segment 4C is located between PM 7.5 to 9.2 in Summerland. The Project has been approved by the county and is in progress.

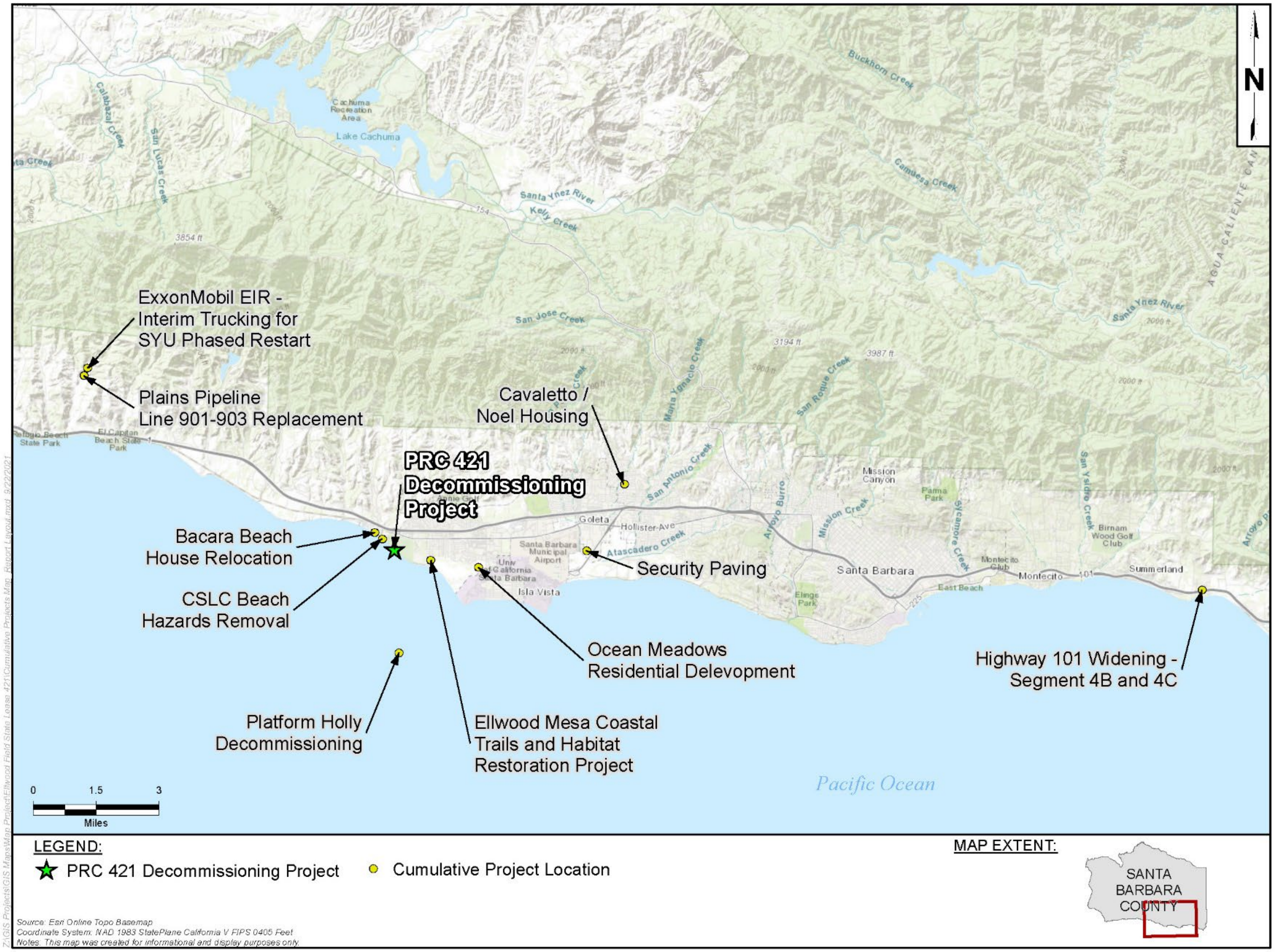
Plains Pipeline Line 901-903 Replacement (081-220-014). This project would replace the existing, and currently emptied, purged, and idled, 123.4-mile pipeline system known as Lines 901 and 903. Completion of an EIR/Environmental Impact Statement for the proposed project is pending and is expected to be released to the public in the fall-winter of 2021.

ExxonMobil EIR – Interim Trucking for SYU Phased Restart (081-220-014). This project would initiate the phased restart of the existing ExxonMobil Santa Ynez Unit (SYU) facilities by trucking limited crude oil production to receiver sites in Santa Maria and Maricopa, as a temporary solution to transport crude oil to a refinery destination until a pipeline alternative becomes available. A revision to the previously released Final Supplemental EIR is currently in progress, however the Project was recommended for denial by the Santa Barbara County Planning Commission in September 2021. A second Planning Commission Hearing is scheduled for November 2021 to consider the Findings for Denial. The Planning Commission’s final recommendations will be presented to the Board of Supervisors in a subsequent hearing.

Caveletto/Noel Housing (069-100-006, -051, -054, -057). Development of a residential community totaling 134 new homes in the Inner Village location. The project is currently under construction.

Ocean Meadows Residential Development (073-090-072). This project proposes to develop a residential community comprised of single-family homes and condominiums located in the Goleta area of unincorporated Santa Barbara County, California, adjacent to the University of California, Santa Barbara (UCSB). The project would include 32 single family homes and six residential condominiums. The MND was completed in July 2020 and the application is in process with the county of Santa Barbara.

Figure 3-1. Cumulative Projects Map



4.0 ENVIRONMENTAL IMPACT ANALYSIS

Pursuant to State CEQA Guidelines section 15060, the CSLC staff conducted a preliminary review of the proposed PRC 421 Decommissioning Project (Project) and determined that there is a potential for significant impacts resulting from the proposed Project. A preliminary list of environmental issues to be discussed in the Environmental Impact Report (EIR) is provided in Table 4-1 below. Based on initial internal scoping, the Project is not anticipated to impact the following environmental factors identified in State CEQA Guidelines Appendix G (Environmental Checklist Form).

- Agricultural and Forestry Resources
- Mineral Resources
- Wildfire
- Energy
- Population and Housing

However, the following resource areas have been included within the discussion provided in Sections 4.1 through 4.15 below.

- 4.1 - Aesthetics
- 4.2 - Air Quality
- 4.3 - Biological Resources
- 4.4 - Cultural Resources
- 4.5 - Cultural Resources – Tribal
- 4.6 - Geology, Soils, and Paleontological Resources
- 4.7 - Greenhouse Gas Emissions
- 4.8 - Hazards and Hazardous Materials
- 4.9 - Hydrology and Water Quality
- 4.10 - Land Use and Planning
- 4.11 - Noise
- 4.12 - Public Services
- 4.13 - Recreation
- 4.14 - Transportation and Traffic
- 4.15 - Utilities and Service Systems

The analysis included within each section contains a breakdown of potential impacts related to Components 1 and 2 of the Project individually, however, the Project as whole is also discussed.

Table 4-1. Anticipated Project Impacts Table

Environmental Topic	Anticipated Project Impacts	Analyzed in Section
Aesthetics	The analysis examines Project impacts resulting from visual impacts from several representative viewpoints. The removal of the oil and gas piers and wells/caissons is anticipated to have a beneficial impact in the immediate area.	Section 4.1
Agricultural and Forestry	There are no agricultural or forestry resources within or near the Project area.	Excluded from Further Analysis Based on

Environmental Topic	Anticipated Project Impacts	Analyzed in Section
Resources		Initial Internal Scoping
Air Quality	The analysis will examine emissions of criteria air pollutants and dust generated from decommissioning activities.	Section 4.2
Biological Resources	The analysis will examine potential decommissioning impacts (e.g., permanent loss or temporary disturbance to vegetation and wildlife habitat). The analysis will also examine proposed Project activities on federally or State-listed species or other sensitive species; conflicts with any local policies on biological resources; and any conflicts with local, regional, or State habitat conservation plans.	Section 4.3
Cultural Resources	The analysis will examine Project impacts to historic and architectural resources due to ground disturbance during decommissioning.	Section 4.4
Cultural Resources – Tribal	In accordance with Assembly Bill 52 and CEQA requirements, the analysis will address the presence of and impacts to tribal cultural resources in consultation with Native American Tribes.	Section 4.5
Energy	The proposed Project does not anticipate the potential for wasteful, inefficient, or unnecessary consumption of energy resources.	Excluded from Further Analysis Based on Initial Internal Scoping
Geology and Soils	The analysis will examine potential decommissioning impacts primarily associated with the potential for soil erosion.	Section 4.6
Greenhouse Gas Emissions	The analysis will examine Project emissions of greenhouse gases resulting from decommissioning activities.	Section 4.7

Environmental Topic	Anticipated Project Impacts	Analyzed in Section
Hazards and Hazardous Materials	The analysis will examine Project hazards and hazardous materials resulting from decommissioning activities (e.g., waste management and potential for accidental release of a hazardous material).	Section 4.8
Hydrology and Water Quality	The analysis will examine potential decommissioning-related impacts to drainage and flooding conditions, erosion and sedimentation inducement, and marine water quality.	Section 4.9
Land Use and Planning	The analysis will examine Project impacts with respect to the City's General Plan/Coastal Land Use Plan policies.	Section 4.10
Mineral Resources	There are no known mineral resources on the site, and it is anticipated the Project would not affect access to nearby resources.	Excluded from Further Analysis Based on Initial Internal Scoping
Noise	The analysis will examine Project impacts to ambient noise levels resulting from decommissioning activities.	Section 4.11
Population and Housing	The Project is temporary and would not require a change in the number of employees and would require only short-term demolition activities. The Project would neither induce substantial population growth in the area nor displace any people or housing units.	Excluded from Further Analysis Based on Initial Internal Scoping
Public Services	The Project is temporary and would not likely result in substantial demand for law enforcement, fire protection, and other public services.	Section 4.12
Recreation	The analysis will examine Project impacts to recreational activities and beach access during decommissioning activities.	Section 4.13
Transportation and Traffic	The analysis will examine Project decommissioning impacts to transportation and public access to roads and highways.	Section 4.14
Utilities and	The Project is temporary and would not	Section 4.15

Environmental Topic	Anticipated Project Impacts	Analyzed in Section
Service Systems	result in additional demand for water, wastewater treatment, or solid waste disposal services in excess of current capacities.	
Wildfire	The Project area is in the incorporated community of Goleta and is not located in a high fire hazard severity zone as identified by CalFire.	Excluded from Further Analysis Based on Initial Internal Scoping

4.1 AESTHETICS

This section describes existing public views and the visual character of onshore and offshore environments in the Project vicinity. The section also identifies applicable significance criteria and assesses the Project's potential impacts to aesthetics and their significance.

4.1.1 Methodology

4.1.1.1 Visual Sensitivity

Visual sensitivity is defined as the public attitudes about specific views, or interrelated views, and is a key factor in assessing how important a visual impact may be and whether or not it represents a significant impact. The importance of the affected landscape is inferred from the following indicators of sensitivity (High, Medium, and Low Sensitivity).

- <u>High Sensitivity</u> suggests that some part of the public would react strongly to a threat to visual quality. Concern is expected to be great because the affected views are unique, rare, or otherwise special to the region or locale. A highly concerned public is assumed to be more aware of any level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represents a substantial reduction in visual quality. Indicators of high visual sensitivity include:
    - Views of and from areas the aesthetic values of which are protected in laws, public regulations and policies, and public planning documents
    - Views of and from designated areas of aesthetic, recreational, cultural, or scientific interest, including national, State, county, and community parks, reserves, memorials, scenic roads, trails, interpretive sites of scientific value, scenic overlooks, recreation areas, and historic structures, sites, and districts
    - Views of and from areas or sites of cultural/religious importance to Native Americans
    - Views from national- or State-designated scenic highways or roads, or designated scenic highways or roads of regional importance
    - Views from resort areas
    - Views from urban residential subdivisions
    - Views from segments of travel routes, such as roads, rail lines, pedestrian and equestrian trails, and bicycle paths near designated areas of

aesthetic, recreational, cultural, or scientific interest leading directly to them. Views seen while approaching an area of interest may be closely related to the appreciation of the aesthetic, cultural, scientific, or recreational significance of that destination

- Moderate Sensitivity suggests that the public would probably voice some concern over substantial visual impacts. Often the affected views are secondary in importance or are similar to others commonly available to the public. Noticeably adverse changes would probably be tolerated if the essential character of the views remains dominant. Indicators of moderate visual sensitivity include:
  - Views from segments of travel routes near highly sensitive use areas of interest, serving as a secondary access route to those areas
  - Views from rural residential areas and segments of roads near them which serve as their primary access route
  - Views of and from undesignated but protected or popularly used or appreciated areas of aesthetic, recreational, cultural, or scientific significance at the local, county, or State level
  - Views from highways or roads locally designated as scenic routes and of importance only to the local population, or informally designated as such in literature, road maps, and road atlases
  - Views from travel routes, such as roads, trails, bicycle paths, and equestrian trails leading directly to protected or popularly used undesignated areas important for their aesthetic, recreational, cultural, or scientific interest
  - Views of and from religious facilities and cemeteries
- Low Sensitivity is considered to prevail where the public is expected to have little or no concern about changes in the landscape. This may be because the affected views are not “public” (inaccessible to the public) or because there is no indication that the affected views are valued by the public. For instance, little public concern for aesthetics is assumed to pertain to views from industrial, commercial, and purely agricultural areas, with some exceptions (e.g., some agricultural areas are prized for their open space value, and views of such are highly sensitive). Visual sensitivity is considered low for views from all sites, areas, and travel routes not identified as moderate or high in sensitivity. Indicators of low visual sensitivity include:
  - Views from travel routes serving as secondary access to moderately sensitive areas
  - Views from farmsteads, or groupings of fewer than four residences; and

- Views from industrial research/development, commercial, and agricultural use areas

4.1.1.2 Visual Character

The visual character of a landscape is typically described in terms of its landforms, vegetation, water features, and the “built” features of the environment. The current visual quality of the physical environment is described as its existing visual condition, which is defined in terms of four Visual Modification Classes (VMC) outlined in Table 4.1-2.

Table 4.1-2. Visual Modification Class (VMC) Definitions

VMC	Definition
1	**Not noticeable** Changes in the landscape are within the field of view but generally would be overlooked by all but the most concerned and interested viewers; they generally would not be noticed unless pointed out (inconspicuous because of such factors as distance, screening, low contrast with context, or other features in view, including the adverse impacts of past activities).
2	**Noticeable, visually subordinate** Changes in the landscape would not be overlooked (noticeable to most without being pointed out); they may attract some attention but do not compete for it with other features in the field of view, including the adverse impacts of past activities. Such changes often are perceived as being in the background.
3	**Distracting, visually co-dominant** Changes in the landscape compete for attention with other features in view, including the adverse impacts of past activities (attention is drawn to the change about as frequently as to other features in the landscape).
4	**Visually dominant, demands attention** Changes in the landscape are the focus of attention and tend to become the subject of the view; such changes often cause a lasting impression on the affected landscape.

Source: VMC definitions are adapted from the U.S. Bureau of Land Management Manual 8431 (1986)

4.1.2 Environmental Setting

The Project site can be seen from a number of public viewpoints including, but not limited to, Haskell’s Beach adjacent to the 421 piers/caissons, access roadway, rock revetment and wooden seawall; as well as the bluff tops from Ellwood Mesa extending east towards Coal Oil Point, and westward towards the Bacara Resort (Bacara Resort). The Project vicinity has been historically utilized in support of oil and gas operations and includes immediate views of the Ellwood Onshore Facility (EOF), 421-1 and 421-2 piers and caissons, and Sandpiper Golf Course onshore, as well as the former Bird Island

Pier Structure (replaced and now consisting of four bird roosting platforms), the Pacific Ocean, other platforms, and the Channel Islands offshore.

This area exists within an active stretch of beach that can be accessed by the public from a designated trail from the Bacara Resort parking area approximately 0.5 mile to the northwest and Ellwood Mesa Trail located approximately 0.5 mile to the southeast. Bell Canyon Creek is located adjacent to the western edge of the onshore portion of the Project site and the EOF. Bell Canyon Creek is an Environmentally Sensitive Habitat Area (ESHA) that is densely vegetated with native and non-native plant species. The Sandpiper Golf Course, a public golf course, is located on a bluff just north of and adjacent to the Project area, but at a higher elevation that makes the 421-1 and 421-2 piers only partially visible to golfers. Although a dirt access roadway serving the EOF and piers exists, there are no public trails from the golf course to the beach. The beach provides the only public access to the Project site, which is located within an area of High to Moderate Sensitivity. The Project area is highly sensitive because of the recreational nature of the surrounding beach and proximity to the Bacara Resort. However, the natural environment has been intermixed with industrial development for over 90 years.

Representative photographs of the Project site are provided below. The primary Project site is located along Haskell's Beach (Figures 4.1-1 and 4.1-2) and contains the 421-1 and 421-2 piers, wells, and caissons. The piers are accessed from the EOF through an easement within Sandpiper Golf Course that leads to the pier access roadway below the golf course along the bluff face (Figures 4.1-3 and 4.1-4). A rock and wooden seawall revetment are located along the access roadway and bluff face to stabilize this area and are a prominent contributing visual feature of the Project area (Figures 4.1-5 and 4.1-6). The existing views at the Project site are considered VMC Class 3 (Distracting) or visually co-dominant as existing PRC 421 facilities compete for attention with natural features in view.

4.1.3 Regulatory Setting

There are no federal regulations, authorities, or administering agencies that regulate aesthetic or visual resources that are specifically applicable to the Project. State laws, regulations, and policies regarding visual resources including California Coastal Act Chapter 3, Sections 30251 and 30253 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

Figure 4.1-1. 421-1 and 421-2 Piers and Caissons Looking East from Beach Level

Figure 4.1-2. 421-1 and 421-2 Piers and Caissons Looking West from Beach Level (Note: Bird Island Structure Offshore)

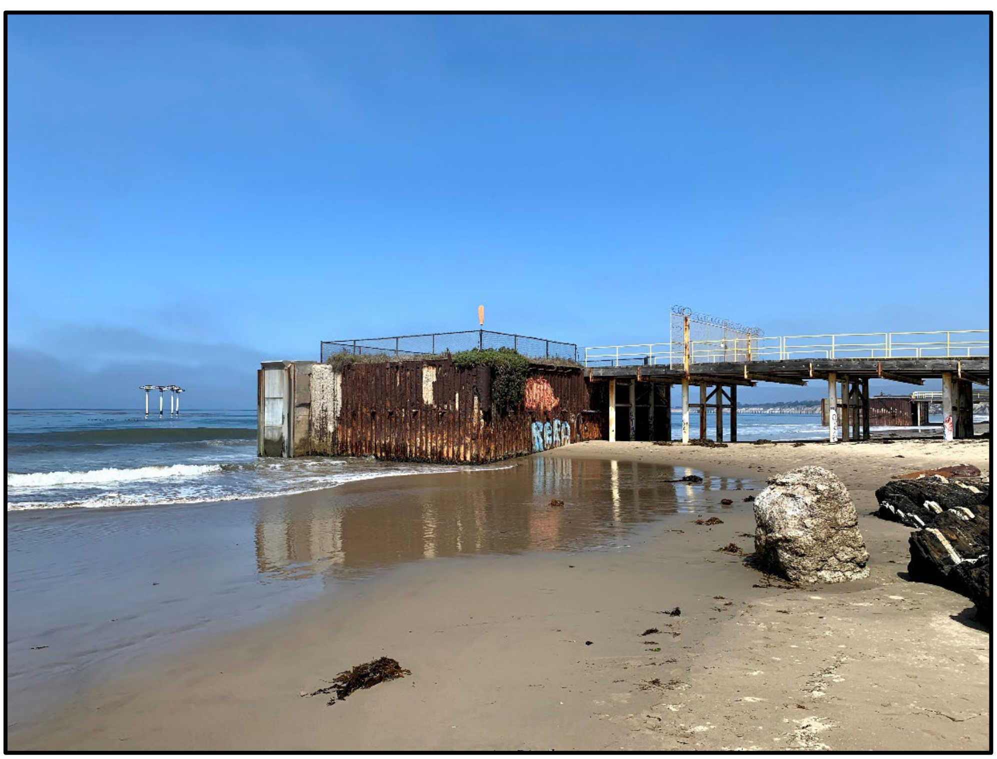


Figure 4.1-3. Access Road through Sandpiper Golf Course

Figure 4.1-4. Access Roadway Along Bluffs to Piers

Figure 4.1-5. Rock Revetment Looking West

Figure 4.1-6. Wooden Seawall Looking West

4.1.3.1 City of Goleta General Plan/Coastal Land Use Plan – Visual and Historic Resources Element

The city of Goleta General Plan/Coastal Land Use Plan (GP/CLUP), Visual and Historic Resources Element (2006f) identifies the following policies that are applicable to the proposed Project:

- **Coastal Act Policy 30251** of the California Coastal Act is adopted as a policy of the city of Goleta GP/CLUP for those areas of Goleta within the Coastal Zone (including the Project site). Coastal Act Policy 30251 states: 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 coastal areas, to minimize the alteration of natural landforms, 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 in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting
- **City Policy VH 1.1 (Scenic Resources)**: The City shall support the protection and preservation of the following scenic resources:
    - The open waters of the Pacific Ocean/Santa Barbara Channel, with the Channel Islands visible in the distance
    - Goleta's Pacific shoreline, including beaches, dunes, lagoons, coastal bluffs, and open coastal mesas
    - Goleta and Devereux Sloughs
    - Creeks and the vegetation associated with their riparian corridors
    - Agricultural areas, including orchards, lands in vegetable or other crop production, and fallow agricultural lands
    - Lake Los Carneros and the surrounding woodlands
    - Prominent natural landforms, such as the foothills and the Santa Ynez Mountains
- **City Policy VH 1.2 (Scenic Resources Map)**: The Scenic Resources Map in Figure 6-1 identifies locations on public roads, trails, parks, open spaces, and beaches that serve as public vantage points for viewing scenic resources. Views from these locations shall be protected by minimizing any impairment that could result from new development

- **City Policy VH 1.5 (Protection of Open Space Views)**: Views of open space, including agricultural lands, from public areas shall be protected. View protection associated with development should be accomplished first through site selection and then by use of design alternatives that enhance rather than obstruct or degrade such views. To minimize impacts to these scenic resources, the following development practices shall be used, where appropriate:
    - Limitations on the height and size of structures
    - Clustering of building sites and structures
    - Shared vehicular access to minimize curb cuts
    - Downcast, fully shielded, full cut-off lighting of the minimum intensity needed for the purpose
    - Use of landscaping for screening purposes and/or minimizing view blockage as applicable
    - Selection of colors and materials that harmonize with the surrounding landscape

4.1.4 Significance Criteria

Visual impacts are considered significant if one or a combination of the following apply:

- The project is inconsistent with or in violation of public policies, goals, plans, laws, regulations, or other directives concerning visual resources
- Routine operations and maintenance visually contrast with or degrade the character of the viewshed
- The project results in a perceptible reduction of visual quality, lasting for more than one year that is seen from moderately to highly sensitive viewing positions. A perceptible reduction of visual quality occurs when, for a highly sensitive view, the visual condition is lowered by at least one VMC; or for a moderately sensitive view, the condition is lowered by at least two VMCs
- Night lighting would result in glare conditions affecting nearby residences
- Because of the time factor involved in oil dispersion, visual impacts from spills are considered to be significant (i.e., a significant impact that remains significant after mitigation) if first response efforts would not contain or clean up the spill, resulting in residual impacts that would be visible to the general public on shoreline or water areas

4.1.5 Impact Analysis and Mitigation

The visual resources assessment focuses on identifying potentially significant impacts to public views in which the proposed Project would be most visible. Critical views are partly defined as those that are moderately to highly sensitive. The public is considered to have substantial concern over adverse changes in the quality of such views. Critical views are also defined as those public views that would be most affected by the subject action due to viewer proximity to the Project and the duration of the affected view. In this instance, critical views in the Project area are considered those from Haskell's Beach as well as those from the Ellwood Mesa bluffs towards the Project site. A discussion of potential Project impacts of each Project component and recommended Mitigation Measures (MMs) are provided below.

<u>Component 1</u>

Impact AES-1: Effects on Public Views from Decommissioning Activities (Component 1) Decommissioning associated with Component 1 would have temporary impacts to public views for approximately 5 months **(Less than Significant with Mitigation).**

Impact Discussion

Public views of the Project site from Haskell's Beach and adjacent bluff areas are currently enjoyed by recreational users at the beach, along the bluffs, and at the Sandpiper Golf Course. The Project site can also be seen from offshore boaters and other offshore recreational users. Public views would be temporarily degraded during Component 1 decommissioning activities from the presence of heavy construction equipment (e.g., excavators, crane) and stockpiles/bins of recovered materials placed in the staging area(s) prior to transport offsite. Additionally, lighting would be needed periodically to support work that may need to occur during nighttime low tide periods during caisson and pier removal activities (anticipated to require approximately 1-2 portable construction light towers). Lighting utilized would only be what is necessary for safety purposes and would be directed at the Project site. However, these visual impacts are considered VMC Class 3 (see Table 4.1-2) on a local scale as Project-related equipment and materials would be a distracting, co-dominant visual feature. However, this impact would be temporary, lasting about 5 months.

Although the use of heavy equipment during decommissioning activities would introduce an unnatural industrial element to the existing beach environment, it is important to note that periodic PRC 421 maintenance activities have also involved equipment working on or adjacent to the beach. Additionally, impacts on public views are considered less than significant with mitigation following implementation of **MM AES-1a** through **MM AES-1c**.

Mitigation Measures

MM AES-1a: Overnight Storage of Equipment. Equipment utilized shall be returned to the staging areas at the end of each workday, both for public safety and aesthetic considerations.

MM AES-1b: Material Removal at Construction Completion. All materials, equipment, and debris shall be removed from the site upon completion of each Project component.

MM AES-1c: Minimize Night Lighting. When required, lighting shall use the minimum number of fixtures and intensity needed for decommissioning activities. Fixtures shall be focused on work areas and fully shielded to minimize visibility from public viewing areas, wildlife habitats, migration routes, and other sensitive receptors.

Impact AES-2: Visual Improvements due to Removal of Component 1 Infrastructure (421-1 and 421-2 Pier and Wells/Caissons)

Removal of the 421-1 and 421-2 piers, wells, and caissons would restore this segment of Haskell's Beach to a more natural appearance **(Beneficial).**

Impact Discussion

Decommissioning and removal of the 421-1 and 421-2 piers and caissons (Component 1) would substantially improve the quality of public views and restore the visual character of the beach to a more natural condition. However, Component 1 would also include removal of a small, isolated area of coastal wetland vegetation (0.003 acres) located within the 421-2 caisson. Following completion of Component 1, the former pier and caisson areas would return to an open space beach area. All equipment and the temporary beach access ramp would be removed from the work area. A permanent benefit to public views would result.

Mitigation Measures

None required.

<u>Component 2</u>

Impact AES-3: Effects on Public Views from Decommissioning Activities (Component 2)

Decommissioning associated with Component 2 would have temporary impacts to the public views for approximately 3 months **(Less than Significant with Mitigation).**

Impact Discussion

Decommissioning of Component 2 would result in similar aesthetic impacts (VMC Class 3) as Component 1 to critical views of the Project site from the presence of heavy construction equipment. This visual impact would occur for about 3 months during daylight hours only. Although the use of heavy equipment during decommissioning activities would introduce an unnatural industrial element to the existing beach environment, it is important to note that periodic PRC 421 maintenance activities have also involved equipment working on or adjacent to the beach. Impacts on public views are considered less than significant following implementation of **MM AES-1a** and **MM AES-1b**.

Decommissioning associated with Component 2 would include removal of the existing rock revetment, wooden seawall, pier abutments, two Project-related pipelines back to the 12th tee, and access roadway from the (then) former 421-1 and 421-2 piers back to the 12th tee. This component would also return a portion of the beach and bluff toe back to natural conditions and improve visual quality. However, Component 2 would also include removal of some existing vegetation located along the southern perimeter of the access roadway. In addition, Component 2 would result in the disturbance and temporary loss of coastal wetlands within or adjacent to the access roadway. Removal of the rock revetment protecting the access roadway and subsequent modification of the bank (shoreline) and removal of road base would result in the permanent loss of wetlands along the access roadway. Refer to Section 4.3.4, *Biological Resources* for further discussion. However, with the inclusion of **MM BIO-5a** and **MM BIO-5b** (refer to Impact BIO-8: *Loss of Coastal Wetlands (Component 2)*, the impacts to wetlands associated with visual quality would be less than significant with mitigation.

Mitigation Measures

MM AES-1a: Overnight Storage of Equipment

MM AES-1b: Material Removal at Construction Completion

MM BIO-5a: Coastal Wetlands Mitigation (see Section 4.3.4, *Biological Resources*)

MM BIO-5b: Retain Coastal Wetlands Adjacent to Pier 421-2 (see Section 4.3.4, *Biological Resources*)

4.1.6 Cumulative Impacts Analysis

Components 1 and 2

Impact AES-4: Potential for Cumulative Aesthetic Impacts to Public Views

Decommissioning activities would contribute to cumulative impacts if adjacent projects were conducted at the same time **(Less than Significant with Mitigation).**

The proposed Project may incrementally contribute to cumulative aesthetics impacts associated with other projects that affect public views of and from Haskell's Beach. These other projects are anticipated to be limited to the Beach Hazards Removal Project and Bacara Beach House Relocation Project. The Beach Hazards Removal Project (managed by CSLC) would also require the short-term use of construction equipment to remove remnant oil and gas facilities; however, no hazard removal activities are currently scheduled within the Project area during the proposed decommissioning timeframe. In any case, both projects are intended to remove remnant oil and gas facilities from the area, which would be a long-term benefit to the visual quality and character of this stretch of beach.

The Bacara Beach House Relocation Project is located adjacent to the alternative Project access point from the Bacara Resort fire road access. If this project were to occur at the same time as the proposed decommissioning activities, it would also require the short-term use of construction equipment for demolition and construction activities. The simultaneous use of equipment for both projects would result in cumulative impacts to public views from Haskell's Beach. However, with implementation of **MMs AES-1a-c**, the Project's incremental contribution to cumulative impacts would not be considerable.

4.1.7 Summary of Impacts and Proposed Mitigation Measures

Table 4.1-3. Summary of Aesthetic Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact AES-1: Effects on Public Views from Decommissioning Activities (Component 1)	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting
Impact AES-2: Visual Improvements due to Removal of Component 1 Infrastructure (421-1 and 421-2 Pier and Wells/Caissons	None required.

Impact	Mitigation Measures
Impact AES-3: Effects on Public Views from Decommissioning Activities (Component 2)	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands Adjacent to Pier 421-2
Impact AES-4: Potential for Cumulative Aesthetic Impacts to Public Views (Components 1 and 2)	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting

4.2 AIR QUALITY

4.2.1 Environmental Setting

4.2.1.1 Climatological Setting

The Project area is characterized by cool winters and moderate summers tempered by cooling sea breezes. Summer, spring, and fall weather is generally a result of the movement and intensity of the semi-permanent high-pressure area located several hundred miles to the west. Winter weather is generally a result of the size and location of low-pressure weather systems originating in the North Pacific Ocean.

The Project site is located in the city of Goleta, Santa Barbara County. The nearest rainfall monitoring station is located at Dos Pueblos Ranch, approximately 2.8 miles west of PRC 421-1. At this station, the average monthly maximum precipitation is 4.11 inches in January, and the average monthly minimum is 0.04 inches in July, with an average annual precipitation of 18.40 inches. Temperature data from the Santa Barbara Airport indicate the maximum average monthly temperature is 74.9 degrees Fahrenheit in August and September, and the minimum average monthly temperature is 64.0 degrees Fahrenheit in January. Air quality in Santa Barbara County is directly related to emissions and regional topographic and meteorological factors.

4.2.1.2 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 (O_3) carbon monoxide (CO), oxides of nitrogen (NO_X), sulfur dioxide (SO_2), particulate matter with a diameter of 10 microns or less (PM_{10}) and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$).

4.2.1.3 Regulatory Overview

Air pollution control is administered on three governmental levels. The U.S. Environmental Protection Agency (USEPA) has jurisdiction under the Clean Air Act, the California Air Resources Board (CARB) has jurisdiction under the California Health and Safety Code and the California Clean Air Act, and local districts (Santa Barbara County Air Pollution Control District [SBCAPCD]) share responsibility with CARB for ensuring that all state and federal ambient air quality standards are attained.

California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The Project site is situated in the South-Central Coast Air Basin, which encompasses the counties of Ventura, Santa Barbara, and San Luis Obispo. The USEPA, CARB, and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether or not the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively.

4.2.1.4 Operating Permits

The EOF and PRC 421 facilities are considered part of the South Ellwood Field Source by the SBCAPCD. The EOF currently operates under Permit to Operate No. 7904-R11 and Part 70 Operating Permit No. 7904-06 issued by the SBCAPCD which were last updated in May 2018. Since the PRC 421 wells and associated pipelines ceased production, they are not addressed in these permits.

4.2.1.5 Air Quality Planning

Federal Attainment Planning

The federal government first adopted the Clean Air Act (CAA) in 1963 to improve air quality and protect citizens' health and welfare, which required implementation of the national ambient air quality standards. These standards are revised and changed when scientific evidence indicates a need. The CAA also requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments of 1990 added requirements for states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. Local air quality districts are responsible for preparing the portion of the SIP applicable within their boundaries; adoption of control regulations for stationary sources; and implementation of indirect source and transportation control measures.

The USEPA has been charged with implementing federal air quality programs, which includes the review and approval of all SIPs to determine conformation to the mandates of the CAA and its amendments, and to determine whether implementation of the SIPs will achieve air quality goals. If the USEPA determines that a SIP is inadequate, a Federal Implementation Plan that imposes additional control measures may be prepared for the non-attainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in application of sanctions to transportation funding and stationary air pollution sources within the air basin.

In 2001 a Clean Air Plan was prepared by the SBCAPCD to address the requirements of the CAA to demonstrate how Santa Barbara County would maintain attainment of the 1997 federal 1-hour ozone standard (0.08 ppm); however, the federal 1-hour ozone standard was revoked in 2005, and an 8-hour ozone standard was implemented. Santa

Barbara County was found to be in attainment of the 8-hour ozone standard and a 2007 Clean Air Plan was prepared to demonstrate maintenance of this standard.

State Attainment Planning

CARB establishes area designations for 10 pollutants: ozone, PM_{10}, $PM_{2.5}$, CO, NO_2, SO_2, sulfates, lead, hydrogen sulfide and visibility reducing particles. Areas are designated as attainment, non-attainment, nonattainment-transitional or unclassified for each State standard based on air quality data for the most recent three calendar years. In April 2017, Santa Barbara County's designation for ozone under the California Clean Air Act changed from nonattainment to nonattainment-transitional. This change in designation occurred because Santa Barbara County continued to have three or fewer exceedances of the ozone standard per calendar year. In response to this change in designation, the SBCAPCD was required to examine whether additional control measures were necessary to accomplish expeditious attainment or to maintain the State standard.

Along with the implementation of Statewide measures, the SBCAPCD's control measure strategy has successfully improved the County's air quality as indicated by the declining number of State 1-hour and 8-hour ozone exceedances that have occurred in Santa Barbara County since 1990. One-hour ozone standard exceedances have decreased from a high of 37 days in 1990 and 1991 to zero days in 2005, 2010, 2012, 2013, 2015, and 2016. The number of 8-hour ozone exceedance days range from a high of 97 days during 1991 to zero days in 2018. These significant improvements in air quality have occurred despite a 20 percent increase in County-wide population.

The 2019 Ozone Plan (2019 Plan) was the ninth triennial update to the initial State Air Quality Attainment Plan adopted by the SBCAPCD Board of Directors in 1991 (other updates were done in 1994, 1998, 2001, 2004, 2007, 2010, 2013, and 2016). Each of the plan updates have implemented an "every feasible measure" strategy to ensure continued progress toward attainment of the state ozone standards. Since 1992, Santa Barbara County has adopted or amended more than 25 control measures aimed at reducing emissions from stationary sources of air pollution. These measures have substantially reduced ozone precursor pollutants, which includes NO_x and reactive organic compounds (ROC).

However, in February 2021, CARB took action at a public hearing to change Santa Barbara County's designation from non-attainment-transitional to nonattainment for the State ozone standards. This change was based on two high ozone concentration values recorded in 2019. The SBCAPCD contends these two values are anomalies and not indicative of the County's air quality and attainment of the State ozone standards. The change in ozone designation is expected to be finalized by the end of 2021.

4.2.1.6 Air Quality Monitoring

The ambient air quality of Santa Barbara County is monitored by a network of 18 stations. The nearest air quality monitoring station to the Project site is the Goleta-Fairview station. As shown in Table 4.2-1, state or federal 8-hour ozone standards were exceeded on only one day at this station from 2018 through 2020. Concentrations of PM_{10} and $PM_{2.5}$ monitored at the Goleta-Fairview station periodically exceed the state standards and exceeded federal standards for $PM_{2.5}$ in 2018 and 2020.

Table 4.2-1. Summary of Ambient Air Pollutant Data Collected at the Goleta-Fairview Monitoring Station

Air Pollutant/Parameter	Standard	2018	2019	2020
Ozone (parts per million)				
Maximum 1-hour concentration monitored	-	0.077	0.072	0.084
Number of days exceeding CAAQS	0.09	0	0	0
Maximum 8-hour concentration monitored	-	0.056	0.062	0.068
Number of days exceeding 8-hour ozone NAAQS and CAAQS	0.070	0	0	0
PM_{10} (micrograms/cubic meter)				
Maximum 24-hour average sample (California sampler)	-	71.7	63.3	85.8
Number of samples exceeding CAAQS	50	4	2	11
Number of samples exceeding NAAQS	150	0	0	0
$PM_{2.5}$ (micrograms/cubic meter)				
Maximum 24-hour sample	-	35.6	26.3	61.2
Number of samples exceeding NAAQS	35	1	0	6

Data obtained from the CARB website (www.arb.ca.gov/adam/topfour/topfour1.php)
PM samples are collected every 6 days

4.2.1.7 Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Recreational land uses may be considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

The nearest residential land uses occur north of Hollister Avenue approximately 0.4 mile north-northeast of PRC 421-1, and on Island Oak Lane approximately 0.4 mile east of PRC 421-2.

4.2.2 Regulatory Setting

The air quality of the region (Santa Barbara County portion of the South-Central Coast Air Basin) is governed by a variety of federal, state, and local laws and regulations. Federal and state laws that may be relevant to the Project, including California Coastal Act Chapter 3, Section 30253, are identified in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

4.2.2.1 Local Authority

The SBCAPCD is the local agency that has primary responsibility for regulating stationary sources of air pollution located within Santa Barbara County. To this end, the SBCAPCD implements air quality programs required by state and federal mandates, develops and enforces local rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality. The SBCAPCD is also responsible for managing and permitting existing, new, and modified stationary sources of air pollutant emissions within the County.

4.2.2.2 Applicable Regulatory Requirements

The Portable Equipment Registration Program (PERP) establishes a uniform State-wide program to regulate portable engines and portable engine-driven equipment units. The term “portable” is defined as not residing at a location for more than 12 consecutive months. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts. To be eligible for the PERP, an engine must be certified to the current emission tier (non-road, on-highway, or marine). The PERP does not apply to self-propelled equipment (e.g., trucks, tractors, or any vehicle that converts its own energy supply into motive power used for propulsion) but would apply to any stationary construction equipment used for proposed decommissioning activities, such as air compressors or generators.

SBCAPCD rules and regulations applicable to activities to be conducted under the proposed Project are limited to potential nuisances (typically dust and odors):

- **Rule 303 (Nuisance)**: A person shall not discharge from any source whatsoever such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

4.2.2.3 City of Goleta GP/CLUP

The city of Goleta GP/CLUP has established policies relating to protecting air quality in the Conservation Element (2006). Policies applicable to the proposed Project are limited to Policy CE 12.3 which requires control of emissions during grading and construction, including:

- Watering active construction areas to reduce windborne emissions
- Covering trucks hauling soil, sand, and other loose materials
- Paving or applying nontoxic solid stabilizers on unpaved access roads and temporary parking areas
- Hydroseeding inactive construction areas
- Enclosing or covering open material stockpiles
- Revegetating graded areas immediately upon completion of work

4.2.3 Significance Criteria

The city of Goleta typically utilizes significance thresholds developed by the SBCAPCD, as documented in Scope and Content of Air Quality Sections in Environmental Documents (updated 2017) including the following long term (operational) and short term (construction) thresholds presented in Sections 4.2.3.1 and 4.2.3.2 below.

4.2.3.1 Long term (Operational) Sources

Long term (operational) impacts would occur if a Project:

- Emits (from all sources, both stationary and mobile) greater than the daily trigger for offsets in the SBCAPCD New Source Review Rule (240 pounds per day for NO_x or ROC; 80 pounds per day for PM_{10})

- Emits greater than 25 pounds per day of NO_x or ROC (motor vehicle trips only)
- Causes or contributes to a violation of a state or federal air quality standard (except ozone)
- Exceeds the health risk public notification thresholds (10 excess cancer cases in a million, hazard index of 1.0 for non-cancer risk)
- Is inconsistent with adopted state and federal Air Quality Plans (2019 Ozone Plan)

4.2.3.2 Short term (Construction) Sources

Air pollutant emissions generated by the proposed Project would be associated with short-term decommissioning activities. Therefore, the following threshold taken from SBCAPCD Rule 202 is appropriate:

- Construction emissions associated with a stationary source requiring a permit from SBCAPCD exceeding 25 tons of any pollutant (except carbon monoxide) in a 12-month period

4.2.4 Impact Analysis and Mitigation

Air pollutant emissions were estimated for each major Project phase to identify the peak 12-month period for comparison to the SBCAPCD's Rule 202 threshold. In addition, air pollutant emissions estimates were prepared separately for Components 1 and 2, as those portions of the project will occur sequentially, not concurrently. Air pollutant emissions were estimated using two models developed by CARB: EMFAC[10] 2021 for on-road vehicles and OFFROAD 2017 for off-road construction equipment. OFFROAD 2017 was used to develop emissions factors specific to the type and horsepower of heavy equipment likely to be used, location, and project start year (estimated 2022 equipment population within Santa Barbara County). EMFAC 2021 was used to develop motor vehicle emissions factors specific to the location and project start year (Santa Barbara County 2022).

<u>Component 1</u>

Impact AQ-1: Decommissioning-related Air Pollutant Emissions (Component 1)

Implementation of proposed Component 1 decommissioning activities would result in air pollutant emissions that may affect air quality **(Less than Significant).**

[10] EMission FACtor (EMFAC), a model that estimates the official emissions inventories of onroad mobile sources in California (https://arb.ca.gov/emfac/)

Impact Discussion

Use of heavy equipment, trucks, and worker vehicles would generate air pollutant emissions that may affect regional air quality. Table 4.2-2 provides a summary of Component 1 air pollutant emissions for each major activity. Although estimated air pollutant emissions would not exceed the SBCAPCD threshold, emissions reduction mitigation measures are provided to be consistent with SBCAPCD policies provided in Scope and Content of Air Quality Sections in Environmental Documents (updated 2017).

Table 4.2-2. Component 1 Air Pollutant Emissions Summary (tons)

Task	NO_x	ROC	PM_{10}	$PM_{2.5}$	CO
Caisson Internal Materials Removal	0.61	0.05	0.02	0.02	0.34
Well Abandonment	0.02	<0.01	<0.01	<0.01	0.01
Caisson Removal	0.91	0.08	0.03	0.03	0.48
Pier Removal	0.20	0.02	0.01	0.01	0.10
Pipeline Abandonment	0.02	<0.01	<0.01	<0.01	0.04
Site Restoration	0.02	<0.01	<0.01	<0.01	0.01
Total (Component 1)	**1.78**	**0.16**	**0.06**	**0.05**	**0.99**
SBCAPCD Rule 202 Threshold	*25*	*25*	*25*	*25*	--

Mitigation Measures

Estimated emissions listed in Table 4.2-2 are based on heavy equipment (in terms of the Santa Barbara County equipment population from the OFFROAD 2017 model) and vehicles (in terms of the vehicle population in use in Santa Barbara County from the EMFAC 2021 model) likely to be used to conduct proposed decommissioning activities, and do not reflect implementation of specific measures identified by the SBCAPCD.

MM AQ-1a: Fugitive Dust Control Measures. The contractors used to conduct decommissioning activities shall implement the following measures when applicable and feasible.

- Water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 miles per hour. Reclaimed water should be used whenever possible.

- Minimize amount of disturbed area and reduce on-site vehicle speeds to 15 miles per hour or less.
- If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than 2 days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Gravel pads shall be installed at all access points to prevent tracking of mud onto public roads.
- After clearing, grading, earth moving, or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- The contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Santa Barbara County Air Pollution Control District (SBCAPCD) prior to Project initiation.

MM AQ-1b: Equipment Exhaust Emissions Reduction Measures. The contractors used to conduct decommissioning activities shall implement the following measures when applicable and feasible.

- All portable diesel-powered construction equipment shall be registered with the State's portable equipment registration program OR shall obtain a SBCAPCD permit.
- Mobile construction equipment shall comply with the State Regulation for In-Use Off-Road Diesel Vehicles (Cal. Code of Regs., tit. 13, § 2449) to reduce NO_x, diesel particulate matter, and other criteria pollutant emissions.
- On-road vehicles shall comply with the State Regulation for In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles (Cal. Code of Regs., tit. 13, § 2025), to reduce diesel particulate matter, NO_x, and other criteria pollutants.
- Off-road and on-road diesel vehicles shall comply with California Code of Regulations, title 13, sections 2449(d)(3) and 2485, limiting engine idling time.
- Diesel equipment meeting the California Air Resources Board Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.

- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas, liquefied natural gas, propane, or biodiesel, should be used on-site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.

Although not required since Project-related emissions would not exceed the significance threshold, implementation of emissions reduction mitigation measures (**MM AQ-1a** and **MM AQ-1b**) recommended by the SBCAPCD would further reduce air pollutant emissions and may facilitate attainment of the State 8-hour ozone standard.

<u>Component 2</u>

Impact AQ-2: Decommissioning-related Air Pollutant Emissions (Component 2)

Implementation of proposed Component 2 decommissioning activities would result in air pollutant emissions that may affect air quality **(Less than Significant).**

Impact Discussion

Use of heavy equipment, trucks and worker vehicles would generate air pollutant emissions that may affect regional air quality. Table 4.2-3 provides a summary of Component 2 air pollutant emissions for each major activity. Although estimated air pollutant emissions would not exceed the SBCAPCD threshold, mitigation measures (**MM AQ-1a** and **MM AQ-1b**) are provided to be consistent with SBCAPCD policies provided in Scope and Content of Air Quality Sections in Environmental Documents (updated 2017).

Table 4.2-3. Component 2 Air Pollutant Emissions Summary (tons)

Task	NO_x	ROC	PM_{10}	$PM_{2.5}$	CO
Pipeline Removal	0.02	<0.01	<0.01	<0.01	0.02
Rock Revetment and Access Roadway Removal	0.50	0.04	0.02	0.02	0.29
Wooden Seawall and Associated Structures Removal	0.13	0.03	0.01	0.01	0.97
Pier Abutment Removal	0.05	0.01	<0.01	<0.01	0.03
Total (Component 2)	**0.69**	**0.08**	**0.03**	**0.02**	**1.31**
SBCAPCD Rule 202 Threshold	*25*	*25*	*25*	*25*	--

Mitigation Measures

Estimated emissions listed in Table 4.2-3 are based on heavy equipment (in terms of the Santa Barbara County equipment population from the OFFROAD 2017 model) and vehicles (in terms of the vehicle population in use in Santa Barbara County from the EMFAC 2021 model) likely to be used to conduct proposed decommissioning activities, and do not reflect implementation of specific measures identified by the SBCAPCD. **MM AQ-1a** and **MM AQ-1b** are applicable to Component 2.

Although not required since Project-related emissions would not exceed the significance threshold, implementation of emissions reduction mitigation measures **MM AQ-1a** and **MM AQ-1b** recommended by the SBCAPCD would reduce air pollutant emissions and may facilitate attainment of the State 8-hour ozone standard.

4.2.5 Cumulative Impacts Analysis

Components 1 and 2

Impact AQ-3: Cumulative Air Quality Impacts

The Project would incrementally contribute air pollutant emissions that may cumulatively affect air quality **(Less than Significant).**

Each of the cumulative projects identified in Section 3.0 would generate short-term construction air pollutant emissions that could affect regional air quality. Some of these projects would generate long-term operational emissions. The proposed Project would incrementally contribute to short-term cumulative impacts. However, Project-related emissions would be short-term and not exceed significance thresholds. Impacts would be further reduced by implementation of **MMs AQ-1a** and **AQ-1b**. Therefore, the Project contribution would not be cumulatively considerable.

4.2.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.2-4. Summary of Air Quality Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact AQ-1: Decommissioning-related Air Pollutant Emissions (Component 1)	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures
Impact AQ-2: Decommissioning-related Air Pollutant Emissions (Component 2)	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures
Impact AQ-3: Cumulative Air Quality Impacts (Components 1 and 2)	**MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures

4.3 BIOLOGICAL RESOURCES

4.3.1 Environmental Setting

4.3.1.1 Overview of the Project Site

For the purposes of assessing impacts to biological resources, the Project site is defined as the subject PRC 421 facilities and adjacent areas including the intertidal zone, affected portions within the Sandpiper Golf Course easements, the EOF, and the Bacara Resort fire road access (including along the beach). Most of this area has been disturbed by construction, maintenance, and decommissioning activities of the PRC 421 facilities, construction and maintenance of the Sandpiper Golf Course, and recreational use of the open space area west of Bell Canyon Creek.

Native vegetation includes southern coastal bluff scrub along the PRC 421 access roadway and adjacent bluff, southern foredunes along the beach, coastal saltmarsh within the Bell Canyon Creek estuary, coastal scrub habitat within the open space area west of Bell Canyon Creek. Wildlife habitats are small and fragmented by development (Sandpiper Golf Course, Bacara Resort), major roadways (U.S. Highway 101, Hollister Avenue), and the Union Pacific Railroad tracks.

4.3.1.2 Vegetation of the Project Site

The current vegetation classification system recommended by the California Department of Fish and Wildlife (CDFW) is the Manual of California Vegetation (Sawyer et al. 2008, available online at vegetation.cnps.org/search). However, the vegetation types used in this system do not adequately describe vegetation of the Project site, in part due to the fragmented and disturbed nature of the affected vegetation. Therefore, a more generalized system (Preliminary Descriptions of the Terrestrial Natural Communities of California – Holland 1986) was used to classify vegetation of the Project site. A vegetation map of the Project site is provided in Figures 4.3-1 through 4.3-3.

<u>Southern Coastal Bluff Scrub</u>. This plant community occurs on the seaward margin of the PRC 421 access roadway and adjacent coastal bluff. The dominant species are quail bush (*Atriplex lentiformis*), coastal golden-bush (*Isocoma menziesii*), coyote brush (*Baccharis pilularis*), and freeway iceplant (*Carpobrotus edulis*). Groundwater seepage areas along the toe of the bluff on the inland side of the PRC 421 access roadway support plant species characteristic of wetlands, including saltgrass (*Distichlis spicata*), rabbits-foot grass (*Polypogon monspeliensis*), heliotrope (*Heliotropium curassavicum*), and alkali heath (*Frankenia salina*).

PAGE LEFT INTENTIONALLY BLANK

Figure 4.3-1. Vegetation Map (1 of 3)

LEGEND:
Survey Area
Cliff malacothrix
Vegetation Type
BM - Brackish marsh
BS - Coastal bluff scrub
CG - Cypress grove
CM - Cattail marsh
CS - Coyote brush scrub
DV - Developed (EOF, golf course, roadways, piers)
EG - Eucalyptus groves
F - Foredunes
MS - Myoporum Stands
MW - Mixed weedy area
OW - Open water (creek)
SM - Coastal salt marsh
SS - Sagebrush scrub
WF - Willow riparian forest

MAP EXTENT:

Figure 4.3-2. Vegetation Map (2 of 3)

LEGEND:
Survey Area
Cliff malacothrix
Vegetation Type
BM - Brackish marsh
BS - Coastal bluff scrub
CG - Cypress grove
CM - Cattail marsh
CS - Coyote brush scrub
DV - Developed (EOF, golf course, roadways, piers)
EG - Eucalyptus groves
F - Foredunes
MS - Myoporum Stands
MW - Mixed weedy area
OW - Open water (creek)
SM - Coastal salt marsh
SS - Sagebrush scrub
WF - Willow riparian forest

MAP EXTENT:

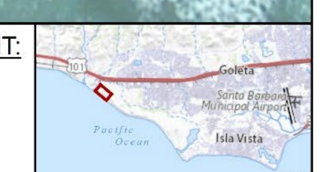


Figure 4.3-3. Vegetation Map (3 of 3)

PAGE LEFT INTENTIONALLY BLANK

Cliff malacothrix (*Malacothrix saxatilis saxatilis*), a plant of limited distribution also occurs within this community at the Project site. This plant community is considered as an Environmentally Sensitive Habitat Area (ESHA) under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the California Coastal Act (CCA).

Southern Coastal Salt Marsh. This plant community occurs along the seaward margin of the Bell Canyon Creek estuary and is dominated by saltgrass and fleshy jaumea (*Jaumea carnosa*), with patches of sea-coast bulrush (*Bolboschoenus robustus*) along the inland margin. This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Southern Foredunes. This plant community occurs adjacent to the beach above the high tide line, west of the PRC 421 facilities. Dominant species are beach bur (*Ambrosia chamissonis*), sea rocket (*Cakile maritima*), and freeway iceplant. Alkali heath and sand-verbena (*Abronia umbellata*) also occur at low density, typically further from the high tide line. This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Coastal Brackish Marsh. This plant community occurs within the Bell Canyon Creek estuary and is dominated by sea-coast bulrush, with California bulrush (*Schoenoplectus californicus*) becoming more common further inland. This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Cattail Marsh. This plant community occurs immediately north of the PRC 421 access roadway at Pier 421-2 and is dominated by broad-leaf cattail (*Typha latifolia*) and southern cattail (*Typha domingensis*). This freshwater marsh is supported by irrigation run-off from the Sandpiper Golf Course which is impounded by the access roadway and wooden seawall. This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Coyote Brush Scrub. This plant community occurs in a somewhat level area immediately west of the Bell Canyon Creek estuary and on the coastal bluff further west. The dominant species is coyote brush; however, freeway iceplant, California sagebrush (*Artemisia californica*), and California bush-sunflower (*Encelia californica*) occur at verifying densities within this community. This plant community may be considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA due to is coastal bluff location.

California Sagebrush Scrub. This plant community occurs on the coastal bluff between the Bacara Resort fire road access and Bell Canyon Creek. The dominant species is California sagebrush; however, coyote brush and California bush-sunflower occur at verifying densities within this community. This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Willow Riparian Forest. This plant community occurs along Bell Canyon Creek upstream of the estuary and is dominated by arroyo willow (*Salix lasiolepis*). However, coast live oak (*Quercus agrifolia*) becomes a dominant component further upstream closer to Hollister Avenue. Other species observed in this community along the EOF western boundary include California rose (*Rosa californica*), California blackberry (*Rubus ursinus*), and virgin's bower (*Clematis ligusticifolia*). This plant community is considered as ESHA under the city of Goleta's General Plan/Coastal Land Use Plan and Section 30107.5 of the CCA.

Eucalyptus Groves. This classification is used to describe windrows of blue gum trees (*Eucalyptus globulus*) planted along the east side of the EOF and west of Bell Canyon Creek.

Cypress Grove. This classification is used to describe a patch of Monterey cypress trees (*Hesperocyparis macrocarpa*) planted on the bluff just east of the Bacara Resort fire road access turnaround.

Myoporum Stands. This classification is used to describe stands of myoporum (*Myoporum laetum*). Other species present may include giant reed (*Arundo donax*) and castor bean (*Ricinus communis*).

Mixed Weedy Areas. This classification is used to describe areas periodically disturbed by storm flows and high tides that are dominated by a mixture of species, including freeway iceplant, saltgrass, white sweet clover (*Melilotus albus*), beach bur, and New Zealand spinach (*Tetragonia tetragoniodes*).

4.3.1.3 Flora of the Project Site

A total of 87 vascular plant species were recorded within or adjacent to the Project site during the August 2, 2021 biological survey and August 23, 2021, wetland delineation. Of these 87 species, only 40 (46 percent) are native to the region. Of the 47 non-native plant species recorded, 28 are considered invasive by the California Invasive Species Council, with five species rated as highly invasive, eleven species rated as moderately invasive, and 12 species rated as having limited invasiveness.

4.3.1.4 Freshwater/Estuarine Fish

Bell Canyon Creek is known to support tidewater goby (USFWS 2017) and may support other species such as partially armored three-spined stickleback (*Gasterosteus aculeatus microcephalus*). Unidentified larval fish were observed in the Bell Canyon Creek estuary during the August 2, 2021 biological survey.

4.3.1.5 Amphibians and Reptiles

Bell Canyon Creek is known to support California red-legged frog (*Rana draytonii*) (USFWS 2017). This Creek and the cattail marsh near Pier 421-2 may support other species such as Baja California treefrog (*Pseudacris hypochondriaca*) and western toad (*Anaxyrus boreas*). However, the breeding pool habitat within the cattail marsh is limited to a very small area by the dense cattails. Amphibians and reptiles observed during the August 2, 2021, biological survey of the Project site was limited to western fence lizard (*Sceloporus occidentalis*), observed foraging in the dunes and adjacent scrub.

4.3.1.6 Birds

Haskell's Beach is located just west of PRC 421 and is a local birding hotspot. EBird.org has recorded 169 bird species observed from Haskell's Beach by local birders. Four bird roosting/nesting structures (known as Bird Island) were installed offshore in 2005, approximately 800 feet southwest of Pier 421-1 to replace habitat removed as part of decommissioning of the remnant PRC 421 pierhead structure. These bird roosting/nesting structures support primarily Brandt's cormorant with 114 nests and 224 individuals reported in 2010 (Lehman 2019). Birds observed during the August 2, 2021 biological survey of the Project site and August 29, 2021 bat survey included great blue heron (*Ardea herodias*), black phoebe (*Sayornis nigricans*), snowy egret (*Egretta thula*), house finch (*Carpodacus mexicanus*), hooded oriole (*Icterus cucullatus*), Brandt's cormorant (*Phalacrocorax penicillatus*, approximately 150 on Bird Island), western gull (*Larus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*, offshore of Pier 421-1), rock pigeon (*Columba livia*, likely nesting at Pier 421-2), cliff swallow (*Petrochelidon pyrrhonota*, nesting at Pier 421-1), song sparrow (*Melospiza melodia*), rough-winged swallow (*Stelgidopteryx serripennis*), brown pelican (*Pelecanus occidentalis*, resting on beach and flying overhead), willet (*Tringa semipalmata*), mallard (*Anas platyrhynchos*), common raven (*Corvus corax*), California towhee (*Melozone crissalis*), killdeer (*Charadrius vociferus*), great horned owl (*Bubo virginianus*), and Allen's hummingbird (*Selasphorus sasin*).

4.3.1.7 Terrestrial Mammals

Habitat for terrestrial mammals in the Project area is limited by the adjacent marine waters and surrounding development (Sandpiper Golf Course, EOF, Bacara Resort). However, the Bell Canyon Creek riparian corridor and estuary, and open space areas west of the creek provide suitable habitat for common mammals of the region. Mammals observed during the August 2, 2021, biological survey of the Project site were limited to California ground squirrel (*Spermophilus beecheyi*) and pocket gopher (*Thomomys bottae*), observed at the Sandpiper Golf Course.

A bat survey was conducted on the evening of July 29, 2021, which included visual observation and ultrasonic acoustic recordings at both caissons. Approximately 39 bats were observed leaving crevices formed by the concrete caisson walls and deteriorated sheet pile covering at dusk at the 421-2 caisson. Processing of the ultrasonic recordings to identify characteristic calls of each bat species identified 210 calls from big brown bats (*Eptesicus fuscus*), five from Mexican free-tailed bats (*Tadarida brasiliensis*), and two from California myotis (*Myotis californicus*). The two latter species were likely flyovers from the nearby vicinity near the golf course and other habitat areas as they were the last calls recorded. It is more likely that the only species using the caisson as a roost is the big brown bat. The 421-2 caisson is considered a day roost since bats were present prior to dusk and were observed leaving to forage. In addition, about 12 striped skunks (*Mephitis mephitis*) were observed foraging along the beach during the bat survey.

4.3.1.8 Wildlife Movement Corridors

Wildlife migration corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Migration corridors may be local such as between foraging and nesting or denning areas, or they may be regional in nature. Migration corridors are not unidirectional access routes; however, reference is usually made to source and receiver areas in discussions of wildlife movement networks. "Habitat linkages" are migration corridors that contain contiguous strips of native vegetation between source and receiver areas. Habitat linkages provide cover and forage sufficient for temporary habitation by a variety of ground-dwelling animal species. Wildlife migration corridors are essential to the regional ecology of an area as they provide avenues of genetic exchange and allow animals to access alternative territories as fluctuating dispersal pressures dictate.

Regional wildlife movement in the vicinity of the Project site is anticipated to occur between the coastal terrace and foothill areas. Although U.S. Highway 101 forms a major barrier to these movements, the Bell Canyon Creek culvert under this roadway and cover provided by riparian vegetation allows for some regional wildlife movement. Local wildlife movements may occur along the coast south of U.S. Highway 101, likely between Santa Barbara Shores Park and the Naples area. Such movement is hampered by golf course operations and may occur mostly at night. The Project site does not provide suitable habitat or cover or connect two habitat areas. Therefore, meaningful wildlife movement (benefiting population persistence and expansion) through the site is not anticipated.

4.3.1.9 Sensitive Terrestrial Communities

Sensitive natural communities may include those that are considered ESHA by the city of Goleta and Section 30107.5 of the CCA, rare by the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) or considered sensitive by other trustee agencies or the scientific community. For the purposes of this

EIR, southern coastal bluff scrub, southern coastal salt marsh, southern foredunes, coastal brackish marsh, cattail marsh, California sagebrush scrub, and willow riparian forest are considered sensitive natural communities.

4.3.1.10 Environmentally Sensitive Habitat Areas

Sections 30230, 30231, 30233, and 30240 of the Coastal Act of 1976 require protection of marine resources and estuaries. The city of Goleta has mapped ESHA in the Project area as part of their General Plan/Coastal Land Use Plan. Designated ESHA within or adjacent to the Project site according to the city, and in accordance with Section 30107.5 of the CCA, includes:

- Beach and shoreline (beach supporting PRC 421 piers and caissons)
- Sage scrub/dune/bluff scrub (bluff above the PRC 421 access roadway, coastal scrub and foredunes adjacent to and west of the Bell Canyon Creek estuary)
- Riparian/marsh/vernal pool (Bell Canyon Creek)
- Monarch butterfly and raptor roosting habitat (eucalyptus stands west of Bell Canyon Creek)

4.3.1.11 Regulated Waters and Wetlands

The term wetland is used to describe a particular landscape characterized by inundation or saturation with water for a sufficient duration to result in the alteration of physical, chemical, and biological elements relative to the surrounding landscape. Wetland areas are characterized by prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands provide habitats that are essential to the survival of many threatened or endangered species as well as other wetland dependent species. Wetlands also have value to the public for flood retention, storm abatement, aquifer recharge, water quality improvement, and for aesthetic qualities. Wetlands also play a role in the maintenance of air and water quality and contribute to the stability of global levels of available nitrogen, atmospheric sulfur, carbon dioxide, and methane. Wetlands are rapidly declining within California and efforts are being made to maintain and preserve remaining wetlands within the State.

Regulatory agencies with jurisdiction over wetlands include the U.S. Army Corps of Engineers (USACE) with authority to enforce two federal regulations involving wetland preservation; the Clean Water Act (Section 404), which regulates the disposal of dredge and fill materials in waters of the U.S., and the Rivers and Harbors Act of 1899 (Section 10), which regulates diking, filling, and placement of structures in navigable waterways. State regulatory agencies with jurisdiction over wetlands include the State Water Resources Control Board that enforces compliance with the Federal Clean Water Act (Section 401) regulating water quality; the California Coastal Commission (CCC), which regulates development within the coastal zone as stipulated in the California Coastal

Act (Sections 30230, 30231, 30233, and 30240 apply to preservation and protection of wetlands); and the CDFW, which asserts jurisdiction over waters and wetlands with actions that involve alterations to streams or lakes by issuing Streambed Alteration Agreements under Section 1602 of the California Fish and Game Code.

Definitions. In the Clean Water Act regulations (33 CFR 328.3.a, effective June 22, 2020), the term "waters of the U.S." is defined as follows:

- The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide
- Tributaries
- Lakes and ponds, and impoundments of jurisdictional waters
- Adjacent wetlands

Under USACE and USEPA regulations, wetlands are defined as:

> *"those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."*

In tidal waters (such as in the PRC 421 lease area) the landward limits of USACE jurisdiction extends to the high tide line. In non-tidal waters, the lateral extent of USACE jurisdiction is determined by the ordinary high-water mark (OHWM) and extends to the limit of adjacent wetlands (33 CFR 328.4). The OHWM is defined as the: "…line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." (33 CFR 328.c.7).

The U.S. Fish and Wildlife Service (USFWS), CDFW, and the city of Goleta define wetlands as:

> *"…lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification, wetlands must have one or more of the following attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with*

water or covered by shallow water at some time during the growing season each year."

The CCC's regulations establish a "one parameter definition" that only requires evidence of a single parameter to establish coastal wetland conditions:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (Cal. Code Regs., tit. 14, § 13577).*

The CCC's regulations provide general decision rules for establishing the upland boundary of coastal wetlands:

- The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover[11]
- The boundary between soil that is predominantly hydric and soil that is predominantly nonhydric
- In the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not (Cal. Code Regs., tit. 14, § 13577)

A coastal wetlands delineation was completed for the Project on August 23, 2021, using methodology provided in the *Arid West Supplement to the Corps Wetland Delineation Manual*. Areas meeting the coastal wetlands definition (sum of all areas exhibiting dominance by hydrophytic vegetation, indicators of wetland hydrology, and hydric soils) are mapped on Figures 4.3-4 and 4.3-5, and the area of each wetland polygon is quantified in Table 4.3-1. A total of 0.24 acre of coastal wetlands were found within or adjacent to PRC 421 facilities.

[11] Hydrophytic cover = vegetation adapted to saturated soils; Mesophytic cover = vegetation adapted to moderate soil moisture; Xerophytic cover = vegetation adapted to low soil moisture

PAGE LEFT INTENTIONALLY BLANK

Figure 4.3-4. Coastal Wetlands Map (1 of 2)

Figure 4.3-5. Coastal Wetlands Map (2 of 2)

Table 4.3-1. Coastal Wetlands Delineation Results

Wetland No.	Location	Area (acres)
W-1	Adjacent to access roadway at the EOF back gate	0.005
W-2	North of Pier 421-2	0.117
W-3	421-2 caisson fill	0.003
W-4	Access roadway near Pier 421-2	0.037
W-5	Access roadway, bluff toe	0.007
W-6	Access roadway, near rock revetment	0.002
W-7	Access roadway, bluff toe	0.004
W-8	Access roadway, bluff toe	0.006
W-9	Access roadway	0.003
W-10	Access roadway, bluff toe	0.026
W-11	Access roadway, near rock revetment	0.002
W-12	Access roadway, near rock revetment	0.006
W-13	Access roadway, bluff toe	0.001
W-14	Access roadway, bluff toe	0.004
W-15	Access roadway, near rock revetment	0.002
W-16	Rock revetment	0.002
W-17	Access roadway, bluff toe	0.003
W-18	Beach near access ramp	0.007
	Total	**0.237**

4.3.1.12 Special-Status Plant Species

Special-status plant species are either listed as endangered or threatened under the Federal or California Endangered Species Acts, rare under the California Native Plant Protection Act, Sections 30107.5 and 30240 of the CCA, or considered to be rare (but not formally listed) by resource agencies, professional organizations (California Native Plant Society [CNPS]), and the scientific community. For the purposes of this Project, special-status plant species are defined below.

- Plants listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species)

- Plants that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register November 16, 2020)
- Plants that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines, § 15380)
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (Lists 1B and 2)
- Plants listed by the CNPS as plants about which we need more information and plants of limited distribution (Lists 3 and 4)
- Plants listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (Cal. Code Regs., tit. 14, § 670.5)
- Plants listed under the California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.)
- Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range
- Plants listed as "Rare Plants of Santa Barbara County" by the Santa Barbara Botanic Garden (updated 2012)

The literature search and field surveys conducted for this impact analysis indicates that six special-status plant species have been reported within 3 miles of the Project site. Table 4.3-2 identifies the current regulatory status and nearest known location of each species, relative to the Project site. Only cliff malacothrix was observed during the biological survey conducted for the Project; other species are considered absent from the Project site.

Table 4.3-2. Special-Status Plant Species Reported within Three Miles of the Project Site

Common Name (*Scientific Name*)	Status	Nearest Known Location	Flowering Period	Discussion
Red sand-verbena (*Abronia maritima*)	List 4, SBBG	Deveraux Dunes (1964), about 1.8 miles southeast of Pier 421-2 (Consortium of California Herbaria 2021)	February to November	Foredune habitat present west of Bell Canyon Creek, but not observed during botanical survey
Southern tarplant (*Centromadia parryi ssp. australis*)	List 1B, SBBG	Coal Oil Point Reserve (1997), 1.5 miles east of Pier 421-2 (CNDDB 2021)	May to November	Suitable habitat is not present in Project vicinity

Common Name (*Scientific Name*)	Status	Nearest Known Location	Flowering Period	Discussion
Mesa horkelia (*Horkelia cuneata var. puberula*)	List 1B, SBBG	Near Farren Road (1981), 1.9 miles northwest of Pier 421-1 (CNDDB 2021)	February to July	Coastal scrub habitat is present west of Bell Canyon Creek, but not observed during botanical survey
Santa Barbara honeysuckle (*Lonicera subspicata* var. *subspicata*)	List 1B	Along Cathedral Oaks Road (2015), 0.5 mile north of Pier 421-1 (CNDDB 2021)	May to December	Suitable chaparral habitat is not present in Project vicinity
Cliff malacothrix (*Malacothrix saxatilis var. saxatilis*)	List 4	Found on-site	March to September	Observed along the PRC 421 access roadway and adjacent bluff during the biological field survey
Black-flowered figwort (*Scrophularia atrata*)	List 1B	Deveraux Dunes (1958), about 2 miles east-southeast of Pier 421-2 (CNDDB 2021)	March to July	Suitable habitat is not present in Project vicinity

List 1B Plants rare, threatened, or endangered in California and elsewhere (CNPS)
List 4 Plants of limited distribution (CNPS)
SBBG Rare Plant (Santa Barbara Botanic Garden)

4.3.1.13 Special-Status Terrestrial Wildlife Species

For the purposes of this Project, special-status wildlife species are defined below.

- Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (Federal Register November 16, 2020).
- Animals that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines, § 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the California Endangered Species Act (Cal. Code Regs., tit. 14, § 670.5).

- Animal species of special concern to the CDFW (Shuford & Gardali (2008) for birds; Williams (1986) for mammals; Moyle et al. (2015) for fish; and Thomson et al. (2016) for amphibians and reptiles).
- Animal species that are fully protected in California (Fish & G. Code, §§ 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Marine mammals protected under the Marine Mammal Protection Act.

Literature research and field surveys conducted for this impact analysis indicates that 37 special-status wildlife species have been reported from within 3 miles of the Project site. Information regarding regulatory status and known location of these species relative to the Project site is provided in Table 4.3-3.

Table 4.3-3. Special-Status Terrestrial Invertebrate, Fish, and Wildlife Species Reported within Three Miles of the Project Site

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project Site	Potential to Occur at the Project Site
Invertebrates			
Globose dune beetle (*Coelus globosus*)	IUCN-V	Haskell’s Beach (1987), 0.4 mile northwest of the PRC 421 access roadway (CNDDB 2021)	A small patch of suitable foredune habitat is present west of Bell Canyon Creek
Sandy beach tiger beetle (*Cicindela hirticollis gravida*)	SA	Coal Oil Point (2003), 2.0 miles southeast of Pier 421-2 (CNDDB 2021)	Suitable habitat does not occur in proximity to PRC 421
Crotch bumblebee (*Bombus crotchii*)	SC	Santa Barbara Shores Park (2017), 0.6 mile southeast of Pier 421-2 (CNDDB 2021)	Suitable habitat does not occur in proximity to PRC 421
Monarch butterfly (*Danaus plexippus*)	FC	Bell Canyon (six observed in 2016), 0.2 mile northwest of the PRC 421 access roadway (Xerces Society 2020)	Species not observed in Bell Canyon since 2016 during annual Thanksgiving surveys

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project Site	Potential to Occur at the Project Site
Fish			
Tidewater goby (*Eucyclogobius newberryi*)	FE	Bell Canyon Creek (2011), 0.4 mile north of the PRC 421 access roadway (USFWS 2017)	Assumed present in Bell Canyon Creek and estuary
Amphibians			
California red-legged frog (*Rana draytoni*)	FT, CSC	Bell Canyon Creek (2011), 0.4 mile north of Pier 421-1 (USFWS 2017)	Assumed present in Bell Canyon Creek upstream of the estuary
Coast Range newt (*Taricha torosa*)	CSC	Ellwood Canyon (2011), 1.7 miles north-northeast of Pier 421-1 (CNDDB 2021)	Suitable habitat does not occur in proximity to PRC 421
Reptiles			
Western pond turtle (*Emys marmorata*)	CSC, IUCN-V	Deveraux Creek (2007), 1.7 miles east of Pier 421-2 (CNDDB 2021)	May occur in Bell Canyon Creek upstream of the estuary
Birds			
Brown pelican (*Pelecanus occidentalis*)	FP	Observed resting on beach at Project site during the biological field survey	Present on beach at PRC 421
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSC	Breeds at Coal Oil Point, 2.2 miles southeast of Pier 421-2 (CNDDB 2021), observed wintering at Haskell's Beach (2012), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	Potentially present during the non-breeding season on the beach at PRC 421

Common Name (*Scientific Name*)	**Status**	**Nearest Known Occurrence to the Project Site**	**Potential to Occur at the Project Site**
Common loon (*Gavia immer*)	CSC (nesting)	Fairly common fall transient and winter visitor in the region (Lehman 2019), observed from Haskell's Beach (April 2019), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
California gull (*Larus californicus*)	WL (nesting), BCC	Common transient and winter visitor in the region (Lehman 2019), observed from Haskell's Beach (July 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, not anticipated to be present at the Project site
Elegant tern (*Sterna elegans*)	WL (nesting), BCC	Common summer and fall visitor in the region (Lehman 2019), observed from Haskell's Beach (October 2020), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Caspian tern (*Sterna caspia*)	SA (nesting)	Fairly common transient and summer visitor in the region (Lehman 2019), observed from Haskell's Beach (April 2018), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
California least tern (*Sternula antilarum browni*)	FE, SE, FP	Rare but regular transient, post-breeding visitor and recent irregular breeder in the region, reported to nest at Coal Oil Point in 2004 and 2007 (Lehman 2019)	May occur as a local transient, suitable foraging habitat is not present at the Project site

Common Name (*Scientific Name*)	**Status**	**Nearest Known Occurrence to the Project Site**	**Potential to Occur at the Project Site**
Double-crested cormorant (*Phalacrocorax auritus*)	WL (nesting)	Observed offshore of Pier 421-1 during biological field survey. The nearest nesting site is near Summerland (Lehman 2019)	Likely to forage nearby
Great blue heron (*Ardea herodias*)	SA (nesting)	Fairly common to common permanent resident in the region (Lehman 2019), observed from Haskell's Beach (July 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021). Occasionally breeds at UCSB Campus Lagoon (CNDDB 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Great egret (*Ardea alba*)	SA (nesting)	Fairly common transient and winter visitor in the region (Lehman 2019), observed from Haskell's Beach (July 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021). Breeds at Goleta Beach (CNDDB 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Snowy egret *(Egretta thula*)	SA (nesting)	Common transient and winter visitor in the region (Lehman 2019), observed from Haskell's Beach (July 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	Observed foraging along the beach and in the Bell Canyon Creek estuary during the biological survey. Nesting habitat is not present at the Project site

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project Site	Potential to Occur at the Project Site
Black-crowned night heron (*Nycticorax nycticorax*)	SA (nesting)	Common, but local permanent resident in the region (Lehman 2019), observed from Haskell’s Beach (April 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
White-faced ibis (*Plegadis chihi*)	WL (nesting)	Rare transient in the region (Lehman 2019), observed from Haskell’s Beach (May 2016), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Brant (*Branta bernicla*)	CSC (winter, staging)	Common to abundant spring transient in the region (Lehman 2019), observed from Haskell’s Beach (January 2016), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Osprey (*Pandion haliaetus*)	WL (nesting)	Rare fall/winter transient in the region (Lehman 2019), observed from Haskell’s Beach (October 2020), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project Site	Potential to Occur at the Project Site
White-tailed kite (*Elanus leucurus*)	FP (nesting)	Uncommon resident in the region (Lehman 2019), observed from Haskell's Beach (2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org, 2021). Reported nesting at Coal Oil Point Reserve (2002), 1.5 miles east-southeast of Pier 421-2 (CNDDB 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Ferruginous hawk (*Buteo regalis*)	WL, BCC	Very rare fall transient and winter visitor in the region (Lehman 2019), reported from near Farren Road (November 1992), 0.9 mile northwest of the PRC 421 access roadway (CNDDB 2021)	May occur as a local transient, could forage in woodland along Bell Canyon Creek
Cooper's hawk (*Accipiter cooperi*)	WL (nesting)	Uncommon resident in the region, but becoming more common (Lehman 2019), observed from Haskell's Beach (June 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May forage and possibly breed in woodland along Bell Canyon Creek
Burrowing owl (*Athene cunicularia*)	CSC, BCC	Rare transient and winter visitor in the region (Lehman 2019), reported wintering near Deveraux Slough (2001), 1.7 miles southeast of Pier 421-2 (CNDDB 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Peregrine falcon (*Falco peregrinus*)	FP (nesting)	Uncommon fall/winter visitor in the region, (Lehman 2019), observed from Haskell's Beach (July 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site

Common Name (*Scientific Name*)	Status	Nearest Known Occurrence to the Project Site	Potential to Occur at the Project Site
Merlin (*Falco columbarius*)	WL (wintering)	Very uncommon winter visitor in the region (Lehman 2019), observed from Haskell's Beach (December 2017), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Long-billed curlew (*Numenius americanus*)	WL (nesting), BCC	Uncommon fall migrant in the region (Lehman 2019), observed from Haskell's Beach (January 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a fall transient on the beach at PRC 421
Loggerhead shrike (*Lanius ludovicianus*)	CSC (nesting)	Rare and irregular breeder in the Project area (Lehman 2019), observed from Haskell's Beach (October 2020), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
California horned lark (*Eremophila alpestris actia*)	WL	Uncommon migrant in the region (Lehman 2019), observed from Haskell's Beach (February 2012), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Yellow warbler (*Setophaga petechia brewsteri*)	CSC (nesting)	Uncommon to fairly common breeder in the region (Lehman 2019), observed from Haskell's Beach (May 2021), about 0.3 mile northwest of the PRC 421 access roadway (eBird.org 2021)	May forage and possibly breed in riparian woodland along Bell Canyon Creek

Common Name (*Scientific Name*)	**Status**	**Nearest Known Occurrence to the Project Site**	**Potential to Occur at the Project Site**
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	WL	Uncommon to locally fairly common resident in the region (Lehman 2019), reported from Ellwood Canyon (1992), 2.2 miles north of Pier 421-1 (CNDDB 2021)	May occur as a local transient, suitable foraging habitat is not present at the Project site
Belding's savannah sparrow *(Passerculus sandwichensis beldingi*)	SE	Very local, fairly common permanent resident in the region (Lehman 2019), reported breeding at Deveraux Slough (2010), 2.0 miles southeast of Pier 421-2 (Zembal et al. 2015)	Suitable habitat is not present at the Project site
Mammals			
Western red bat (*Lasiurus blossevillii*)	CSC, WBWG-H	North Campus wetlands (2017), 2.0 miles east-southeast of Pier 421-2 (CNDDB 2021)	Suitable habitat is not present at the Project site
Pallid bat (*Antrozous pallidus*)	CSC, WBWG-H	North Campus wetlands (2017), 2.0 miles east-southeast of Pier 421-2 (CNDDB 2021)	Suitable habitat is not present at the Project site

<u>Status Codes</u>
BCC Birds of Conservation Concern (USFWS)
CSC California Species of Special Concern (CDFW)
FC Federal Candidate for listing (USFWS)
FE Federal Endangered (USFWS)
FT Federal Threatened (USFWS)
FP Protected under the California Fish and Game Code (CDFW)
IUCN-V International Union of the Conservation of Nature-Vulnerable
SA Special Animal (CDFW)
SC State Candidate for listing (CDFW)
SE State Endangered (CDFW)
WL Watch List (CDFW)
WBWG-H Western Bat Working Group-high priority

4.3.1.14 Nearshore Marine Resources

<u>Intertidal Resources</u>. The intertidal zone within the Project area consists primarily of sand with a mosaic of intermittent low- to medium-relief rocks and soft-bottom sediments. The intertidal zone is a dynamic environment influenced in part by daily tidal

fluctuations (leading to high concentrations of sunlight, and periods of aerial exposure) and wave forces. Common upper intertidal invertebrates characteristic of sandy beaches include beach-hoppers (*Orchestoidea* sp.), predatory isopods (*Excirolana* sp.), polychaete worms (including the blood worm *Euzononus mucronata*), and beetles (including *Thinopinus pictus*). Middle intertidal invertebrates are characterized by sand crabs (*Emerita analoga, Lepidopa californica*), polychaetes (*Nephtys californica*), snails (including *Olivella biplicata*), and clams (including *Donax gouldi*).

Common invertebrates in the low intertidal zone are predominantly polychaetes and nemertean worms (Thompson et al. 1993). Common intertidal species found on exposed rocks and pier pilings include mussels (*Mytilus californianus*), barnacles (*Balanus* spp.), various species of red and brown turf algae, and bryozoans.

Fishes occurring in sandy intertidal areas typically include topsmelt (*Atherinops affinis*), shiner surfperch (*Cymatogaster aggregata*), northern anchovy (*Engraulis mordax*), diamond turbot (*Hypsopsetta guttalata*), Pacific staghorn sculpin (*Leptocottus armatus*), striped mullet (*Mugil cephalus*), California halibut (*Paralichthys californicus*), starry flounder (*Platichthys stellatus*), rubber-lip surfperch (*Rhachochilus vacca*), and round stingray (*Urolophis halleri*).

Fishes occurring in rocky intertidal areas typically include wooly sculpin (*Clinocottus analis*), reef finspot (*Paraclinus integripinnis*), rockpool blenny (*Parablennius parvicornis*), spotted kelpfish (*Gibbonsia elegans*), opaleye (*Girella nigricans*), and dwarf surfperch (*Micrometrus minimus*).

<u>Subtidal Habitats and Resources</u>. The offshore environment adjacent to the Project site consists of a gently sloping continental shelf, reaching about 130 feet of water depth at one mile from the shoreline. The continental shelf ends about 3 miles from the shoreline, where water depths increase rapidly to beyond 1,000 feet. The seafloor is predominately covered by sediment composed of sand and mud, with small sedimentary bedrock exposures (Dieter et al. 2014), including small exposures off the Sperling Preserve and Coal Oil Point.

As with the intertidal zone, the mixed sandy and rock reef habitat continues offshore along the subtidal Project area. Organisms typically found in sandy subtidal environments include but are not limited to tube worms (*Diopatra ornata*), sand dollars (*Dendraster excentricus*), and various species of crabs, sea stars, snails, and demersal fish. In subtidal areas off the southern California coast where hard/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. Kelp beds are located about 500 feet offshore of the Project site. Fish species that are likely to occur in these kelp beds include surfperches (*Embiotoca jacksoni*, *Rhacochilus vacca*), wrasses (*Oxyjulis californica, Halichoeres semicinctus)*, and adult and young-of-year-rockfish (*Sebastes* spp.).

The most abundant fish observed in soft bottom habitat during underwater surveys off Ellwood was the speckled sanddab (*Citharichthys stigmaeus*). Other fish species observed in sandy subtidal areas off Ellwood included thornback ray (*Platyrhinoides triseriata*), California halibut, California lizardfish (*Synodus lucioceps*), pipefish (*Syngnathus* sp.), diamond turbot, and round stingray.

The most frequently observed fish species in rocky areas during underwater surveys off Ellwood was the kelp bass (*Paralabrax clathratus*). Other common fish species associated with shallow water hard substrate at Ellwood included blacksmith (*Chromis punctipinnis*), sheephead (*Pimelometopon pulchrum*), señorita (*Oxyjulis californica*), pile perch (*Rhacochilus vacca*), black perch (*Embiotica jacksoni*), sand bass (*Paralabrax maculofasciatus*), lingcod (*Ophiodon elongatus*), cabezon (*Scorpaenichthys marmoratus*), sarcastic fringehead (*Neoclinus blanchardii*), and several species of rockfish (*Sebastes atrovirens, S. caurinus, S. chrysomelas*, and *S. rastrelliger*).

Fish species recovered during detonations to remove an abandoned pier from PRC 421 in October 2005 were identified and counted. The most abundant fish species affected by explosives at PRC 421 were topsmelt and Pacific sardine (*Sardinops sagax caeruleus*). Other species collected included jack mackerel (*Tachurus symmetricus*), black surfperch, rainbow surfperch (*Hypsurus caryi*), shiner surfperch, white surfperch (*Phanerodon furcatus*), kelp surfperch (*Brachyistius frenatus*), striped surfperch (*Embiotica lateralis*), rubberlip surfperch (*Rhacochilus toxotes*), halfmoon (*Medialuna californiensis*), sheephead, giant kelpfish (*Heterostichus rostratus*), pink surfperch, and several rockfishes (*Sebastes chrysomelas, S. rastrelliger, S. atrovirens, S. serranoides*, and *S. paucispinis*).

<u>Special-Status Marine Species</u>. Special-status marine species, as defined in Table 4.3-4, that may occur in nearshore waters in the Project area are limited to grunion and marine mammals (the 3 bird species listed in Table 4.3-4 are extremely unlikely to occur at the Project site). Since Project-related activities would be limited to intertidal areas, only common nearshore species (grunion, common dolphin, bottle-nose dolphin, California sea lion, and Pacific harbor seal) have the potential to occur in proximity to these activities.

Table 4.3-4. Special-Status Marine Species Reported from Offshore the Goleta Area

Common Name (*Scientific Name*)	Status	Nearest Reported Occurrence to the Project Site
Fish		
California grunion (*Leuresthes tenuis*)	Spawning runs significantly declining (Fish and Game Commission 2019)	Known to spawn at Goleta Beach
Birds		
Scripp's murrelet (*Synthliboramphus scrippsi*)	State Threatened	Nests on adjacent Channel Islands, common offshore late winter-early spring resident in the Santa Barbara region (Lehman 2019)
Ashy storm petrel (*Oceanodroma homochroa*)	California Species of Special Concern	Nests on Santa Cruz and San Miguel islands, fairly common offshore spring-fall resident in the Santa Barbara region (Lehman 2019)
Black storm petrel (*Oceanodroma melania*)	California Species of Special Concern	Fairly common to common offshore summer visitor in the Santa Barbara region (Lehman 2019)
Marine Mammals		
Long-beaked common dolphin (*Delphinus capensis*)	MMPA	Common resident in the region, unlikely to occur in proximity to the Project site
Short-beaked common dolphin (*Delphinus delphis*)	MMPA	Very common resident in the region, may occur in proximity to the Project site
Bottle-nose dolphin (*Tursiops truncatus*)	MMPA	Common resident in the region, may occur in proximity to the Project site, observed near the Project site in 2004 during caisson wall repair (City of Goleta 2006)
Risso's dolphin (*Grampus griseus*)	MMPA	Relatively common resident in the region, very unlikely to occur in proximity to the Project site
Northern right-whale dolphin (*Lissodelphis borealis*)	MMPA	Seasonally common in the region, very unlikely to occur in proximity to the Project site

Common Name (*Scientific Name*)	Status	Nearest Reported Occurrence to the Project Site
Pacific white-sided dolphin (*Lagenorhychus obliquidens*)	MMPA	Common resident in the region, very unlikely to occur in proximity to the Project site
Blue whale (*Balaenoptera musculus)*	Federal Endangered, depleted (MMPA)	Uncommon in the region, very unlikely to occur in proximity to the Project site
Fin whale (*Balaenoptera physalus*)	Federal Endangered, depleted (MMPA)	Rare in the region, very unlikely to occur in proximity to the Project site
Minke whale (*Balaenoptera acutorostrata)*	MMPA	Relatively common in the region, very unlikely to occur in proximity to the Project site
Humpback whale (*Megaptera novaeangliae)*	Federal Threatened (Mexico DPS), depleted (MMPA)	Uncommon in the region, very unlikely to occur in proximity to the Project site
California gray whale (*Eschrichtius robustus*)	MMPA	Seasonally common in the region, very unlikely to occur in proximity to the Project site
California sea lion (*Zalophus californianus*)	MMPA	Very common resident in the region, may occur in proximity to the Project site, observed near the Project site in 2004 during caisson wall repair (City of Goleta 2006)
Pacific harbor seal (*Phoca vitulina richardsi*)	MMPA	Common resident in the region, may occur in proximity to the Project site, observed near the Project site in 2004 during caisson wall repair (City of Goleta 2006)
Northern fur seal (*Callorhinus ursinus*)	MMPA	Uncommon resident in the region, very unlikely to occur in proximity to the Project site

MMPA: Protected under the Marine Mammal Protection Act
DPS: Distinct Population Segments

4.3.2 Regulatory Setting

Biological resources in and around the Project area are governed by a variety of federal, state, and local laws and regulations. Quantitative guidelines, standards, limits, and restrictions promulgated in the regulations form the basis for many of the criteria used to evaluate the significance of the Project's impacts to biological resources.

Federal and state laws that may be relevant to the Project, including the California and Federal Endangered Species Acts, as well California Coastal Act Chapter 3, Sections 30230, 30231, 30232, 30233, and 30240 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

4.3.2.1 City of Goleta GP/CLUP

The city of Goleta GP/CLUP has established policies relating to protecting biological resources in the Open Space and Conservation Elements. These policies focus on the preservation and protection of Goleta's environmental resources, including valuable habitat areas, to the maximum extent feasible, while allowing reasonable development in conformance with the provisions of the Land Use Element. Policies directly applicable to the proposed Project include:

- **Policy CE 1.6: Protection of ESHAs**. ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply:
    - No development, except as otherwise allowed by this element, shall be allowed within ESHAs and/or ESHA buffers.
    - A setback or buffer separating all permitted development from an adjacent ESHA shall be required and shall have a minimum width as set forth in subsequent policies of this element. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area.
    - Public accessways and trails are considered resource-dependent uses and may be located within or adjacent to ESHAs. These uses shall be sited to avoid or minimize impacts on the resource to the maximum extent feasible. Measures such as signage, placement of boardwalks, and limited fencing or other barriers shall be implemented as necessary to protect ESHAs.
    - The following uses and development may be allowed in ESHAs or ESHA buffers only where there are no feasible, less environmentally damaging alternatives and will be subject to requirements for mitigation measures to avoid or lessen impacts to the maximum extent feasible: 1) public road crossings, 2) utility lines, 3) resource restoration and enhancement projects, 4) nature education, 5) biological research, and 6) Public Works

projects as identified in the Capital Improvement Plan, only where there are no feasible, less environmentally damaging alternatives.

- If the provisions herein would result in any legal parcel created prior to the date of this plan being made unusable in its entirety for any purpose allowed by the land use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel. Alternatively, the City may establish a program to allow transfer of development rights for such parcels to receiving parcels that have areas suitable for and are designated on the Land Use Plan map for the appropriate type of use and development.

- **Policy CE 2.2: Streamside Protection Areas (including Bell Canyon Creek adjacent to the EOF)**. A streamside protection area (SPA) is hereby established along both sides of the creeks identified in Figure 4-1. The purpose of the designation shall be to preserve the SPA in a natural state in order to protect the associated riparian habitats and ecosystems. The SPA shall include the creek channel, wetlands and/or riparian vegetation related to the creek hydrology, and an adjacent upland buffer area. The width of the SPA upland buffer shall be as follows:
    - The SPA upland buffer shall be 100 feet outward on both sides of the creek, measured from the top of the bank or the outer limit of wetlands and/or riparian vegetation, whichever is greater. The City may consider increasing or decreasing the width of the SPA upland buffer on a case-by-case basis at the time of environmental review. The City may allow portions of a SPA upland buffer to be less than 100 feet wide, but not less than 25 feet wide, based on a site-specific assessment if (1) there is no feasible alternative siting for development that will avoid the SPA upland buffer; and (2) the project's impacts will not have significant adverse effects on streamside vegetation or the biotic quality of the stream.
    - If the provisions above would result in any legal parcel created prior to the date of this plan being made unusable in its entirety for any purpose allowed by the land- use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel, subject to approval of a conditional use permit.

- **Policy CE 3.4: Protection of Wetlands in the Coastal Zone**. The biological productivity and the quality of wetlands shall be protected and, where feasible, restored in accordance with the federal and state regulations and policies that apply to wetlands within the Coastal Zone. Only uses permitted by the regulating agencies shall be allowed within wetlands. The filling, diking, or dredging of open coastal waters, wetlands, estuaries, and lakes is prohibited unless it can be demonstrated that:

- There is no feasible, environmentally less damaging alternative to wetland fill.
- The extent of the fill is the least amount necessary to allow development of the permitted use.
- Mitigation measures have been provided to minimize adverse environmental effects.
- The purposes of the fill are limited to: incidental public services, such as burying cables or pipes; restoration of wetlands; and nature study, education, or similar resource-dependent activities.
- A wetland buffer of a sufficient size to ensure the biological integrity and preservation of the wetland shall be required. Generally, the required buffer shall be 100 feet, but in no case shall wetland buffers be less than 50 feet. The buffer size should take into consideration the type and size of the development, the sensitivity of the wetland resources to detrimental edge effects of the development to the resources, natural features such as topography, the functions and values of the wetland, and the need for upland transitional habitat. A 100-foot minimum buffer area shall not be reduced when it serves the functions and values of slowing and absorbing flood waters for flood and erosion control, sediment filtration, water purification, and ground water recharge. The buffer area shall serve as transitional habitat with native vegetation and shall provide physical barriers to human intrusion.

- **Policy CE 5.3: Protection of Costal Bluff Scrub, Coastal Sage Scrub, and Chaparral ESHA**. In addition to the provisions of Policy CE 1, the following standards shall apply:
  - For purposes of this policy, coastal bluff scrub is defined as scrub habitat occurring on exposed coastal bluffs. Example species in bluff scrub habitat include Brewer's saltbush (*Atriplex lentiformis*), lemonade berry (*Rhus integrifolia*), seashore blight (*Suaeda californica*), seacliff buckwheat (*Eriogonum parvifolium*), California sagebrush (*Artemisia californica*), and coyote bush (*Baccharis pilularis*). Coastal sage scrub is defined as a drought-tolerant, Mediterranean habitat characterized by soft-leaved, shallow-rooted subshrubs such as California sagebrush, coyote bush, and California encelia (*Encelia californica*). The area must have both the compositional and structural characteristics of coastal bluff scrub, coastal sage scrub, or chaparral habitat as described in Preliminary Descriptions of Terrestrial Natural Communities of California or other classification system recognized by the California Department of Fish and Game.

- To the maximum extent feasible, development shall avoid impacts to coastal bluff scrub, coastal sage scrub, or chaparral habitat that is part of a wildlife movement corridor and the impact would preclude animal movement or isolate ESHAs previously connected by the corridor such as (1) disrupting associated bird and animal movement patterns and seed dispersal, and/or (2) increasing erosion and sedimentation impacts to nearby creeks or drainages.
- Impacts to coastal bluff scrub, coastal sage scrub, and chaparral ESHAs shall be minimized by providing at least a 25-foot buffer restored with native species around the perimeter of the ESHA, unless the activity is allowed under other CE subpolicies and mitigation is applied per CE 1.7.
- Removal of nonnative and invasive exotic species shall be allowed; revegetation shall be with plants or seeds collected within the same watershed whenever feasible.

- **Policy CE 6.2: Protection of Marine ESHAs**. The following protections shall apply to marine ESHAs:
  - Marine ESHAs shall be protected against significant disruption of habitat values, and only uses dependent on such resources, such as fishing, whale watching, ocean kayaking, and similar recreational activities, should be allowed within the offshore area.
  - All existing oil and gas production facilities, including platform Holly and the piers at State Lease 421, shall be decommissioned immediately upon termination of production activities. All facilities and debris shall be completely removed and the sites restored to their prior natural condition as part of the decommissioning activities. No new oil and gas leases or facilities shall be allowed within state waters offshore from Goleta.
  - Permitted uses or developments shall be compatible with marine and beach ESHAs.
  - Any development on beach or ocean bluff areas adjacent to marine and beach habitats shall be sited and designed to prevent impacts that could significantly degrade the marine ESHAs. All uses shall be compatible with the maintenance of the biological productivity of such areas. Grading and landform alteration shall be limited to minimize impacts from erosion and sedimentation on marine resources.
  - Marine mammal habitats, including haul-out areas, shall not be altered or disturbed by development of recreational facilities or activities, or any other new land uses and development.
  - Near-shore shallow fish habitats and shore fishing areas shall be preserved and, where appropriate and feasible, enhanced.

- Activities by the California Department of Fish and Game; Central Coast Regional Water Quality Control Board; State Lands Commission; and Division of Oil, Gas and Geothermal Resources to increase monitoring to assess the conditions of near-shore species, water quality, and kelp beds, and/or to rehabilitate areas that have been degraded by human activities, such as oil and gas production facilities, shall be encouraged and allowed.

- **Policy CE 7.3: Protection of Beach Areas**. Access to beach areas by motorized vehicles, including off-road vehicles, shall be prohibited, except for beach maintenance and emergency response vehicles of public agencies. Emergency services shall not include routine vehicular patrolling by private security forces. Any beach grooming activities shall employ hand-grooming methods, and mechanical beach grooming equipment and methods shall be prohibited. All vehicular uses on beach areas shall avoid ESHAs to the maximum extent feasible.

4.3.3 Significance Criteria

Impacts to biological resources would be considered significant if the Project results in:

- The potential for any part of the population of a threatened, endangered, or candidate species to be directly affected or if its habitat is lost or disturbed
- Any “take” of a Federal- or State-listed endangered, threatened, regulated, fully protected, or sensitive species
- Prolonged disturbance to, or destruction of, the habitat (or its functional habitat value) of a species that is recognized as biologically or economically significant in local, state, or federal policies, statutes, or regulations
- A net loss in the functional habitat value of any ESHA, including but not limited to salt, freshwater, or brackish marsh; marine mammal haul-out or breeding area; eelgrass; river mouth; coastal lagoon or estuary; seabird rookery; or Area of Special Biological Significance
- Permanent change in the community composition or ecosystem relationships among species that are recognized for scientific, recreational ecological, or commercial importance
- Permanent alteration or destruction of habitat that precludes reestablishment of native biological populations
- Potential for the movement or migration of fish or wildlife to be impeded
- A substantial loss in the population or habitat of any native fish, wildlife, or vegetation or if there is an overall loss of biological diversity. Substantial is defined as any change that could be detected over natural variability

- A substantial adverse effect on a Marine Protected Area, including but not limited to take of living marine resources within an MPA or loss or destruction of the functioning of an MPA

4.3.4 Impact Analysis and Mitigation

Potential Project-related impacts to biological resources are evaluated below. Table 4.3-7 provides a summary of such impacts and recommended MMs to address these impacts.

Component 1

Impact BIO-1: Disturbance of Nesting Birds

Proposed removal of Pier 421-1 would result in the loss of cliff swallow nests **(Less than Significant with Mitigation).**

Impact Discussion

Cliff swallow nests under Pier 421-1 and proposed pier removal during the breeding season would result in take of these migratory birds protected under the Federal Migratory Bird Act and Section 3513 of the California Fish and Game Code. Implementation of **MM BIO-1** would avoid take of cliff swallows nesting on Pier 421-1. After implementation of **MM BIO-1**, impacts to cliff swallow nests from decommissioning activities would be mitigated to a less than significant level.

Mitigation Measures

MM BIO-1: Avoidance of Active Cliff Swallow Nests. A cliff swallow protection plan shall be developed prior to Project implementation. The plan shall specify how protection of the species will be implemented, including methods, timing, and monitoring requirements. Requirements shall include, but not be limited to:

- Inactive cliff swallow nests shall be removed during the non-breeding season (August 16th through February 14th) prior to the initiation of pier and caisson removal.
- Bird exclusion netting shall be installed on the underside of Pier 421-1 to prevent nesting prior to the initiation of pier and caisson removal. The netting shall remain in place, maintained, and not removed more than 24 hours before the initiation of removal of Pier 421-1.

Impact BIO-2: Loss of a Bat Roost

Proposed removal of the 421-2 caisson would result in the loss of a daytime bat roost **(Less than Significant with Mitigation).**

Impact Discussion

Crevices on the 421-2 caisson formed by sheet pile over concrete, support a daytime bat roost. Removal of the caissons would result in the loss of this bat roost. Three bat species (big brown bat, Mexican free-tailed, and California bat) were identified through analysis of ultrasonic bat calls. Based on the number of bat calls identified, big brown bat is likely to be the only bat species using the 421-2 caisson as a roost. All three bat species are common in the region, occur throughout the western United States, and are not vulnerable to extirpation (NatureServe ranking of S4 or S5[12]) and have either not been associated with White Nose Syndrome[13] or have exhibited evidence of resistance to the fungus (Lemieux et al 2020). Although bats roosting within the 421-2 caisson are anticipated to have other alternative roosting sites within the vicinity and will move to these alternative natural roost sites when vibration and noise associated with caisson removal begins, the removal of this roosting site will result in short term impacts to these animals. Implementation of **MM BIO-2** will avoid daytime disturbance to the roosting site during caisson operations. Therefore, a less than significant impact will occur following implementation of this mitigation measure.

Mitigation Measures

MM BIO-2: Transitional Bat Habitat. A bat preclusion plan shall be prepared and implemented prior to and during the 421-2 caisson demolition activities. The plan shall include confirmation surveys of either seasonal or ongoing bat use of the structure and recommendations regarding the timing for installation of preclusion netting at the caisson roost.

Impact BIO-3: Temporary Effects of Potential Hydrocarbon Discharge

Potential for Project-related discharge of hydrocarbons from contaminated soil or structures into marine waters may adversely affect marine organisms **(Less than Significant with Mitigation).**

[12] NatureServe is a ranking system to facilitate assessment of a species' rarity. Each species is assigned both a global (G) and state (S) rank on a scale of 1 to 5. The global ranks are assigned through a collaborative process involving both NatureServe and individual Natural Heritage Program scientists. An S4 ranking is noted as: Apparently secure – uncommon but not rare. An S5 ranking is noted as: Secure – common, widespread, and abundant in the nation or state.

[13] White nose syndrome is a fungal disease killing bats in North America. White nose syndrome cases high death rates and fast population declines in the species affected by it.

Impact Discussion

Testing of fill material within the caissons to be removed indicates this material contains concentrations of total petroleum hydrocarbons from below detection up to 69,120 mg/kg (6.9 percent by weight). These hydrocarbons are weathered with expected low levels of soluble aromatic compounds. The Project includes numerous safeguards to avoid or minimize any contact of this fill material with marine waters, including:

- Removal of the caisson walls in increments
- Shoring of the caisson walls as needed to prevent premature collapse
- Pressure-washing of the interior caisson walls to remove any hydrocarbon residue, with immediate recovery of wash water
- Use of hydraulic excavation (hydro-ex) to remove the fill material as a slurry by vacuum into a self-contained bin

Potential impacts to marine organisms (lethal or sublethal effects, habitat alteration) associated with inadvertent spillage of contaminated fill material are likely to be minimal due to the weathered nature of the material and relatively small volume of any possible spillage. However, the potential exists that free oil occurs within the caisson and if released to the marine environment may have lethal or sublethal effects on marine birds through oiling of plumage. Implementation of **MM HAZ-1c** would minimize the effects of an unexpected release of free oil to the marine environment by minimizing the amount and dispersion of any oil released and cleaning up the beach and any oiled birds. Implementation of **MM HAZ-1c** would reduce potential impacts associated with an oil spill to a less than significant level.

Mitigation Measures

See **MM HAZ-1c** (Section 4.8, *Hazards and Hazardous Materials*), which requires implementation of the existing Facility OSCP.

Impact BIO-4: Loss of Coastal Wetlands (Component 1)

Removal of the 421-2 caisson would result in the loss of coastal wetlands **(Less than Significant).**

Impact Discussion

The coastal wetland delineation conducted for the Project identified a 0.003 acre coastal wetland on the surface of the 421-2 caisson structure. Removal of the 421-2 caisson (Component 1) would result in the loss of the coastal wetland. However, this is a very small and isolated area. Additionally, removal of the caissons would restore the beach to natural conditions and result in the removal of approximately 0.10 acre of fill below the MHTL within tidelands (Cal. Code Regs., tit. 14, § 13577, subd. (d)). This area of fill removal is more than 30 times the area of the coastal wetland on the 421-2 caisson. A less than significant impact would result.

Mitigation Measures

None required.

Components 1 and 2

Impact BIO-5: Disturbance of Terrestrial and Aquatic Special-Status Wildlife Species

Project-related activities would result in conflicts with special-status wildlife species **(Less than Significant with Mitigation).**

Impact Discussion

Globose dune beetle may occur in the foredunes west of the Bell Canyon Creek estuary, adjacent to the Bacara Resort fire road access route. Heavy equipment using the beach to access Project facilities may trample foredune habitat for this species and result in some mortality. However, the impact to globose dune beetle is considered less than significant with mitigation.

The endangered tidewater goby occurs in the Bell Canyon Creek estuary which is located adjacent to the Bacara Resort fire road access route. Heavy equipment using the beach to access Project facilities may cross the estuary mouth and potentially result in mortality of tidewater goby (depending upon seasonal rainfall conditions that result in the outflow of the estuary mouth to the Pacific Ocean). The impact to tidewater goby is considered less than significant with mitigation.

The threatened California red-legged frog (CRLF) occurs in Bell Canyon Creek primarily upstream of U.S. Highway 101. This species is not anticipated to occur near the alternative beach access route due to high salinity levels in the estuary but could occur adjacent to the proposed staging area at the EOF. The proposed Project would not result in any disturbance or loss of CRLF habitat but use of the staging area could result in injury or mortality of any CRLF dispersing from Bell Canyon Creek (possibly to the pond at the Sandpiper Golf Course). Although the Project includes temporary fencing along Bell Canyon Creek adjacent to the EOF staging area (see Section 2.3.1.1), this fencing may be inadequate to contain dispersing CRLF. Overall, impacts to CRLF are considered less than significant with mitigation.

Brown pelican and double-crested cormorant may roost on the beach and on PRC 421 facilities (piers, caissons, rock revetment) and may be present during proposed decommissioning activities. Project-related activities would preclude or restrict roosting for about six months (mostly weekdays only). No impacts to breeding habitat or breeding activity would occur. These birds have numerous other areas available for roosting including Bird Island and beaches west of PRC 421. Therefore, Project-related impacts to roosting habitat would not substantially affect survival or reproduction of the local brown pelican and double-crested cormorant populations and are considered less than significant.

Noise generated by caisson removal may adversely affect double-crested cormorant and Brandt's cormorant roosting and/or nesting at Bird Island offshore. Noise modeling using the FHWA Roadway Construction Model indicates peak day noise (assuming simultaneous removal of both caissons) would be 58.9 dBA Leq at the nearest Bird Island roosting structure. This noise level is relatively low and similar in magnitude to surf-related noise. Double-crested cormorant is tolerant of high noise levels and human activity when breeding, as indicated by the large nesting population (799 active nests counted in 1999) on the Richmond-San Rafael Bridge over San Francisco Bay. Due to the distance (at least 800 feet) and temporary nature of Project-related noise generation, impacts to cormorants at Bird Island are considered less than significant.

Western snowy plover, snowy egret, and long-billed curlew are known to forage on beaches in the Project area, and Project-related activities would preclude post-breeding foraging for one fall/winter season. However, on specific days, decommissioning activities would be focused on a small portion of beach (about 500 feet). Due to the availability of many miles of beaches in the Project area, the Project-related temporary loss of foraging opportunities would not substantially affect survival or reproduction of the local western snowy plover, snowy egret, and long-billed curlew populations. However, heavy equipment activity on the beach has the potential to result in mortality of the threatened snowy plover which is a considered a potentially significant impact.

Cooper's hawk and yellow warbler may forage and possibly breed in woodland habitat along Bell Canyon Creek in the Project area. Wintering ferruginous hawks may also forage in these woodlands. The proposed Project would not result in loss of this habitat, and proposed fencing at the EOF staging area would prevent substantial disturbance of foraging and breeding activities. Impacts to Cooper's hawk, yellow warbler, and ferruginous hawk are considered less than significant.

Mitigation Measures

MM BIO-3a: Avoidance of Estuarine Waters/Tidewater Goby Relocation. Use of the alternative beach access route shall be scheduled during periods when the estuary mouth is closed (not outflowing to the Pacific Ocean). If this is not feasible, fish netting (0.25 inch mesh size) shall be installed across the estuary mouth immediately upstream of the beach access route to isolate the estuary from the beach. A qualified biologist approved by the

USFWS to handle tidewater goby shall use seines and dip nets to capture and relocate tidewater gobies from the beach area to upstream of the fish nets. Fish nets shall be removed by the biologist within 24 hours following termination of use of the alternative beach access route.

MM BIO-3b: CRLF Fencing at the EOF. CRLF exclusion fencing (48 inch Ertec e-Fence, or equivalent) shall be installed along the entire western boundary of the EOF, adjacent to the margin of the riparian vegetation prior to use of the proposed staging area at this location. The bottom of the exclusion fencing shall be secured to the ground by trenching or other means to prevent CRLF from crawling under the fence. The CRLF exclusion fencing shall remain in place and maintained during all Project-related use of the EOF staging area.

MM BIO-3c: Environmental Awareness Training. A CSLC-approved biological monitor(s) shall conduct 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-3d: Biological Pre-activity Surveys and Monitoring. A CSLC-approved biological monitor shall survey the work areas and access routes for sensitive species or other wildlife that may be present no more than 24 hours prior to the commencement of Project activities. In addition, the biological monitor shall provide daily biological clearance prior to the start of work and shall always be on-site during Project operations. If at any time during Project any wildlife species are observed within the Project area, work around the animal’s immediate area shall be stopped until the animal leaves on its own volition or work shall be redirected to an area within the Project site that would not impact these species. Work shall resume once the animal is clear of the work area. In the unlikely event special-status species are injured or killed by Project-related activities, the biological monitor shall stop work and notify CSLC and consult with the appropriate agencies to resolve the impact prior to re-starting work in the area.

MM BIO-3e: Delineation of Work Limits. Prior to the start of the Project, the Project work areas and access routes shall be clearly flagged to ensure heavy equipment and vehicles stay within the permitted disturbance areas and avoid native vegetation along the access route. Designated equipment staging and fueling areas shall also be delineated at this time.

Implementation of **MMs BIO-3a** and **3b** would avoid or minimize impacts to tidewater goby associated with use of the alternative beach access route and avoid impacts to CRLF associated with use of the proposed staging area at the EOF. Implementation of **MMs BIO-3c** through **3e** would avoid or minimize impacts to snowy plover and other wildlife that may occur in proximity to decommissioning work areas.

After implementation of **MMs BIO-3a** through **3e**, impacts to tidewater goby, CRLF, globose dune beetle, snowy plover, and other wildlife species from decommissioning activities would be mitigated to a less than significant level.

Impact BIO-6: Disturbance of Intertidal ESHA

Project-related activities would result in the loss or disturbance of species using intertidal areas including invertebrates and fish **(Less than Significant).**

Operation of heavy equipment on the beach to remove caissons, piers, rock revetment, and the wooden seawall and recontour the access roadway beach face would result in some mortality of beach macroinvertebrates through sand compaction. The intertidal area directly affected by heavy equipment activity would be up to about 1 acre (30-foot-wide intertidal area along the access roadway) but the majority of the work would be focused in a small area (PRC 421-1 and 421-2 caissons) and impacts would occur over several months as work progresses along the beach face. Some movement back into affected areas would occur by beach macroinvertebrates as work moves to a new area. Natural reproduction in the spring would replace any macroinvertebrates lost to the Project. Overall, impacts would be temporary, limited in magnitude, and the Project would not substantially affect local populations of beach macroinvertebrates.

Excavation of intertidal areas associated with removal of caissons and piers and potential spillage of soil contained within the caissons would increase suspended solids and turbidity of surrounding ocean waters. This may temporarily reduce light penetration and primary productivity in the water column, and may clog gills and feeding apparatus of fish, planktonic larvae, and filter-feeding organisms. Increased turbidity may also reduce foraging success for fish species, as prey is more difficult to find. Potential ocean water quality impacts associated with excavation and other disturbance of beach sediments are considered less than significant because:

- Intertidal areas are naturally turbid and any Project-related increase would be minor
- The area potentially affected by increased suspended solids and turbidity would be very small as compared to surrounding ocean waters (a few hundred feet surrounding each caisson)
- Impacts would be temporary, limited to mostly daytime hours for a few months at each caisson/pier

- Fish are known to avoid turbid water such that Project-related impacts to fish associated with increases in suspended solids and turbidity would be minimal

Mitigation Measures

None required.

Impact BIO-7: Disturbance of Marine Special-Status Species

Proposed decommissioning activities in intertidal areas may adversely affect grunion and marine mammals **(Less than Significant with Mitigation).**

Impact Discussion

The California grunion may spawn on the beach in the vicinity of the caissons and other proposed work areas. This species spawns on sandy beaches at night during the spring and summer, typically on four consecutive nights beginning on the full and new moon, after high tides. Spawning occurs from March through August, and occasionally in February and September, with peak spawning in late March to early June. Following successful spawning, the grunion eggs hatch in about 10 days, during the next high tide. Large spawning runs still occur, but smaller grunion runs are much more common than in past. Spawning on shore has declined significantly across much of the habitat range in the past 15 years (California Fish and Game Commission 2019). Project-related equipment activity on the beach may adversely affect grunion spawning and spawning and is considered a less than significant impact with mitigation.

Common marine mammals, potentially including common dolphin, bottle-nose dolphin, harbor seal, and California sea lion may occur in proximity to Project-related decommissioning activities in intertidal areas. However, these species are not anticipated to approach the beach or haul-out on the beach in proximity to Project-related activities. Marine mammal monitoring conducted as part of PRC 421-1 caisson wall repair in 2004 noted that marine mammals did not come within 500 feet of these activities (City of Goleta 2006). Since the Project is not anticipated to substantially affect their behavior or foraging opportunities, impacts to marine mammals are considered less than significant. Implementation of **MM BIO-4** would avoid or minimize impacts to spawning grunion associated with decommissioning activities on the beach. After implementation of **MM BIO-4**, impacts to grunion from decommissioning activities would be mitigated to a less than significant level.

Mitigation Measures

MM BIO-4: Grunion Spawning Avoidance. A grunion protection plan shall be developed prior to Project implementation. The plan shall specify how protection of the species will be implemented, including methods, timing, and monitoring requirements. Requirements shall include, but not be limited to:

- Project activities that involve equipment activity on the beach shall be scheduled to avoid grunion spawning season (March through August) if possible, given other scheduling constraints (winter storm waves, etc.).
- If avoiding spawning season is not feasible, a qualified biologist shall conduct an initial presence/absence survey during grunion runs (open and closed season runs) as predicted by the CDFW to document that grunion have not used the site.
- If the initial presence/absence survey determines that grunion are spawning at the Project site; a focused survey shall be conducted immediately following the spawning event. During the focused survey, trenching shall be conducted at 3 to 6 foot spacing to determine if grunion spawning was successful and eggs were deposited within the intertidal work area. The trenches shall be excavated approximately 10 inches wide and 3 to 6 inches deep. The trenches shall be located perpendicular to the high-water mark and extend from the highest high tide mark to approximate mean low water. Excavations shall continue until grunion eggs are found or until all trenches are sampled. If grunion eggs are found during focused surveys at the Project site, intertidal work activities in that location shall cease for 10 days to allow for hatching of the eggs during the next high-tide cycle.
- Subsequent presence/absence monitoring shall continue during the next spawning period to determine if grunion continue to spawn at the Project site.

<u>Component 2</u>

Impact BIO-8: Loss of Coastal Wetlands (Component 2)

Removal of the rock revetment and wooden seawall and abandonment of the access roadway would result in the loss of coastal wetlands **(Less than Significant with Mitigation).**

Impact Discussion

The coastal wetland delineation conducted for the Project identified 0.105 acre of coastal wetlands within or adjacent to the access roadway or rock revetment. In addition, 0.117 acre of coastal wetlands (Wetland W-2, see Figure 4.3-5) occur within an erosional feature located immediately north of Pier 421-2. Component 2 (proposed removal of the two pipelines) would result in the disturbance and temporary loss of coastal wetlands within or adjacent to the access roadway (Wetlands W-4 through W-17). In addition, removal of the rock revetment protecting the access roadway and subsequent modification of the bank (shoreline) and removal of road base would result in the permanent loss of these wetlands along the access roadway.

Continued seepage of golf course irrigation water may provide sufficient soil moisture to allow wetland plant species to colonize the post-Project bluff toe. However, natural re-establishment of these wetland species may be prevented or substantially delayed by the lack of soil. In any case, a temporal loss of coastal wetlands would occur. This impact would be less than significant with mitigation.

Removal of the rock revetment and wooden seawall and abandonment of the access roadway would compromise the existing artificial impoundment of irrigation run-off from the golf course near Pier 421-2 and result in the loss or substantial reduction in the area of coastal wetlands located immediately north of Pier 421-2 due to a major reduction in soil moisture sustaining this wetland. This impact would be less than significant with mitigation.

Mitigation Measures

MM BIO-5a: Coastal Wetlands Mitigation. A coastal wetlands mitigation plan shall be developed prior to Project implementation. The Plan shall specify how mitigation will be implemented, including site location description, wetland creation or enhancement methods, plant palette, propagule sources, irrigation methods (if needed), maintenance activities, success criteria, and monitoring requirements. Requirements shall include, but not be limited to:

- Coastal wetlands removed from the access roadway as part of Component 2 shall be replaced at a minimum 3:1 ratio (at least 0.32 acres) through a combination of wetland replacement and off-site wetlands creation or enhancement.

- Coastal wetlands replacement shall be included in the coastal bluff scrub replanting area (see **MM BIO-6a**) within the abandoned access roadway, and the remaining wetlands creation/enhancement needed to meet the 3:1 ratio shall be conducted off-site.

- **MM BIO-5b: Retain Coastal Wetlands Adjacent to Pier 421-2.** A coastal wetlands retention plan shall be developed prior to Project implementation. The Plan shall specify how retention will be implemented, including materials, methods, and integration into the overall decommissioning schedule. The rock and road base fill material comprising the access roadway north of Pier 421-2 shall be left in place, or other suitable material placed as needed, to maintain the impoundment of golf course irrigation run-off which supports the existing wetlands at this location.

Impact BIO-9: Loss of Terrestrial ESHA/Sensitive Natural Communities

Decommissioning activities would result in the loss of coastal bluff scrub and may result in trampling of southern foredunes considered ESHA by the City and CCC **(Less than Significant with Mitigation).**

Impact Discussion

Removal of the rock revetment, wooden seawall, and sloping the seaward face of the access roadway (Component 2) would result in the loss of approximately 0.3 acres of coastal bluff scrub from the access roadway seaward margin. This impact would be less than significant with mitigation.

Southern foredunes occur adjacent to the Bacara Resort fire road access route. Heavy equipment and vehicles using this access route may trample this sensitive habitat. The potential impact to southern foredunes is considered less than significant with mitigation. Implementation of **MMs BIO-6a** and **6b** would offset impacts to coastal bluff scrub through on-site replacement and avoid impacts to southern foredunes through biological monitoring. After implementation of **MMs BIO-6a** and **6b**, impacts to coastal bluff scrub and southern foredunes from decommissioning activities would be mitigated to a less than significant level.

Mitigation Measures

MM BIO-6a: Coastal Bluff Scrub Replacement. A coastal bluff scrub replacement plan shall be developed prior to Project implementation. The Plan shall specify how replacement will be implemented, including soil augmentation, planting site preparation, planting methods, plant palette, propagule sources, irrigation methods (if needed), maintenance activities, success criteria, and monitoring requirements. Coastal bluff scrub removed along the seaward margin of the access roadway shall be replaced at a minimum 2:1 ratio (at least 0.6 acre) through soil augmentation and replanting the remaining surface of the abandoned access roadway with quail bush, coastal golden-bush, and other native species characteristic of the bluffs.

MM BIO-6b: Southern Foredunes Avoidance. A CSLC-approved biological monitor shall be present when heavy equipment or vehicles transit the alternative beach access route and communicate with equipment/vehicle operators to ensure southern foredunes are avoided.

Impact BIO-10: Loss of Special-Status Plant Species

Removal of the rock revetment and wooden seawall and abandonment of the access roadway would result in the loss of cliff malacothrix **(Less than Significant).**

Impact Discussion

Removal of the rock revetment and wooden seawall and abandonment of the access roadway would result in the loss of approximately ten cliff malacothrix plants on the access roadway seaward margin. This species is considered a plant of limited distribution by CNPS (not rare or declining) and is not considered a rare plant by the Santa Barbara Botanic Garden. It is relatively common in the region (south coast west of Santa Barbara), and about 100 plants occur on the bluff above the access roadway. Cliff malacothrix is not considered rare or endangered under CEQA per State CEQA Guidelines Section 15380. Loss of 10 cliff malacothrix plants would not substantially affect the local population, and this impact is considered less than significant.

Mitigation Measures

None required.

4.3.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact BIO-11: Cumulative Impacts to Biological Resources

Project-related disturbance and habitat loss would incrementally contribute to cumulative impacts to biological resources **(Less than Significant with Mitigation).**

Impact Discussion

Cumulative projects identified in Section 3.0 that could occur at about the same time and affect the same biological resources as the proposed Project include CSLC Beach Hazards Removal, Ellwood Coastal Trails and Habitat Restoration Project, the Bacara Beach House Relocation, and the Ocean Meadows Residential Development. These projects would result in habitat removal and short-term habitat disturbance potentially affecting the same wildlife populations as the proposed Project. The proposed Project would incrementally contribute to these cumulative impacts. However, with the implementation of mitigation measures listed in Table 4.3-7, the Project contribution would not be considerable.

1 ### 4.3.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.3-7. Summary of Biological Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact BIO-1: Disturbance of Nesting Birds	**MM BIO-1:** Avoidance of Active Cliff Swallow Nests
Impact BIO-2: Loss of a Bat Roost	**MM BIO-2:** Transitional Bat Habitat
Impact BIO-3: Temporary Effects of Potential Hydrocarbon Discharge	**MM HAZ-1c:** Oil Spill Contingency Plan Implementation
Impact BIO-4: Loss of Coastal Wetlands (Component 1)	None required.
Impact BIO-5: Disturbance of Terrestrial and Aquatic Special-Status Wildlife Species	**MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation **MM BIO-3b:** CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO-3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits
Impact BIO-6: Disturbance of Intertidal ESHA	None required.
Impact BIO-7: Disturbance of Marine Special-Status Species	**MM BIO-4:** Grunion Spawning Avoidance
Impact BIO-8: Loss of Coastal Wetlands (Component 2)	**MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands Adjacent to Pier 421-2
Impact BIO-9: Loss of Terrestrial ESHA/Sensitive Natural Communities	**MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance
Impact BIO-10: Loss of Special-Status Plant Species	None required.
Impact BIO-11: Cumulative Impacts to Biological Resources (Components 1 and 2)	**MM BIO-1:** Avoidance of Active Cliff Swallow Nests **MM BIO-2:** Transitional Bat Habitat **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation

Impact	Mitigation Measures
	MM BIO-3b: CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO-3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits **MM BIO-4:** Grunion Spawning Avoidance **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands adjacent to Pier 421-2 **MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance

4.4 CULTURAL RESOURCES

This section identifies cultural resources in the Project area and vicinity, including PRC 421 itself, and evaluates impacts to such resources that would potentially result from implementation of the Project.

4.4.1 Environmental Setting

4.4.1.1 Precontact History of Santa Barbara County

For the purposes of this document, the chronological framework postulated by King (1990) and Arnold (1992) for the Santa Barbara Channel region is used to discuss the Paleo-Indian, Early Holocene, Early Period, Middle Period, Middle to Late Transition, and Late periods of cultural development in the larger Santa Barbara County region. This chronological framework is considered the most appropriate for the region because it can be tied to absolute dates through radiocarbon dating.

The Paleo-Indian Period (c. 25,000 – c. 9,950 Before Present (B.P.)) is the earliest known human occupation of the Santa Barbara area, with evidence of a developing maritime culture found mostly on the Channel Islands. At the end of this period, the sea level began to rise, which submerged and eroded many Paleo-Indian sites located on coastal terraces.

Appropriately named, the Millingstone Period (c. 9,950 – c. 5,450 B.P.) is defined by the predominance of hand stones and milling slabs in the archaeological record, suggesting a reliance on hard seeds and other plant foods. Faunal assemblages from various sites indicate early Chumash populations also consumed terrestrial and marine mammals, fish, and shellfish indicating increased mobility between coastal and inland camps (Jones et al. 1994).

Most archaeological sites dating to the Early Period (c. 5,450 – c. 2,550 B.P.) are recorded at or near the coast, or on the Channel Islands. This period is characterized by an abundance of manos, metates, and a variety of flaked stone tools. Bone gorges occur and shell beads appear in burials (Glassow et al. 2007). Residential bases are presumed to have been comprised of extended families during this period.

During the Middle Period (c. 2,550 – c. 950 B.P.), the technology and economy of Chumash society became markedly more complex. The artifact assemblage contains shellfish hooks and other fishing gear and contracting-stemmed projectile points. Subsistence practices emphasized fish and acorns, with a greater use of seasonal resources and the first attempts at food storage (King 1990). Continuation of trade relationships is evident in the increased number and diversity of obsidian items and beads associated with this period. Sites were occupied on an extensive basis, but not as permanent settlements. These residential bases functioned in conjunction with short term, smaller occupations at specialized resource processing areas (Jones and Ferneau 2002).

Coastal settlement increases significantly during the Middle to Late Transition Period (c. 950 - c. 700 B.P.). Sedentism is apparent, along with formal architecture, ceremonial structures, and traditional cemeteries. Cultural ornamentation and elaboration during this time implies a change in society, elevating attributes of achieved status and wealth. Regional exchange indicates a boost in socioeconomic and political complexity. Faunal remains reveal the exploitation of a diverse array of marine and terrestrial habitats and species.

During the Late Period (c. 700 – c. 181 B.P.), terrestrial resource production is thought to have decreased significantly, while socioeconomic complexity evolved. Shellfish remained the principal protein food. A ranked society with hereditary elite was established. Semi-subterranean sweat lodges are also common. Population growth and socioeconomic complexity transpires, along with environmental change (Glassow et al. 2007).

4.4.1.2 Regional and Local History

The historic record of the Santa Barbara Channel began with the arrival of four Spanish expeditions between the years of 1542 (Juan Rodriguez Cabrillo) and 1602 (Sebastian Vizcaiño). Both Cabrillo and Vizcaino described their interactions with the Chumash as generally positive, friendly encounters. After these initial expeditions, which were essentially confined to the coast, a period of 167 years passed without any additional European arrivals. The first Spanish land expedition of Gaspar de Portolá passed through Santa Barbara County and camped near present day Santa Barbara on August 18, 1769.

Over the next three decades, the Spanish established 21 Franciscan missions and various military presidios and pueblos along El Camino Real between San Diego and Sonoma. The Spanish founded El Presidio Real de Santa Bárbara in 1782 and Mission Santa Bárbara was established in 1786. In 1821, Mexico declared independence from Spain; a year later, California became a Mexican Territory. After the secularization of the missions in 1834, lands were gradually transferred to private ownership via a system of land grants. California was recognized as a state in September 1850.

Oil exploration began in Santa Barbara County when significant discoveries of oil were successfully tapped in the Santa Maria Valley, 45 miles northwest of the current Project site, during the 1880s. During the 1890s, the first offshore oil drilling piers were built in the waters off Summerland, 17 miles east of the Project site. Other significant discoveries followed in the early 1900s at the Orcutt and Cat Canyon fields. Oil production in the Orcutt Hills hit an all-time high during World War I and then declined temporarily until rising domestic automobile use in the 1920s necessitated more production. Even after the disastrous stock market collapse of 1929, foreign demand for U.S. oil in the 1930s spurred further oil development in Santa Barbara County.

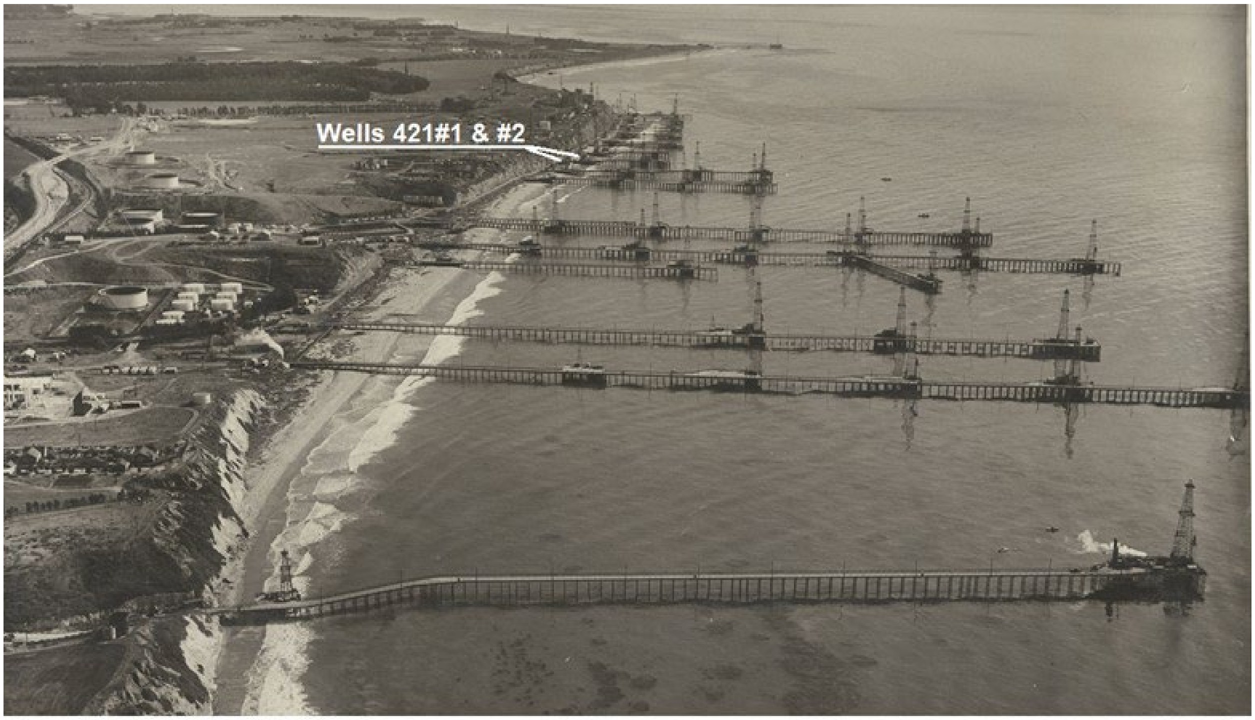
The opening months of World War II had a number of important impacts on California history. Millions of newcomers came to the state to train and build ships and airplanes. Additionally, 69 days after the attack at Pearl Harbor, the Imperial Japanese Navy's submarine I-17, under the command of Commander Nishino Kozo attacked the coast of California north of Santa Barbara at the Barnsdall-Rio Grande Field at Ellwood (today's Sandpiper Golf Course) and began shelling the oil and gasoline tanks located there. Damage was limited but represented the first shelling of the North American mainland during the conflict (Ruhge 2016). Twenty-five and 50 year commemorative ceremonies were held at the Timber's Restaurant and the Sandpiper Golf Course. A bronze plague was placed at the golf course in 1982, and the Goleta Historical Society placed a historic marker sign describing the attack at the beach below the Bacara Resort west of the golf course in 2002.

Following the peak of World War II oil demands, oil and gas production in Santa Barbara County declined. Beginning in the late 1950s, oil companies began to explore for oil in State tidelands. The first offshore drilling platform off the Santa Barbara County coast was installed in 1958 near Carpinteria. Eight other platforms and other facilities were installed in State tidelands off of Santa Barbara County between 1956 and 1966. On January 28, 1969, Union Oil's Platform A suffered a blowout in the Dos Cuadras field installation that lasted eight days. The resulting spill of 90,000 barrels of crude oil affected over 40 miles of coastline. Several environmental laws were passed at the federal and state levels following the incident, including the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA).

The Ellwood Oil Field was discovered in 1928. Figure 4.4-1 shows the historical development of the Ellwood coast. PRC 421 infrastructure was also built and commissioned in 1928, and piers 421-1 and 421-2 are historic-aged structures, though they are without historic or cultural significance to the community, State, or nation. Although they are the last remaining surf zone wells in California, they have been modified significantly since the 1930s and do not maintain historical integrity. Further, based on review of historical photographs, the piers were changed from the historic configuration sometime between 1979 and 1987; therefore making the structures at most 42 years old. Figure 4.4-2 shows the change in the historical configuration of the 421 piers.

Component 1 of the Project decommissioning activities would completely remove the 421-1 and 421-2 pier and caissons; however, as noted above, the historic configuration of the piers has been recently changed. Additionally, the integrity of these structures is poor as indicated by the significant corrosion present within the remaining structures and the multiple repairs required over the years. Therefore, these structures are not considered a historical resource or a unique archaeological resource.

Figure 4.4-1. Historical Development of the Ellwood Coast



Historic oblique photo (dated "1930's") showing the many oil pier stuctures at the time. (source: UCSB Collection)

Figure 4.4-2. Reconfiguration of 421 Oil Piers

Pier Configuration in 1972 ***Pier Configuration in 2010***

Source: California Coastal Records Project (2021)

4.4.1.3 Records Search Results

On January 26, 2021, Kleinfelder/GANDA, ExxonMobil's consultant, requested a search of the California Historical Resources Information System (CHRIS) at the Central Coast Information Center (CCIC). The records search included a review of all recorded historic-era and prehistoric archaeological sites within a 0.25 mile radius of the Project area as well as a review of known cultural resource surveys and technical reports. The updated records search results were received on February 10, 2021.

The records search did not identify any previously recorded cultural resources within the Project area; however, one prehistoric-aged cultural resource, CA-SBA-71, is adjacent to the Alternative Staging Area/Access Point that is located entirely within the Bacara Resort fire road. The records search also identified 14 prehistoric-aged cultural resources within a 0.25 mile radius of the Project area. Finally, the records search found 11 reports for previously conducted cultural studies within the Project area and 41 reports of previously conducted cultural studies within the 0.25-mile search radius. These resources and studies are summarized in a memorandum prepared by Kleinfelder/GANDA (Appendix H). No historic-aged resources were listed within the search results.

4.4.2 Regulatory Setting

Federal and state laws and regulations pertaining to cultural resources and relevant to the Project including California Coastal Act Chapter 3, Section 30244 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local policies applicable to the Project with respect to cultural resources are listed below.

4.4.2.1 City of Goleta

The city of Goleta's General Plan/Coastal Land Use Plan (GP/CLUP) (City of Goleta 2006c) contains several policies in the Open Space and Visual and Historic Resources Elements pertaining to cultural resources. One of the main goals in the Open Space Element is to ensure the protection of areas associated with Native American culture, including burial sites, religious and ceremonial sites, archaeological or historical sites, and other cultural sites. The following policies within the GP/CLUP are applicable to the Project:

- **Policy OS 7.1(e):** To protect the places, features, and objects associated with Native American cemeteries, religious or ceremonial sites, archaeological or historical sites, or other cultural sites.
- **Policy OS 8:** Protection of Native American and Paleontological Resources - contains several measures by which to identify and protect prehistoric and historic cultural sites and resources from destruction or harmful alteration.

- **Policy VH 2.2: Preservation of Scenic Corridors.** The aesthetic qualities of scenic corridors shall be preserved through retention of the general character of significant natural features; views of the ocean, foothills, and mountainous areas; and open space associated with recreational and agricultural areas including orchards, prominent vegetation, and historic structures. If landscaping is used to add visual interest or for screening, care should be taken to prevent a wall-like appearance. Bridges, culverts, drainage ditches and other roadway ancillary elements should be appropriately designed; side slopes and earthen berms adjacent to roadways should be natural in appearance.
- **Policy 2.3: Development Projects Along Scenic Corridors**. [GP] Development adjacent to scenic corridors should not degrade or obstruct views of scenic areas. To ensure visual compatibility with the scenic qualities, the following practices shall be used, where appropriate:
  - g. Preserve historical structures or sites.
- **Policy VH 5: Historic Resources.** Includes the protection of Native American and Paleontological Resources, the objective of which is to identify, protect, and encourage preservation of significant architectural, historic, and prehistoric sites, structures, and properties that comprise Goleta's heritage. Table 6.1 of the Visual and Historic Resources Element lists historic resources in Goleta, none of which are located at or near the Project site.
- **Policy VH 6: Historical and Cultural Landscapes.** Seeks to identify, preserve, protect, and enhance significant historic landscaping, gardens, and open spaces which contribute to the setting or context of Goleta.

4.4.3 Significance Criteria

The State CEQA Guidelines section 15064.5 defines a significant cultural resource, either prehistoric or historic, as a "historical resource." Public Resources Code section 5020.1, subdivision (j) defines a historical resource as:

> *"Historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."*

A resource included in a local register of historical resources, as defined in Public Resources Code section 5020.1, subdivision (k) or identified as significant in an historical resource survey meeting the requirements of section 5024.1, subdivision (g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant. *Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Resources Code, § 5024.1 and Cal. Code Regs. tit. 14, § 4852), including the following:*

(a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

(b) associated with the lives of persons important in our past

(c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

(d) yielded, or may be likely to yield, information important in prehistory or history

The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Pub. Resources Code, § 5020.1, subd. (k)), or identified in an historical resources survey (meeting the criteria in § 5024.1, subd. (g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in sections 5020.1, subdivision (j), or 5024.1.

The State CEQA Guidelines section 15064.5, subdivision (b) provides significance threshold criteria for determining a substantial adverse change to the significance of a cultural resource:

1. Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
2. The significance of an historical resource is materially impaired when a project:
   (a) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources

   (b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1, subdivision (k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1, subdivision (g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant

(c) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA

4.4.4 Impact Analysis and Mitigation

Impacts to cultural resources can occur by direct or indirect impacts. Direct impacts result from ground disturbances directly and indirectly caused by construction, decommissioning, operation, or maintenance. Indirect impacts result from increased access to archaeological sites, i.e., construction or facility employees participating in unauthorized artifact collecting. The proposed Project does not include any operational or maintenance activities. A discussion of potential impacts of each Project component during decommissioning activities and recommended MMs are provided below.

Component 1

Impact CR-1: Potential Impacts to Previously Undiscovered Cultural Resources During Project Implementation (Component 1)

Although there is one known cultural resource *near* the Project site, no cultural resources are known to be present *within* the Project footprint, and Project activities would generally occur in previously disturbed areas and in areas where presence of cultural resources is not expected **(Less than Significant).**

Impact Discussion

The potential for impacts to subsurface cultural resources is limited during Component 1 due to the fact that Project activities are anticipated to occur in previously disturbed soils and artificial fill. Previous reviews of cultural resources in the area to be affected by the Project have not identified significant cultural resources (Santa Barbara County 2001; City of Goleta 2006d; Santa Barbara County 2011). There is one known, previously recorded cultural resource, CA-SBA-71, but it is located outside Project disturbance areas and will be avoided (see discussion under Impact CR-3). The access roadway leading to the piers, the production lines, and the PRC 421 pier area consist of relatively loose beach sand that is prone to erosion and scour (i.e., the removal of sand due to wave action along the oceanfront, sometimes to shale bedrock). Due to the open exposure, the oceanfront is generally not considered suitable for occupation by precontact indigenous peoples. Additionally, due to the movement of sand on a seasonal basis (i.e., sand is generally scoured off the beach during the winter months as a result of high surf activity but is generally deposited during the summer months of gentle surf), intact precontact cultural material is generally not found along the oceanfront. Therefore, there is no archaeological sensitivity within most of the Project site, and little to no potential for impacts.

Mitigation Measures

None required.

Component 2

Impact CR-2: Potential Impacts to Previously Undiscovered Cultural Resources During Project Implementation (Component 2)

Although no cultural resources are known to be present within the Project site and Project activities would generally occur in previously disturbed areas, excavations could exceed previous depths and disturb previously undiscovered cultural resources in some areas **(Less than Significant with Mitigation).**

Impact Discussion

There is a potential that Project-related ground disturbance would exceed previous depths during Component 2 and affect heretofore undiscovered cultural resources, such as along the access roadway or within the pier abutment areas. Potential impacts to previously undiscovered cultural resources during Component 2 (pier abutment removal, pipeline removal, and access roadway removal) would be mitigated to less than significant with implementation of **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2, MM CUL-3/TCR-3,** and **MM CUL-4/TCR-4**.

Mitigation Measures

MM CUL-1/TCR-1: Cultural Resources Monitoring. A Cultural Resources Monitoring Plan (Plan) shall be prepared prior to Component 2 ground disturbing activities. The Plan shall include, but not be limited to, the following measures:

- CSLC shall retain a qualified archaeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities during Component 2.
- CSLC shall provide a minimum 5 day notice to the archaeologist and tribal monitor prior to all activities requiring monitoring.
- CSLC shall provide the archaeologist and tribal monitor safe and reasonable access to the Project site.
- The Plan shall include guidance on identification of potential cultural resources that may be encountered.

MM CUL-2/TCR-2: Cultural Resources Sensitivity Training. Prior to Project implementation, a pre-construction cultural resources sensitivity training shall be given by a qualified archaeologist and Native American representative. The purpose of the training will be to educate onsite construction personnel as to the sensitivity of archaeological resources in the area, and specifically avoidance of CA-SBA-71 when utilizing the Bacara Resort fire road access area. The training will also cover the requirements of the Plan identified in **MM CUL-1/TCR-1**, including the possibility of exposing cultural resources, guidance on recognizing such resources, and direction on procedures if a resource or potential resource is encountered. CSLC and the Project contractor will instruct all Project personnel that touching, collecting, or removing cultural materials from the property is strictly prohibited. Evidence of compliance with this MM shall be documented within pre-Project compliance documentation materials prior to Project implementation.

MM CUL-3/TCR-3: Discovery of Previously Unknown Cultural or Tribal Resources. In the event that potential cultural or tribal cultural resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until the approved archaeologist and tribal monitor have evaluated the nature and significance of the discovery. In the event that the discovered cultural or tribal cultural resource is potentially significant, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures shall be taken to secure the area from site disturbance and potential vandalism. Impacts to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other equally or more effective measures are mutually agreed to in the treatment plan (described below) by the lead archaeologist and culturally affiliated tribal monitor.

A treatment plan, if needed to address a find, shall be developed by the archaeologist and, for tribal cultural resources, the culturally affiliated tribal monitor, and submitted to the appropriate tribal representatives and CSLC staff for review, input, and concurrence prior to implementation of the plan. Protection in place of tribal cultural resources shall be prioritized, if feasible; if the archaeologist or tribe determines that damaging effects on the cultural or tribal cultural resource can be avoided in place, then work in the area may resume provided the area of the find is clearly marked for no disturbance. If avoidance in place of tribal cultural resources is infeasible, the treatment plan shall include measures that place priority on Tribal self-determination over collection and curation, including the option to repatriate (rebury) materials nearby at a location of their choosing, and to transfer possession/ownership to the culturally affiliated tribe.

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

MM CUL-4/TCR-4: 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 both an archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. 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.

<u>Components 1 and 2</u>

Impact CR-3: Potential for Damage to or Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning Components 1 and 2

Use of the Bacara Resort Alternative Staging Area/Access Point, which is adjacent to CA-SBA-71, would result in short-term increase in access to archaeological artifacts associated with CA-SBA-71 and the potential for unauthorized collection **(Less than Significant with Mitigation).**

Impact Discussion

One previously recorded cultural resource, CA-SBA-71, is adjacent to the Alternative Staging Area/Access Point that is located entirely within the Bacara Resort fire road access. Although the Alternative Staging Area/Access Point is paved and contains no exposed ground surface, Project personnel could encroach into the site boundaries or inadvertently damage the site. Such damage or unauthorized collection of artifacts would contribute to the destruction of site integrity. Potential impacts to CA-SBA-71 would be avoided through installation and maintenance of protective fencing or flagging (**MM CUL-5/TCR-5**), and appropriate training of field staff prior to Project implementation (**MM CUL-2/TCR-2**). The on-site environmental compliance monitor will ensure enforcement of these measures throughout decommissioning activities. No significant impact would result following mitigation.

Mitigation Measures

MM CUL-2/TCR-2: Cultural Resources Sensitivity Training

MM CUL-5/TCR-5: Cultural Resources Protective Fencing (CA-SBA-71). Prior to Project implementation, protective fencing or flagging clearly marking the area surrounding CA-SBA-71 for avoidance shall be installed; this fencing or flagging shall be maintained for the duration of the use of the Bacara Resort fire road access area, and no personnel, equipment, refuse, or other materials shall be allowed into the avoidance area at any time.

4.4.5 Cumulative Impacts Analysis

Components 1 and 2

Impact CR-4: Cumulative Impacts to Cultural Resources

Project-related ground disturbance may incrementally contribute to cumulative impacts to cultural resources **(Less than Significant with Mitigation).**

Prehistoric archaeological sites are non-renewable resources that have been destroyed at an alarming rate state-wide and locally. It has been estimated that more than 80 percent of all sites in coastal Santa Barbara have been destroyed by coastal development. Therefore, the assessment of potential cumulative impacts on cultural resources within the proposed Project area considers these past activities resulting in loss of archaeological sites, along with other probable future projects in the vicinity.

Cumulative projects included within Tables 3-1 and 3-2 would involve ground disturbances that would potentially impact cultural resources in other archaeologically sensitive areas.

In many cases, site redesign or use of fill could minimize potentially significant, adverse impacts. Total avoidance of cultural resources would not be reasonably expected, however, and increased human activity in the vicinity of cultural resources would lead to greater exposure, potential for unauthorized artifact collection and inadvertent disturbance during construction. Therefore, cumulative impacts to archaeological resources caused by past, present, and future probable projects in the undeveloped coastal areas in the vicinity of the EOF and the decommissioned PRC 421 facilities are considered significant. The city of Goleta and Santa Barbara County both have policy considerations and standard mitigations for addressing the potential for ground disturbances that impact cultural resources, including requirements for surveys in archaeologically sensitive areas, field investigations to precisely delineate site boundaries, significance assessments, and, when required to mitigate significant resources, data recovery programs. The implementation of **MM CUL-1/TCR-1**, **MM**

CUL-2/TCR-2, MM CUL-3/TCR-3, MM CUL-4/TCR-4, and **MM CUL-5/TCR-5** would ensure that the incremental contribution of the Project to cumulative impacts would not be considerable.

4.4.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.4-1. Summary of Cultural Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact CR-1: Potential Impacts to Previously Undiscovered Cultural Resources During Implementation of Decommissioning (Component 1)	None Required.
Impact CR-2: Potential Impacts to Previously Undiscovered Cultural Resources During Implementation of Decommissioning (Component 2)	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains
Impact CR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	**MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
Impact CR-4: Cumulative Impacts to Cultural Resources (Components 1 and 2)	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)

4.5 CULTURAL RESOURCES – TRIBAL

4.5.1 Environmental Setting

The Project site is located within the ethnographic territory of the Coastal Chumash people, who inhabited an area that extended from Morro Bay to Malibu along the coast (Kroeber 1925). The Chumash have been divided into several geographic groups, each associated with a distinct language dialect (Hoover 1986). The Chumash living in Santa Barbara County formed the *Barbareño* dialect group of the Chumash language family. This group was named for their association with *Mission Santa Barbara,* founded December 4, 1786. The *Barbareño* dialect was spoken throughout the Santa Barbara Channel region. At the time of Spanish contact in A.D. 1542, the Barbareño population was concentrated most heavily near the mouths of canyons. Major Barbareño Chumash villages include *sukuw* at Rincon Point, *misopsno* at Carpinteria Creek, *helo* at Mescalitan Island – Goleta Slough, *syuxtun* at Burton Mound, and *mikiw* and *kuyamu* at Dos Pueblos (Grant 1978).

Historically, 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 1972, 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 utilized. The Chumash harvested several plants for their roots, tubers, or greens (Hoover 1986).

In this area, as elsewhere in California, basketry served many of the functions that pottery did in other places. The Chumash used baskets for cooking, serving, storage, and transporting burdens. Some basket makers wove baskets so tightly that they could hold water while others waterproofed their baskets by lining them with pitch or asphaltum (Chartkoff and Chartkoff 1984).

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, such as those of *kuyamu* and *mikiw*, existed on opposite sides of streams or other natural features, possibly reflecting the moiety system of native California (Greenwood 1978).

Chumash political organization was typified by small-scale chiefdoms (Hoover 1986). Chiefs were associated with villages or segments of larger villages. Higher status chiefs controlled entire regions containing several villages. The chiefly offices were normally inherited through the male line with a primogeniture rule, i.e., the custom of the firstborn inheriting the office, in effect (Hoover 1986). Chiefs had several bureaucratic assistants to help in political affairs and serve as messengers, orators, and ceremonial assistants. Several status positions were associated with specialized knowledge and rituals such as weather prophet, ritual poisoner, herbalist, etc. (Bean 1974).

4.5.1.1 Tribal Coordination

Pursuant to Executive Orders B-10-11 and N-15-19 affirming that state policy requires and expects coordination with tribal governments in public decision making (Appendix B), the CSLC follows its 2016 Tribal Consultation Policy, which provides guidance and consistency for staff in its interactions with California Native American Tribes (CSLC 2016). The Tribal Consultation Policy, which was developed in collaboration with tribes, other state agencies and departments, and the Governor's Tribal Advisor, recognizes that tribes have a connection to areas that may be affected by CSLC actions and "that these Tribes and their members have unique and valuable knowledge and practices for conserving and using these resources sustainably" (CSLC 2016).

Additionally, under AB 52 (Gatto), Chapter 532, Statutes of 2014, lead agencies must avoid damaging effects on tribal cultural resources, when feasible, whether consultation occurred or is required. The CSLC contacted the Native American Heritage Commission (NAHC), which maintains two databases to assist specialists in identifying cultural resources of concern to California, the Native Americans Sacred Lands File and Native American Contacts. A request was sent to the NAHC for a sacred lands file search of the Project area and a list of Native American representatives who may be able to provide information about resources of concern located within or adjacent to the Project area.

On September 23, 2019, the NAHC provided a letter and a list of nine tribal contacts from the following six tribes:

- Barbareño/Ventureño Band of Mission Indians

- Coastal Band of the Chumash Nation
- San Luis Obispo County Chumash Council
- Northern Chumash Tribal Council
- Chumash Council of Bakersfield
- Santa Ynez Band of Chumash Indians

The NAHC's reply also stated that no records were identified in the Sacred Lands File record search for the Project site.

On July 7, 2021, CSLC staff provided CEQA notice of the Project to all tribes on the NAHC list. On August 20, 2021, CSLC received a request for consultation on the Project from the Santa Ynez Band of Chumash Indians. CSLC staff provided the Cultural Resources and Tribal Cultural Resources sections of the EIR and the archeological report (Appendix H) to the Santa Ynez Band of Chumash Indians representatives to obtain any input from the Tribe. Staff also met with the representatives on October 15, 2021, to provide a Project overview and go over the mitigation measures and answer any questions on the Project or analysis in the EIR. Based on the consultation, the representatives agreed that a monitor be on-site during ground disturbing activities as required under **MM CUL-1/TCR-1** and requested that site CA-SBA-71 be protected from looting or inadvertent damage via avoidance fencing or flagging (**MM CUL-5/TCR-5**). In addition, the representatives requested that the CSLC acknowledge Chumash cultural use in the four Marine Protected Areas (MPAs) offshore the Project area, the significance of the marine environment between the Northern Channel Islands and the shore as a Traditional Cultural Landscape, and the cultural sensitivity of Goleta Slough. The representatives requested the CSLC ensure Project-related activities do not restrict Chumash use of the MPAs or further degrade the Goleta Slough village site.

4.5.2 Regulatory Setting

Federal and state laws and regulations pertaining to tribal cultural resources and relevant to the Project including California Coastal Act Chapter 3, Section 30244 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). See Section 4.4.2, *Regulatory Setting*, for a listing of local cultural resources policies.

4.5.3 Significance Criteria

Public Resources Code section 21084.2 states, "A project with an effect that may cause a substantial adverse change in the significance of a Tribal cultural resource is a project that may have a significant effect on the environment." Lead agencies are directed to avoid damaging effects to Tribal cultural resources, when feasible. If measures are not otherwise identified in consultation with affected tribes to mitigate a substantial adverse change to a Tribal cultural resource, the examples of measures provided in Public Resources Code section 21084.3 may be considered, if feasible.

An impact to Tribal cultural resources would be significant if the project would 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:

- 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
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1, subdivision (c). In applying the criteria set forth in Public Resources Code section 5024.1, subdivision (c), the lead agency shall consider the significance of the resource to a California Native American tribe.

In making a finding that a resource is a Tribal cultural resource, the CSLC may consider, among other evidence, elder testimony, oral history, tribal archival information, testimony of an archaeologist or other expert certified by the tribe, official declarations or resolutions adopted by the tribe, formal statements by the tribe’s historic preservation officer, or other historical notes and anthropological records (OPR 2017).

4.5.4 Impact Analysis and Mitigation

Impacts to Tribal cultural resources can occur by direct or indirect impacts. Direct impacts result from ground disturbances directly and indirectly caused by construction, decommissioning, operation, or maintenance. Indirect impacts result from increased access to archaeological sites, i.e., construction or facility employees participating in unauthorized artifact collecting. A discussion of potential impacts of each Project component and recommended MMs are provided below.

<u>Component 1</u>

Impact TCR-1: Substantial Adverse Change to Previously Undiscovered Tribal Cultural Resources During Project Implementation (Component 1)

Although there is one known cultural resource *near* the Project site, no Tribal cultural resources are known to be present *within* the Project footprint, and Project activities would generally occur in previously disturbed areas and in areas where presence of cultural resources is not expected **(Less than Significant).**

Impact Discussion

The potential for a substantial adverse change to subsurface Tribal cultural resources during Component 1 is limited due to the fact that Project activities are anticipated to occur in previously disturbed soils and artificial fill. Previous reviews of cultural resources in the area to be affected by the Project have not identified significant Tribal cultural resources (Santa Barbara County 2001; City of Goleta 2006d; Santa Barbara County 2011). In addition, during consultation with the Santa Ynez Band of Chumash Indians, representatives did not flag any Tribal cultural resources within the Project footprint beyond the resources previously identified in the archeological report (Appendix H). The representatives did, however, state that the Tribe considers the marine environment between the Northern Channel Islands and the shoreline to be a Traditional Cultural Landscape/Property, and that cultural use of the four nearby MPAs is authorized – both of these areas/uses are considered, therefore, to be tribal cultural resources. In addition, the representatives stated that the Goleta Slough area is a pre-contact village area that the Tribe is working to rehabilitate; therefore, Goleta Slough is also a tribal cultural resource. The access roadway leading to the piers, the two pipelines, and the PRC 421 pier area consist of relatively loose beach sand that is prone to erosion and scour (i.e., the removal of sand due to wave action along the oceanfront, sometimes to shale bedrock). Due to the open exposure, the oceanfront is generally not considered suitable for occupation by precontact Indigenous peoples. Additionally, due to the movement of sand on a seasonal basis (i.e., sand is generally scoured off the beach during the winter months as a result of high surf activity but is generally deposited during the summer months of gentle surf), intact precontact cultural material is generally not found along the oceanfront. Implementation of Component 1, as described, would not affect or impact the integrity or use of the MPAs, marine Traditional Cultural Landscape, or the Goleta Slough. Therefore, there is no archaeological sensitivity within most of the Project site, and little to no potential for impacts.

Mitigation Measures

None required.

Component 2

Impact TCR-2: Substantial Adverse Change to Previously Undiscovered Tribal Cultural Resources During Project Implementation (Component 2)

Although no Tribal cultural resources are known to be present within the Project site and Project activities would generally occur in previously disturbed areas, excavations may cause a substantial adverse change to previously undiscovered Tribal cultural resources in some areas **(Less than Significant with Mitigation).**

Impact Discussion

During Component 2, there is a potential that Project-related ground disturbance would exceed previous depths and affect heretofore undiscovered Tribal cultural resources, such as along the access roadway and pier abutment areas. Implementation of Component 2, as described, would not affect or impact the integrity or use of the MPAs, marine Traditional Cultural Landscape, or the Goleta Slough. Potential impacts to previously undiscovered Tribal Cultural Resources during Component 2 (pier abutment removal and access roadway removal) would be mitigated to less than significant with implementation of **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2**, **MM CUL-3/TCR-3**, and **MM CUL-4/TCR-4**.

Mitigation Measures

MM CUL-1/TCR-1: Cultural Resources Monitoring (see Section 4.4.4, *Cultural Resources*)

MM CUL-2/TCR-2: Cultural Resources Sensitivity Training (see Section 4.4.4, *Cultural Resources*)

MM CUL-3/TCR-3: Discovery of Previously Unknown Cultural or Tribal Resources (see Section 4.4.4, *Cultural Resources*)

MM CUL-4/TCR-4: Unanticipated Discovery of Human Remains (see Section 4.4.4, *Cultural Resources*)

<u>Components 1 and 2</u>

Impact TCR-3: Potential for Damage to or Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning Components 1 and 2

Use of the Bacara Resort Alternative Staging Area/Access Point, which is adjacent to CA-SBA-71, would result in short-term increase in access to archaeological artifacts associated with CA-SBA-71 and the potential for unauthorized collection **(Less than Significant with Mitigation).**

Impact Discussion

One previously recorded cultural resource, CA-SBA-71, is adjacent to the Alternative Staging Area/Access Point that is located entirely within the Bacara Resort fire road access. Although the Alternative Staging Area/Access Point is paved and contains no exposed ground surface, it is possible for personnel to encroach into the site boundaries or inadvertently damage the site. Such damage or unauthorized collection of artifacts would contribute to the destruction of site integrity. Potential impacts to CA-SBA-71 would be avoided through installation and maintenance of protective fencing or flagging (**MM CUL-5/TCR-5**), and appropriate training of field staff prior to Project implementation (**MM CUL-2/TCR-2**). The on-site environmental compliance monitor will ensure enforcement of these measures throughout decommissioning activities. No significant impact would result following mitigation.

Mitigation Measures

MM CUL-2/TCR-2: Cultural Resources Sensitivity Training (see Section 4.4.4, *Cultural Resources*)

MM CUL-5/TCR-5: Cultural Resources Protective Fencing (CA-SBA-71) (see Section 4.4.4, *Cultural Resources*)

4.5.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact TCR-4: Cumulative Impacts to Tribal Cultural Resources

Project-related ground disturbance may incrementally contribute to cumulative impacts to cultural resources **(Less than Significant with Mitigation).**

Tribal cultural resources are non-renewable resources that have been destroyed at an alarming rate state-wide and locally. It has been estimated that more than 80 percent of all sites in coastal Santa Barbara have been destroyed by coastal development. Therefore, the assessment of potential cumulative impact on Tribal cultural resources within the proposed Project area considers these past activities resulting in loss of Tribal cultural resources, along with other probable future project in the vicinity.

Cumulative projects included in Tables 3-1 through 3-2 would involve ground disturbances that would potentially impact Tribal cultural resources in culturally sensitive areas.

In many cases, site redesign or use of fill could minimize potentially significant, adverse impacts. Total avoidance of Tribal cultural resources would not be reasonably expected, however, and increased human activity in the vicinity of Tribal cultural resources would lead to greater exposure, potential for unauthorized artifact collection, and inadvertent disturbance during construction. Therefore, cumulative impacts to Tribal cultural resources caused by past, present, and future probable projects in the undeveloped coastal areas in the vicinity of the EOF and the decommissioned PRC 421 facilities are considered significant. The city of Goleta and Santa Barbara County both have policy considerations and standard mitigations for addressing the potential for ground disturbances that impact Tribal cultural resources, including requirements for surveys in culturally sensitive areas, field investigations to precisely delineate site boundaries, significance assessments and, when required to mitigate significant resources, data recovery programs. The implementation of **MM CUL-1/TCR-1**, **MM CUL-2/TCR-2, MM CUL-3/TCR-3, MM CUL-4/TCR-4**, and **MM CUL-5/TCR-5** would ensure that cumulative impacts on Tribal cultural resources would be reduced to less than significant.

4.5.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.5-1. Summary of Tribal Cultural Resources Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact TCR-1: Substantial Adverse Change to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 1)	None required.
Impact TCR-2: Substantial Adverse Change to Previously Undiscovered Tribal Cultural Resources During Implementation of Decommissioning (Component 2)	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains
Impact TCR-3: Potential for Unauthorized Collection of CA-SBA-71 During Implementation of Decommissioning (Components 1 and 2)	**MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)
Impact TCR-4: Cumulative Impacts to Tribal Cultural Resources (Components 1 and 2)	**MM CUL-1/TCR-1:** Cultural Resources Monitoring **MM CUL-2/TCR-2:** Cultural Resources Sensitivity Training **MM CUL-3/TCR-3:** Discovery of Previously Unknown Cultural or Tribal Resources **MM CUL-4/TCR-4:** Unanticipated Discovery of Human Remains **MM CUL-5/TCR-5:** Cultural Resources Protective Fencing (CA-SBA-71)

4.6 GEOLOGY, SOILS, AND PALEONTOLOGICAL RESOURCES

This section discusses potential geological issues that may be associated with the Project. It includes the potential for structural instability of Project facilities during decommissioning and instability of the coastal bluff after decommissioning that could occur from: (1) seismic hazards including wave and tidal forces, earthquakes, faulting, surface rupture, ground shaking, liquefaction, subsidence, and tsunamis; (2) coastal processes including erosion, scour, coastal bluff instability, and landslides; and (3) sea level rise. This section outlines the environmental setting, regulatory setting, significance criteria, the potential for impacts to the remaining facilities from various geological events, and the significance of these impacts. Section 8.1, *Climate Change and Sea level Rise*, also discusses sea level rise in greater detail (Section 8.1.2) and provides a coastal impact assessment (Section 8.1.3).

4.6.1 Environmental Setting

The Project area comprises the immediate onshore and nearshore areas of the Ellwood coast that would be subject to potential geologic and structural hazards during implementation of the Project. This area includes the existing PRC 421 piers and caissons, the access roadway and pipeline route along the coastal bluff and through the golf course easement back to the tie-in at the Ellwood Onshore Facility (EOF), and the rock revetment and wooden seawall located at the toe of the existing bluff along this stretch of coastline.

4.6.1.1 Physiography

The PRC 421 piers are located beneath a coastal bluff that rises approximately 80 feet above mean sea level (msl). The existing access roadway intersects the bluff near its base (approximately 20 feet above msl) to the northwest of the piers near the EOF and traverses the bluff nearly 20 feet above msl in the direction of the piers to the southeast. To the northeast, a north-south trending canyon is incised into the bluff where Bell Canyon Creek discharges into the ocean. Another small east-west trending gully exists along the bluff above the access roadway and piers north of 421-2. Accumulations of beach sand deposits exist at the base of the bluff in the surf zone (USGS 2007).

The local physiography consists of a wave-cut platform with an associated sea cliff. The cliff marks the locations of older marine terraces that have been uplifted, and the beach marks the modern wave-cut platform. Bell Canyon Creek and runoff along the sea cliff have created eroded gullies and modified fault scarps.

4.6.1.2 Stratigraphy

The geologic strata exposed onshore in the Project vicinity include (USGS 2009) (Figure 4.6-1):

- Quaternary Beach Sand (Qs) – Unconsolidated marine and wind transported beach sand. This unit is exposed along the beach in the surf zone.
- Quaternary Alluvium (Qa) – Undifferentiated alluvial, stream channel, and floodplain deposits composed of silty sands to sandy gravels. This unit is exposed along Bell Canyon Creek and an unnamed incision near the golf course.
- Quaternary Beach Deposits (Qb) – Holocene beach deposits. This unit is located along the coastline in the Project vicinity.
- Quaternary Marine Terrace Deposits (Qt and Qt3a) – Marine terrace deposits composed of medial to near-shore marine sands and wind transported silts. The typical thickness of these deposits is less than 100 feet (City of Goleta 2004) but can range in thickness up to 300 feet in some areas of the coast. There are also several ancient shorelines that trend generally east west across the Project area which are the result of tectonic uplift in the region.
- Tertiary Monterey Formation (Tm) – Undifferentiated diatomaceous, calcareous, and silicious shale with minor sandstone and volcanic ash deposits. This unit is exposed along the coastal bluff beneath units Qt and Qt3a. The formation averages approximately 1,000 feet in thickness and is permeated with tar at many locations. Where exposed, the Monterey Formation is usually white and stained with limonite, and the weaker portions are easily eroded by both marine and non-marine processes including wave action, wind erosion, and erosion due to rainfall (City of Goleta 2004). The stratigraphy of the offshore area along the continental shelf generally consists of the Sisquoc Formation shale deposits overlying the Monterey Formation.

In addition to the units exposed at the surface, another unit, the Tertiary Vaqueros Formation (Tvq), exists in the subsurface beneath the study area. This unit consists of sandstone with siltstone and shale interbeds and is located approximately 3,000 feet below the ground surface (City of Goleta 2004). This rock unit contains the oil and gas reservoir historically produced at the EOF in the Project area.

4.6.1.3 Soils and Soil-Related Hazards

The soils in the Project vicinity consist of Goleta Loam (exposed at EOF and Bell Canyon Creek), Milpitas-Positas Fine Sandy Loams (exposed at EOF and Sandpiper Golf Course), and Diablo Clay (exposed southeast of the golf course). The Diablo series soils are well-drained, formed in soft shale and mudstone, with slight to moderate erosion hazards. Goleta Loam is formed on broad floodplains and the hazard of erosion is slight. Milpitas series soils consist of moderately well-drained soils on terraces formed in mixed alluvial deposits. Runoff can be rapid in the Milpitas soils, and the erosion hazard potential is high (U.S. Department of Agriculture [USDA] 1981).

Surface soils in the Project area are generally found at the top of the coastal bluff, formed in the alluvium derived from sedimentary rock. The soils are generally fine sandy loams over dense, very low, permeable clay subsoil. The depth to the clay subsoil is approximately 30 inches. According to a map of compressible soils, none of the soils within the Project study area are compressible (County of Santa Barbara 2015). However, the city of Goleta (2004) indicated that some of the soil types present at the Project area (Diablo and Milpitas) could have high expansion potential whereas Santa Barbara County has classified the Project area as having a low to moderate potential of having problems associated with expansive soils[14] (County of Santa Barbara 2015). Both classifications are based on the fact that smectites (a clay mineral group) are present in the Project study area soils. The origin, type, and stability of fill soils used to construct the Project access roadway along the toe of the bluff are unknown.

4.6.1.4 Faulting and Seismicity

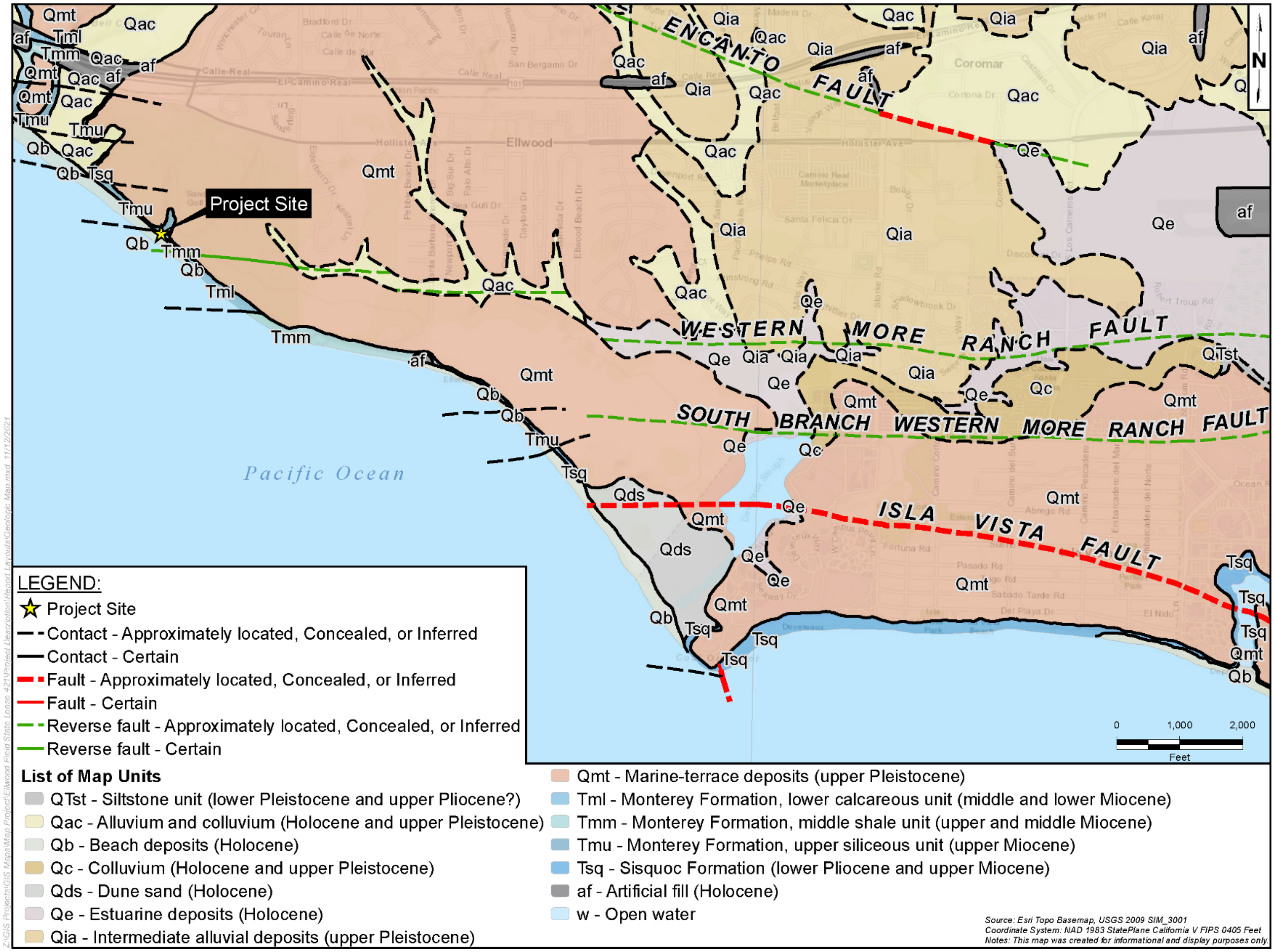
The Project area is located in the Western Transverse Ranges, a seismically active region of Southern California. The North Branch of the More Ranch Fault trends roughly east-west to northwest-southeast less than 0.25 mile southeast of the Project site (Figure 4.6-1). The Santa Barbara County General Plan Safety Element classifies the More Ranch Fault Zone as active, which the California Geological Survey (CGS), formerly the California Division of Mines and Geology (CDMG), defines as those along which movement has occurred within the last 11,000 years. However, the More Ranch Fault Zone has not been zoned as active by the State of California (USGS 2021) or through the creation of an Alquist-Priolo special studies zone (City of Goleta 2004).

The reverse Lavigia Fault is also located beneath the Project area but is buried in the Project vicinity. This fault, in combination with the subsurface anticlinal structure, is believed to act as a trap for oil and gas in the Vaqueros Reservoir at depth and is classified as a potentially active fault (Keller and Gurrola 2000).

Movement along active and potentially active faults, either onshore or offshore near the Project area, including the San Andreas Fault, Santa Ynez/Santa Ynez River Fault Zone, More Ranch Fault Zone, Lavigia Fault, and several others could induce seismic shaking.

[14] Expansive soils contain minerals such as smectite clays that are capable of absorbing water. When they absorb water, they increase in volume. The more water they absorb, the more their volume increases. Expansive soils will also shrink when they dry out. This shrinkage can remove support and result in damaging subsidence. Fissures in the soil can also develop (Geology.com 2021).

Figure 4.6-1. Geology of the Project Area



The Project location is classified in an area where shaking from earthquakes will occur 1 to 2 times per century, and those events will exceed 20 percent of the force of gravity. At this level, significant damage to older buildings is expected to result (Southern California Earthquake Center [SCEC] 1995).

Additional geologic hazards associated with seismicity include surface rupture, liquefaction, subsidence, and tsunamis. These hazards are further discussed below.

Surface Rupture and Other Types of Seismic Ground Failure

Surface ruptures comprise the displacement and cracking of the ground surface along a fault trace. Surface ruptures are visible instances of horizontal or vertical displacement, or a combination of the two, typically confined to a narrow zone along the fault. Developments near the More Ranch faults would have the most significant potential to be affected by surface rupture (City of Goleta 2004).

Differential settlement is a process whereby soils settle non-uniformly, potentially resulting in stress and damage to pipelines or other overlying structures. Such movement can occur in the absence of seismically induced ground failure, due to improper grading and soil compaction or discontinuity of naturally occurring soils; however, strong ground shaking often greatly exacerbates soil conditions already prone to differential settlement, resulting in distress to overlying structures. Elongated structures, such as pipelines, are especially prone to damage as a result of differential settlement.

Lateral spreading is a type of seismically induced ground failure that occurs when cracks and fissures form on an unsupported slope, resulting in lateral propagation and failure of slope material in a downslope direction. This type of failure is common in unconsolidated river or stream bank deposits, where lateral stream scour creates steep banks in unconsolidated silts and sands.

Liquefaction

Liquefaction is a form of earthquake-induced ground failure that occurs primarily in relatively shallow, loose, granular, water-saturated soils. Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore pressure, which results in the loss of grain-to-grain contact. Unconsolidated silts, sands, and silty sands are most susceptible to liquefaction. While almost any saturated granular soil can develop increased pore water pressures when shaken, these excess pore water pressures can lead to liquefaction if the intensity and duration of earthquake shaking are great enough. During recent large earthquakes where liquefaction occurred, structures that appeared to be most vulnerable to liquefaction included buildings with shallow foundations, railways, buried structures, retaining walls, port structures, utility poles, and towers.

Santa Barbara County identifies the Project study area as having moderate liquefaction hazard (County of Santa Barbara 2015). According to the city of Goleta, there is no historical evidence of structures being damaged by liquefaction in the city or adjacent unincorporated portions of Santa Barbara County (City of Goleta 2004). However, areas of beach sand could have a high liquefaction potential, due to unconsolidated sand layers below the water table at shallow depths. During ground shaking, loose saturated soils and beach sands can undergo liquefaction, and differential settlement of buildings and structures can occur. In addition, the types of soils used in construction of the Project access roadway are unknown. Portions of this access roadway appear to be saturated due to inflow from springs in the bluff which may increase the potential for liquefaction of these fill soils of unknown origin.

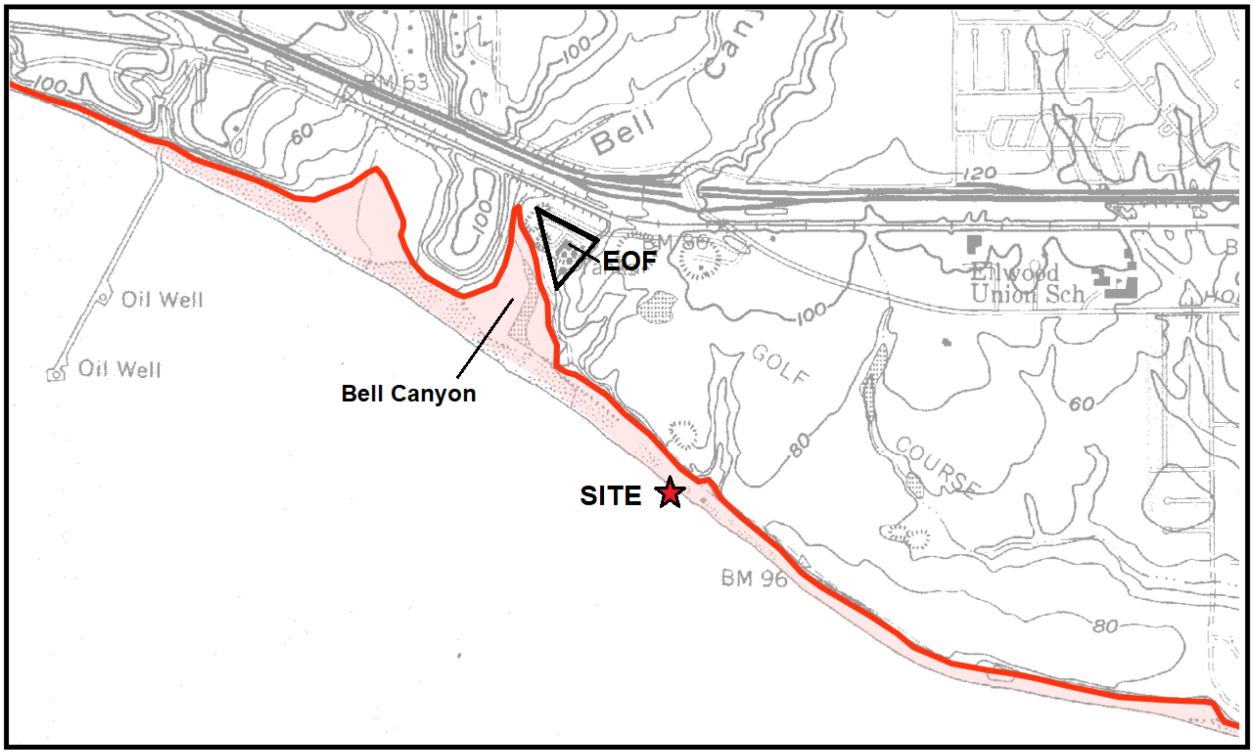
<u>Subsidence</u>

Subsidence is a type of ground failure, defined as settlement or compression of subsurface soils following the loss of interstitial materials such as water or gas. Subsidence can also result from wetting of collapsible soils, typically loose deposits of silt or sand. Subsidence can occur over a broad region or in localized areas and can occur gradually over time or as a sudden collapse. The loss of interstitial material can result from shaking of the soil mass during an earthquake, or it can result from other non-seismic factors such as the extraction of oil and gas reserves. Because the Vaqueros Reservoir is thought to naturally repressurize due to influx of groundwater into the reservoir rock, subsidence is not expected to occur in the study area as a result of the Project.

<u>Tsunamis</u>

Tsunamis are large ocean waves generated by large-scale, short duration submarine earthquakes, volcanic activity, and submarine landslides. A seismic event on any moderate offshore fault could result in a tsunami in the Project vicinity. A major earthquake that occurred off the coast of Point Arguello in 1927 initiated a tsunami, which was recorded on tsunami gages as far away as Hawaii and reached heights of 6 feet above msl along the coast. Another historical tsunami may have resulted from an 1812 earthquake along a fault in the Santa Barbara Channel (Keller and Gurrola 2000). Tsunamis affecting the Project area can also be generated by distant earthquakes, such as the one that occurred in March 2011 in Japan. A significant tsunami in the area could generate waves as high as 40 feet above msl. Areas most susceptible to the effects of a tsunami would be along the oceanfront (Figure 4.6-2, California Emergency Management Agency 2009). The stream discharge area of Bell Canyon Creek and the beach area to the southeast of the Project site are designated as potential tsunami runup areas (City of Goleta 2016). The runup area was calculated by the University of Southern California using a tsunami model and potential earthquake sources. The calculated runup area of Bell Canyon Creek includes the area adjacent to the western boundary of the EOF and along the Project site shoreline (Figure 4.6-2).

Figure 4.6-2. Tsunami Inundation Map for Project Area



Source: California Emergency Management Agency (CEMA) 2009

4.6.1.5 Coastal Processes

<u>Erosion and Scour</u>

Erosion of exposed soils and rocks along the coastal bluff, and in gullies and creeks, naturally occurs due to physical weathering and ongoing coastal processes. Active erosion caused by water and wind action is evident along the sea cliff where outcrops expose old filled channels and fault planes (Keller and Gurrola 2000). Scour can be considered an aggressive form of water erosion where soil or sediment particles are removed from gullies and creeks, and the sea cliff is exposed to wave action. Erosion and scour, while ongoing and naturally occurring in a beach environment, can be affected by human-induced changes including changes to topography, addition of structures, roads, and artificial fill, or other disturbances to the existing natural setting. In areas of increased erosion, deeper incision of gullies and creeks can occur, which causes accumulation of sediments downstream where slopes are less steep, and sediments can settle out of the water column. A net increase in removal of mass, including soil, sediment (beach sand), and bedrock, can occur in areas of increased scour.

The Project is located within an active wave-cut platform along the coast of the Pacific Ocean. Historical wave-cut platforms and ancient shorelines exist at the top of the coastal bluff and are marked by emergent marine terraces. The sequence of marine terrace deposits records a geologic history of ongoing coastal erosion processes. Accumulation and removal of soil (or beach sand) are transient features, and in a wave-cut platform environment, there is an overall net removal of soil, rock, and beach sand. This area has been continually eroded and scoured through time as waves have cut into the existing soil and rock to form the wave-cut platform and coastal bluff. This process is expected to continue for the foreseeable future (on the order of thousands of years).

<u>Beach Width and Sediment Transport</u>

The southwest-facing shoreline of the beach in the Project area is subject to direct wave energy which causes off-shore migration of sediments. Sediment removal is greatest in the winter when wave action increases in response to tidal variation (see Section 4.9, *Hydrology and Water Quality*). Beach width ranges from approximately 115 feet to 300 feet and is subject to seasonal variation and long-term weather patterns including El Niño and the Pacific Decadal Oscillation. A 65 year study of beach width (1938 to 2003) in the Project area found that beach width was the lowest during 1983 and 1998, following El Niño events (USGS 2009). The maximum beach width was observed in 2001 and 2003. The seasonal change in beach width also exposes the pier structures and tops of the caissons to greater level of wave action during winter months.

According to the Coastal Impact Assessment prepared on behalf of the Project by NV5 (Appendix I) the PRC 421 caissons may act as short sand-retention structures during high tides that prevent sand from moving southeast (down-current). However, because of the limited width (30 to 40 feet) of the caissons and the relative high sand levels onsite, this retention effect is expected to be minor. Additionally, a more recent assessment of beach conditions in intermittent summer and fall seasons from 1994 to 2019 did not indicate any noticeable beach accretion or erosion trend. The beach and shoreline near PRC 421 were noted as relatively stable without a significant long-term retreat or advance trend (NV5 2021).

<u>Historic Repairs at PRC 421 Due to Erosion/Weathering</u>

Historically, Venoco made multiple repairs to PRC 421 structures, including to the existing access roadway between the two PRC 421 piers. In 2001, CCC issued Emergency Permit E-01-027-G, which included emergency repairs on the access road including: grading the road, adding 520 tons of float rock as a base layer where needed, adding 662 tons of gravel as road base, and placing approximately 645 tons of riprap within the gaps of the existing beachside rock revetment at the base of the road. The purpose of these repairs was to provide safe passage for heavy equipment to the 421 piers to repair a leak at one of the PRC 421 wells.

In September 2010, CSLC inspectors noted that significant new damage to Pier 421-2 had occurred during the previous year, and the lower portion of the original caisson wall at the southwest corner was fully exposed to storms and ocean waves. Emergency permits for repair of the caisson wall were issued by the city of Goleta (10-120-EMP), California Coastal Commission (CCC) (E-10-013-G), and U.S. Army Corps of Engineers (USACE) (2010-959-JWM), and repairs were completed in July 2011.

In 2019, pursuant to emergency Coastal Development Permit (CDP) G-9-19-0009 Venoco placed 200 tons of rock at eight sites within the rip-rap seawall where rock had been displaced because of unexpected and significant storm-induced scouring of the beach. These repairs were conducted to support transport of a drill rig and associated equipment necessary to plug wells 421-1 and 421-2. The repairs also consisted of brush clearance, placement of gravel and subdrains, and replacement of some rock to shore up the shore facing revetment.

Coastal Bluff Instability, Slope Failure, and Landslides

Because the Project study area includes a coastal bluff, the potential exists for slope failure and landslides to occur during Project implementation. The stability of slopes is affected by a number of factors including gravity, rock and soil type, geologic structure, amount of water present, coastal processes, and amount of vegetation present. The Santa Barbara County Seismic and Safety Element (2015) and the city of Goleta General Plan/Coastal Land Use Plan (GP/CLUP) Safety Element (2006g) have classified the Project area as having a high potential for slope instability.

Failure of the earthen bank below the access roadway during the winter of 2000/2001 exposed previously buried pipelines. During the road repair project, some of the pipelines were removed and the bank failure areas were backfilled. In addition, a French drain and wooden dam were installed to divert water flow around the perimeter of the Pier 421-2 approach area and to relieve hydraulic pressure on the access roadway. The diverted water is directed onto the beach, which helps prevent erosion of the earthen bank.

Bluff Retreat

As noted above, soils formed on the terraces at the top of the bluff and along Bell Canyon Creek have the potential to erode.

As indicated within the city of Goleta General Plan, Safety Element (2006g), shoreline change studies have documented average, long-term rates of sea cliff (bluff) retreat of

0.45 to 0.62 foot per year for the Ellwood Mesa area, and rates of 0.3 to 1.3 feet per year for the cliffs along Isla Vista to the east of Goleta's coastline.

This data is supported within the Project area as summarized within a site-specific Bluff Retreat Study conducted by Padre Associates on behalf of the Project (Appendix G). As noted within the study, based on a review of several points at both the toe and the crest of the bluffs in the Project vicinity (comparing historical aerials, Light Detection and Ranging (LiDAR) data, and oblique historical aerials), the estimated retreat rates ranged from 10 to 63 centimeters per year (0.32 to 2.06 feet per year) at the bluff crest. Estimated retreat rates along the toe of the bluff range from 7 to 61 centimeters per year (0.2 to 2.00 feet per year) where the toe is not armored by rock revetment, and 0 centimeters per year (0 feet per year) where the toe of the coastal bluff is armored by rock revetment (Padre 2021). Retreat rates in the Project site specifically were estimated to range from 10 to 22 centimeters per year (0.33 to 0.72 foot per year) at the bluff crest (excluding higher value areas directly influenced by existing landslide or wetlands). The estimated retreat rate in the Project area at the toe of the bluff is zero centimeters per year due to the existing rock revetment and wooden seawall armaments (Appendix G – Plate 5).

4.6.1.6 Paleontological Resources

The Project area is situated on Pleistocene older alluvium deposits, consisting primarily of relatively unconsolidated silt, sand, and gravel. These alluvial deposits overlie the Miocene Sisquoc Formation, which is exposed in the coastal bluff northwest of the Project area and consists of silty, diatomaceous, clay shale (USGS 2009).

Paleontological resources are commonly found in sedimentary rock units. The boundaries of sedimentary rock units generally define the limits of paleontological sensitivity in a given region. Paleontological sites are normally discovered in cliffs, ledges, steep gullies, or along wave-cut terraces where vertical rock sections are exposed. Fossil material may also be exposed by a trench, ditch, or channel created by construction.

Paleontologists examine invertebrate fossil sites differently than vertebrate fossil sites. Invertebrate fossils in microscopic form such as diatoms, foraminifera, and radiolarians can be so prolific as to constitute major rock material in some areas. Invertebrate fossils are normally of marine origin and are widespread, abundant, fairly well preserved, and predictable as to fossil sites. Therefore, the same or similar fossils can be located at any number of sites throughout central California.

Vertebrate fossil sites are usually found in non-marine or continental deposits. Vertebrate fossils of continental material are usually rare, sporadic, and localized. Scattered vertebrate remains (mammoth, mastodon, horse, groundsloth, camel, and rodents) have been identified from the Pleistocene non-marine continental terrace deposits on Vandenberg Space Force Base (formerly Vandenberg Air Force Base, located approximately 50 miles northwest of the Project site, USAF 2011), but these resources would not be expected in the Project area.

The invertebrate fossils that would be expected to exist within Project site geologic rock units are widespread and abundant in many areas throughout the Pacific Coastline including Santa Barbara County. The overwhelming bulk of invertebrate fossil material in these rocks is due to the deposition of sediment in marine basins. Very seldom are vertebrate marine fossils such as whale, porpoise, seal, or sea lion found in marine rock units such as the Miocene Monterey Formation and the Pliocene Sisquoc Formations located within the PRC 421 Project area and vicinity. Therefore, the sensitivity for encountering important paleontological resources within the PRC 421 Project area and vicinity is considered low (CSLC 2014).

4.6.2 Regulatory Setting

Federal and state laws, regulations, and policies that pertain to the Project including California Coastal Act Chapter 3, Section 30253 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1) Local laws, regulations, and policies are summarized below.

4.6.2.1 City of Goleta

Development in the city is subject to and must conform with the city's GP/CLUP and unified zoning code, both of which include regulations applicable to inland and coastal areas, and all applicable permits with the city for decommissioning of Project components would need to be obtained. Relevant policies pertaining to Geology, Soils, and Paleontological Resources are included below.

- **Policy SE 1.3: Site-Specific Hazards Studies**. Applications for new development shall consider exposure of the new development to coastal and other hazards. Where appropriate, an application for new development shall include a geologic/soils/geotechnical study and any other studies that identify geologic hazards affecting the proposed Project site and any necessary mitigation measures. The study report shall contain a statement certifying that the Project site is suitable for the proposed development and that the development will be safe from geologic hazards. The report shall be prepared and signed by a licensed certified engineering geologist or geotechnical engineer and shall be subject to review and acceptance by the City.

- **Policy SE 2.3: Prohibition of Shoreline Armoring for Bluff-Top Development**. The installation of coastal armoring to protect bluff-top development constructed after the effective date of Public Resources Code section 30235 shall be prohibited. Such prohibited armoring includes but is not limited to seawalls, revetments, and riprap. Should existing bluff-top buildings be threatened by coastal bluff retreat, threatened structures shall be relocated or removed.

- **Policy SE 2.6: Prohibition of Structures on Bluff Faces**. No permanent structures shall be permitted on a bluff face, except for engineered public beach accessways. Such structures shall be designed and constructed to prevent any further erosion of the bluff face and to be visually compatible with the surrounding area.
- **Policy SE 3.1: Permanent Structures**. New permanent structures shall be prohibited seaward of the top of the coastal bluff. The exceptions to this prohibition include: 1) wooden stairs and other lightly constructed structures that provide public beach access, and 2) improvements necessary to provide access to the beach for emergency responders, if such access is appropriate and no other methods of access are feasible.
- **Policy SE 3.4: Installation of New Coastal Armoring**. Pursuant to Public Resources Code section 30235, revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall only be permitted when required to serve coastal-dependent uses or to protect structures existing as of the effective date of Public Resources Code section 30235 or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. In particular, the goals of mitigation shall include, but not be limited to, maintaining beach widths fronting and adjacent to coastal armoring structures and maintaining safe lateral beach access.
- **Policy SE 3.6: Repair and Maintenance of Coastal Armoring**. Repair and maintenance of existing or legally permitted coastal armoring may be permitted only if the repair and maintenance activities do not result in an enlargement or extension of armoring, and where an engineering or geological study demonstrates that in the absence of such repair and maintenance, the structure protected by the armoring would be subject to damage from identified coastal hazards. “Existing” as used in this policy shall mean existing as of the effective date of Public Resources Code section 30235. Repair and maintenance activities shall not result in a seaward encroachment of the coastal armoring.
- **Policy SE 3.8: Removal of Derelict Coastal Armoring Structures**. The City shall support the removal of derelict coastal armoring structures. Derelict coastal armoring is defined as armoring that was constructed to protect any structure that has been demolished or removed or armoring that has fallen into disrepair or presents a nuisance or safety hazard. Portions of the steel-reinforced wooden seawall along the eastern frontage of the Sandpiper Golf Course (east of the shoreline oil piers of State Lease 421) should be removed as such portions are exposed seaward of the toe of the bluff. The placement of additional backfill to

shore up this structure shall be prohibited, and natural shoreline processes shall be allowed to resume. This requirement does not apply to the rock revetment that protects the access roadway to the State Lease 421 piers, unless and until these wells are properly abandoned and the pier structures are removed.

- **Policy SE 3.9: Removal of Beach Hazards**. The City supports existing and new efforts to identify and properly remove remnant piers, bulkheads, derelict oil well materials, and other beach hazards. The City encourages implementation of the State Lands Commission's Beach Hazards Removal Project, which was approved by the State Lands Commission in May 2002, but not implemented due to state budget limitations.
- **Policy SE 3.10: Complete and Prompt Abandonment of Shoreline Structures**. Upon decommissioning of the two shoreline oil wells (State Lease 421 wells), the complete demolition and removal of all associated structures shall be required. The timeframe for complete demolition shall be within 3 years of the ceasing of production operations in accordance with LU 10.4. Associated structures include but are not limited to the caisson walls, the piers, the revetment, and any inactive pipelines within 100 feet of the top of the revetment. Abandonment in place for inactive pipelines associated with State Lease 421 production shall not be permitted, as subsequent coastal erosion could expose these structures. Pier supports and pilings shall be cut below the surface as far as possible, and ideally down to bedrock to prevent subsequent exposure by winter beach scour.
- **Policy SE 5.1: Evaluation of Slope-Related Hazards**. The City shall require geotechnical/geological, soil, and structural engineering studies for all development proposed in areas of known high and moderate landslide potential or on slopes equaling or exceeding 25 percent. The studies shall evaluate the potential for landslides, rockfalls, creep, and other mass movement processes that could impact the development; they shall also identify mitigation to reduce these potential impacts, if needed. The studies shall be included as part of an application for development.
- **Policy SE 5.4: Avoidance of Soil-Related Hazards**. For the proposed development of any critical facilities in areas subject to soil-related hazards, as well as for noncritical facilities in areas subject to soil-related hazards, the City shall require site-specific geotechnical, soil, and/or structural engineering studies to assess the degree of hazard on the proposed site and recommend any appropriate site design modifications or considerations as well as any other mitigation measures. The City shall not approve development in areas subject to soil-related hazards, unless mitigation measures are identified and committed to that would reduce hazards to an acceptable level.

- **Policy SE 5.5: Minimization of Grading in Hazardous Areas**. All construction proposed for areas with steep (equal to or greater than 25 percent) slopes or subject to soil and slope-related hazards shall minimize the area to be graded and shall also minimize the area of vegetation removal or disturbance.

4.6.3 Significance Criteria

Impacts are considered significant if any of the following conditions apply:

- Ground motion due to a seismic event that could include surface rupture, liquefaction, subsidence, landslides or tsunami and damage to structural components
- Substantial soil erosion or the loss of topsoil
- Unstable soils which result from Project implementation and cause landslide, slope failure, lateral spreading, subsidence, liquefaction, or collapse
- Damage of structural components as a result of soil expansion
- Soil settling that could damage structural components of the remaining structures
- Deterioration of structural components due to weathering, fatigue, or erosion that could reduce structural stability
- Erosion-induced siltation of nearby waterways as a result of ground disturbing activities
- Result in an adverse impact to a unique paleontological resource

4.6.4 Impact Analysis and Mitigation

The Project was evaluated to identify potential geologic hazards that could result in impacts to people or structures due to Project implementation. A qualitative evaluation of potential impacts was conducted based on the site-specific information described in Section 4.6.1, *Environmental Setting*. Additionally, a Project-specific Coastal Impact Analysis (NV5 2021, Appendix I) and Bluff Retreat Evaluation Report (Padre 2021, Appendix G) were prepared to support this analysis.

Project-triggered geologic hazards would be confined primarily to the Project site and would be associated with seismic hazards including slope failure and landslides, and coastal-process-related hazards including erosion and coastal bluff instability resulting from the proposed decommissioning activities as further discussed below.

As discussed above, there is a low potential for paleontological resources to be present onsite, and Project activities would primarily occur in previously disturbed soils; therefore, no significant impacts to paleontological resources are anticipated.

<u>Component 1</u>

Impact GEO-1: Littoral Transport and Beach Width (Component 1)

Project activities have the potential to affect localized sand availability, beach width and sediment (sand) transport **(Less than Significant).**

Impact Discussion

As indicated within the coastal impact assessment (NV5 2021, Appendix I), based on a comparison of historical aerial photography, the PRC 421 caissons have shown to provide a significant wave sheltering effect to the local area. The wave height and resulting wave energy behind the caissons are much lower than other beach areas without sheltering provided by the caissons. Further, the PRC 421 caissons may act as sand-retention structures during high tides that help prevent sand from moving southeast in the beach area and thus help retain more sand to the northwest (up-current). However, because of the limited width (30 to 40 feet) of the caissons and the relatively high sand level, the effects on longshore currents, longshore sediment transport, or long-term beach and shoreline evolution trends are minor. Therefore, removal of these structures during Component 1 is anticipated to have a negligible impact on the long-term shoreline evolution and beach width at adjacent beaches. If there is any impact, the impact would be limited to the local areas behind the caissons and the impact is considered less than significant.

Mitigation Measures

None required.

Impact GEO-2: Weathering and Erosion/Bluff Retreat (Component 1)

Removal of the two PRC 421 caissons and piers could increase bluff retreat due to weathering and erosion/beach scour **(Less than Significant).**

Impact Discussion

The NV5 report (Appendix I) indicates that the PRC 421 caissons have provided erosion protection for the beach and shoreline behind the caissons (see Figure 2-9) during the stormy winter months. Removal of the two caissons and piers would expose the shore behind the caissons to increased wave energy and associated erosion, in areas that are not protected by rock revetment, seawalls, or to a lesser degree, the remaining pier abutments. The storm-induced erosion may substantially lower the sand level or even completely remove beach sands in front of the access roadway. This would cause focused erosion at the roadway shoreline face at the two unprotected areas created by removal of the caissons and piers. As observed in adjacent areas along the bluffs that have already experienced wooden seawall failure in some segments but not the entirety of the structure, wave action in these gaps has been noted to exacerbate erosion by enabling waves to eddy behind the remaining structure. This focused erosion may cause the access roadway shoreline face to fail as was observed during the winter of 2000/2001 when the pipelines were exposed.

However, although removal of the caissons and piers will result in an increase in coastal erosion, removal of these structures would partially return the Project area to its natural condition. Erosion of the bluffs is occurring in unarmored sections adjacent to the east and west of the Project area. This increased erosion may also contribute to sand replenishment in the Project area and downcoast. Although Component 1 would result in an increase in erosion of the bluffs behind the pier and caisson structures, erosion is a natural process that is already occurring within the Project area. Therefore geologic impacts resulting from Component 1 are less than significant.

Mitigation Measures

None required.

Component 2

Impact GEO-3: Littoral Transport and Beach Width (Component 2)

Project activities would have the potential to affect localized sand availability, beach width, and sediment (sand) transport **(Less than Significant).**

Impact Discussion

Component 2 would include removal of the existing rock revetment and wooden seawall structures. These structures are not wide enough to act as groins and do not currently affect the existing beach profile, sediment transport, or beach width. A less than significant impact would result from Component 2.

Mitigation Measures

None required.

Impact GEO-4: Weathering and Erosion/Bluff Retreat (Component 2)

Removal of the access roadway, two pipelines, rock revetment, and wooden seawall could increase bluff retreat due to weathering and erosion/beach scour **(Less than Significant).**

Impact Discussion

As summarized above (Section 4.6.1.5, *Coastal Processes*), and shown in Figure 4.6-3, estimated retreat rates in the Project site area range from 10 to 22 centimeters per year

(0.33 to 0.72 foot per year) at the bluff crest (excluding higher value areas directly influenced by existing landslide or wetlands). The estimated retreat rate in the Project area at the toe of the bluff is 0 centimeters per year due to the existing rock revetment and wooden seawall armaments. After removal of the pipelines, access roadway, rock revetment, and wooden seawall associated with Component 2, the remnants of the access roadway will consist of earthen material sloped from the bluff face. It is expected that, due to direct wave action and coastal erosion, this un-armored material will wash away, exposing the bluff toe behind the former access roadway to those same forces. Storm-induced erosion would evolve from the beach to the bluff toe, eventually leading to bluff retreat which is currently prevented by the existing rock revetment and seawall. Following Project implementation of Component 2, it is likely that the coastal bluff would begin to retreat at rates similar to those calculated at the western end of the Study Area in the vicinity of the Bacara Resort where the coastal bluff is not armored (Padre 2021).

Figure 4.6-3. Bluff Retreat Rates in the Project Area (centimeters per year) (Excerpt from Plate 5 of Appendix G)

Notes: Red box includes Project site; Yellow area includes bluff retreat study area

<u>Issues Related to Sea Level Rise</u>. Given the existing bluff retreat rates and exacerbated conditions that would result following the decommissioning of Component 2 facilities (including removal of the existing rock revetment and wooden seawall), the Project-triggered geologic hazards discussed above including erosion and bluff retreat may be further exacerbated as a result of anticipated sea level rise. Specifically, as discussed in Section 8.1, sea levels have risen between 4 and 10 inches during the past century and

are projected to be affected by climate change in the future. California's Fourth Climate Change Assessment estimates sea level rise in Santa Barbara County as 1.7 inches between 1973 and 2016 (average 1.01 millimeter per year). Higher water levels result in greater wave energy reaching higher on the shoreline and directly onto the coastal bluff. According to the best available models, a 4.6 foot increase in sea level by 2100 would cause the coastline of Santa Barbara County to recede by an average of 178 feet (California Climate Change Center 2009). Sea level rise of these higher magnitudes would affect the remaining cliff face because the loss of beaches would likely result in greater wave force on the road and bluff area resulting in increased weathering and erosion of the bluff.

Although removal of the pipelines, pier abutments, access roadway, rock revetment, and wooden seawall associated with Component 2 will result in an increase in coastal erosion, removal of these structures would complete the return of the Project area along this stretch of coastline back to its natural condition. Erosion of the bluffs is already occurring in unarmored sections adjacent to the east and west of the Project area and is a natural process. This increased erosion may also contribute to sand replenishment in the Project area and downcoast. Therefore, geologic impacts resulting from Component 2 are less than significant.

Mitigation Measures

None required.

4.6.5 Cumulative Impacts Analysis

The proposed Project would have the potential to result in significant and unavoidable geologic impacts relating to soil stability and erosion resulting from loss of the existing armament along the bluffs. The Bacara Beach House Relocation Project located adjacent to the Bacara Resort fire road access has been proposed in response to soil instability and erosion that has impacted the existing beach house structure in this location. Demolition of the existing structure and emergency retaining wall and relocation of the beach house structure to an upland location is intended to improve this condition locally. Since no other project would result in geologic impacts affecting the Project area, a cumulative impact would not result.

4.6.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.6-1. Summary of Geology, Soils, and Paleontology Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact GEO-1: Littoral Transport and Beach Width (Component 1)	None required.

Impact	Mitigation Measures
Impact GEO-2: Weathering and Erosion/Bluff Retreat (Component 1)	None required.
Impact GEO-3: Littoral Transport and Beach Width (Component 2)	None required.
Impact GEO-4: Weathering and Erosion/Bluff Retreat (Component 2)	None required.

4.7 GREENHOUSE GAS EMISSIONS

4.7.1 Environmental Setting

Climate change, often referred to as “global warming,” is a global environmental issue that refers to any significant change in measures of climate, including temperature, precipitation, or wind. Climate change refers to variations from baseline conditions that extend for a period (decades or longer) of time and is a result of both natural factors, such as volcanic eruptions, and anthropogenic factors, based on human-activity, including changes in land-use and burning of fossil fuels. Anthropogenic activities such as deforestation and fossil fuel combustion emit heat-trapping greenhouses gases (GHG), defined as any gas that absorbs infrared radiation within the atmosphere.

According to data from the National Oceanic and Atmospheric Administration, the 2019 average temperature across global land and ocean surfaces was 1.71 degrees Fahrenheit above the twentieth-century average of 57.0°F, making it the second-warmest year on record. The global annual temperature has increased at an average rate of 0.13 degrees Fahrenheit per decade since 1880 and over twice that rate (0.32 degrees Fahrenheit) since 1981. From 1900 to 1980 a new temperature record was set on average every 13.5 years; and since 1981 the average period between temperature records has decreased to every 3 years.

GHG emissions are a global issue, as climate change is not a localized phenomenon. Eight recognized GHGs are described below. The first six are commonly analyzed for projects, while the last two are often excluded for reasons described below.

- Carbon Dioxide (CO_2): natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic degassing; anthropogenic sources of CO_2 include burning fuels such as coal, oil, natural gas, and wood.
- Methane (CH_4): natural sources include wetlands, permafrost, oceans, and wildfires; anthropogenic sources include fossil fuel production, rice cultivation, biomass burning, animal husbandry (fermentation during manure management), and landfills.
- Nitrous Oxide (N_2O): natural sources include microbial processes in soil and water, including those reactions which occur in nitrogen-rich fertilizers; anthropogenic sources include industrial processes, fuel combustion, aerosol spray propellant, and use of racing fuels.
- Chlorofluorocarbons (CFCs): no natural sources; synthesized for use as refrigerants, aerosol propellants, and cleaning solvents.

- Hydrofluorocarbons (HFCs): no natural sources; synthesized for use in refrigeration, air conditioning, foam blowing, aerosols, and fire extinguishing
- Sulfur Hexafluoride (SF_6): no natural sources; synthesized for use as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF_6 has a long lifespan and high global warming potential.
- Ozone: unlike the other GHGs, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Due to the nature of ozone, and because this Project is not anticipated to contribute a significant level of ozone (see Section 4.2), it is excluded from consideration in this analysis.
- Water Vapor: the most abundant and variable GHG in the atmosphere. It is not considered a pollutant and maintains a climate necessary for life. Because this Project is not anticipated to contribute significant levels of water vapor to the environment, it is excluded from consideration in this analysis.

The primary GHGs that would be emitted during proposed decommissioning activities are CO_2, CH_4, and N_2O. The Project is not expected to have any associated use or release of HFCs, CFCs, or SF_6.

The heat absorption potential of a GHG is referred to as the “Global Warming Potential” (GWP). Each GHG has a GWP value based on the heat-absorption properties of the GHG relative to CO_2. The larger the GWP potential, the more a gas warms the earth relative to CO_2. This is commonly referred to as CO_2 equivalent (CO_2E). The GWP of the three primary GHGs associated with the proposed Project are defined by the Intergovernmental Panel on Climate Change (IPCC): CO_2 – GWP of 1, CH_4 – GWP of 28, and N_2O – GWP of 265.

In efforts to reduce and mitigate climate change impacts, State and local governments are implementing policies and initiatives aimed at reducing GHG emissions. California, one of the largest state contributors to the national GHG emission inventory, has adopted significant reduction targets and strategies. The primary legislation affecting GHG emissions in California is the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). AB 32 (Nuñez; Chapter 488, Statutes of 2006) focuses on reducing GHG emissions in California and required the State to reduce GHG emissions to 1990 levels by 2020. CARB prepared a Draft Scoping Plan for Climate Change in 2008 pursuant to AB 32. The Climate Change Scoping Plan was updated in May 2014, November 2017, and a 2022 Climate Change Scoping Plan is in progress. In 2016, the State met the AB 32 target, 4 years early. The State Legislature passed Senate Bill (SB) 32 (Pavley; Chapter 249, Statutes of 2016), which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197 (Garcia; Chapter 250, Statutes of 2016), which provides additional direction for developing the Scoping Plan. The 2017 update to the Scoping Plan indicates the State is on track to reduce GHG emissions to 1990 levels by the

2020 target and focuses on strategies to achieve the 2030 target set by Executive Order B-30-15 and codified by SB 32. CARB indicated in their recent scoping plan update (November 2021) that AB32 targets were met in 2016 in terms of GHG emissions per capital and gross domestic product (GDP) (CARB 2021d).

In December of 2009, the California Natural Resources Agency adopted amendments to the CEQA Guidelines (Cal. Code of Regulations, tit. 14, § 15000 et seq.) to comply with the mandate set forth in Public Resources Code § 21083.05. These revisions became effective March 18, 2010. According to GHG amendments to the CEQA Guidelines, each public agency that is a CEQA lead agency needs to develop its own approach to performing a climate change analysis for projects that generate GHG emissions. A consistent approach should be applied for the analysis of all such projects, and the analysis must be based on best available information.

4.7.2 Regulatory Setting

Climate change planning is addressed by State and local laws and regulations. State laws that may be relevant to the Project are identified in Appendix B and discussed in Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

4.7.2.1 City of Goleta's Climate Action Plan

The city of Goleta finalized its Climate Action Plan in July 2014. This Plan established a 2007 baseline inventory and a planning horizon of 2007 through 2030; quantifies GHG emissions from the community-at-large and City operations; establishes reduction targets for 2020 and 2030; identifies measures to reduce GHG levels, focusing on those that the city has authority to implement; and provides guidance for monitoring progress on an annual basis. Consistent with the State of California's objectives outlined in AB 32, the city added Conservation Element Implementation Action 5 (CE-IA-5) to its 2006 General Plan/Coastal Land Use Plan in 2009 to develop a Greenhouse Gas Reduction Plan supporting State implementation of AB 32. The Climate Action Plan outlines a framework to reduce community GHG emissions by 2020 and 2030 in a manner that meets the intent of CE-1A-5 and is supportive of AB 32 and Executive Order S-3-05.

While CE-IA-5 does not specify a reduction target, the city has decided to use a target of 11 percent below 2007 emissions for emissions in 2020 and 26 percent below 2020 levels for 2030. Measures contained in the Climate Action Plan are intended to increase the energy and water efficiency of buildings and expand alternative transportation choices.

4.7.3 Significance Criteria

The city of Goleta has not adopted any GHG emissions significance thresholds. The Santa Barbara County Air Pollution Control District (SBCAPCD) has developed a GHG threshold of significance of 10,000 metric tons CO_2E per year, which applies to stationary pollutant sources. Although PRC 421 facilities (prior to abandonment) were considered a stationary source (part of the South Ellwood Field Source), proposed decommissioning is not. Due to the lack of any other threshold, the SBCAPCD's stationary source threshold is used in this environmental analysis to determine the significance of the Project's GHG emissions.

4.7.4 Impact Analysis and Mitigation

GHG emissions were estimated for each major Project phase to identify the peak 12-month period for comparison to the SBCAPCD's stationary source threshold. In addition, GHG emissions estimates were prepared separately for Components 1 and 2. GHG emissions were estimated using two models developed by CARB; EMFAC 2021 for on-road vehicles and OFFROAD 2017 for off-road construction equipment.

Component 1

Impact GHG-1: Decommissioning-related GHG Emissions

Implementation of proposed Component 1 decommissioning activities would result in GHG emissions that may contribute to global climate change **(Less than Significant).**

Impact Discussion

Use of heavy equipment, trucks, and worker vehicles would generate GHG emissions that may contribute to global climate change. Table 4.7-1 provides a summary of Component 1 GHG emissions for each major activity, assuming this component would be completed in a 12-month period. Estimated GHG emissions would not exceed the SBCAPCD 10,000 metric tons CO_2E per year stationary source threshold.

Table 4.7-1. Component 1 GHG Emissions Summary (metric tons/year)

Task	CO_2	CH_4	N_2O	CO_2E
Caisson Internal Materials Removal	147.9	0.006	0.005	149.4
Well Abandonment	4.5	<0.001	<0.001	4.5
Caisson Removal	213.9	0.009	0.009	216.6
Pier Removal	37.6	0.002	0.001	38.0
Pipeline Abandonment	9.6	<0.001	<0.001	9.7
Site Restoration	4.2	<0.001	<0.001	4.3

Task	CO_2	CH_4	N_2O	CO_2E
Total (Component 1)	**417.6**	**0.018**	**0.016**	**422.4**
SBCAPCD Threshold				*10,000*

Mitigation Measures

None required.

Component 2

Impact GHG-2: Decommissioning-related GHG Emissions (Component 2)

Implementation of proposed Component 2 decommissioning activities would result in GHG emissions that may contribute to global climate change **(Less than Significant).**

Impact Discussion

Use of heavy equipment, trucks, and worker vehicles would generate GHG emissions that may contribute to global climate change. Table 4.7-2 provides a summary of Component 2 GHG emissions for each major activity, assuming this component would be completed in a 12-month period. Estimated GHG emissions would not exceed the SBCAPCD 10,000 metric tons CO_2E per year stationary source threshold.

Table 4.7-2. Component 2 GHG Emissions Summary (metric tons/year)

Task	CO_2	CH_4	N_2O	CO_2E
Pipeline Removal	5.4	<0.001	<0.001	5.5
Rock Revetment and Access Roadway Removal	140.8	0.004	0.008	143.1
Wooden Seawall and Associated Structures Removal	30.7	0.001	0.001	30.9
Pier Abutment Removal	12.9	0.001	<0.001	13.0
Total (Component 2)	**189.8**	**0.006**	**0.009**	**192.5**
SBCAPCD Threshold				*10,000*

Mitigation Measures

None required.

4.7.5 Cumulative Impacts Analysis

Components 1 and 2

Impact GHG-3: Project Contribution to Global Climate Change

Project GHG emissions may incrementally contribute to global climate change **(Less than Significant).**

Greenhouse gas emissions are a cumulative issue since their potential effects on climate change occur on a regional to global scale. Therefore, any greenhouse gas emissions may incrementally contribute to global climate change. However, the Project contribution would be temporary and less than significance thresholds. Therefore, the Project's contribution would not be cumulatively considerable.

Mitigation Measures

None required.

4.7.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.7-3. Summary of GHG Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact GHG-1: Decommissioning-related GHG Emissions (Component 1)	None required.
Impact GHG-2: Decommissioning-related GHG Emissions (Component 2)	None required.
Impact GHG-3: Project Contribution to Global Climate Change (Components 1 and 2)	None required.

4.8 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the handling, storage, and disposal of hazardous materials and potential upset conditions that could result in a release of hazardous materials during temporary facility decommissioning activities of the existing Pier and Well 421-1 and 421-2 during Component 1, as well as Component 2 activities that include impacted soil removal and decommissioning of the access roadway, 2-inch-diameter and 6-inch-diameter pipelines, pier abutment structures, and wooden seawall/rock revetment along the access roadway and between the piers and associated structures at the Project site.

4.8.1 Environmental Setting

This section characterizes the existing conditions at the Project site in relation to petroleum hydrocarbons and potentially hazardous materials historically documented or known to be present at or within the vicinity of the Project site. It is important to note that Wells 421-1 and 421-2 were previously plugged and abandoned and no longer pose a threat of release. Other relevant site considerations are summarized below.

4.8.1.1 Natural Oil Seeps

Prolific natural marine hydrocarbon seepage in the Project vicinity occurs offshore in the Santa Barbara Channel (Figure 4.8-1) (University of California Santa Barbara [UCSB] 2006; Quigley et al. 1999a; Hornafius et al. 1999). Natural oil and gas have been released from submarine seeps in the Channel for thousands of years at numerous locations. Seeps emit both liquid and gas hydrocarbon phases, with gas predominating. The most active gas seeps form visible boils where they intersect the sea surface. Based on the mapping of the seep locations and comparison with other data, oil and gas are thought to migrate upward through the overlying cap rock (Sisquoc Formation) along fractures on the axis of the South Ellwood anticline and the Coal Oil Point fold complex. These seep locations follow linear trends that mirror the axes of the folds, suggesting that the release of oil and gas along seeps in the Channel is controlled by geologic structure (Bartsch et al. 1999).

Seepage is most intense at submarine fault conduits and at structural closures along anticline axes (Quigley et al. 1999a; Hornafius et al. 1999). While the major seeps described above related to the South Ellwood geologic structure are well known and mapped, there are numerous hydrocarbon seeps all along the California coast, both in offshore and onshore locations that contribute to the natural release of hydrocarbons to the surface. It is estimated from numerous studies (USGS Open File Report 2009-1225, partial summary of studies) that anywhere from 4,200 to 25,000 gallons of oil per day and over 3.5 million cubic feet per day of natural gas are released into the Santa Barbara Channel. This results in 5 to 10 million gallons of oil and over one billion cubic feet of natural gas released in the offshore region annually. Most large and moderate seeps are documented (over 1,200), however, many small and intermittent seeps are not.

Evidence of natural oil seeps can be directly observed on the beach within the vicinity of the Project area, where black tar ball deposits are mixed in with beach sand. Because the natural oil seeps originate offshore, the source of the seeps in the immediate area does not appear to be the Vaqueros Formation, the reservoir for the PRC 421 wells, at least in any measured quantity. This conclusion is supported by multiple lines of study including seep location, seep discharge, variations of seep emissions through time, and by geochemical analyses performed on oil samples from offshore platforms and beach tar balls. Laboratory analysis suggests the beach tar ball geochemistry is most like oil samples collected from Platform Holly, which produces from the Monterey Formation (Lorenson et al. 2009). Therefore, the tar balls likely originate offshore and travel onshore via wave action and other coastal processes.

4.8.1.2 Historical Releases of Hydrocarbons within the Project Study Area

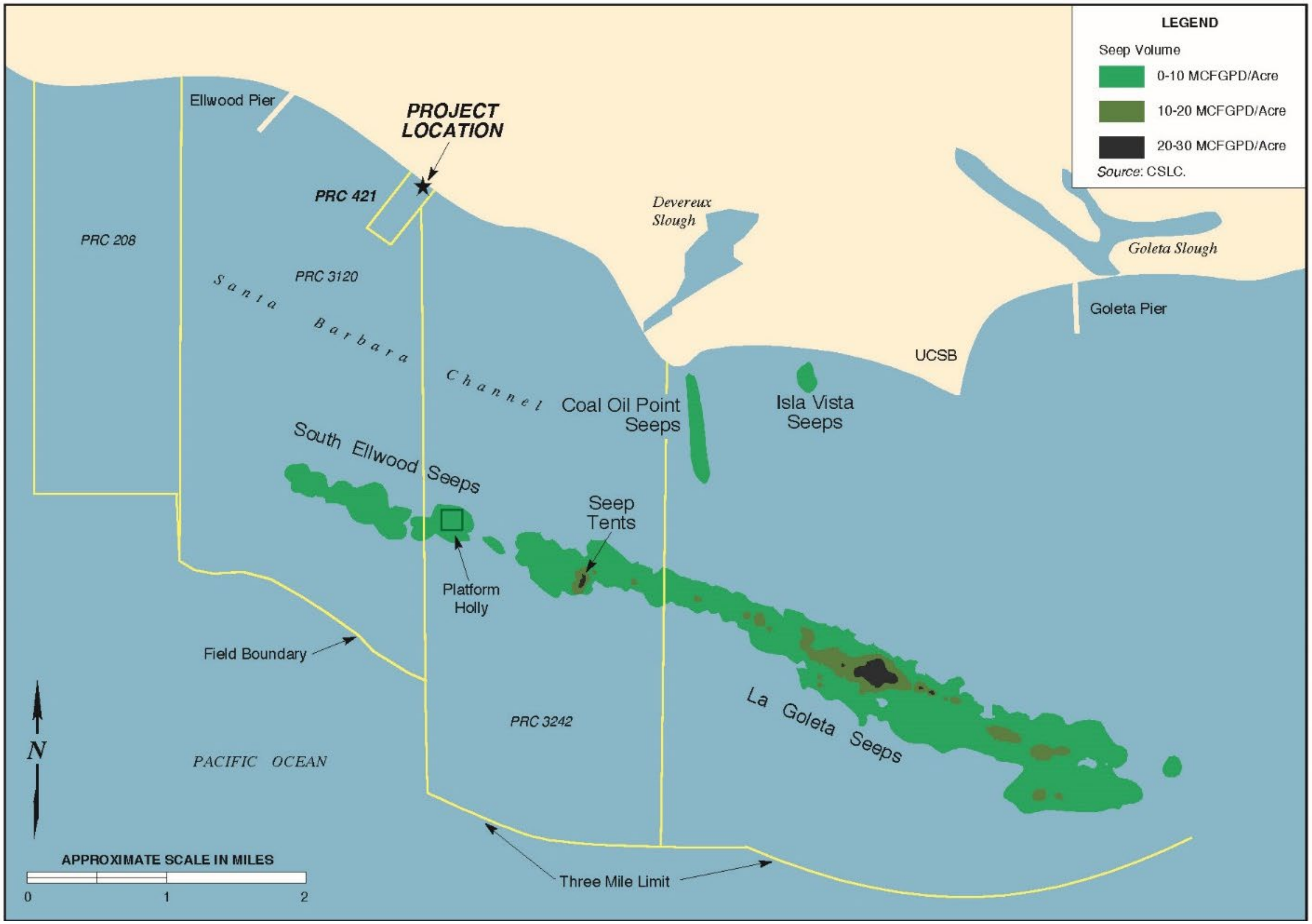
The following list is a brief discussion of recent historical releases of hydrocarbons that have been documented at the Project site; however, this is not a complete list of all spills at the Project site since its construction in the late 1920s. Releases within the Project area are shown in Figure 4.8-2.

<u>March 1994</u> – A leak occurred in the 6-inch-diameter pipeline and resulted in a release to soil of approximately 170 barrels (7,140 gallons) beneath the 12th green of the Sandpiper Golf Course near the coastal bluffs. This release impacted surface and subsurface soils at the golf course. Production was terminated, and impacted soils were removed. This pipeline has not been in service since.

<u>November 22, 2000</u> – An oil leak was induced during a routine fluid-level check at Pier 421-2, and an oil leak and sludge were noted in association with a storage tank in secondary containment on Pier 421-1. The sludge was determined to be hazardous waste based on an aquatic bio-assay test. The sludge and associated liquids were removed from the storage tank and disposed of properly. This leak apparently did not impact soil, sediment, groundwater, or surface water.

<u>November 27, 2000</u> – An oil leak occurred during fluid-level check on Pier 421-2 and resulted in the release of approximately 15 gallons. The oil was contained in a drum in secondary containment. This leak apparently did not impact soil, sediment, groundwater, or surface water.

Figure 4.8-1 Hydrocarbon Seeps in the Project Area



Source: CSLC 2014

Figure 4.8-2. Historically Documented Releases in the Project Vicinity

August 2001 – During emergency repairs to PRC 421 facilities, petroleum-hydrocarbon-contaminated sediment was encountered in three of the five holes dug across the width of Pier 421-2. The contaminated sediment was encountered at a depth of approximately 15 feet, and the contamination appeared to extend to approximately 20 feet below the surface of the top of the sediment. Laboratory testing of the contaminated sediment indicated the presence of several hundred to less than 2,000 parts per million (ppm) diesel- and lube-oil-range petroleum hydrocarbons. Approximately 143 tons of the contaminated sediment was excavated from the area near the holes completed for installation of soldier pile structural sections. The excavated material was transported to an asphalt recycling plant (Santa Barbara County 2001).

January 19, 2004 – A large section of the outer caisson wall of Pier 421-1 sheared off and fell into the surf below. Large pieces of concrete debris and rebar fell to the base of the caisson. Based on the long history of oil and gas production at both PRC 421 wells, it was assumed that fill and sediment inside the caissons at both piers are likely contaminated with petroleum-related constituents. Therefore, it was noted that the 2004 caisson wall repair was conducted in part to prevent contaminated fill and sediment materials from being released.

During wall repair activities, two leaks were found in the old caisson wall. The leaks were noted as containing both a lighter oily substance and a black tar-like substance, both of which were released to the ocean. The leaks from the wall continued during the repair project and were estimated to reach up to one quart per day. Absorbent pads, booms, and a topical sealant were used to minimize the leaks but did not completely prevent them. Once the new caisson wall was constructed, concrete was poured between the new and old walls, which provided a more effective seal for the leak areas on the old wall.

Following completion of the new caisson wall, samples of the leaking substance and a “shale mud/sand” were tested. The shale mud/sand sample included concentrations of total petroleum hydrocarbons (TPH) in the range of 100 to 200 milligrams per kilogram (mg/kg).

The laboratory analysis of the leaking substance that was released from the old caisson wall was found to have a heavier American Petroleum Institute (API) gravity than would be expected from the oil produced at PRC 421. PRC 421 wells are anticipated to have an API gravity of approximately 35, while the leaking substance was found to be much heavier at 17.8. The source of the leaking fluid remains unknown; however, it was noted in the MND that the substance may not have originated from PRC 421 (City of Goleta 2006e). Alternately, the substance may have been PRC 421 reservoir oil that had partially volatized or decomposed, resulting in a heavier API gravity.

April 1, 2005 – A dark substance was found to be leaking from the east side of the old caisson wall at 421-1 during a California State Lands Commission (CSLC) staff inspection after completion of the caisson wall repair. During subsequent inspections, the leaking substance did not appear to be a petroleum release, as no oily or slick texture was visible, and an anaerobic sulfurous odor was noted.

August 21, 2006 – Two slow leaks were reported on the east wall of the outer caisson by a member of the public. The area around the leak was described as whitish in color and smelled of sulfur. Santa Barbara County Energy Division staff sampled the fluid during a site visit in response to the reported chemical leak. The fluid did not appear to contain hydrocarbon material, and the source of the leaks remains unknown (City of Goleta 2006e).

May 28, 2019 – Oil was released during well 421-2 plugging operations. While preparing for the surface cement plugs, there was a release of a small quantity of crude oil both inside and outside of the caisson developing an observable sheen on the water outside the caisson. The operations were shut down temporarily and appropriate Unified Command was established to respond to the release. A small area was excavated outside the southeast corner of the 421-2 caisson to investigate; however, no significant quantity of oil was discovered, and the sand was backfilled naturally. Once secured and cleaned up, the well plugging operations were successfully completed.

4.8.1.3 Hazardous Materials Databases

The Project site is not identified on the Department of Toxic Substances Control (DTSC) (DTSC 2021) Envirostor databases (commonly referred to as the "Cortese List" (Gov Code, § 65962.5)). Additionally, no Cortese sites are located within proximity of the Project site. However, the State Water Resources Control Board (SWRCB) (SWRCB 2021) GeoTracker site includes the Ellwood Onshore Facility (7979 Hollister Avenue) as a cleanup program site since 2012 (Case No. 371 with Santa Barbara County) for crude oil, other solvent, or non-petroleum hydrocarbon contaminants of concern.

4.8.1.4 Project Component Materials

Caissons

The Project includes removal of the two caissons, which will include removal of the steel and concrete caisson walls, interior fill soil, support structures consisting of steel, concrete, and wood timbers, well cellars, and wellhead risers to the underlying bedrock surface. Petroleum hydrocarbon-containing soil and interstitial water are present at both caisson locations, and light non-aqueous phase liquid (LNAPL) has been documented within the caisson at well 421-1. The laboratory analytical results for soil samples collected from within both caissons indicated the presence of petroleum hydrocarbons and associated volatile organic compounds (VOCs), semi-volatile organic compounds

(SVOCs), polynuclear aromatic hydrocarbon (PAHs), and polychlorinated biphenyls (PCBs) constituents (Padre 2019) as further discussed in Section 4.8.1.4 below. The well cellar may contain residual petroleum hydrocarbons and water.

Piers

The Project also includes removal of the 421-1 and 421-2 pier structures (Component 1) and abutments (Component 2) that provide access to the caissons. The pier structures are constructed with painted steel frames that support wood timber decking and painted steel guard railing. Based on sampling conducted in November 2021, the painted steel structures and railings do not contain lead-based paint. However, based upon sampling of the wooden seawall, the wood decking is also suspected to contain hydrocarbon wood preservatives (creosote).

Access Roadway

The access roadway is composed of soil and aggregate materials and was part of the historical oil field service road that provided access to the oil production piers formerly located in the area of the Project. An assessment of the soil and aggregate materials was be conducted to determine the potential presence of chemicals of potential concern. Based on the sampling conducted in November 2021, artificial material present within several areas of the access roadway at depths of 4 to 16 feet contains elevated concentrations of petroleum hydrocarbon constituents (Appendix J).

Pipelines

The Project includes abandonment of a 6-inch-diameter pipeline that contained produced oil emulsion and a 2-inch-diameter pipeline that supplied natural gas to the well locations. The 6-inch-diameter pipeline may contain residual petroleum hydrocarbons and water, and the 2-inch-diameter pipeline may contain water, gas condensate, and scale deposits. Both pipelines are wrapped and coated, however samples of the exposed 6-inch-diameter pipeline (including the coating and wrap) were tested in November 2021 and no asbestos containing materials (ACMs) were detected.

Rock Revetment/Wooden Seawall

The rock revetment is constructed along the southern margin of the access roadway extending from the golf course to approximately 1,400 feet towards the southeast. The wooden seawall continues from the rock revetment and extends approximately 75 feet towards the southeast past the PRC 421-2 pier and caisson. The backside of the rock revetment and wooden seawall may contain petroleum hydrocarbons based on the presence of petroleum hydrocarbons in the artificial fill within the access roadway.

4.8.1.5 Caisson Soil Investigations

In June and September 2019, a site assessment was conducted by Padre Associates, Inc., investigating the subsurface materials located within the two caisson structures at 421-1 and 421-2 to determine the presence of hydrocarbon contamination within the caisson soils. A series of soil borings, Geoprobe direct-push core holes, and test pits, were advanced into the subsurface. At both caissons, soil samples were collected for analysis using a combination of trenching, hand auger, and hydraulic push sampling methods. The samples were submitted to a state-certified laboratory for a full suite of analyses to determine potential impacts. Soil boring logs completed at the time recorded a high degree of oil staining within the soils and noted free-oil present within 421-2 soils at various locations. Laboratory analysis results showed hydrocarbon impacts (dominantly crude oil) at various concentrations within the caisson soils. The analysis indicated concentrations of TPH up to 41,000 mg/kg (4.1 percent by weight) in caisson 421-1, and up to 69,120 mg/kg (6.9 percent by weight) within samples taken in caisson 421-2. Contaminated soils were present in both caissons from about 6 feet to 19 feet below surface grade, where contact is made with the underlying Monterey siltstone/claystone bedrock (Padre 2019).

Oil-saturated soils were also observed within caisson 421-2 during a soil excavation pilot project conducted in September 2020, by InterAct PMTI. Soil sampling and laboratory analysis was not included in the scope of that project, however visible oil-saturation of the caisson-fill soil was reported at similar depths to those indicated in the Padre Report (approximately 4 to 6 feet below surface grade).

4.8.2 Regulatory Setting

Federal and state laws and regulations pertaining to hazards and hazardous materials and relevant to the Project including California Coastal Act Chapter 3, Section 30232 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local goals, policies, or regulations applicable to the Project with respect to hazards and hazardous materials are presented below.

4.8.2.1 Local Regulations

City of Goleta General Plan. The city of Goleta has adopted policies through the City General Plan that address hazardous materials facilities. Specifically, the following City polices provide guidance on City requirements for new development and construction activities:

- **Policy SE 10.2: Compliance with Law**. The storage, handling and disposal of any hazardous material shall be done only in strict compliance with applicable City, state, and federal law.

- **Policy SE 10.6: Responsibility for Cleanup by Responsible Party**. No new development or substantial redevelopment shall be permitted on land determined to contain actionable contamination until the party responsible for such contamination has been identified and has accepted financial responsibility for any required remediation. The posting of a bond or other appropriate surety in an amount and form acceptable to the City shall be required as a condition of development approval. In appropriate circumstances, the City may assist in attempting to obtain outside grants or other resources to address contamination issues and help fund remediation.
- **Policy SE 10.7: Identification, Transport, and Disposition of Potentially Contaminated Soil.** The City shall require a Soil Management Plan and a project-specific Health and Safety Plan for all new development and redevelopment within areas containing potentially contaminated soil. The Soil Management Plan and Health and Safety Plan should establish standards and guidelines for the following:
    - Identification of contaminated soil.
    - Identification of appropriate personal protective equipment to minimize potential worker exposure to contaminated soil.
    - Characterization of contaminated soil.
    - Soil excavation.
    - Interim and final soil storage.
    - Verification sampling.
    - Soil transportation and disposal.
    - The Soil Management Plan and Health and Safety Plan should also address naturally occurring hazardous materials that may be present in the soil, such as methane and Radon-222, and include contingencies (e.g., characterization, management, and disposal) if they are present.

<u>Santa Barbara County Public Health Department (SBCPHD)</u>

The SBCPHD has an open case (Local Case No.: 20261; State GeoTracker site No.: T10000016015) regarding the contaminated soils known to exist within the caissons. A Preliminary Remedial Action Plan (RAP) has been filed with the SBCPHD and is on file available at the State GeoTracker website. A revision of this RAP will likely be required for the final removal of the impacted soil from the caissons, and a Closure Report is required detailing the removal and disposal verification of these materials.

Santa Barbara County Air Pollution Control District (SBCAPCD)

Certain SBCAPCD rules apply to excavation of contaminated soils and operation of equipment. A SBCAPCD permit is required for excavation volume exceeding 1,000 cubic yards to ensure the safe removal and disposal of the soil materials. An Air Monitoring Program would need to be established to minimize odors and dust emissions during the decommissioning operations. Equipment used in the decommissioning process would also be subject to review by the SBCAPCD to ensure they have approved permits to operate at the Project site.

4.8.3 Significance Criteria

The significance criteria for the following hazards and hazardous materials analysis were developed by considering the potential impacts specific to the study area. For the purposes of this assessment, an impact would be significant if it:

- Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Creates a potential for fire, explosion, releases of flammable/toxic materials or oil, or other accidents resulting from Project operations that could cause injury or death to Project personnel or members of the public
- Increased the probability or volume of oil spills into the environment, and existing or proposed emergency response capabilities are not adequate to effectively mitigate Project spills and other accidents
- Is located on a site included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5, and as a result would create a significant hazard to the public or the environment

4.8.4 Impact Analysis and Mitigation

The Project was evaluated for the presence of hazardous substances that, if present in sufficient quantities in existing structures planned for decommissioning or known to exist in study area media (soil, sediment, groundwater, or surface water), could result in impacts to human health or the environment. Impacts and proposed mitigation measures are discussed below. Impacts are limited to potential releases during the course of decommissioning activities (Approximately 143 workdays during Component 1 and 63 workdays during Component 2).

Component 1

Impact HAZ-1: Exposure of the Public or Environment to Hazardous Materials (Component 1)

The Project could create a potential hazard to the public or the environment through the demolition, transport, or disposal of hazardous materials encountered during decommissioning activities **(Less than Significant with Mitigation).**

Impact Discussion

Both caissons are known to contain petroleum-contaminated soil. The caisson walls and any interior structure members may also contain hazardous materials, and removal of these structures could result in exposure of this material to the marine environment. However, the Project includes measures to limit exposure through incremental and strategic removal of the caisson walls and use of hydro-excavation (as feasible) to capture encountered contaminated soil. Prior to demolition, the interior caisson walls would be pressure washed to remove any hydrocarbon residue, with immediate recovery of wash water using a vacuum truck or pumped into a container. Periodic structural evaluations of caisson walls and appropriate reinforcement measures would be implemented during decommissioning operations to reduce the potential for hydrocarbon-contaminated soils to enter the marine environment. The beach area beneath and immediately adjacent to the structures would be protected to the extent possible with sheeting during the demolition process. Regardless of proposed preventive measures, an accidental release of a small volume of contaminated soil or structural materials may still occur.

Several spills have been documented at the Project site during its 70 year history of oil production. In addition, during construction of historical improvements, soils contaminated with hydrocarbons were discovered beneath Pier 421-1 and removed from the site. Contaminated soils within both caisson structures were identified in the 2019 Padre Associates Site Assessment Report and observed within caisson 421-2 during the soil excavation pilot project in September 2020. Therefore, there is a potential to discover contaminated soils during decommissioning activities. A RAP to address removal of contaminated soils within the caissons was submitted to the Santa Barbara County Public Health Department in August 2020 (Interact 2020) (see **MM HAZ-1a** below).

Based upon sampling results confirming presence within the wooden seawall, the wooden decking of each pier is also likely to contain wood preservatives. The 2-inch-diameter and 6-inch-diameter pipelines may also contain residual hydrocarbons from historical use that could be released during flushing and isolation operations during Component 1 (if not properly executed). Improper handling or disposal of these components may result in exposure of the public to hazardous materials.

However, as described in **MM HAZ-1c**, Project activities would be conducted in accordance with the existing facilities Oil Spill Contingency Plan Addendum that was developed specifically on behalf of the Project to minimize potential impacts (CSLC 2021). Implementation of **MM HAZ-1a** through **MM HAZ-1c** would reduce potential impacts from handling and disposal of hazardous materials during Component 1 to less than significant. Additionally, **MM HWQ-1** would include development of a Stormwater Pollution Prevention Program (SWPPP) to implement best management practices (BMPs) onsite for protection of surface water resources.

Mitigation Measures

MM HAZ-1a: Remedial Action Plan Implementation. The Remedial Action Plan (RAP) submitted to the Santa Barbara County Public Health Department; Environmental Health Services Division shall be implemented during Component 1 Project decommissioning activities. The RAP will also be shared with the California Department of Fish and Wildlife Office of Spill Prevention and Response (OSPR), Regional Water Quality Control Board (RWQCB), CCC, and city of Goleta (as applicable) for review and approval prior to the initiation of construction activities. Final approval of the plan shall be under the purview of OSPR, RWQCB, and the Santa Barbara County Public Health Department. Upon approval, all contaminated materials shall be removed and disposed of in accordance with procedures described in the RAP. All soil sampling results shall be provided to the Santa Barbara County Public Health Department and city of Goleta immediately upon receiving results.

MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs. Prior to Project activities related to removal of contaminated soil, the Air Pollution Control District must be notified as an Air Pollution Control District Permit will be required. In addition, the following measures shall be implemented:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal
- Contaminated soil that is stockpiled or containerized shall be covered with at least 6 inches of packed uncontaminated soil or another 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-1c: Oil Spill Contingency Plan Implementation. The EOF's existing Oil Spill Contingency Plan (OSCP) (BeaconWest 2020) and Addendum (CSLC 2021) shall be implemented during all Project activities in the event of a release of oil or contaminants. The OSCP delineates prevention measures including daily inspection of equipment, refueling at designated stations, and secondary containment for equipment to prevent spills. Additionally, the onshore work sites shall maintain onsite response equipment to clean up minor spills. In the event of a major spill (greater than five barrels), the OSCP requires utilization of an independent oil spill response contractor (i.e., Marine Spill Response Corporation) to provide secondary cleanup.

MM HWQ-1: Storm Water Pollution Prevention Plan (see Section 4.9.4, *Hydrology and Water Quality*)

Impact HAZ-2: Use of Hazardous Materials During Decommissioning Activities (Component 1)

The Project would require the use of heavy equipment and machinery, including hydrocarbon fuels and lubricants, that would have the potential to spill into the environment **(Less than Significant with Mitigation).**

Impact Discussion

Decommissioning activities include the use of vehicles and equipment that may result in the accidental release of hazardous materials, and subsequent environmental and human exposure, due to accidental spills of hydrocarbons (including diesel fuel). Implementation of **MM HAZ-2** would reduce potential impacts from use of hazardous materials in onsite equipment to less than significant.

Mitigation Measures

MM HAZ-2: Hazardous Materials Management and Contingency Plan. A Hazardous Materials Management and Contingency Plan shall be developed prior to Project implementation. Measures shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, daily equipment inspection schedule, and reference to the

EOF's existing spill response plan and spill response supplies to be maintained onsite.

<u>Component 2</u>

Impact HAZ-3: Exposure of the Public or Environment to Hazardous Materials (Component 2)

The Project could create a potential hazard to the public or the environment through the demolition, transport, or disposal of hazardous materials encountered during decommissioning activities **(Less than Significant with Mitigation).**

Impact Discussion

Based on sampling results, petroleum hydrocarbon contaminated soil would be encountered during access roadway removal and may also be present behind the rock revetment and wooden seawall based on these results. The 6-inch-diameter pipeline was the source of a 1994 oil leak; therefore, residual contaminated soils may also be encountered during pipeline removal. In addition, the wooden seawall also contains hydrocarbon wood preservatives. During Component 2 activities, implementation of **MM HAZ-1a** through **MM HAZ-1c** would reduce potential impacts from handling and disposal of these hazardous materials to less than significant. Additionally, **MM HWQ-1** would include development of a Stormwater Pollution Prevention Program (SWPPP) to implement best management practices (BMPs) onsite for protection of surface water resources. Overall, Component 2 impacts would be less than significant with mitigation.

Mitigation Measures

MM HAZ-1a: Remedial Action Plan Implementation

MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs

MM HAZ-1c: Oil Spill Contingency Plan Implementation

MM HWQ-1: Storm Water Pollution Prevention Plan (see Section 4.9.4, *Hydrology and Water Quality*)

Impact HAZ-4: Use of Hazardous Materials During Decommissioning Activities (Component 2)

The Project would require the use of heavy equipment and machinery, including hydrocarbon fuels and lubricants that would have the potential to spill into the environment **(Less than Significant with Mitigation).**

Impact Discussion

Decommissioning activities include the use of vehicles and equipment that may result in the accidental release of hazardous materials, and subsequent environmental and human exposure, due to accidental spills of hydrocarbons (including diesel fuel). Implementation of **MM HAZ-2** would reduce potential impacts from use of hazardous materials in onsite equipment to less than significant.

Mitigation Measures

MM HAZ-2: Hazardous Materials Management and Contingency Plan

4.8.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact HAZ-5: Potential Cumulative Hazardous Materials Impacts

Temporary decommissioning-related hazardous materials impacts would incrementally contribute to cumulative impacts if other projects were conducted at the same time in this location **(Less than Significant with Mitigation).**

Impact Discussion

The Project may contribute to cumulative hazardous materials impacts affecting human and environmental receptors. Other projects that may take place at the same time as the Project would be limited to the Beach Hazards Removal Project and Bacara Beach House Relocation Project. The Beach Hazards Removal Project (managed by the CSLC) may include activities on the beach in proximity to the proposed Project and would also require the short-term use of construction equipment (and the potential for hazardous materials discharges) to remove existing oil and gas facility remnants. However, no hazard removal activities are currently scheduled within the Project area during the proposed decommissioning timeframe.

The Bacara Beach House Relocation Project is located adjacent to the Bacara Resort fire road access. If this project were to occur at the same time as the proposed decommissioning activities, it would also require short-term use of construction equipment for demolition and construction activities and the potential for hazardous materials discharges and could be implemented at the same time as the proposed decommissioning activities. The implementation of **MMs HAZ-1a** through **MM HAZ-1c** would reduce potential impacts from handling and disposal of hazardous materials to less than significant. Additionally, **MM HWQ-1** would include development of a SWPPP to implement BMPs onsite for protection of surface water resources, and implementation of **MM HAZ-2** would reduce potential impacts from use of hazardous materials in onsite equipment to less than significant. The incremental contribution of the Project to cumulative impacts would not be considerable.

4.8.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.8-1. Summary of Hazards and Hazardous Materials Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact HAZ-1: Exposure of Public or Environment to Hazardous Materials (Component 1)	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan
Impact HAZ-2: Use of Hazardous Materials During Decommissioning Activities (Component 1)	**MM HAZ-2:** Hazardous Materials Management and Contingency Plan
Impact HAZ-3: Exposure of Public or Environment to Hazardous Materials (Component 2)	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan
Impact HAZ-4: Use of Hazardous Materials During Decommissioning Activities (Component 2)	**MM HAZ-2:** Hazardous Materials Management and Contingency Plan
Impact HAZ-5: Potential Cumulative Hazardous Materials Impacts	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan **MM HAZ-2:** Hazardous Materials Management and Contingency Plan

4.9 HYDROLOGY AND WATER QUALITY

This section addresses issues involving the potential impacts on hydrology and water quality resulting from the removal of the existing oil and gas production facilities at the Project site. The environmental setting provides information on existing water quality characteristics of the Santa Barbara Channel offshore and surface waters onshore in the vicinity of the Project. The impacts evaluation focuses on the potential effects of the proposed Project and potential for cumulative impacts on hydrology and water quality in the area and identifies mitigation measures intended to lessen significant impacts.

4.9.1 Environmental Setting

This section characterizes the marine environment, including nearshore processes and marine water quality, as well as discusses the onshore hydrologic and water quality characteristics of the Project site.

4.9.1.1 Regional Oceanographic Processes

The Project site is located along the coastline of the Santa Barbara Channel (Channel), near the western edge of the city of Goleta, along an area known as the Ellwood Coast. Major ocean currents in the Project vicinity include the dominant California Current and the Southern California countercurrent that flows northward along the continental shelf.

<u>Surface and Subsurface Flows in the Santa Barbara Channel</u>

The mean flow of surface waters within the Channel are counterclockwise. and monthly average flows reach 3 knots (nautical miles [nm] per hour) during most of the year (Winant et al. 1999). However, currents and surface transport are highly complex within the Channel and are affected by periodic winds, coastal headlands, and subsurface bathymetric features. Subsurface currents are important in determining the fate of oil and other contaminants if released. Average monthly current profiles in the Channel are often strongly sheared and rotate in a counterclockwise direction as depth increases. Average flow speeds of subsurface flows increase with depth throughout most of the year. The exception is during the late fall when surface flows intensify and become comparable to the speed of subsurface flows (CSLC 2009).

<u>Local Wave Action</u>

Waves generated on the surface of the ocean develop from a mixture of remotely generated ocean swells and local winds. Due to the presence of the Channel Islands off the coast, the Santa Barbara Channel is comparatively sheltered from swells generated outside the Channel. Consequently, wave heights within the Channel are typically low, ranging from 3 to 6 feet throughout most of the year. Waves are typically larger during winter storms that encroach on the California coastline from the west, although the coastline is sheltered from North Pacific swells by Point Conception (CSLC 2009). However, large swells from winter and fall storms occasionally penetrate into the Channel and create high surf conditions along the coast. For example, El Niño conditions in 1983 generated very large surf, which combined with exceptionally high tides to cause extensive damage along normally calm sections of the coastline within the Channel. More recently, storms in the winter of 2005 to 2006 generated very high surf along the Goleta coast, with wave heights exceeding 15 feet at exposed point breaks.

Waves land on the mainland shore of the Channel at a slightly oblique angle, generally from the west. This drives a long-shore current toward the east within the surf zone. As a result, the net transport of particulates suspended in the water column nearshore is toward the east, in contrast to the typically westward transport that is observed further offshore.

Marine Water Quality

Marine water quality in the region is affected by several factors including oceanographic processes (e.g., waves, currents), contaminant discharge, erosion, and freshwater inflow. Petroleum development activities, commercial and recreational vessels, natural hydrocarbon seeps, river runoff, municipal wastewater outfalls, and minor industrial outfalls typically can contribute to the increased presence of nutrients, trace metals, synthetic organic contaminants, and pathogens in ocean waters and sediments.

Water quality sampling is conducted at 16 County beaches by the Santa Barbara County Public Health Department to identify exceedances of public health bacteriological standards and determine if beach closures are necessary. Beach sampling includes Sands Beach at Coal Oil Point (sampled weekly throughout the year), located approximately 1.8 miles southeast of the Project site. Beach water quality sampling and analysis is limited to bacterial contamination typically associated with human or animal waste, including total coliform, fecal coliform, and Enterococcus. High bacterial levels are associated with rainfall events, which transport pollutants from the watersheds to the beaches. Beaches are closed when coliform or Enterococcus levels exceed public health standards.

4.9.1.2 Petroleum Hydrocarbons

Petroleum hydrocarbons are organic contaminants that enter the ocean both naturally and as the result of human influence (i.e., oil spills). The principal sources of petroleum hydrocarbons in the Santa Barbara Channel include:

- Natural oil seeps
- Urban runoff of road material, auto exhaust, lubricating oils, gasoline, diesel fuel, and tire particles

- Discharge of water present in geologic formations produced in association with natural oil seeps
- Atmospheric deposition from the combustion of fossil fuels
- Vessel leaks, spills, and exhaust
- Leaching of creosote from wooden pilings
- Oil and grease contained in municipal sewage effluent

As discussed in Section 4.8.1.1, *Natural Oil Seeps* above, natural seeps found along the coasts of Santa Barbara and Ventura counties discharge significant quantities of oil and tar to the near-shore waters of the Channel. This has been documented by numerous studies over many decades. The Western States Petroleum Association estimates 150 to 170 barrels of oil seeps from the sea floor near Coal Oil Point (approximately 5 miles southeast of the Project area) each day (Helix 2006). Similarly, a 2009 USGS Open File Report (Number 2009-1225) reported that approximately 20,000 tons of oil enter the coastal waters each year from natural seeps. This equates to roughly 147,000 barrels of oil seeping annually. Consequently, the intertidal zone at Goleta, particularly along the Ellwood Coast in the Project vicinity, frequently experiences naturally occurring oil and tar from the Coal Oil Point Seep (USGS 2009).

4.9.1.3 Surface Water

Primary Project components are situated in the surf zone, nearshore areas, and on low-lying coastal areas immediately inland from the beach. The nearest named drainages to the Project area are Bell Canyon and Tecolote Creeks to the northwest and Devereux Creek to the southeast. Bell Canyon and Tecolote Creeks drain primarily rural and agricultural areas northwest of the urban areas of the city of Goleta and discharge into lagoons west of the Project site. Devereux Creek drains a largely urbanized watershed, which encompasses the western portions of the city of Goleta and empties into the Devereux Slough located approximately 1.8 miles southeast of the Project area.

<u>Water Quality</u>

The SWRCB has listed Bell Canyon Creek as impaired for nitrates under their Clean Water Act Section 303d listing program. Water quality sampling was performed during storm events in Bell Canyon, Tecolote, and Devereux Creeks as part of the countywide “Project Clean Water” program until 2002. The most recent Project Clean Water quality analysis report that includes data for these creeks is for rain year 2001 to 2002. During this rain year, both Bell Canyon and Devereux Creeks exceeded the maximum contaminant standards for copper, mercury, and zinc. Tecolote Creek also exceeded the standard for copper and zinc, but not mercury. In addition, Bell Canyon and Tecolote Creeks exceeded the maximum diazinon standard and Devereux and Tecolote Creeks exceeded the maximum standard for chlorpyrifos. Tecolote Creek also exceeded the maximum standard for malathion. Oil and grease and TPH were not detected in any of the samples for either of these creeks. Water quality data collected during two prior rain years (1999-2000 and 2000-2001) were similar to 2001-2002 data (Santa Barbara County 2003).

4.9.1.4 Groundwater

The Project area is adjacent to the West Subbasin of the Goleta Groundwater Basin. This underground reservoir is considered hydrologically separate from the North and Central Subbasins of the Goleta Groundwater Basin. Available storage in the West Basin is estimated to be 7,000 acre-feet. Based on the most recent analysis, the West Subbasin is in a state of surplus. However, water in this subbasin is considered poor quality and low yield but is classified as beneficial use drinking water by the RWQCB under the *Water Quality Control Plan for the Central Coastal Region* (Central Coast Basin Plan) (RWQCB 2019).

4.9.2 Regulatory Setting

Federal and state laws and regulations pertaining to hydrology and water quality and relevant to the Project including California Coastal Act Chapter 3, Section 30231 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local goals, policies, or regulations applicable to the Project with respect to hydrology and water quality are presented below.

4.9.2.1 Local Regulations

Project Clean Water. The Santa Barbara County Water Agency, Project Clean Water was established to reduce or eliminate discharges of pollution into creeks, rivers, ponds, or ocean waters, through implementation of National Pollutant Discharge Elimination System (NPDES) permit requirements and applicable regulations. This agency completes stormwater sampling at select locations throughout the county. The County Water Agency has adopted provisions of the Storm Water Phase II Final Rule, which requires the operator of a regulated small municipal separate storm sewer system (MS4) to obtain NPDES permit coverage because discharges of stormwater from such systems are considered point sources of pollution.

Goleta General Plan. The city of Goleta has adopted policies through the City General Plan that address protection of wetlands, beach and shoreline habitats, watersheds, and water quality. Specifically, the following City General Plan polices provide guidance on requirements for new development and construction activities in the city:

- **Policy CE 10.1: New Development and Water Quality**. New development shall not result in the degradation of the water quality on groundwater basins or surface waters; surface waters include the ocean, lagoons, creeks, ponds, and wetlands. Urban runoff pollutants shall not be discharged or deposited such that they adversely affect these resources.

- **Policy CE 10.2: Siting and Design of New Development**. [GP/CP] New development shall be sited and designed to protect water quality and minimize impacts to coastal waters by incorporating measures designed to ensure the following:
    a. Protection of areas that provide important water quality benefits, areas necessary to maintain riparian and aquatic biota, and areas susceptible to erosion and sediment loss
    b. Limiting increases in areas covered by impervious surfaces
    c. Limiting the area where land disturbances occur, such as clearing of vegetation, cut-and-fill, and grading, to reduce erosion and sediment loss
    d. Limiting disturbance of natural drainage features and vegetation
- **Policy CE 10.3 - Incorporation of Best Management Practices for Stormwater Management**. New development shall be designed to minimize impacts to water quality from increased runoff volumes and discharges of pollutants from nonpoint sources to the maximum extent feasible, consistent with the City's Storm Water Management Plan or a subsequent Storm Water Management Plan approved by the City and the Central Coast Regional Water Quality Control Board. Post construction structural BMPs shall be designed to treat, infiltrate, or filter stormwater runoff in accordance with applicable standards as required by law. Examples of BMPs include, but are not limited to, the following:
    a. Retention and detention basins
    b. Vegetated swales
    c. Infiltration galleries or injection wells
    d. Use of permeable paving materials
    e. Mechanical devices such as oil-water separators and filters
    f. Revegetation of graded or disturbed areas
    g. Other measures as identified in the City's adopted Storm Water Management Plan and other City-approved regulations (City of Goleta 2019)

4.9.3 Significance Criteria

Impacts to water quality would be considered significant if:

- Contaminant concentrations within the Channel Islands National Marine Sanctuary (CINMS) or within Santa Barbara Channel coastal wetlands measurably increase relative to background concentrations
- Water quality objectives contained in the Central Coast Basin Plan are violated
- Water quality objectives contained in the California Ocean Plan are violated
- Water quality criteria in the California Toxics Rule (2000) are violated
- Project operations or discharges that change background levels of chemical and physical constituents or elevate turbidity producing long-term changes in the receiving environment of the site, area, or region, thereby impairing the beneficial uses of the receiving water occur
- Contaminant levels in the water column are increased to levels with the potential to cause harm to marine organisms even if the levels do not exceed formal objectives in the Central Coast Basin Plan or California Ocean Plan

4.9.4 Impact Analysis and Mitigation

The following sections discuss potential impacts to nearshore and onshore water resources and proposed mitigation measures associated with the proposed Project. Because the proposed Project consists of decommissioning of former oil and gas production caissons/piers and associated structures that have already been plugged and abandoned, the impacts to hydrology and water quality are anticipated to be short term in nature.

<u>Component 1</u>

Impact HWQ-1: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 1)

Decommissioning activities may adversely affect marine water quality as a result of incidental release of contaminated materials to the marine environment **(Less than Significant with Mitigation/Beneficial).**

Impact Discussion

As discussed in Section 4.8, Hazards and Hazardous Materials, Component 1 activities involve decommissioning of former oil and gas facilities that contain residual hydrocarbons and structures that may contain other hazardous materials (including, but not limited to, the potential for lead-based paint and wood preservatives). Additionally, large equipment operating on the beach would contain hazardous materials such as fuel, lubricant, and oils. During decommissioning, accidental hazardous materials discharge to the beach during construction could temporarily adversely affect ocean water quality or result in a violation of water quality standards. Contaminants from construction vehicles and equipment could increase the pollutant load in any runoff transported to the ocean. This potential risk would be somewhat minimized through timing of the proposed activities to occur during periods of lower low tides and during periods of calm seas. Implementation of **MMs HAZ-1a** through **HAZ-1c** and **MM HAZ-2** would minimize potential effects by ensuring that rapid deployment of containment and clean-up occurs for minor spills, that major spills have a process for notification and clean-up, and any hazardous materials are removed from the Project area with minimal effect on the marine or terrestrial environment. Implementation of these measures would mitigate these impacts to a level of less than significant.

Completion of Component 1 removal activities would result in a beneficial impact to water quality as hydrocarbons contained within the caisson soils would no longer be a threat to the public or environment.

Mitigation Measures

MM HAZ-1a: Remedial Action Plan Implementation (see Section 4.8.4, *Hazards and Hazardous Materials*

MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs (see Section 4.8.4, *Hazards and Hazardous Materials*)

MM HAZ-1c: Oil Spill Contingency Plan Implementation (see Section 4.8.4, *Hazards and Hazardous Materials*).

MM HAZ-2: Hazardous Materials Management and Contingency Plan (see Section 4.8.4, *Hazards and Hazardous Materials*).

Impact HWQ-2: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 1)

Project-related construction could cause erosion or siltation resulting in substantial degradation of surface water quality **(Less than Significant with Mitigation).**

Impact Discussion

The proposed Project consists of decommissioning of existing facilities associated with PRC 421. Demolition activities on the beach and within the surf zone would include the use of excavation equipment and concrete cutting/breaking tools to remove the existing caissons and structures. These activities would result in soil disturbance, which may result in an increase in the amount of sediments discharged to the ocean during storm events and an associated increase in turbidity. Implementation of **MM HWQ-1** would reduce short-term decommissioning-related impacts to water quality to a less than significant level.

Mitigation Measures

MM HWQ-1: Storm Water Pollution Prevention Plan. CSLC shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), including:

- All fueling and maintenance of vehicles and heavy equipment will occur in designated areas at least 50 feet from waterways. Designated areas will include spill containment devices (e.g., drain pans) and absorbent materials to clean up spills
- Vehicles and equipment will be maintained properly to prevent leakage of hydrocarbons and other fluids
- Any accidental spill of hydrocarbons or other fluids that may occur at the work site will be cleaned immediately. Spill containment devices and absorbent materials will be maintained on the work site for this purpose. The Governor's Office of Emergency Services will be notified immediately in the event of a reportable quantity accidental spill to ensure proper notification, clean up, and disposal of waste
- Waste and debris generated during construction will be stored in designated waste collection areas and containers away from drainage features, and will be disposed of regularly
- Storm water pollution prevention best management practices will be used around the construction area perimeters during construction and around any construction operations that could potentially degrade water quality
- Erosion and sedimentation best management practices (e.g., silt fences straw wattles, mulching, and hydroseeding) will be installed properly and maintained regularly. Other best management practices will be implemented as necessary and as required by Project permits
- Runoff will be conveyed to prevent erosion from slopes and channels and directed to engineered drainage facilities
- Disturbed slopes will be re-vegetated with appropriate native vegetation

<u>Component 2</u>

Impact HWQ-3: Potential Water Quality Impacts During Implementation of Project (Component 2)

Decommissioning activities may adversely affect marine water quality as a result of incidental release of contaminated materials to the marine environment **(Less than Significant with Mitigation/Beneficial).**

Impact Discussion

Prior to implementation of Component 2, the two pipelines would have been flushed and isolated back to the EOF and would no longer contain contaminated materials. However, as discussed in Section 4.8, *Hazards and Hazardous Materials*, Component 2 activities involve decommissioning of PRC 421 facilities (including the access roadway fill material and wooden seawall) that contain residual hydrocarbons and wood preservatives. Additionally, large equipment operating on the beach would contain hazardous materials such as fuel, lubricant, and oils. During decommissioning, accidental hazardous materials discharge to the beach during construction could temporarily adversely affect ocean water quality or result in a violation of water quality standards. Contaminants from construction vehicles and equipment could increase the pollutant load in any runoff transported to the ocean. This potential risk would be somewhat minimized through timing of the proposed activities to occur during periods of lower low tides and during periods of calm seas. Implementation of **MMs HAZ-1a** through **HAZ-1c,** and **MM HAZ-2** would minimize potential effects by ensuring that rapid deployment of containment and clean-up occurs for minor spills, that major spills have a process for notification and clean-up, and any hazardous materials are removed from the Project area with minimal effect on the marine or terrestrial environment. Implementation of these measures would mitigate these impacts to a level of less than significant.

Completion of Component 2 removal activities would result in a beneficial impact to water quality as hydrocarbons contained within the access roadway fill and wooden seawall wood preservatives would no longer be a threat to the public or environment.

Mitigation Measures

MM HAZ-1a: Remedial Action Plan Implementation (see Section 4.8.4, *Hazards and Hazardous Materials*)

MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs (see Section 4.8.4, *Hazards and Hazardous Materials*)

MM HAZ-1c: Oil Spill Contingency Plan Implementation (see Section 4.8.4, *Hazards and Hazardous Materials*)

MM HAZ-2: Hazardous Materials Management and Contingency Plan (see Section 4.8.4, *Hazards and Hazardous Materials*)

Impact HWQ-4: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 2)

Project-related construction could cause erosion or siltation resulting in substantial degradation or surface water quality **(Less than Significant with Mitigation).**

Impact Discussion

The proposed Project consists of decommissioning of existing facilities associated with PRC 421. Re-grading the slope to remove the existing access roadway and removal of the existing pier abutments, rock revetments, and wooden seawall would de-stabilize the toe of the adjacent bluffs. These activities would result in soil disturbance, which may result in an increase in the amount of sediments discharged to the ocean during storm events and an associated short-term increase in turbidity. Implementation of **MM HWQ-1** would reduce short-term erosion and sedimentation impacts to water resources to a less than significant level.

Mitigation Measures

MM HWQ-1: Storm Water Pollution Prevention Plan

4.9.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact HWQ-5: Potential for Cumulative Water Quality Impacts

Temporary Project-related water quality impacts would incrementally contribute to cumulative impacts if other projects were conducted at the same time in this location **(Less than Significant with Mitigation).**

Impact Discussion

The Project may contribute to cumulative water quality impacts associated with use of heavy equipment on or near the beach, which may result in inadvertent hydrocarbon spills and sediment-laden stormwater discharges to adjacent marine waters. Other projects that may take place at the same time would be limited to the Beach Hazards Removal Project and Bacara Beach House Relocation Project. The Beach Hazards Removal Project (managed by the CSLC) may include activities on the beach in proximity to the proposed Project and would also require the short-term use of construction equipment (and the potential for hydrocarbon and sediment discharges) to remove existing oil and gas facility remnants. However, no hazard removal activities are currently scheduled within the Project area during the proposed decommissioning timeframe.

The Bacara Beach House Relocation Project is located adjacent to the Bacara Resort fire road access. If this project were to occur at the same time as the proposed decommissioning activities, it would also require short-term use of construction equipment for demolition and construction activities and the potential for hydrocarbon and sediment discharges. With implementation of **MM HWQ-1**, the incremental contribution of the Project to cumulative impacts would not be considerable.

4.9.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.9-1. Summary of Hydrology and Water Quality Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact HWQ-1: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 1)	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HAZ-2:** Hazardous Materials Management and Contingency Plan
Impact HWQ-2: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 1)	**MM HWQ-1:** Storm Water Pollution Prevention Plan
Impact HWQ-3: Potential Water Quality Impacts During Implementation of Decommissioning Project (Component 2)	**MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HAZ-2:** Hazardous Materials Management and Contingency Plan
Impact HWQ-4: Construction-related Erosion and Sedimentation Impacts to Marine and Onshore Water Quality (Component 2)	**MM HWQ-1:** Storm Water Pollution Prevention Plan
Impact HWQ-5: Potential for Cumulative Water Quality Impacts (Components 1 and 2)	**MM HWQ-1:** Storm Water Pollution Prevention Plan

4.10 LAND USE AND PLANNING

This section details the existing land use and planning conditions in the Project vicinity, outlines applicable land use plans and policies, and summarizes potential land use and planning impacts and mitigation measures (MMs) associated with the Project.

4.10.1 Environmental Setting

State Oil and Gas Lease PRC 421 is located within the coastal zone off the Ellwood Coast, just south of Sandpiper Golf Course, southeast of the EOF, and approximately 2,000 feet west of the Ellwood Mesa. The lease area is offshore of the city of Goleta, extending from the surf zone just above the 421-1 and 421-2 well locations offshore to a water depth of about 50 feet. As shown in Figure 4.10-1, jurisdiction of the Project is shared by CSLC and the CCC within the coastal zone in the city of Goleta. The majority of the Project site is located at or below the mean high tide line (including the 421-1 and 421-2 piers, caissons, and wells), which are under the jurisdiction of the CSLC and CCC (Figure 1-2). The remaining portions are located above the mean high tide line (including the access roadway, rock revetment, wooden seawall, pipelines, and pier abutments, as well as the proposed staging areas located at the EOF and Bacara Resort fire road access route which are under the jurisdiction of the CCC within the coastal zone boundary in the city of Goleta.

4.10.1.1 CSLC Submerged Tidelands

The Project site includes Pier 421-1 and 421-2, which are located on State tide and submerged lands within PRC 421. The original oil and gas lease (Lease Number 89) was issued in 1929, terminated and renewed under PRC 421 in 1949, and subsequently reassigned several times with the last assignment to Venoco, Inc. (Venoco) in 1997. In March 2016, Venoco filed for Chapter 11 Bankruptcy to reorganize. In April 2017, Venoco again filed for bankruptcy and subsequently began liquidation of its assets which included quitclaiming its oil and gas leases back to the State of California. Lease PRC 421 and the associated two wells and pier structures were among the assets turned over to the State.

4.10.1.2 Project Parcels and Sandpiper Golf Course Easements

Several parcels are included in the Project area. The PRC 421 piers/wells (below the mean high tide line [MHTL] last surveyed in 2018) are within the jurisdiction of CSLC (Figure 1-2). All other Project components above the MHTL, such as the easements with Sandpiper Golf Course (APN 079-210-059) for the access roadway leading to the PRC 421 piers and the pipelines from Platform Holly and PRC 421, are under the jurisdiction of the city of Goleta. Due to the Venoco bankruptcy, CSLC currently

1 contracts for staffing the property that the EOF occupies (Assessor's Parcel Number
2 [APN] 079-210-042).

Figure 4.10-1. Jurisdictional Land Use

4.10.1.3 City of Goleta Land Use and Zoning Designations

Land Use Designations. Although it has been historically utilized in support of oil and gas processing activities, all of the Project components are located within an area that has been designated by the city of Goleta for Open Space/Active Recreation. Surrounding land uses include the Bacara Resort to the west, which is designated in support of Visitor Serving Uses. The area adjacent to the east of Sandpiper Golf Course along Ellwood Mesa has been designated in support of Open Space/Passive Recreation (City of Goleta 2006c).

Zoning Designations. In accordance with the land use designations noted above, the Project area has been zoned within the city's Coastal Zoning Ordinance (Article II, Chapter 35, Goleta Municipal Code) as (OSAR) Open Space – Active Recreation (City of Goleta 2020). Similarly, the surrounding land uses include the Bacara Resort, zoned as a Commercial District or VS (Visitor Serving Commercial), and the Ellwood Mesa area has been zoned OSPR (Open Space – Passive Recreation).

4.10.2 Regulatory Setting

There are no federal regulations, authorities, or administering agencies that regulate land use that are specifically applicable to the Project. State laws, regulations, and policies regarding land use including California Coastal Act Chapter 3, Sections 30220, 30221, 30222, 30223, and 30224 are discussed below and in Appendix B. Local laws, regulations, and policies are also discussed below.

4.10.2.1 California State Lands Commission

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. 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. In this case, CSLC is also the Project applicant, as the Project components were quitclaimed back to the State of California following the Venoco bankruptcy and liquidation of its assets.

4.10.2.2 California Coastal Commission

The CCC was established in 1972 and made permanent through adoption of the California Coastal Act in 1976. The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Development activities, which are broadly defined by the California Coastal Act to include (among others) construction of buildings, divisions of land, and activities that change the intensity of use of land or public access to coastal waters, generally require a coastal development permit from either the CCC or the local government. Implementation of California Coastal Act policies is accomplished primarily through the preparation of local coastal programs (LCPs) that are required to be completed by each of the counties and cities located in whole or in part in the coastal zone. Completed LCPs must be submitted to the CCC for review and approval. Following certification of an LCP, coastal development permit authority is delegated to the local jurisdiction, but the CCC retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The CCC also has appellate authority over development approved by local governments in specified geographic areas as well as certain other developments (e.g., oil and gas projects). The city of Goleta has submitted their LCP to the CCC for certification, which is pending, and as such, Project components within the coastal zone of the city would require a coastal development permit from the CCC. The standard of review for the CCC includes the policies included in Chapter 3 of the California Coastal Act.

4.10.2.3 City of Goleta

General Plan/Coastal Land Use Plan. The city of Goleta General Plan (GP)/Coastal Land Use Plan (CLUP) was adopted on October 2, 2006 and governs land use and physical development within the city limits. The Coastal Zone portions of the GP/CLUP have not yet been certified by the CCC. Until these portions of the GP/CLUP are certified, the CCC retains jurisdiction over the Coastal Zone within the city of Goleta.

The city of Goleta GP/CLUP includes a number of elements that contain goals and policies intended to guide development within the city. In order to determine potential land use impacts that could result from the proposed Project, review of the General Plan Land Use Element (2006c, last updated 2019), Open Space Element (2006b, last updated 2017), and Conservation Element (2006, last updated 2009) was conducted. Table 4.10-1 includes a summary of applicable city of Goleta land use policies and the Project’s consistency with these elements. Additionally, Project consistency with other General Plan Elements (including the Visual and Historic Resources Element, Safety Element, Noise Element, Public Facilities Element, and Transportation Element) has been considered within each of their respective impact analysis sections.

Coastal Zoning Ordinance (1997). The following provisions of the Coastal Zoning Ordinance are most applicable to the Project:

- **Section 35-61: Beach Development**. Prohibits permanent above-ground structures on the dry sandy beach except facilities necessary for public health and safety, such as lifeguard towers, or where such restriction would cause the inverse condemnation of the lot by the county. This section also requires all new development between the first public road and the ocean to grant lateral easements to allow for public access along the shoreline. In coastal areas, where the bluffs exceed 5 feet in height, the lateral easement shall include all beach seaward of the base of the bluff.

- **Section 35-67: Bluff Development**. This standard provides minimum setbacks for new development from the bluff edge. Requirement 4 includes that "development and activity of any kind beyond the required blufftop setback shall be constructed to ensure that all surface and subsurface drainage shall not contribute to the erosion of the bluff face or the stability of the bluff itself".
- **Section 35-89: Recreation District**. This district provides open space for various forms of outdoor recreation of either a public or private nature. The intent is to encourage outdoor recreational uses which will protect and enhance areas which have both active and passive recreation potential because of their beauty and natural features. No permits for development including grading shall be issued except in conformance with an approved Final Development Plan, as provided in Sec. 35-174 (Development Plans), and with Sec. 35-169 (Coastal Development Permits).

4.10.3 Significance Criteria

Land use impacts are considered to be significant if the Project would result in:

- Conflicts with adopted land use plans, policies, or ordinances, including the California Coastal Act and city of Goleta GP/CLUP and zoning ordinance
- Incompatible adjacent land uses as defined by planning documentation

4.10.4 Impact Analysis and Mitigation

Impact LU-1: Temporary Conflicts with State and Local Policies

Project decommissioning activities would have the potential to result in temporary conflicts with State and local policies **(Less than Significant with Mitigation).**

Impact Discussion

Components 1 and 2

City of Goleta General Plan. The proposed Project objective includes decommissioning of the piers, caissons, and remaining portions of the wells (the riser pipe from the top of the cement plug and wellheads) and other infrastructure, including the pipelines within the access roadway and golf course back to the tie-in points just outside of the EOF at the 12th tee, and the access roadway and supporting rock revetment. Some of these structures now represent a physical coastal obstruction, a potential public safety hazard, and a potential environmental hazard represented by the known presence of hydrocarbon-impacted soil and fill contained within the pier caissons and access roadway as well as wood preservatives in the wooden seawall. The removal of these structures would be a significant public benefit, would allow full use of the beach coastline by the public, and would eliminate an existing threat to public safety and the environment.

As shown in Table 4.10-1, implementation of the Project would be consistent with all applicable city policies and meets the intention of policies intended to return the Project area to a natural condition following completion of the former oil and gas activities. Additionally, removal of the 421-1 and 421-2 piers and caissons/wells would restore public access to this portion of Haskell's Beach and improve the aesthetic value of this stretch of coastline.

However, implementation of the proposed Project would also include elements that are potentially inconsistent with some Sections of the California Coastal Act and the city of Goleta General Plan policies contained within the Land Use and Conservation Elements and require mitigation measures to reduce this potential impact to be less than significant. During decommissioning, construction equipment would be present for approximately 143 days during Component 1 and 63 days during Component 2. Each component would have the potential to result in short-term construction disturbances such as noise, lighting, air quality impacts, potential disturbance to biological resources, and potential impacts resulting from water quality sedimentation, pollution, or runoff. Specifically, during decommissioning activities, residual soil within the 421-1 and 421-2 caissons and access roadway may include contamination that would have the potential to come into contact with the marine environment. Additionally, there are several ESHAs in the Project vicinity, including Bell Canyon Creek located adjacent to the western boundary of the EOF and Project access/staging areas, a wetland located adjacent to the access roadway north of PRC 421-2, and rocky intertidal areas offshore. During construction, temporary impacts to ESHAs may occur due to indirect construction disturbances such as noise and lighting. Additionally, Component 2 would require removal of the access roadway that would result in potential impacts to the existing wetland area.

During construction, Project design and mitigation measures would reduce the potential for these impacts as further described in Sections 4.1, *Aesthetics*; 4.2*, Air Quality*; 4.3, *Biological Resources*; 4.8, *Hazards and Hazardous Materials*; 4.9, *Hydrology and Water Quality*; and 4.13, *Recreation* as summarized in Table 4.10-1 below. The Project would remain consistent with applicable land use policies and a less than significant impact would result following implementation of mitigation as noted in Table 4.10-1.

Table 4.10-1. Policy Consistency Evaluation

Policy	Consistency Evaluation
California Coastal Act (CCA)	
Section 30211: Development not to interfere with access. Development shall not interfere with the public's right of	The proposed Project would not require the construction of any permanent structure that would interfere with the

Policy	Consistency Evaluation
access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.	public's right of access to the sea. However, the Project would include removal of the existing facilities within PRC 421, which would require construction equipment to work adjacent to and on Haskell's Beach for about 5 months during Component 1 and about 3 months during Component 2. During this time, public access may be partially impeded along this stretch of beach to safely accommodate large construction equipment and work activities, however the beach area outside of the work zone would remain open east and west of the Project site(s). **MM REC-1** is provided to maximize beach access during Component 1 activities. Following completion of the Project, the Project site would be returned to natural conditions, which would result in additional beach area for the public to access. Therefore, the Project is consistent with this Section of the CCA.
Section 30230: Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.	The Project is located in and adjacent to Haskell's Beach and the Pacific Ocean. Decommissioning activities would be limited to the areas of original installation for the 421-1 and 421-2 pier and caissons/wells (Component 1) as well as the rock revetment, access road, and wooden seawall (Component 2) within this area. During decommissioning activities, residual soil within the 421-1 and 421-2 caissons and access roadway may include contamination that would have the potential to come into contact with the marine environment. Additionally, implementation of Component 2 would have the potential to impact the existing wetland area located adjacent to the north of Pier 421-2. During construction, Project design and mitigation measures including, but not limited to **MMs HAZ-1a** through **MM HAZ-1c, MM HAZ-2, MM HWQ-1, MMs BIO-3a** through **MM BIO-**

Policy	Consistency Evaluation
	3e would reduce the potential for impacts to marine resources. Therefore, the Project would remain consistent with this Section of the CCA.
Section 30231: The biological productivity and the quality of coastal waters, creeks, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural creeks.	Decommissioning activities are anticipated to result in small-scale, temporary increases in turbidity. However, best management practices would be implemented to reduce sedimentation and runoff (**MM HWQ-1**). Potentially significant water quality impacts could also result from the inadvertent release of petroleum products from the equipment. Should a spill occur, the facilities Oil Spill Contingency Plan (**MM HAZ-1c**) would be executed immediately to reduce impacts to less than significant. In the absence of proper controls, ground disturbance associated with removal of the facilities or potentially contaminated soil in the caissons or access roadway would have the potential to impact surface water quality. However, construction would be short term in nature; and implementation of Project design and mitigation measures including, but not limited to **MMs HAZ-1a** through **MM HAZ-1c, MM HAZ-2, and MM HWQ-1** would reduce the potential for impacts. Additionally, the area would return to its pre-Project condition following completion of decommissioning activities. The Project would therefore be consistent with this Section of the CCA.
Section 30232: Oil and hazardous substance spills. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.	Decommissioning activities would utilize diesel-fueled equipment and carry materials that would have the potential to contribute to impacts related to a release of hazards and hazardous materials. As such, the facilities existing Oil Spill Contingency Plan (OSCP) (**MM HAZ-1c**) would be adhered to during all work activities. The OSCP includes preventative measures, as well as

Policy	Consistency Evaluation
	procedures to be followed in the event of a spill, including hydraulic fluids as well as fuel and other types of oil spills onshore. Project design considerations as well as appropriate noticing, and adherence to the approved OSCP would be implemented to avoid a potential spill. In the event of an accidental petroleum release, the containment and cleanup measures specified in the OSCP would reduce effects to the greatest extent possible. Therefore, the Project would be consistent with this Section of the CCA.
Section 30240: (a) Environmentally sensitive habitat areas (ESHAs) be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. (b) 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 those areas and shall be compatible with the continuance of those habitat and recreation areas.	There are several ESHAs in the Project vicinity, including Bell Canyon Creek located adjacent to the western boundary of the EOF and Project access/staging areas, a wetland located adjacent to the access roadway north of PRC 421-2, and rocky intertidal areas offshore. During construction, temporary impacts to ESHAs would have the potential to result due to indirect construction disturbances such as noise and lighting. Additionally, Component 2 would require removal of the access roadway resulting in potential impacts to the existing wetland area, however **MM BIO-3a** and **MM BIO-3b** are proposed to reduce potential impacts to wetlands. Additionally, **MM BIO-6a** has been proposed to compensate for the loss of terrestrial ESHA bluff scrub habitat and **MM BIO-6b** has been proposed to avoid the southern foredunes. As such, the Project would be consistent with this Section of the CCA.
Section 30251: Scenic and visual qualities. 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 coastal	Construction activities associated with Project implementation would have potentially significant short-term impacts to the visual quality of the Project area. The existing visual environment would be temporarily degraded during decommissioning activities during

Policy	Consistency Evaluation
areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.	Component 1 and Component 2 from the presence of heavy construction equipment (e.g., excavators, crane) and stockpiles/bins of materials placed in the staging area(s) prior to transport offsite. This visual impact would be present for about 5 months during Component 1 and an additional 3 months during Component 2. Additionally, in some instances during Component 1, night lighting may be required to take advantage of nighttime low tide periods. Although the addition of heavy equipment during demolition would introduce additional industrial elements to the existing environment, it is important to note that it is not out of the existing visual character at the Project site to have equipment present in these locations. Additionally, mitigation measures have been included to minimize the presence of construction equipment within the viewshed, as well as limit the use of night lighting during decommissioning. The Project would return the site to natural conditions. The Project is consistent with this Section of the CCA.
City of Goleta General Plan – Land Use Element	
Policy LU 1.7: New Developments and Protection of Environmental Resources. Approvals of all new development shall require adherence to high environmental standards and the preservation and protection of environmental resources, such as environmentally sensitive habitats, consistent with the standards set forth in the Conservation Element and the City's Zoning Code.	Consistent. See Response to CCA Policy 30240 above regarding ESHAs.
Policy LU 6.3: Open Space/Active Recreation. This designation is intended to identify existing or planned areas for public parks and active recreational activities and facilities, such as	The Project would include removal of the existing facilities within PRC 421, which would require construction equipment to work adjacent to Haskell's Beach for about 5 months during Component 1 and

Policy	Consistency Evaluation
playgrounds, picnic areas, tennis courts, ballparks, and sports fields. This use category is also intended to apply to significant private outdoor recreational facilities, such as golf courses and privately owned parks. Individual recreational areas may include a mix of passive and active recreational features or improvements. Appropriate caretaker facilities and residences may also be allowed if consistent with the character of the planned uses. The designation may also include storm drainage facilities.	about 3 months during Component 2. During this time, public access may be partially impeded along this stretch of beach to safely accommodate large construction equipment and work activities, however the beach area outside of the work zone would remain open east and west of the Project site(s). Following decommissioning activities, the Project site would be returned to natural conditions and would be consistent with the Open Space/Active Recreation designation outlined in Policy LU 6.3.
Policy LU 9.2: Site #2 – Coastal Recreation. This parcel, occupied as of 2005 by the Venoco EOF, is designated in the Open Space/Active Recreation use category. The requirements applicable to this site are as follows: a. The Recreation designation shall continue the nonconforming status of the existing use. The use was nonconforming at the time of incorporation of the city of Goleta. Its nonconforming status dates to the early 1990s when the property's zoning was changed by the County of Santa Barbara to the Recreation District as part of a plan to consolidate onshore oil and gas processing at the Las Flores Canyon site in the unincorporated area west of Goleta. d. Upon termination of the oil and gas processing use, the priority use for the site shall be coastal-dependent and coastal-related recreational uses that are conducted primarily outdoors or limited to small-scale structures. Adequate onsite parking shall be provided to serve all recreational uses (see related Policy OS 2).	See Response to LU 6.3 above. Following completion of the Project, the Project site would be returned to natural conditions and would be consistent with the Coastal Recreation provisions of Policy LU 9.2.
Policy LU 10: Energy-Related On- and Off-Shore Uses Objective: To promote the discontinuation of onshore processing	The Project purpose is removal of an unused and abandoned oil and gas facility. Following removal, the Project site

Policy	Consistency Evaluation
and transport facilities for oil and gas, the removal of unused or abandoned facilities, and the restoration of areas affected by existing or former oil and gas facilities within the city.	would be returned to natural conditions and is consistent with Policy LU 10.
Policy LU 10.2: Decommissioning of the Venoco Ellwood Onshore Oil and Gas Processing Facility. The following requirements shall apply to the cessation of operations and decommissioning of the facility: a. Within 12 months of cessation of operations, the existing owner/operator shall submit an Abandonment Plan application for City review and approval. The Abandonment Plan shall include a detailed description of all decommissioning work and site restoration, including, but not limited to, remediation of soil and groundwater contamination if required by the City or County Fire Department. Removal of all oil and gas facilities and debris from the site shall be required, except where such removal would result in greater adverse impacts than abandonment in place. Disposition of all materials shall be at a properly licensed disposal site and in compliance with any applicable requirements. The estimated cost of the decommissioning work shall be deposited to an escrow account no later than the time the Abandonment Plan is submitted to the City. c. The owner/operator shall commence the decommissioning activities within 2 years of the cessation of operations and shall complete removal of all oil and gas facilities within 2 years following the start of the decommissioning project.	Removal of the EOF is not included as part of the proposed Project. However, the proposed decommissioning activities are intended to partially fulfill the outlined decommissioning requirements. The Project is consistent with Policy LU 10.2.

Policy	Consistency Evaluation
d. Decommissioning shall include restoration of the EOF site to a natural condition or to a condition that is suitable for the uses and development that are allowed within the Open Space/Active Recreation use category designated for the property. Restoration shall include recontouring the site, if appropriate, and revegetation with suitable native plant material. The restoration plan shall be prepared by the owner/operator and shall be subject to review and approval by the City	
Policy LU 10.4: State Lands Commission Lease 421. Two idle wells, one for oil production and one for wastewater injection, and related piers exist as of 2005 in state tidelands at the Pacific shoreline below the Sandpiper Golf Course property. These are the last two remaining shoreline oil wells in the state. Production has been idled since 1994 when the former owner/operator stopped operations following a pipeline rupture and oil spill. The location of the wells within the tidal zone results in a risk of discharge of oil into the seawater in the event of failure of the wells or their components. S.L. 421 is served by several onshore facilities, including pipelines and an access roadway protected by a riprap seawall at the base of the bluff. The current owner, Venoco, has an interest in recommissioning production at the idled oil well. The following policy applies to S.L. 421 and the related onshore facilities (only those applicable included): a. The City's intent is that oil production not be recommenced at S.L. 421 because of the environmental hazards posed by the resumption of oil production and processing over coastal waters and the impacts to	In accordance with Policy LU 10.4, the proposed Project includes decommissioning and removal of Pier 421-1 and 421-2 and the associated caissons/wells within Lease 421. Component 2 includes proposed removal of the rock revetment and wooden seawall within this area. Following removal, the site would be returned to natural conditions.

Policy	Consistency Evaluation
visual resources and recreation at the beach. Unless it is determined that there is a vested right to resume production at S.L. 421, the City supports termination of the lease by the State Lands Commission (SLC) and/or a quitclaim of the lease by the owner/operator. c. Decommissioning and proper abandonment of S.L. 421 facilities, including the piers and riprap seawall, shall be required concurrent with decommissioning of the EOF or immediately upon termination of S.L. 421. d. Decommissioning work shall include restoration of the site to its natural pre-Project conditions.	
City of Goleta General Plan – Open Space Element	
Policy OS 1.3: Preservation of Existing Coastal Access and Recreation. Goleta's limited Pacific shoreline of approximately 2 miles provides a treasured and scarce recreational resource for residents of the city, region, and State. Existing public beaches, shoreline, parklands, trails, and coastal access facilities shall be protected and preserved and shall be expanded or enhanced where feasible.	Removal of the 421-1 and 421-2 piers and caissons/wells would restore this section of beach to natural conditions and provide additional area of public access to the beach. The Project is consistent with Policy OS 1.3.
Policy OS 1.4: Minimization of Impacts to Lateral Coastal Access. New development, including expansions and/or alterations of existing development, shall be sited and designed to avoid impacts to public access and recreation along the beach and shoreline. If there is no feasible alternative that can eliminate all access impacts, then the alternative that would result in the least significant adverse impact shall be required. Impacts shall be mitigated through the dedication of an access and/or trail easement where the Project	The Project would include removal of the existing facilities within PRC 421, which would require construction equipment to work adjacent to Haskell's Beach for about 5 months during Component 1 and about 3 months during Component 2. During this time, public access may be partially impeded along this stretch of beach to safely accommodate large construction equipment and work activities, however the beach area outside of the work zone would remain open east and west of the Project site(s).

Policy	Consistency Evaluation
site encompasses an existing or planned coastal access way.	Following decommissioning activities, the Project site would be returned to natural conditions. The Project is therefore consistent with Policy OS 1.4.
Policy OS 2.3: Preservation of Existing Vertical Accessways. Vertical access to Goleta's Pacific shoreline was limited to two locations as of 2005. These include access to Haskell's Beach within the Bacara Resort property and access at the City-owned Santa Barbara Shores Park and Sperling Preserve properties. The latter includes numerous trails that provide access to the bluff tops, although access from the bluff top to Ellwood Beach is available at only two locations. Existing public vertical coastal access facilities shall be protected and preserved and shall be expanded or enhanced where feasible.	See response to OS 1.4 above. The Project would not preclude vertical public access to Haskell's Beach from the Bacara Resort property or from the bluffs to Ellwood Beach. The Project is consistent with Policy OS 2.3.
City of Goleta General Plan – Conservation Element	
Policy CE 1.6: Protection of ESHAs. ESHAs shall be protected against significant disruption of habitat values, and only uses or development dependent on and compatible with maintaining such resources shall be allowed within ESHAs or their buffers. The following shall apply: a. No development, except as otherwise allowed by this element, shall be allowed within ESHAs. b. A setback or buffer separating all permitted development from an adjacent ESHA shall be required and shall have a minimum width as set forth in subsequent policies of this element. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area.	Consistent. See Response to CCA Policy 30240 above regarding ESHAs.
Policy CE 1.8: ESHA Buffers. Development adjacent to an ESHA shall	Consistent. See Response to CCA Policy 30240 above regarding ESHAs.

Policy	Consistency Evaluation
minimize impacts to habitat values or sensitive species to the maximum extent feasible. Native vegetation shall be provided in buffer areas to serve as transitional habitat. All buffers shall be of a sufficient size to ensure the biological integrity and preservation of the ESHA they are designed to protect.	
Policy CE 1.9: Standards Applicable to Development Projects. The following standards shall apply to consideration of developments within or adjacent to ESHAs (applicable policies included): d. All new development shall be sited and designed so as to minimize grading, alteration of natural landforms and physical features, and vegetation clearance in order to reduce or avoid soil erosion, creek siltation, increased runoff, and reduced infiltration of stormwater and to prevent net increases in baseline flows for any receiving water body. e. Light and glare from new development shall be controlled and directed away from wildlife habitats. Exterior night lighting shall be minimized, restricted to low intensity fixtures, shielded, and directed away from ESHAs. f. All new development should minimize potentially significant noise impacts on special-status species in adjacent ESHAs. h. The timing of grading and construction activities shall be controlled to minimize potential disruption of wildlife during critical time periods such as nesting or breeding seasons. i. Grading, earthmoving, and vegetation clearance adjacent to an ESHA shall be prohibited during the rainy season, generally from November 1 to March 31, except as follows: 1) where erosion control measures such as	d. Decommissioning activities are anticipated to result in small-scale, temporary increases in turbidity. However, best management practices included in **MM HWQ-1** would be implemented to reduce sedimentation and runoff. e. In some instances during Component 1, night lighting may be required to accommodate tidal fluctuations in the Project construction schedule. However, mitigation measures have been included to limit the use of night lighting during decommissioning. f. Project activities are short term in nature and primarily limited to daytime hours. The Project is not anticipated to have significant noise impacts that would have the potential to affect sensitive species in the adjacent ESHAs. h. **MM BIO-1** has been proposed to mitigate potential disruption to active cliff swallow nests under Pier 421-1. **MM BIO-2** has been proposed to mitigate potential disturbance to bats. Additionally, **MM BIO-4** has been proposed to ensure avoidance/protection during grunion spawning season. Less than significant impacts during construction would result. i/j. Work activities would be conducted when sand conditions provide optimal access for demolition of the 421-1 and 421-2 piers and caissons/wells. Best

Policy	Consistency Evaluation
sediment basins, silt fencing, sandbagging, or installation of geofabrics have been incorporated into the project and approved in advance by the City; 2) where necessary to protect or enhance the ESHA itself; or 3) where necessary to remediate hazardous flooding or geologic conditions that endanger public health and safety. j. In areas that are not adjacent to ESHAs, where grading may be allowed during the rainy season, erosion control measures such as sediment basins, silt fencing, sandbagging, and installation of geofabrics shall be implemented prior to and concurrent with all grading operations.	management practices with respect to erosion and siltation would be incorporated in **MM HWQ-1** during all work activities, regardless of season.
Policy CE 3.1: Definition of Wetlands. Wetlands are defined as any area that meets the definition of a wetland as defined by the California Coastal Commission, California Department of Fish and Game, and U.S. Fish and Wildlife Service. The most protective of definitions shall be applied and used to determine the boundary of a wetland. The city of Goleta uses the identification of a single indicator (soil, hydrology, or plants) to determine the boundary of a wetland	Wetlands located onsite have been determined through field reconnaissance as described in Section 4.3 (Biological Resources). This survey was conducted in accordance with the definition outlined in Policy 3.1. See Appendix F for Wetland Delineation Report.
Policy CE 3.4: Protection of Wetlands in the Coastal Zone. The biological productivity and the quality of wetlands shall be protected and, where feasible, restored in accordance with the federal and state regulations and policies that apply to wetlands within the Coastal Zone. Only uses permitted by the regulating agencies shall be allowed within wetlands. The filling, diking, or dredging of open coastal waters, wetlands, estuaries, and lakes is	Project Component 2 would require removal of a portion of the existing pier access roadway that would have the potential to diminish the existing wetlands located behind 421-2. Additionally, a 100 foot buffer from this wetland would not be feasible in order to fulfill the Project objectives and complete decommissioning activities. As such, **MM BIO-5a** and **MM BIO-5b** have been proposed to reduce the potential impacts to these wetlands. With incorporation of these mitigation measures, potential

Policy	Consistency Evaluation
prohibited unless it can be demonstrated that: a. There is no feasible, environmentally less damaging alternative to wetland fill. b. The extent of the fill is the least amount necessary to allow development of the permitted use. c. Mitigation measures have been provided to minimize adverse environmental effects. d. The purposes of the fill are limited to: incidental public services, such as burying cables or pipes; restoration of wetlands; and nature study, education, or similar resource-dependent activities. A wetland buffer of a sufficient size to ensure the biological integrity and preservation of the wetland shall be required. Generally, the required buffer shall be 100 feet, but in no case shall wetland buffers be less than 50 feet. The buffer size should take into consideration the type and size of the development, the sensitivity of the wetland resources to detrimental edge effects of the development to the resources, natural features such as topography, the functions and values of the wetland, and the need for upland transitional habitat. A 100-foot minimum buffer area shall not be reduced when it serves the functions and values of slowing and absorbing flood waters for flood and erosion control, sediment filtration, water purification, and ground water recharge. The buffer area shall serve as transitional habitat with native vegetation and shall provide physical barriers to human intrusion.	impacts would be reduced to less than significant levels. Following mitigation, the Project would be consistent with Policy CE 3.4.
Policy CE 3.6: Mitigation of Wetland Fill. Where any dike or fill development is permitted in wetlands in accordance with the Coastal Act and the policies of this	See response to CE 3.4 above.

Policy	Consistency Evaluation
plan, at a minimum; mitigation measures shall include creation or substantial restoration of wetlands of a similar type. Adverse impacts shall be mitigated at a ratio of 3:1 unless the project proponent provides evidence that the creation or restoration of a lesser area of wetlands will fully mitigate the adverse impacts of the fill. However, in no event shall the mitigation ratio be less than 2:1. All mitigation measures are subject to the requirements of CE 1.7.	
Policy CE 3.7: Lagoon Protection. The lagoons at the mouths of Bell Canyon and Tecolote Creeks shall be protected. Lagoon breaching or water level modification shall not be allowed.	During construction, an equipment access ramp would be created near the entrance to the existing pier access roadway. Alternatively, equipment may access the Project site from the existing Bacara Resort fire road. In this case, equipment and personnel would have to cross the Bell Canyon Creek area in route to the Project site. However, during the proposed Project timing during the summer months, Bell Canyon Creek is not anticipated to be outflowing or connected to the Pacific Ocean, therefore no crossing of the Creek waters would be required. Given the proposed Project timing, the Project would be consistent with Policy CE 3.7.
Policy CE 6.2: Protection of Marine ESHAs. The following protections shall apply to marine ESHAs (applicable provisions noted): a. Marine ESHAs shall be protected against significant disruption of habitat values, and only uses dependent on such resources, such as fishing, whale watching, ocean kayaking, and similar recreational activities, shall be allowed within the offshore area. b. All existing oil and gas production facilities, including platform Holly and the piers at PRC 421, shall be decommissioned immediately upon	a. Consistent. See Response to CCA Policy 30240 above regarding ESHAs. b. The proposed Project would include decommissioning of the 421 piers and caissons/wells. Removal would return the Project site to its natural conditions, which is consistent with subpart b.) to Policy CE 6.2.

Policy	Consistency Evaluation
termination of production activities. All facilities and debris shall be completely removed and the sites restored to their prior natural condition as part of the decommissioning activities. No new oil and gas leases or facilities shall be allowed within State waters offshore from Goleta. f. Near-shore shallow fish habitats and shore fishing areas shall be preserved and, where appropriate and feasible, enhanced.	
Policy CE 7.6: Restoration of Degraded Shoreline Areas. Removal of existing beach and shoreline structures, such as seawalls, roadways, and riprap, and removal of remnants of shoreline oil and gas facilities are allowed and encouraged activities. Such areas shall be restored to a natural condition.	Decommissioning activities would include removal of the 421-1 and 421-2 pier and caissons/wells (Component 1) as well as the rock revetment and wooden seawall (Component 2) and restoration of the area to a natural condition. These activities are consistent with Policy CE 7.6.
Policy CE 10.5: Beachfront and Blufftop Development. Development adjacent to the beach or blufftop shall incorporate BMPs designed to prevent or minimize polluted runoff to the beach and ocean waters.	Decommissioning activities are anticipated to result in small-scale, temporary increases in turbidity. However, best management practices included within **MM HWQ-1** would be implemented to reduce sedimentation and runoff. Potentially significant water quality impacts could also result from the inadvertent release of petroleum products from the equipment. Should a spill occur, the facility Oil Spill Contingency Plan (**MM HAZ-1c**) would be executed immediately to reduce impacts to less than significant. In the absence of proper controls, ground disturbance associated with removal of the facilities or hydrocarbon impacted soil in the caissons or access roadway would have the potential to impact surface water quality. **MMs HAZ-1a** through **MM HAZ-1c** as well as **MM HWQ-1** would be implemented to reduce the potential for exposure to the marine environment. Additionally, construction would be short term in nature; and the area would return

Policy	Consistency Evaluation
	to its pre-Project condition following completion of decommissioning activities. Following implementation of the proposed mitigation, the Project would be consistent with Policy CE 10.5.
Policy CE 12.3: Control of Emissions During Grading and Construction. Construction site emissions shall be controlled by using the following measures: a. Watering active construction areas to reduce windborne emissions. b. Covering trucks hauling soil, sand, and other loose materials. c. Paving or applying nontoxic solid stabilizers on unpaved access roads and temporary parking areas. d. Hydroseeding inactive construction areas. e. Enclosing or covering open material stockpiles. f. Revegetating graded areas immediately upon completion of work	The Project would not result in emissions above the established thresholds. Although not required since Project-related emissions would not exceed the significance threshold, implementation of emissions reduction measures recommended by the SBCAPCD would reduce air pollutant emissions and may facilitate attainment of the State 8-hour ozone standard. **MM AQ-1a** and **MM AQ-1b** would enforce fugitive dust control and equipment exhaust reduction measures in order to minimize emissions during demolition activities. The Project would be consistent with Policy CE 12.3.
Policy CE 15.5: Reduction of Construction Wastes. In instances where demolitions of existing buildings and structures are authorized, it is encouraged that such structures be deconstructed and that structural components, fixtures, and materials be salvaged for future reuse. Provisions for recycling of waste materials at all construction sites, including and demolition sites shall be required.	The removal of fill and structural material from the Project site would require the use of a variety of trucks including vacuum trucks, bin transport trucks, half-round dump trucks and flatbed trailers, to facilitate the recycling and disposal of the different materials that comprise the 421 pier structures and caissons. Approximately 1,146 truck trips from the site have been estimated based on the volume of materials that make up the pier structures, access roadway, pipelines, and wooden seawall/rock revetment removal (Table 2-2). All steel materials would be taken to an appropriate waste receiving facility to be recycled. Therefore, the Project is consistent with Policy 15.5.

Mitigation Measures

No further mitigation measures proposed.

The Project would be consistent with all applicable land use policies following implementation of the proposed mitigation measures included in Table 4.10-1.

4.10.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact LU-2: Cumulative Impacts of Project Implementation
Impacts to ESHAs and other sensitive biological resources during implementation would result in a potentially significant impact. When the cumulative environment is considered, the short-term contribution from the Project could be significant **(Less Than Significant with Mitigation).**

Impact Discussion

Cumulative impacts associated with the Project include the potential to create temporary or permanent land use impacts or policy inconsistencies to similar resources. Other projects anticipated to occur within the region that could contribute to potential construction impacts in the area include the Beach Hazards Removal Project and the Bacara Beach House Relocation Project. The Beach Hazards Removal Project (managed by CSLC) would also require the short-term introduction of construction equipment to remove existing derelict oil and gas remnants; however, no hazard removal projects are currently scheduled within the Project area during the proposed decommissioning timeframe. The Bacara Beach House Relocation Project is located adjacent to the Bacara Resort fire road access area. If this project were to occur at the same time as the proposed decommissioning activities, it would require the introduction of short-term construction equipment for demolition and construction activities. Use of construction equipment in this area would have similar short-term impacts as the Project and could contribute to cumulative impacts to air quality, sensitive biological resources, ESHAs, or localized water quality.

However, mitigation measures proposed within Sections 4.2, Air Quality; 4.3, Biological Resources; 4.8, Hazards and Hazardous Materials, and 4.9, Hydrology and Water Quality (as also shown under Impact LU-1) would reduce potential impacts of the Project to less than significant. As such, cumulative impacts due to inconsistencies with land use policies are not anticipated.

4.10.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.10-3. Summary of Potential Land Use Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact LU-1: Temporary Conflicts with State and Local Policies (Components 1 and 2)	**MM AES-1a:** Overnight Storage of Equipment **MM AES-1b:** Material Removal at Construction Completion **MM AES-1c:** Minimize Night Lighting **MM AQ-1a:** Fugitive Dust Control Measures **MM AQ-1b:** Equipment Exhaust Emissions Reduction Measures **MM BIO-1:** Avoidance of Active Cliff Swallow Nests **MM BIO-2:** Transitional Bat Habitat **MM BIO-3a:** Avoidance of Estuarine Waters/Tidewater Goby Relocation **MM BIO-3b:** CRLF Fencing at the EOF **MM BIO-3c:** Environmental Awareness Training **MM BIO-3d:** Biological Pre-activity Surveys and Monitoring **MM BIO-3e:** Delineation of Work Limits **MM BIO-4:** Grunion Spawning Avoidance **MM BIO-5a:** Coastal Wetlands Mitigation **MM BIO-5b:** Retain Coastal Wetlands Adjacent to Pier 421-2 **MM BIO-6a:** Coastal Bluff Scrub Replacement **MM BIO-6b:** Southern Foredunes Avoidance **MM HAZ-1a:** Remedial Action Plan Implementation **MM HAZ-1b:** Hydrocarbon Contaminated Soil Notification(s) and BMPs **MM HAZ-1c:** Oil Spill Contingency Plan Implementation **MM HWQ-1:** Storm Water Pollution Prevention Plan **MM REC-1:** Maximize Beach Access

Impact	Mitigation Measures
Impact LU-2: Cumulative Impacts of Project Construction (Components 1 and 2)	Same as above.

4.11 NOISE

4.11.1 Environmental Setting

4.11.1.1 Sound, Noise and Acoustics Background

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as loud, unexpected, or annoying sound. In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or Hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz (kHz), or thousands of Hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred-billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

Because decibels are logarithmic units, sound pressure level cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3 dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than one source under the same conditions. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level 5 dB louder than one source.

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear. Human hearing is limited in the range of audible frequencies as well as in the way it perceives the sound pressure level in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an “A-weighted” sound level (expressed in units of dBA) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in noise impact assessments. Noise levels for impact assessments are typically reported in terms of A-weighted decibels or dBA.

As discussed above, doubling sound energy results in a three dB increase in sound. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different than what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern one dB changes in sound levels, when exposed to steady, single-frequency (“pure-tone”) signals in the midfrequency (1,000 Hz to 8,000 Hz) range. In typical noisy environments, changes in noise of one to two dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of three dB in typical noisy environments. Further, a five dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a three dB increase in sound, would generally be perceived as barely detectable.

4.11.1.2 Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in community noise analysis.

- Equivalent Sound Level (Leq) represents an average of the sound energy occurring over a specified period. The one-hour A-weighted equivalent sound level (Leq) is the energy average of A-weighted sound levels occurring during a one-hour period.
- Percentile-Exceeded Sound Level represents the sound level exceeded for a given percentage of a specified period (e.g., L10 is the sound level exceeded 10 percent of the time, and L90 is the sound level exceeded 90 percent of the time).
- Maximum Sound Level (Lmax) is the highest instantaneous sound level measured during a specified period.
- Day-Night Level (DNL) is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m. This means that 10 dB is added to noise measured during nighttime hours before the data is processed to produce a 24-hour average. This noise descriptor accentuates the greater effect of nighttime noise.
- Community Noise Equivalent Level (CNEL) is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m. This noise descriptor accentuates the greater effect of evening and nighttime noise.

4.11.1.3 Project Noise Environment

The noise environment of areas potentially affected by the proposed Project is dominated by traffic noise generated by U.S. Highway 101 as well as local traffic on Hollister Avenue and other adjacent roadways. In addition, the Union Pacific Railroad tracks are located just south of U.S. Highway 101, and rail noise dominates the noise environment along this corridor for periods during train pass-throughs.

The city of Goleta considers noise sensitive land uses as residences, transient lodging, hospitals, nursing homes, schools, libraries, churches, and places of public assembly. Noise sensitive land uses near the Project site include:

- Residential land uses north of Hollister Avenue approximately 0.4 mile north-northeast of PRC 421-1
- Residential land uses on Island Oak Lane approximately 0.4 mile east of PRC 421-1

- Ellwood Elementary School on Hollister Avenue approximately 0.7 mile northeast of PRC 421-1
- Bacara Resort located approximately 0.4 mile northwest of the EOF staging area

Ambient noise levels were recorded in 2003 as part of preparation of the City's General Plan/Coastal Land Use Plan, including two locations in the Project area:

- Ellwood Elementary School: 55.1 dBA Leq
- Winchester Commons (0.6 mile northeast of PRC 421-1): 54.5 dBA Leq

Ambient noise levels were also recorded in 2005 as part of the Ellwood Marine Terminal Lease Renewal EIR, including two locations in the Project area:

- Ellwood Mesa trail (1.6 miles east of PRC 421-2): 49.6 dBA Leq (daytime), 56.3 dBA Leq (evening), 51.3 dBA Leq (nighttime) and 58.6 dBA CNEL
- Public beach south of Ellwood Mesa (1.6 miles southeast of PRC 421-2: 63.2 dBA Leq (daytime), 59.7 dBA Leq (evening). 54.7 dBA Leq (nighttime) and 64.0 dBA CNEL

These noise levels are considered representative of the current ambient noise levels since the city has not grown significantly since the noise levels presented were recorded.

4.11.1.4 Existing Traffic and Rail Noise

The city of Goleta's General Plan/Coastal Land Use Plan indicates the 60 dBA CNEL noise contour generated by vehicle traffic on U.S. Highway 101 and rail noise from the Union Pacific Railroad tracks extends approximately 1,000 feet south of U.S. Highway 101. Therefore, residential land uses along Hollister Avenue, Ellwood Elementary School, and most of the Bacara Resort are located within the 60 dBA CNEL noise contour. These data indicate land uses near the U.S. Highway 101/rail corridor are substantially affected by these noise sources.

4.11.1.5 Characteristics of Ground-borne Vibration and Noise

In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses on rough roads, and construction activities such as blasting, pile driving, and operating heavy earth-moving equipment.

The effects of ground-borne vibration include detectable movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings.

Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance would be well below the damage threshold for normal buildings.

Vibration is an oscillatory motion which can be described in terms of the displacement, velocity, or acceleration. Because the motion is oscillatory, there is no net movement of the vibration element, and the average of any of the motion descriptors is zero. Displacement is the easiest descriptor to understand. For a vibrating floor, the displacement is simply the distance that a point on the floor moves away from its static position. The velocity represents the instantaneous speed of the floor movement, and acceleration is the rate of change of the speed. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak of the vibration signal. PPV is often used in monitoring of blasting vibration since it is related to the stresses that are experienced by buildings.

4.11.2 Regulatory Setting

Noise is regulated by a variety of federal, state, and local laws and regulations. Federal and state laws that may be relevant to the Project are identified in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

4.11.2.1 City of Goleta General Plan/Coastal Land Use Plan

The policies of the Noise Element of the city's GP/CLUP identifies noise and land use compatibility standards for new development; requires noise buffers when feasible, requires roadway noise barriers as needed; requires assessment of rail noise for new development; requires noise mitigation measures for new, expanded, or upgraded stationary noise sources; and provides restrictions on construction noise. Noise Element policies considered on behalf of the proposed Project include:

- **Policy NE 6.4: Restrictions on Construction Hours**. This policy limits construction activities to 8:00 a.m. to 5:00 p.m., Monday through Friday near residential areas or other sensitive receptors, and 7:00 a.m. to 4:00 p.m., Monday through Friday in non-residential areas away from sensitive receptors. Construction is discouraged on weekends and State holidays.
- **Policy NE 6.5: Other Measures to Reduce Construction Noise**. This policy requires implementation of the following measures for new development (grading or building plans):
    - All construction equipment shall have properly maintained sound control devices and no unmuffled exhaust systems.

- Contractors shall implement appropriate additional noise control measures which many include changing the location of equipment and provided acoustic barriers.
- Noise buffers are required to reduce noise levels to 65 dBA CNEL at sensitive receptors.

This policy does not apply to the proposed Project because it is not a new or modified development.

4.11.2.2 City of Goleta Municipal Code

Section 17.39.070 of the city's Municipal Code limits noise-generating construction activities within 1,600 feet of sensitive receptors to Monday through Friday from 8:00 a.m. to 5:00 p.m., and from Monday through Friday from 7:00 a.m. to 4:00 p.m. for noise-generating construction activities not located within 1,600 feet of sensitive receptors. However, exceptions to these restrictions are allowed for good cause at the discretion of the city's Public Works Director.

4.11.3 Significance Criteria

A noise impact is considered significant if it would exceed local noise standards or be inconsistent with local policies and result in a physical change (such as noise increases). The following significance thresholds are taken from the city of Goleta's Environmental Thresholds and Guidelines Manual (as taken from the County of Santa Barbara Thresholds Manual 2002).

- A proposed development that would generate noise levels in excess of 65 dBA CNEL and could affect sensitive receptors would generally be presumed to have a significant impact.
- Outdoor living areas of noise sensitive uses that are subject to noise levels in excess of 65 dBA CNEL would generally be presumed to be significantly impacted by ambient noise. A significant impact would also generally occur where interior noise levels cannot be reduced to 45 dBA CNEL or less.
- A project will generally have a significant effect on the environment if it will increase substantially the ambient noise levels for noise-sensitive receptors adjoining areas. This may generally be presumed when ambient noise levels affecting sensitive receptors are increased to 65 dBA CNEL or more. However, a significant effect may also occur when ambient noise levels affecting sensitive receptors increase substantially but remain less than 65 dBA CNEL, as determined on a case-by-case basis.
- Noise from grading and construction activity proposed within 1600 feet of sensitive receptors, including schools, residential development, commercial

lodging facilities, hospitals or care facilities, would generally result in a potentially significant impact.

In addition, violation of Section 17.39.070 of the City's Municipal Code is considered a significant impact.

4.11.4 Impact Analysis and Mitigation

Noise levels at sensitive receptors associated with proposed decommissioning activities were estimated using the Federal Highway Administration's Roadway Construction Noise Model (2006). Two sensitive receptors are addressed in this impact analysis: residences on Island Oak Lane and the Bacara Resort. Sensitive receptors along Hollister Avenue (residential areas and the Ellwood Elementary School) were not addressed due to relatively high levels of ambient noise generated by roadway and rail traffic.

Two peak day scenarios were modeled, caisson removal and rock revetment removal, because these activities involve the largest number of noise sources. Each noise source associated with these scenarios was included in the modeling. Based on guidance provided in the Roadway Construction Noise Model Users Guide, an 8 dBA barrier attenuation was applied when the coastal bluff is located between the noise sources and receptors.

The existing ambient background noise at Island Oak Lane is anticipated to be very similar to that measured at Ellwood Mesa (49.6 dBA Leq daytime, 56.3 dBA Leq evening, and 51.3 dBA Leq nighttime). The existing ambient background noise at the Bacara Resort is anticipated to be very similar to that measured at the public beach south of Ellwood Mesa (63.2 dBA Leq daytime, 59.7 dBA Leq evening, and 54.7 dBA Leq nighttime).

Vibration impacts are not addressed in this analysis since the nearest potentially affected structure (Sandpiper Golf Course clubhouse) is located at least 1,600 feet away from any proposed use of heavy equipment and any Project-related vibration would be undetectable.

<u>Component 1</u>

Impact N-1: Noise Impacts to Sensitive Receptors (Component 1)

Decommissioning activities would generate temporary noise that may adversely affect sensitive receptors **(Less than Significant).**

Impact Discussion

The results of noise modeling using the Roadway Construction Noise Model is provided in Table 4.11-1. These noise levels would mostly occur between 7:00 a.m. to 7:00 p.m., but periodic evening and nighttime work may be required to take advantage of low tide periods. Proposed decommissioning activities would not occur within 1,600 feet of sensitive receptors. Estimated noise levels associated with caisson removal would be less than anticipated ambient levels at sensitive receptors (daytime or evening). Therefore, noise generated by decommissioning activities would not be detectable at the nearest sensitive receptor and is considered a less than significant impact.

Proposed work hours are not fully in compliance with the city’s Municipal Code; however, it is anticipated that an exception would be approved by the city due to the lack of affected sensitive receptors and constraints of conducting work during low tide periods which may require periodic evening or nighttime work.

Table 4.11-1. Noise Modeling Results

Nearest Sensitive Receptor	Distance to Nearest Project Noise Source (feet)	Barrier Attenuation Applied?	Noise Level at Receptor (dBA Leq)
Component 1 (Caisson Removal)			
Island Oak Lane	2,300	Yes	42.0
Bacara Resort	3,850	Yes	37.8
Component 2 (Rock Revetment Removal)			
Island Oak Lane	2,200	Yes	40.8
Bacara Resort	2,600	No*	47.6

* Barrier attenuation not applied in this instance because the coastal bluff would not attenuate noise from the western end of the revetment at the Bacara Resort (beach part).

Mitigation Measures

None required.

<u>Component 2</u>

Impact N-2: Noise Impacts to Sensitive Receptors (Component 2)

Decommissioning activities would generate temporary noise that may adversely affect sensitive receptors **(Less than Significant).**

Impact Discussion

The results of noise modeling using the Roadway Construction Noise Model is provided in Table 4.11-1. These noise levels would mostly occur between 7:00 a.m. to 7:00 p.m., but periodic evening and nighttime work may be required to take advantage of low tide periods. Proposed decommissioning activities would not occur within 1,600 feet of sensitive receptors. Estimated noise levels associated with rock revetment removal (47.6 dBA or less) would be less than anticipated ambient levels at sensitive receptors (daytime or evening, 49.6 to 63.2 dBA). Therefore, noise generated by decommissioning activities would not be detectable at the nearest sensitive receptor and is considered a less than significant impact.

Proposed work hours are not fully in compliance with the city's Municipal Code; however, it is anticipated that an exception would be approved by the city due to the lack of affected sensitive receptors and constraints of conducting work during low tide periods which may require periodic evening or nighttime work.

Mitigation Measures

None required.

4.11.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact N-3: Cumulative Decommissioning/Construction Noise

The Project would incrementally contribute to cumulative decommissioning/construction noise **(Less than Significant).**

Impact Discussion

Cumulative projects that could occur at the same time as the Proposed Project and could affect the sensitive noise receptors are limited to the Bacara Beach House Relocation. That project would generate short-term construction-related noise in the Project area. The proposed Project would incrementally contribute to construction noise impacts associated with the Bacara Beach House Relocation project. However, due to the distance between Project noise sources and sensitive receptors and barrier attenuation provided by the coastal bluff, the Project contribution would not be cumulatively considerable.

4.11.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.11-2. Summary of Noise Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact N-1: Noise Impacts to Sensitive Receptors (Component 1)	None required.
Impact N-2: Noise Impacts to Sensitive Receptors (Component 2)	None required.
Impact N-3: Cumulative Decommissioning/Construction Noise (Components 1 and 2)	None required.

4.12 PUBLIC SERVICES

This Section characterizes the potential for increased demand for public services during Project decommissioning activities. Since the Project does not include construction of any new structures and would not increase the existing population, there would be no need for additional public services resulting from the Project. As such, this assessment is focused on the need for additional fire protection and emergency response services during temporary construction-related activities only.

4.12.1 Environmental Setting

4.12.1.1 Regional Fire Protection and Emergency Response

Santa Barbara County Fire Department

The city of Goleta receives fire protection and related services from the Santa Barbara County Fire Department (SBCFD). The SBCFD serves an area of approximately 2,480 square miles of unincorporated and incorporated areas of the county. Services are provided through six fire stations in the Goleta valley, including three stations located within city boundaries (Fire Stations 11, 12, and 14). Most of Goleta falls within the 5-minute response time from existing fire stations; however, the western city edge and some northern neighborhoods may experience longer response times (SBCFD 2021). Fire station response times to PRC 421 are shown in Table 4.12-1.

Table 4.12-1. Goleta Fire Station Response Times to PRC 421

Station Number	Location/Address	Distance to PRC 421 (miles)	Response Time to PRC 421
11	6901 Frey Way (Storke Rd. south of Hollister Ave.)	3.5	10 to 12 minutes[1]
12	5330 Calle Real	4.0	12 to 14 minutes[1]
14	320 Los Carneros	5.5	10 to 12 minutes[1]

Source: [1] SBFD. Phone Conversation. 15 February 2021 (via Interact report, 2021)

Santa Barbara County Office of Emergency Management

The Santa Barbara County Office of Emergency Management (OEM) was once a division of the SBCFD but currently acts under direction from the County Executive Offices. The Santa Barbara County OEM is responsible for emergency management and coordination of the Santa Barbara Operational Area. Santa Barbara County OEM develops and maintains emergency plans and procedures, including the Santa Barbara County Emergency Operations Plan.

4.12.1.2 Onsite Emergency Response

Existing Facility Response Plan

According to the Ellwood Emergency Action Plan (EAP) (updated November 2021), notification of 911 would be initiated by Beacon West as contract operator of the facilities on behalf of CSLC. The 911 call would notify the SBCFD, the Santa Barbara County Sheriff, Santa Barbara County OEM, Santa Barbara County Energy Division, and the city of Goleta for all emergencies. In addition to Santa Barbara County's publicly provided fire protection and emergency response equipment, oil facilities are required by federal and state regulations to have onsite firefighting equipment as well as materials to control oil spills or other hazardous materials releases. Beacon West as contract operator of the facilities has firefighting and emergency response capabilities for its South Ellwood Field facilities in accordance with these regulations. Table 4.12-2 lists fire protection and control equipment available at the EOF and Ellwood Pier.

Table 4.12-2. Beacon West Fire Protection and Control Equipment

Facility	Equipment
EOF	Extinguishers, hoses, fire foam and fire monitors, hydrants, fire blankets, fire alarm, smoke detectors, and combustible gas detector
Ellwood Pier	Extinguishers, fire water tank, and fire hose reels

Source: Interact 2021

Incident Command System (ICS)

Any significant emergency incident that occurs at the Project site would be managed using an Incident Command System (ICS) consistent with standard federal and state emergency command structure guidelines. This system provides the capability and flexibility to respond to a wide range of emergency incidents, allows for complete integration with all government agency emergency response organizations, and ensures the proper and efficient response to all emergency incidents. Such incidents would include an injury or fatality or a major spill event requiring resources beyond those on-hand as part of the facility OSCP.

The Ellwood EAP is the primary emergency response document for all Ellwood operations including Platform Holly, Ellwood Onshore Facility, and Lease 421 and is approved by the California State Lands Commission, County of Santa Barbara, and city of Goleta. The Ellwood OSCP, approved by California Department of Fish and Wildlife, Office of Spill Prevention and Response (CDFW OSPR), is a separate regulatory required plan incorporated into and is under the umbrella of the Ellwood EAP to be enacted for all oil spill incidents. Upon the occurrence of any emergency event as listed in the "Guidance for Reporting Hazardous Material Spill/Release Incidents" Project supervision shall immediately notify the EOF Person-in-Charge (PIC) who would initiate appropriate emergency response actions, all notifications and resources to be mobilized in accordance with the approved response plans. The Emergency Management System consists of a facility-based initial incident response team (IIRT). Personnel assigned specific positions on the IIRT are required to be thoroughly familiar with their roles and responsibilities and to participate in specified training programs and exercises simulating emergency events. Emergency response contractors and Oil Spill Response Organizations are also integrated into this emergency management system. The Emergency Management System is described in detail in the South Ellwood Field EAP.

Initial Incident Response Team

In the event of an emergency incident, the IIRT would be activated immediately and would provide initial response. The IIRT consists of Beacon West personnel on-site at the time of an incident, 421 decommissioning Project personnel, the ExxonMobil site representative, and all other EOF facility personnel who may be immediately available.

The IIRT Incident Commander, which would be the facility supervisor, would work with local agency emergency response organization incident commanders within a unified command structure. The unified command formulates tactical and strategic decisions to ensure efficient and effective response to the emergency.

Sustained Incident Response Team

Depending on the size and complexity of the incident, the IIRT Incident Commander may expand the response organization to include members of the Sustained Incident Response Team (SIRT) as necessary. At any time during the incident, the IIRT Incident Commander may request transfer of command to the SIRT, or the SIRT Incident Commander may formally take command of the incident.

A SIRT is designed and organized to respond to a major onsite incident or major incident with onsite and offsite consequences. The SIRT is designed to augment and expand the capabilities of the IIRT as needed. The degree to which the SIRT is activated is dependent on the nature and size of the incident. The SIRT Command is facilitated through the Marine Spill Response Corporation (MSRC) who has response vessels in Santa Barbara, Ventura, the Coho Mooring near Point Conception and at Port Hueneme, and a large amount of response equipment and materials at the MSRC Warehouse in Carpinteria, California.

The SIRT is organized into five functional sections: Command, Operations, Planning, Logistics, and Finance. The Command Section is responsible for overall management of the response and includes certain staff functions required to support command function. The Operations Section is responsible for directing and coordinating all offshore, shoreline, and land operations responses to an incident. The Planning Section is responsible for the collection, evaluation, and dissemination of tactical information about the incident. The Logistics Section is responsible for providing all support needs to the response efforts. The Finance Section is responsible for providing financial services.

When activated by the SIRT Incident Commander, representatives from the five functional sections of the SIRT would respond to the Command Post within 12 hours of the onset of the event. Emergency response contractors and Oil Spill Response Organizations would respond in accordance with federal and state requirements and Beacon West emergency response plans (Beacon West 2018 and 2019).

Fire Prevention and Preparedness Plan

The Project would operate under the South Ellwood Facilities Fire Prevention and Preparedness Plan that is administered through the contract operator, Beacon West Energy. The Plan defines the measures to be implemented and maintained by Beacon West personnel in the event of a fire. The plan contains safety and fire prevention, detection, and protection systems for the EMT and the EOF. This plan is designed to be implemented in conjunction with the South Ellwood Field EAP, Emergency Evacuation Plans, and hydrogen sulfide (H_2S) Contingency Plans; however, the plan does not contain measures solely specific to PRC 421 but is inclusive of all the Ellwood facilities.

4.12.2 Regulatory Setting

Fire protection systems for operational facilities are detailed in fire protection plans and must include systems and designs that ensure compliance with a range of codes and standards. A number of federal, state, and local laws regulate oil production and processing facilities for fire protection and emergency response. Please refer to Section 4.8, *Hazards and Hazardous Materials,* Section 4.10, *Land Use* (Table 4.10-1), and Appendix B for a complete description of these requirements, while the local regulatory setting is discussed below.

4.12.2.1 Santa Barbara County

The following Santa Barbara County Fire Department Development standards are applicable to the Project:

- Standard 1, Private Road and Driveway
- Standard 3, Stored Water Fire Protection Systems
- Standard 7, Access Gates

Additionally, the Santa Barbara County Code, Chapter 15, Fire Prevention (SBC 2017) (Adoption of the 2019 California Fire Code and portions of the 2018 International Fire

Code) and Santa Barbara County Public Works Engineering Design Standards regarding Roadways (2011 SBCPW) would apply.

4.12.2.2 City of Goleta General Plan

The following policies from the city of Goleta Public Facilities Element (2009) are applicable to the Project:

- **Policy PF 3: Public Safety Services and Facilities**. Ensure that adequate fire and police services and facilities are available to meet the needs of both existing and new development in the city as well as service demands from outside Goleta's boundaries.

4.12.3 Significance Criteria

Impacts to fire protection and emergency response services would be considered significant if:

- The Project results in the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts to maintain the current level of fire protection and emergency response services
- The Project is located more than 10 miles or 15 minutes from an emergency response location with firefighting and spill response capabilities
- Accessibility to the Project site is difficult or limited
- The Project does not have an approved fire protection or emergency response plan

4.12.4 Impact Analysis and Mitigation

Components 1 and 2

PS-1: Potential for Short-term Impacts to Public Services During Decommissioning Activities

During short-term decommissioning activities, an increase in public services such as fire or police response could result **(Less than Significant).**

Impact Discussion

The Project is a short-term decommissioning that does not involve the construction of any residences, buildings, or infrastructure. The Project would not require or generate a future need for any additional public services during or after decommissioning activities. Once the Project is complete, the Project site would be returned to natural conditions and no impact to public services would result. The wells are permanently plugged, and there are no operational production assets remaining at PRC 421.

During decommissioning, additional personnel and trucks would be required to access the area. Maintaining fire and emergency vehicle access to the site at all times has been incorporated into the Project decommissioning plan and proposed staging/access areas. Additionally, Project decommissioning activities requiring remediation of contaminated soils would be conducted in accordance with an approved Remedial Action Plan (RAP) with the Santa Barbara County Public Health, Environmental Health Services Department. Further, Project activities would be conducted in accordance with the existing facilities-approved South Ellwood Field EAP and South Ellwood Facilities Fire Prevention and Preparedness Plan (FPPP).

Although PRC 421 is located in an area that is identified as being under-served by fire protection services available by the SBCFD, the area is within the significance threshold of 15 minutes for a response time. Any potential Project impacts would be temporary and not significant. As such, no mitigation measures are required.

Mitigation Measures

None required.

4.12.5 Cumulative Impacts Analysis

Impact Discussion

The proposed Project would not preclude access to emergency public services or create a long-term need for additional public services. No impacts would result that would have the potential to contribute to cumulative impacts to public services.

4.12.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.12-3. Summary of Public Services Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact PS-1: Potential for Short-term Impacts to Public Services During Decommissioning Activities (Components 1 and 2)	None required.

4.13 RECREATION

4.13.1 Environmental Setting

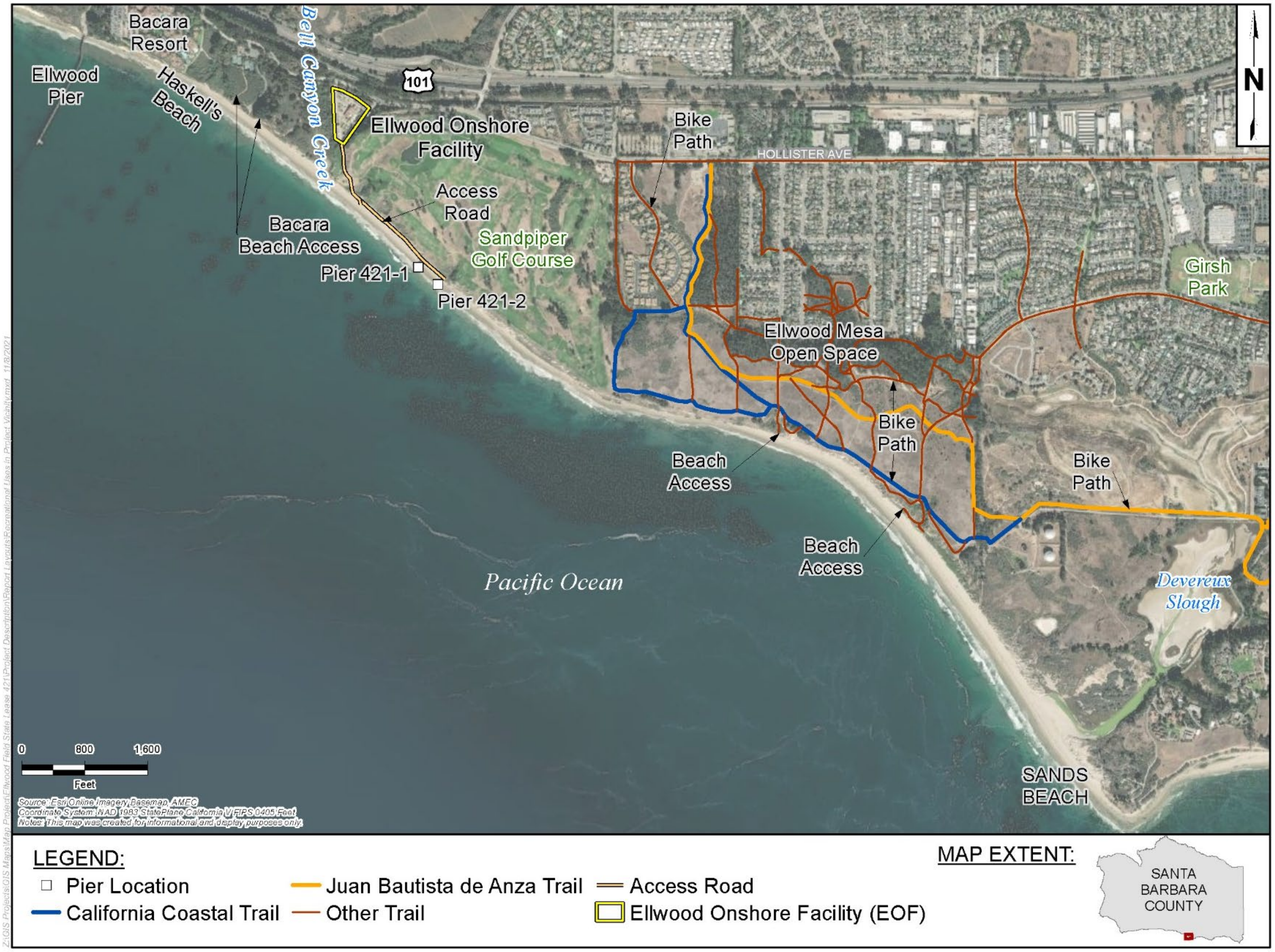
The Project site is located in a region that offers a wealth of recreational opportunities due to its natural beauty, undeveloped beaches and open space, topography, and climate. PRC 421 is located near Haskell's Beach just east of the Bacara Resort, the only beachfront resort in the city of Goleta, and adjacent to the south side of the Sandpiper Golf Course, which is open to the public. Sands Beach, the University of California Santa Barbara's (UCSB's) Coal Oil Point Reserve and open lands, and the Ellwood Mesa Open Space and associated five coastal access points are all located east of and within 2 miles of the Project site (Figure 4.13-1). These undeveloped open spaces and beaches are major coastal recreational areas used by thousands of beach goers annually. The combination of the miles of beach front, varied ecological habitats, and scenic ocean and mountain vistas attracts many visitors to the area. This is a heavily used, passive recreation area that provides high quality recreational opportunities to the inhabitants of the surrounding areas, as well as the greater Santa Barbara area and beyond. Passive recreational activities currently take place over most of the area that is accessible to the public.

The primary recreational activities that currently take place in the Project vicinity include walking, jogging, picnicking, wildlife viewing, mountain biking, horseback riding, sunbathing, swimming, surfing, surf fishing, dog walking, bird watching, and photography. Sandpiper Golf Course is located north and adjacent to the Project area. Additional recreational resources within the Project vicinity are maintained and operated by a number of entities, including Santa Barbara County, city of Goleta, and private providers. Approximately 40 percent of the city's 2.0 miles of Pacific shoreline is in city ownership (City of Goleta 2006b).

4.13.1.1 Recreational Fishing

Recreational fishing may occur along the beach and in the nearshore Project area via kayak or private boats. CDFW tracks catch data of recreational fisherman as part of the California Recreational Fisheries Survey (CRFS) program. These recreational fishing data are available through the Recreational Fisheries Information Network (RecFin) maintained by the Pacific States Marine Fisheries Commission. The following section describes data retrieved from the RecFin database and provides a summary of recreational fishing activity for the region (RecFin 2021).

Figure 4.13-1. Recreational Areas in the Project Vicinity



Common landings within 3 miles of the coast for recreational fishing in Santa Barbara County include, rockfish (*Sebastes* spp.), market squid (*Doryteuthis opalescens*), barred surfperch (*Amphistichus argenteus*), flatfish such as California halibut (*Paralabrax nebulifer*) and Pacific sanddab (*Citharichthys sordidus*), ocean whitefish (*Caulolatilus princeps*), kelp bass (*Paralabrax calthratus*), and Pacific mackerel (*Scomber japonicus*) (RecFin 2021). Table 4.13-1 summarizes the total catch during 2016-2020 of the top three recreational fisheries present in the Project area.

Table 4.13-1. 2016-2020 Recreational Fishing Summary Total Catch (individual fish)

Species	Mode	2016	2017	2018	2019	2020	Total
Rockfish	Private/rental boat and manmade/jetty	4,595	6,185	4,790	6,661	3,191	25,422
Pacific (chub) mackerel	Private/rental boat and manmade/jetty	2,706	1,363	1,261	1,500	597	7,427
Ocean whitefish	Private/rental Boat	216	819	2,079	1,852	2,112	7,078
Market squid	Private/rental Boat	859	2,083	200	1,053	--*	4,195
Flatfish	Private/rental boat	449	749	948	1,088	408	3,642

*No market squid data were reported for 2020 within 3 miles of the Santa Barbara Coast.

4.13.2 Regulatory Setting

There are no federal regulations, authorities, or administering agencies that regulate recreational resources that are specifically applicable to the Project. State laws, regulations, and policies regarding visual resources including California Coastal Act Chapter 3, Sections 30210, 30220, 30221, and 30222.5 are discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are discussed below.

4.13.2.1 City of Goleta General Plan/Coastal Land Use Plan – Visual and Historic Resources Element

The city of Goleta General Plan/Coastal Land Use Plan, Land Use and Open Space Elements (2006b and 2006c), identify the following recreational policies that are applicable to the proposed Project. Please see Table 4.10-1, Policy Consistency Evaluation, for full text of these policies.

- Policy LU 6.3 (Open Space/Active Recreation)
- Policy LU 9.2 (Site Number 2 – Coastal Recreation)
- Policy OS 1.3 (Preservation of Existing Coastal Access and Recreation)
- Policy OS 1.4 (Minimization of Impacts to Lateral Coastal Access)
- Policy OS 2.3 (Preservation of Existing Vertical Accessways)

4.13.3 Significance Criteria

Recreational impacts are considered significant if the Project would result in:

- Conflicts with planning efforts to protect recreational resources of the Project area
- Residual impacts on sensitive shoreline lands, and or water and non-water recreation

4.13.4 Impact Analysis and Mitigation

Component 1

Impact REC-1: Temporary Loss of Recreational Access During Decommissioning Activities (Component 1)

The Project would temporarily reduce recreational beach access **(Less than Significant with Mitigation).**

Impact Discussion

The Project would temporarily affect recreational use of the Haskell's Beach area for about 5 months during demolition of Component 1. Recreational access to the beach would remain open to the east and west of the Project work area during this time, with up to about 1,000 linear feet of beach affected (working at both caissons at once). No public access points would be impeded during decommissioning activities. The Bacara Resort fire road alternative access point is private and not currently open to the public for lateral access to the beach. The existing pathway providing lateral access to the beach from the Bacara Resort is unaffected by use of this private fire road. However, the piers and caissons extend from the bluff to the intertidal area, such that beach users coming from the west (Bacara Resort beach access) would be precluded from passing by the work area to access the beach area to the east during periods of high tides. During times when decommissioning work was not ongoing there may be potentially hazardous debris present such that the public may be precluded from passing through/by the work area for extended periods. There is an alternative beach access from Santa Barbara Shores Drive, located approximately 1 mile east along Hollister Avenue, such that the beach area east of the work area could be readily accessed by the public. Temporary loss of recreational access during Project decommissioning activities would be reduced to a less than significant level through implementation of **MM AES-1a** and **MM REC-1**.

Mitigation Measures

MM AES-1a: Overnight Storage of Equipment (see Section 4.1.5, *Aesthetics*)

MM REC-1: Maximize Beach Access. Pier and caisson work areas shall be made passable by the public walking along the beach by removing debris to staging/storage areas off the beach and backfilling or placing steel plates over any open excavations at the end of each workday. If these measures are not feasible during periods of high tides or storm conditions, signage (in both English and Spanish) and temporary fencing shall be provided to notify the public that passage is not allowed and that alternative beach access locations can be found nearby.

Impact REC-2: Increase in Beach Area Associated with Removal of Piers and Caissons

Removal of existing piers and caissons would provide additional beach area for recreational use **(Beneficial).**

Impact Discussion

Removal of the piers and caissons would make about 0.4 acre of beach area available for recreational use. This increase in available beach area is considered a beneficial impact.

Mitigation Measure

None required.

<u>Component 2</u>

Impact REC-3: Temporary Loss of Recreational Access During Decommissioning Activities (Component 2)

The Project would temporarily reduce recreational beach access **(Less than Significant with Mitigation).**

Impact Discussion

Heavy equipment would be used to remove the rock revetment, access roadway, and wooden seawall, which would preclude public use of the upper beach for about 3 months. The affected area would be up to 1,600 linear feet but may be much less on any given day. No public access points would be impeded during decommissioning activities. Temporary loss of recreational access during Project decommissioning activities would be reduced to a level of less than significant through implementation of **MM AES-1a,** which would remove heavy equipment from the beach at the end of the workday, allowing public access during non-work hours and weekends.

Mitigation Measure

MM AES-1a: Overnight Storage of Equipment (see Section 4.1.5, *Aesthetics*)

4.13.5 Cumulative Impacts Analysis

Components 1 and 2

Impact Discussion

Cumulative projects that identified in Section 3.0 that could occur at the same time as the Proposed Project and could affect recreational opportunities are limited to the Bacara Beach House Relocation project. During the proposed decommissioning activities, the proposed Project would contribute to short-term impacts to recreational use. These impacts would be mitigated through implementation of **MM AES-1a** and **MM REC-1.** Additionally, based on the Mitigated Negative Declaration prepared for the Bacara Beach House Relocation project, public access to trails and the beach would be maintained during the construction period. Therefore, there would be no cumulative impacts to recreation.

4.13.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.1-3. Summary of Recreation Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact REC-1: Temporary Loss of Recreational Access During Decommissioning Activities (Component 1)	**MM AES-1a:** Overnight Storage of Equipment **MM REC-1:** Maximize Beach Access
Impact REC-2: Increase in Beach Area Associated with Removal of Piers and Caissons (Component 1)	None required.
Impact REC-3: Temporary Loss of Recreational Access During Decommissioning Activities (Component 2)	**MM AES-1a**. Overnight Storage of Equipment

4.14 TRANSPORTATION AND TRAFFIC

4.14.1 Environmental Setting

4.14.1.1 Affected Roadways

Vehicles associated with proposed decommissioning activities would access the Project site from both northbound and southbound U.S. Highway 101 via the Hollister Avenue/Cathedral Oaks Road interchange. Inbound traffic would then turn south to Hollister Avenue, west on Hollister Avenue, then left (south) into the EOF. Hollister Avenue is classified as an arterial east of the Cathedral Oaks Road intersection (stop sign-controlled), and a local street to the west of this intersection. Only one vehicle collision was recorded at the Hollister Avenue/Cathedral Oaks Road intersection between January 1, 2014, and December 21, 2019 (Kimley-Horn 2021).

The quality of traffic service provided by a roadway system can be described through the Level of Service (LOS) concept. LOS is a standardized means of describing traffic conditions by comparing traffic volumes in a roadway system with the system's capacity. A LOS rating of A, B or C indicates that the roadway is operating efficiently. Minor delays are possible on an arterial with a LOS of D. Level E represents traffic volumes at or near the capacity of the roadway, resulting in possible delays and unstable flow.

Table 4.14-1 provides traffic data from the city’s General Plan/Coastal Land Use Plan. Note that the Hollister Avenue/U.S. 101 interchange was entirely re-constructed in 2011, which was forecasted in the traffic modeling. Therefore, year 2030 projections should remain valid.

Table 4.14-1. Traffic Volume and Level of Service Data

Roadway Segment	2005 Peak Hour Volume	2030 Peak Estimated Hour Volume*	2005 Average Daily Volume	2030 Average Estimated Daily Volume*
Hollister Avenue between Cathedral Oaks Road and Las Armas Road	707	590	6,500	5,400
Intersection	**2005 LOS**	**2030 LOS***		
Hollister Avenue/Cathedral Oaks Road	--	A	--	--
Hollister Avenue/U.S. 101 southbound ramp	B	A	--	--

*Includes planned new land uses and transportation improvements

4.14.1.2 Transportation Planning

The Santa Barbara County Association of Governments (SBCAG) finalized its Regional Transportation Plan and Sustainable Communities Strategy in 2017 in coordination with Santa Barbara County and affected cities (including the city of Goleta). This document is known as Fast Forward 2040, and includes goals (addressing the environment, mobility, system reliability, equity, health and safety and the economy), multi-modal transportation investment and a sustainable community's strategy to integrate transportation, and housing and land use planning to meet greenhouse gas reduction targets while accommodating forecast growth.

4.14.2 Regulatory Setting

Traffic operations and transportation planning is regulated by a variety of federal, state, and local laws and regulations including California Coastal Act Chapter 3, Section 30254 as discussed in Appendix B and Section 4.10, *Land Use* (Table 4.10-1). Local laws, regulations, and policies are included below.

4.14.2.1 City of Goleta General Plan/Coastal Land Use Plan

The Transportation Element of the city's GP/CLUP provides policies and standards for new development and identifies major transportation improvement projects required to address future circulation needs. None of the Transportation Element policies are applicable to the proposed Project because it does not represent a new development that would generate or attract vehicle trips, or otherwise require transportation improvements or service.

4.14.3 Significance Criteria

The city's Environmental Thresholds Manual indicates a project would have a significant impact if the following thresholds were exceeded.

- An impact is considered significant if the addition of project traffic to an intersection exceeds the following values:

Intersection Level of Service (Including Project)	Increase in Volume to Capacity (V/C) or Hourly Trips Greater Than
LOS A	0.20 V/C ratio increase
LOS B	0.15 V/C ratio increase
LOS C	0.10 V/C ratio increase
LOS D	15 New Hourly Trips
LOS E	10 New Hourly Trips
LOS F	5 New Hourly Trips

- The project's access to a major road or arterial road would require a driveway that would create an unsafe situation, a new traffic signal or major revisions to an existing traffic signal.
- The project adds traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, inadequate pavement structure) or receives use which would be incompatible with substantial increases in traffic (e.g., rural roads which use by farm equipment, livestock, horseback riding, or residential roads with heavy pedestrian or recreational use) that would become a potential safety problem with the addition of project or cumulative traffic.
- Project traffic would utilize a substantial portion of an intersections capacity where the intersection is currently operating at an acceptable LOS (A-C) but with cumulative traffic would degrade, or approach LOS D (Volume to Capacity [V/C] 0.81) or lower. Substantial is defined as a minimum change of 0.03 for an intersection which would operate from 0.80 to 0.85, a change of 0.02 for an intersection which would operate from 0.86 to 0.90, and 0.01 for intersections operating at anything lower.

Senate Bill (SB) 743 (Steinberg; Chapter 386, Statutes of 2013) fundamentally changed the way transportation analysis is conducted under CEQA. LOS, although permitted as a local policy threshold, is no longer considered an impact on the environment. Instead, vehicle miles of travel (VMT) are now the primary transportation metric for evaluated projects under CEQA. SB 743 provides agencies the authority to establish their impact thresholds. In addition, the California Office of Planning and Research developed the *Technical Advisory for Evaluating Transportation Impacts in CEQA* to provide guidance in preparing transportation impact analyses.

The city of Goleta (in coordination with GHD) completed a VMT Threshold Study in July 2020 (GHD 2020) to assess and recommend analysis tools, environmental baseline, and impact criteria in accordance with SB 743 and Office of Planning and Research guidance. This Study concluded that the SBCAG model is the most accurate tool for measuring VMT as prescribed by the Office of Planning and Research. As part of the VMT Threshold Study, the city adopted a small project screening threshold of 110 daily trips, meaning projects generating or attracting 110 daily one-way trips or less are presumed to have a less than significant impact.

4.14.4 Impact Analysis and Mitigation

<u>Component 1</u>

Impact T-1: Decommissioning Vehicle Trip Generation (Component 1)
Proposed Component 1 decommissioning activities would generate vehicle trips that may contribute to traffic congestion **(Less than Significant).**

Impact Discussion

Disposal of recovered materials associated with Component 1 decommissioning activities would generate a total of approximately 497 truckloads (994 one-way trips) of materials to be transported off-site (Table 2-2). In addition, worker transportation would generate up to 5,560 one-way trips. It is anticipated that a peak day may include up to 30 one-way heavy-duty truck trips and 50 one-way worker vehicle trips (80 total one-way daily trips), with peak hour consisting of about five heavy-duty truck trips and five worker vehicle trips. The peak hour volume assumptions are based on most worker trips avoiding typical peak hour due to Project scheduling (typical 10-hour workday). This trip generation would represent only a few percent of existing peak hour traffic volumes and would only affect intersections operating at LOS A. Therefore, traffic congestion impacts are considered less than significant.

In addition, Component 1 trip generation would be less than the city's 110 daily trips VMT screening threshold such that the Project would not have a significant adverse impact on transportation.

Mitigation Measures

None required.

Impact T-2: Traffic Safety Associated with Heavy-duty Truck Operations (Component 1)
Heavy-duty trucks would turn off and onto Hollister Avenue in an area with poor sight distance **(Less than Significant with Mitigation).**

Impact Discussion

The driveway serving the EOF (primary access route) at Hollister Avenue (posted speed limit of 25 miles per hour) is located in an area with poor sight distance, about 700 feet to the east and 300 feet to the west. Heavy-duty trucks pulling out of the EOF onto Hollister Avenue or slowing down to turn into the EOF from Hollister Avenue may cause a traffic hazard as motorists would have only a few seconds to react to avoid a collision. The driveway off Hollister Avenue for the secondary access route (Bacara Resort fire road) also has poor sight distance (300 feet to the east, 200 feet to the west) and would have similar traffic safety issues. Implementation of **MM T-1** would alert motorists and minimize traffic safety impacts. After implementation of **MM T-1**, traffic safety impacts associated with heavy-duty truck operations would be mitigated to a less than significant level.

Mitigation Measures

MM T-1. Truck Entrance Signage. Easily visible signage shall be posted on Hollister Avenue at least 1,000 feet east and west of the EOF driveway to alert motorists of a truck entrance. This signage shall also be required at the Bacara Resort fire road entrance if this secondary access route is used by heavy-duty trucks.

<u>Component 2</u>

Impact T-3: Decommissioning Vehicle Trip Generation (Component 2)

Proposed Component 2 decommissioning activities would generate vehicle trips that may contribute to traffic congestion **(Less than Significant).**

Impact Discussion

Disposal of recovered materials associated with Component 2 decommissioning activities would generate approximately 649 truckloads (1,298 one-way trips) of materials to be transported off-site (Table 2-2). In addition, worker transportation would generate up to 2,098 one-way trips. It is anticipated that a peak day may include up to 44 one-way heavy-duty truck trips and 36 one-way worker vehicle trips (for a total of 80 one-way trips), with peak hour consisting of about five heavy-duty truck trips and five worker vehicle trips. The peak hour volume assumptions are based on most worker trips avoiding typical peak hour due to Project scheduling (typical 10-hour workday). This trip generation would represent only a few percent of existing peak hour traffic volumes and would only affect intersections operating at LOS A. Therefore, traffic congestion impacts are considered less than significant.

Similar to Impact T-1, Component 2 trip generation would be less than the city's 110 daily trips VMT screening threshold such that the Project would not have a significant adverse impact on transportation.

Mitigation Measures

None required.

Impact T-4: Traffic Safety Associated with Heavy-duty Truck Operations (Component 2)
Heavy-duty trucks would turn off and onto Hollister Avenue in an area with poor sight distance **(Less than Significant with Mitigation).**

Impact Discussion

The driveway serving the EOF (primary access route) at Hollister Avenue (posted speed limit of 25 miles per hour) is located in an area with poor sight distance, about 700 feet to the east and 300 feet to the west. Heavy-duty trucks pulling out of the EOF onto Hollister Avenue or slowing down to turn into the EOF from Hollister Avenue may cause a traffic hazard as motorists would have only a few seconds to react to avoid a collision. The driveway off Hollister Avenue for the secondary access route (Bacara Resort fire road) also has poor sight distance (300 feet to the east, 200 feet to the west) and would have similar traffic safety issues. Implementation of **MM T-1** would alert motorists and minimize traffic safety impacts. After implementation of **MM T-1**, traffic safety impacts associated with heavy-duty truck operations would be mitigated to a less than significant level.

Mitigation Measures

MM T-1: Truck Entrance Signage

4.14.5 Cumulative Impacts Analysis

<u>Components 1 and 2</u>

Impact T-5: Contribution to Cumulative Transportation/Traffic impacts
Project-related vehicle trips would incrementally contribute to cumulative transportation/traffic impacts **(Less than Significant with Mitigation).**

Impact Discussion

Cumulative projects identified in Section 3.0 that could occur at the same time and affect the same roadways as the Proposed Project (excluding U.S. Highway 101) are limited to the Bacara Beach House Relocation. This project would generate short-term construction-related traffic on Hollister Avenue near the EOF. The proposed Project would incrementally contribute to transportation/traffic impacts associated with this project. However, with implementation of **MM T-1** the Project contribution would not be cumulatively considerable.

4.14.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.14-2. Summary of Transportation/Traffic Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact T-1: Decommissioning Vehicle Trip Generation (Component 1)	None required.
Impact T-2: Traffic Safety Associated with Heavy-duty Truck Operations (Component 1)	**MM T-1:** Truck Entrance Signage
Impact T-3: Decommissioning Vehicle Trip Generation (Component 2)	None required.
Impact T-4: Traffic Safety Associated with Heavy-duty Truck Operations (Component 2)	**MM T-1:** Truck Entrance Signage
Impact T-5: Contribution to Cumulative Transportation/Traffic impacts (Components 1 and 2)	**MM T-1:** Truck Entrance Signage

4.15 UTILITIES AND SERVICE SYSTEMS

The Project does not include permanent components that would require or alter existing utilities or service systems. The Project is a short-term decommissioning activity and does not have any wastewater requirements. Wastewater flushed through the two pipelines would be captured within vacuum trucks and brought directly to a local wastewater receiving facility for disposal. Additionally, water recovered from the caissons during demolition would also be removed utilizing a vacuum truck that would be brought to a local wastewater receiving facility for disposal. The crew would utilize existing restroom facilities located at the EOF during construction.

Soil and related material would be analyzed for chemical profile prior to appropriate manifest and disposal. Soil material would be disposed of at a proper EPA approved Treatment, Storage, and Disposal (TSD) Facility. For the purposes of this analysis, Clean Harbors' landfill in Buttonwillow, California, has been chosen as a representative worst-case scenario receiving facility based on distance from the Project site (approximately 330 miles) and ability to accept hydrocarbon impacted soil or wooden debris along with other non-hazardous oil field debris material. Recovered steel would likely be recycled at Standard Industries located in Saticoy, California. Concrete waste would likely be taken to State Ready Mix in Oxnard, California. Non-hazardous contaminated soils would be transported to Waste Management's Simi Valley Landfill. Permitted waste receiving capacity for these facilities is further described below.

4.15.1 Environmental Setting

4.15.1.1 Landfill Capacity and Solid Waste

Clean Harbors, Buttonwillow. Hydrocarbon impacted soil or wooden debris along with other non-hazardous oil field debris material (as applicable) may be transported by truck to Clean Harbors Buttonwillow Landfill Facility located at 2500 West Lokern Road in Buttonwillow, California. Clean Harbors Buttonwillow landfill is a fully permitted hazardous waste facility, permitted by various regulatory agencies in the State of California to receive, store, treat, and landfill a variety of hazardous and non-hazardous waste streams. Permitted landfill capacity is approximately 13,250,000 cubic yards, and the maximum permitted throughput per day is approximately 10,500 tons (CalRecycle 2021).

Waste Management, Simi Valley Landfill. Non-hazardous contaminated soils would be transported by truck to the Simi Valley Landfill located at 2801 Madera Road in Simi Valley, California. The Simi Valley Landfill provides approximately 60 percent of Ventura County's daily refuse disposal needs, and 75 percent of all tons accepted at the facility originate in Ventura County. The facility is permitted to accept up to 3,000 tons per day of refuse and can accept 6,250 tons of recyclable materials (WM 2021).

Standard Industries, Saticoy. Recyclable steel material generated during facility demolition would be transported by truck to Standard Industries located at 1905 Lirio Avenue in Saticoy, California. Standard Industries is a private, 10-acre recycling facility in Ventura County. Standard Industries has the capacity to receive and handle the anticipated volume of the scrap materials generated by the Project.

State Ready Mix Recycling, Oxnard. Demolished concrete that has been pressure washed and cleaned would be transported by truck to State Ready Mix located at 3127 Los Angeles Avenue in Oxnard, California, for recycling. State Ready Mix accepts all types of demolition concrete and asphalt and recycles it into road base material that can be reused in future road pavement construction. This facility is one of the largest certified asphalt and concrete recyclers in Ventura County and can accept any amount and type of concrete and asphalt (State Ready Mix 2021).

4.15.2 Regulatory Setting

There are no federal, state, or local regulations, authorities, or administering agencies that regulate utilities and service systems that are specifically applicable to the Project.

4.15.3 Significance Criteria

The Project does not have the potential to impact water or wastewater utility services. Therefore, a significant impact would occur if the proposed Project resulted in the following:

- Would generate solid waste in excess of State or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals
- Does not comply with federal, state, and local management and reduction statutes and regulations related to solid waste
- According to the County of Santa Barbara (1993), any construction, demolition, or remodeling project of a commercial, industrial, or residential development that is projected to create more than 350 tons of construction and demolition debris is considered to have a significant impact on public services. The Project must also comply with AB939, requiring a minimum of 50 percent of all waste to be diverted from landfills
- Projects with a specific impact of 196 tons per year or more would also be considered cumulatively significant. Additionally, Projects which generate less than 40 tons per year of solid waste would not be considered significant

4.15.4 Impact Analysis and Mitigation

The proposed Project would generate solid waste in the form of wooden and steel pier components, steel, concrete, and contaminated soil within each well caisson, rock and wooden revetment materials, clean soil and gravel, and piping. All steel and related metal materials would be recycled at Standard Industries. Concrete and gravel would be recycled at State Ready Mix. Non-hazardous contaminated soils would be transported to the Simi Valley Landfill. Hazardous contaminated soils or other materials would be taken to Buttonwillow.

<u>Component 1</u>

Impact US-1: Generation of Project Waste During Decommissioning Activities (Component 1)

Project decommissioning would generate various waste streams that would be taken to local waste receiving/recycling facilities for disposal **(Less than Significant).**

Impact Discussion

During Component 1, removal of the 421-1 and 421-2 piers and caissons/wells would generate the following solid waste streams (Table 4.15-1).

Table 4.15-1. Solid Waste Disposal During Component 1 (Pier and Caisson/Well Removal)

Material	Estimated Volume/Length	Estimated Truckloads	Anticipated Disposal Facility	Remaining Capacity at Disposal Facility
Soil – Caisson Fill	3,550 cubic yards	175	Buttonwillow	10,500 tons per day
Steel – Caisson and Pier	4,800 linear feet	30	Standard Industries	Adequate capacity (as indicated by Standard Industries)
Concrete – Caisson	926 cubic yards	240	State Ready Mix	Adequate capacity (as indicated by State Ready Mix)
Wood – Pier Decking and Joist Stringers	7,800 linear feet	7	Buttonwillow	10,500 tons per day

Truck trips would occur over the approximately 5 month timeframe of demolition anticipated to complete Component 1. Additionally, approximately 60 percent of the estimated truckloads would be taken to recycling facilities, which is in compliance with AB 939 (California Integrated Waste Management Act 1989) requiring that 50 percent of all waste be diverted from landfills. Based on remaining available capacity and permitted processing throughput at these facilities, in addition to location of these facilities outside of Santa Barbara County, a less than significant impact to solid waste service systems would result.

Mitigation Measures

None required.

Component 2

Impact US-2: Generation of Project Waste During Decommissioning Activities (Component 2)

Project decommissioning would generate various waste streams that would be taken to local waste receiving/recycling facilities for disposal **(Less than Significant).**

Impact Discussion

During Component 2, removal of the two pipelines, pier abutments, rock and wooden revetments, and access roadway would generate the following solid waste streams (Table 4.15-2).

Table 4.15-2. Solid Waste Disposal During Component 2 (Access Roadway and Seawall/Revetment Removal)

Material	Estimated Volume/Length	Estimated Truckloads	Anticipated Disposal Facility	Remaining Capacity at Disposal Facility
Soil from Road and Slope Grading	4,500 cubic yards	300	WM Simi Valley	3,000 tons per day of refuse and 6,250 tons per day of recyclable materials
Rock Revetment	6,000 tons	333	State Ready Mix	Adequate capacity (as indicated by

Material	Estimated Volume/Length	Estimated Truckloads	Anticipated Disposal Facility	Remaining Capacity at Disposal Facility
				State Ready Mix)
Wood – Wooden seawall and Abutments	17,000 linear feet	5	Buttonwillow	10,500 tons per day
Steel-H-Piles, Pipelines, Tieback Rods	8 tons	11	Standard Industries	Adequate capacity (as indicated by Standard Industries)

These trips would occur over the approximately 3 month timeframe of demolition anticipated to complete Component 2. Based on remaining available capacity and permitted processing throughput at these facilities, in addition to location of these facilities outside of Santa Barbara County, a less than significant impact to solid waste service systems would result. Additionally, approximately 52 percent of the estimated truckloads would be taken to recycling facilities, which is in compliance with AB 939 requiring that 50 percent of all waste to be diverted from landfills. A less than significant impact would result.

Mitigation Measures

None required.

4.15.5 Cumulative Impacts Analysis

Impact Discussion

<u>Components 1 and 2</u>

The proposed Project would not include the addition of any permanent components that would require or alter existing utilities or service systems. A short-term increase in construction waste would occur during each Project component; however, over 50 percent of these wastes would be recycled. The remaining volumes would be brought to facilities with sufficient remaining capacity and permitted throughput to accept the waste. No impacts would result that would have the potential to contribute to cumulative impacts to utilities or service systems.

4.15.6 Summary of Impacts and Proposed Mitigation Measures

Table 4.15-3. Summary of Utilities and Service Systems Impacts and Mitigation Measures

Impact	Mitigation Measures
Impact US-1: Generation of Project Waste During Decommissioning Activities (Component 1)	None required.
Impact US-2: Generation of Project Waste During Decommissioning Activities (Component 2)	None required.

5.0 PROJECT ALTERNATIVES ANALYSIS

5.1 INTRODUCTION

This section of the EIR provides a comparative analysis of the merits of alternatives to the proposed Project pursuant to State CEQA Guidelines section 15126.6. According to the State CEQA Guidelines, the discussion of alternatives should focus on alternatives to a project or its location that would feasibly meet the basic objectives of the project while avoiding or substantially lessening the significant effects of the project. The State CEQA Guidelines indicate that the range of alternatives included in this discussion should be sufficient to allow decision-makers a reasoned choice between alternatives and a proposed project. The alternatives discussion should provide decision-makers with an understanding of the environmental merits and disadvantages of various project alternatives.

The range of alternatives in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to make a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project (State CEQA Guidelines, § 15126.6, subd. (f)). Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making. When addressing feasibility, the State CEQA Guidelines state that “among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).” The State CEQA Guidelines also state that the alternatives discussion need not be presented in the same level of detail as the assessment of the proposed project.

Therefore, based on the State CEQA Guidelines, several factors need to be considered in determining the range of alternatives to be analyzed in an EIR and the level of detail of analysis that should be provided. These factors include:

- The extent to which the alternative would accomplish most of the basic objectives of the project
- The extent to which the alternative would avoid or lessen any of the identified significant adverse environmental effects of the project

- The feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, consistency with regulatory limitations, and the reasonability of the Applicant controlling the site
- The appropriateness of the alternative in contributing to a "reasonable range" of alternatives necessary to permit a reasoned choice

5.2 ALTERNATIVES SELECTION

The proposed Project entails the decommissioning and removal of existing facilities. Therefore, the selection of alternatives is extremely limited. Types of alternatives to be considered are variations in decommissioning/removal methods, elimination of some components, modified timing of Project components, and the No Project Alternative.

As required by the State CEQA Guidelines, this analysis focuses on alternatives that could avoid or substantially reduce significant effects of the Project. Alternatives that would not reduce impacts overall or may not be feasible given the difficulty in working in intertidal areas were considered but eliminated from further analysis (see Section 5.3).

The environmentally superior alternative is discussed in Section 6.6 as required by the State CEQA Guidelines.

5.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

5.3.1 Steel Sheet Pile Cofferdam Alternative

Construction of a cofferdam from sheet pile is a standard approach for dewatering and protecting construction areas from wave action and tidal fluctuations and enabling longer work periods in intertidal areas. For these reasons, along with the added potential benefit of minimizing the potential for incidental discharge of the caisson fill material, a steel sheet pile cofferdam around each of the caissons was considered.

However, because the sand cover that overlays the bedrock in the area is minimal, sheet pile installation would require driving steel beams into the underlying bedrock. As discussed in Section 4.8.1.1, there are numerous hydrocarbon seeps that are known to exist throughout this area emanating from the local strata. The PRC 421 piers are located at the axis of a tightly folded and steeply dipping geologic structure with mapped faults in the immediate area. The tectonic conditions that created the structure are likely to have fractured and folded, creating the presence of oil and gas seeps. Driving sheet pile into the underlying bedrock could conceivably disturb preexisting fractures that have been sealed or create new pathways for hydrocarbons to escape to the surface.

This possibility of exacerbating local seeps was a leading argument against the use of sheet piles. However, there are additional reasons for dismissing this Alternative which include:

- Sheet piles would need to extend up to the access roadway to exclude high tide waters from the caisson work areas, making a cofferdam installation extensive. Accomplishing this in winter months when high tides extend to the rock revetment along the access roadway would be extremely difficult.
- The sheet pile cofferdam would completely block public access through this corridor for a considerable length of time.
- Pile driving activity would create additional noise, potentially impact nearshore marine mammals, and extend the project duration for the period required to install and remove (an addition of approximately 4 to 6 weeks).

Upgrading of the piers would likely be required to accommodate the cranes large enough to complete a cofferdam installation. Removal logistics would add additional challenges. Since the Sheet Pile Cofferdam Alternative would not result in lesser impacts than the proposed Project overall and would create logistical challenges, it was eliminated from further consideration.

5.3.2 Portable Cofferdam Alternative

Temporary cofferdams utilizing inflatable bladders or impermeable membranes were evaluated for their effectiveness in consideration of wave action and tidal fluctuations present at the PRC 421 caissons. These systems have been successful in lakes and estuaries providing dewatering barriers. Two products were considered, the Portadam and Aquadam. Both products can only safely accommodate water holding heights of up 10 feet or less. Winter high tides at the PRC 421 Project site easily reach these heights, while winter storms would produce additional height and dynamics. While these products work well in static water conditions, neither have been used in dynamic ocean surf conditions. For these reasons, the Portable Cofferdam Alternative was not considered feasible and was eliminated from further consideration.

5.3.3 Alternative Beach Access Ramp

An alternative beach access ramp located between the piers was initially considered because it would allow heavy equipment to use the existing access roadway to reach the pier/caisson locations instead of traversing the beach. Construction of such a beach access ramp would involve building a ramp out of riprap and additional material, or alternatively adding a steel ramp structure to the PRC 421-1 pier. However, a riprap ramp at this location would require double the rock material compared to that of the proposed location because it has a higher vertical drop. It would also require double the truck trips, time to construct and deconstruct, and double the equipment use to build a serviceable structure at that location. Building a temporary steel ramp structure between the piers would require structural modification to the PRC 421-1 pier, and installation of anchor points on the beach, which would need to be removed at Project completion.

The small reduction in equipment activity on the beach associated with this alternative would be offset by the loss of coastal bluff scrub/ESHA at the ramp location that would not occur at the proposed ramp location, and increased air pollutant and greenhouse gas emissions associated with ramp construction and removal. Since the Alternative Beach Access Ramp alternative would not reduce impacts overall and would be challenging to construct, this alternative was not considered further.

5.4 ALTERNATIVES EVALUATED IN THIS EIR

5.4.1 No Project Alternative

5.4.1.1 Description

The No Project Alternative consists of no action, such that all PRC 421 facilities would be left in their current location and condition. Natural processes would continue to degrade these existing facilities including corrosion of the pipelines, piers, and caisson sheet pile, deterioration of the concrete caissons due to wave action and internal corrosion, and deterioration of the wooden seawall due to wave action and wood decomposition. The No Project Alternative does not meet the purpose of the Project or any of the Project objectives.

5.4.1.2 Impact Analysis

Aesthetics

Since the PRC 421 facilities would be left in place, adverse impacts (degradation of public views) associated with decommissioning activities (Impacts AES-1, AES-3, and AES-4) would be avoided. However, the beneficial impact to public views at Haskell's Beach (Impact AES-2) associated with removal of the piers and caissons would not be realized. In addition, as the structures would further degrade and corrode due to natural processes, the visual character of the beach area would become even more unsightly.

Air Quality

Adverse impacts to air quality (air pollutant emissions) generated by decommissioning activities (Impacts AQ-1, AQ-2, and AQ-3) would be avoided.

Biological Resources

Adverse impacts to biological resources associated with decommissioning activities would be avoided, including disturbance of nesting birds, loss of a bat roost, loss of coastal wetlands, disturbance of terrestrial and aquatic special-status wildlife species, disturbance of intertidal ESHA, disturbance of marine special-status species, loss of terrestrial ESHA/sensitive natural communities, and loss of special-status plant species (Impacts BIO-1 through BIO-11).

However, ongoing deterioration of the caissons as well as the access roadway and wooden seawall by natural processes would ultimately lead to discharge of hydrocarbons to the marine environment (contaminated fill material and possibly free oil in the caissons, petroleum hydrocarbons in artificial fill material within the access roadway, and wood preservatives in the seawall). The resulting discharge and related impacts to marine organisms would be greater than the proposed Project, which includes procedures to remove hydrocarbons from the caissons to the extent feasible prior to caisson demolition to minimize any discharge.

Cultural Resources

Adverse impacts to cultural resources associated with decommissioning activities would be avoided, including potential impacts to previously undiscovered cultural resources (Impacts CR-1 and CR-2), the potential for unauthorized collection of artifacts (Impact CR-3), and potential contribution to cumulative impacts to cultural resources (Impact CR-4).

Tribal Cultural Resources

Adverse impacts to tribal cultural resources associated with decommissioning activities would be avoided, including potential impacts to previously undiscovered tribal cultural resources (Impacts TCR-1 and TCR-2), the potential for unauthorized collection of artifacts (Impact TCR-3), and potential contribution to cumulative impacts to tribal cultural resources (Impact TCR-4).

Geology, Soils and Paleontological Resources

Less than significant impacts to littoral transport and beach width associated with removal of the pier and caissons, rock revetment, and seawall would be avoided (Impacts GEO-1 and GEO-3). Additionally, impacts to bluff erosion, bluff retreat, and stability (Impacts GEO-2 and GEO-4) would be avoided as the caissons, piers, access roadway, rock revetment, and seawall would remain in place. However, the geologic benefits of removing this hardscape and revetments and returning this section of coastline to a natural condition would also not result.

Greenhouse Gas Emissions

Potentially adverse impacts to global climate change associated with greenhouse gas emissions generated by decommissioning activities (Impacts GHG-1, GHG-2, and GHG-3) would be avoided.

Hazards and Hazardous Materials

Adverse impacts associated with Project-related and cumulative public exposure to hazardous materials encountered during decommissioning activities (Impacts HAZ-1, HAZ-3, and HAZ-5) would be avoided. The potential for discharge of fuel and lubricants used in decommissioning-related equipment and vehicles to the environment (Impacts HAZ-2 and HAZ-4) would be avoided. However, if left in-place, ongoing deterioration of the caissons as well as the access roadway and wooden seawall by natural processes would ultimately lead to discharge of hydrocarbons to the ocean (contaminated fill material and possibly free oil in the caissons, petroleum hydrocarbons in artificial fill material within the access roadway, and wood preservatives in the seawall). The resulting discharge and related risk of hazardous materials impacts would be greater than the proposed Project.

Hydrology and Water Quality

Water quality impacts associated with incidental discharge of hydrocarbons, lead-based paint, and wood preservatives to the ocean (Impacts HWQ-1 and HWQ-3) would be avoided. Erosion and sedimentation impacts associated with heavy equipment activity would be avoided (Impacts HWQ-2, HWQ-4, and HWQ-5).

However, ongoing deterioration of the caissons as well as the access roadway and wooden seawall by natural processes would ultimately lead to discharge of hydrocarbons to the ocean (contaminated fill material and possibly free oil in the caissons petroleum hydrocarbons in artificial fill material within the access roadway, and wood preservatives in the seawall). The resulting discharge and related water quality impacts would be greater than the proposed Project, which includes procedures to remove hydrocarbons from the caissons to the extent feasible prior to caisson demolition to minimize any discharge.

Land Use and Planning

Temporary conflicts with State and local policies (Impacts LU-1 and LU-2) would be avoided. However, policies requiring the timely decommissioning of these facilities would be violated.

Noise

As proposed decommissioning activities would not be implemented, noise generation and related less than significant impacts (Impacts N-1, N-2, and N-3) would not occur.

Public Services

As proposed decommissioning activities would not be implemented, no increase in the need for public services would occur (Impact PS-1). However, leaving the structures in place would ultimately result in hydrocarbon spills, which would increase the need for public services with respect to spill response and protection of public safety.

Recreation

As proposed decommissioning activities would not be implemented, temporary loss of beach access (Impacts REC-1 and REC-3) would be avoided. However, the beneficial long-term increase in beach area associated with removal of the caissons and piers (Impact REC-2) would not be realized. The deteriorating facilities would ultimately represent public safety hazards and reduce available public recreational area.

Transportation and Traffic

As proposed decommissioning activities would not be implemented, temporary traffic congestion (Impacts T-1 and T-3) and potentially significant traffic safety impacts (Impacts T-2, T-4, and T-5) would be avoided.

Utilities and Service Systems

As proposed decommissioning activities would not be implemented, solid waste would not be generated and less than significant impacts on landfill capacity (Impacts US-1 and US-2) would be avoided in the short-term. Disposal of the deteriorated structures would still be required if left in-place if weathered or eroded pieces were to break off or represent a public hazard.

5.4.2 Single Component Abandonment Alternative

5.4.2.1 Description

The Single Component Abandonment Alternative consists of the elimination of Component 2 as described in Section 2.3.3 as part of the Project. Instead, the pipelines (flushed and isolated), access roadway, pier abutments, rock revetment, and wooden seawall would be left in place following the completion of Component 1. This Alternative meets the Project objectives, as former oil and gas production facilities would be decommissioned, and the beach area would be restored and appropriate for safe public access and use.

Aesthetics

Adverse impacts (degradation of public views) associated with Component 2 decommissioning activities (Impact AES-3) would be avoided, and the incremental Project contribution to cumulative aesthetic impacts would be reduced (Impact AES-4). Overall, aesthetics impacts associated with the Single Component Abandonment Alternative would be less than the proposed Project. Retention of the access roadway, rock revetment and wooden seawall would be consistent with the other seawall components located to the east of the Project site.

Air Quality

Adverse impacts to air quality (air pollutant emissions) generated by Component 2 decommissioning activities (Impact AQ-2) would be avoided, and the incremental Project contribution to cumulative air quality impacts would be reduced (Impact AQ-3). Overall, air quality impacts associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Biological Resources

Adverse impacts to biological resources associated with Component 2 decommissioning activities would be avoided including:

- Potential impacts to globose dune beetle, tidewater goby, California red-legged frog, brown pelican, double-crested cormorant, western snowy plover, snowy egret, long-billed curlew, Cooper’s hawk, and yellow warbler (Impact BIO-5) would be reduced because equipment and vehicle use on the beach, access routes, and staging areas would be reduced.
- Disturbance of intertidal areas and impacts to invertebrates and fish associated with equipment activity would be reduced (Impact BIO-6).
- Disturbance of intertidal areas and potential impacts to grunion associated with equipment activity would be reduced (Impact BIO-7).
- Loss of 0.105 acre of coastal wetlands within Component 2 work areas would be avoided, and 0.117 acre of adjacent wetlands would be retained (Impact BIO-8).
- Loss of 0.3 acres of coastal bluff scrub/ESHA along the access roadway would be avoided (Impact BIO-9).
- Loss of special-status plant species (cliff malacothrix) would be avoided (Impact BIO-10).
- The incremental Project contribution to cumulative impacts to biological resources would be reduced (Impact BIO-11).

Overall, impacts to biological resources associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Cultural Resources

Potential impacts to previously undiscovered cultural resources within Component 2 work areas (Impact CR-2) would be avoided. The potential for unauthorized collection of artifacts (Impact CR-3) and potential incremental Project contribution to cumulative impacts to cultural resources (Impact CR-4) would be reduced. Overall, impacts to cultural resources associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Tribal Cultural Resources

Potential impacts to previously undiscovered tribal cultural resources within Component 2 work areas (Impact CR-2) would be avoided. The potential for unauthorized collection of artifacts (Impact CR-3) and potential incremental Project contribution to cumulative impacts to tribal cultural resources (Impact CR-4) would be reduced. Overall, impacts to tribal cultural resources associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Geology, Soils and Paleontological Resources

Naturally occurring geologic impacts to bluff erosion, bluff retreat, and stability (Impacts GEO-2 and GEO-4) associated with implementation of Component 2 would be avoided as the access roadway, rock revetment and seawall would remain in place. However, geologic benefits that would result by returning this area to a natural condition would also not occur.

Greenhouse Gas Emissions

Potentially adverse impacts to global climate change associated with greenhouse gas emissions generated by Component 2 decommissioning activities (Impact GHG-2) would be avoided, and the incremental Project contribution to cumulative global climate change would be reduced (Impact GHG-3). Overall, the potential for impacts to global climate change associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Hazards and Hazardous Materials

Adverse impacts associated with public exposure to hazardous materials encountered during Component 2 decommissioning activities (Impact HAZ-3) and the potential for discharge of fuel and lubricants used in Component 2 decommissioning-related equipment and vehicles to the environment (Impact HAZ-4) would be avoided. The incremental Project contribution to cumulative impacts related to potential for discharge of fuel and lubricants to the environment (Impact HAZ-5) would be reduced. Although residual hydrocarbons are present within the access roadway artificial fill, these materials would remain subsurface and in place since Component 2 removal of the rock revetment and wooden seawall would not occur, and therefore erosion potential of the access roadway would be limited. Overall, the potential for public exposure to hazardous materials associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Hydrology and Water Quality

Water quality impacts associated with incidental discharge of hydrocarbons and wood preservatives to the ocean (Impact HWQ-3) and erosion and sedimentation impacts (Impact HWQ-4) associated with Component 2 heavy equipment activity would be avoided. In addition, the incremental Project contribution to cumulative erosion and sedimentation impacts associated with heavy equipment activity would be reduced (Impact HWQ-5). Overall, water quality impacts associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Land Use and Planning

Temporary conflicts with State and local policies (Impacts LU-1 and LU-2) associated with Component 2 would be avoided. Overall, temporary policy conflicts (primarily related to environmental impacts) associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Noise

Component 2 noise generation and related less than significant impacts (Impact N-2) would be avoided. In addition, the incremental Project contribution to cumulative noise associated with heavy equipment activity would be reduced (Impact N-3). Overall, noise impacts associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Public Services

As Component 2 decommissioning activities would not be implemented, the need for public services (Impact PS-1) would be reduced. Overall, impacts to public services associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Recreation

As Component 2 decommissioning activities would not be implemented, temporary loss of beach access (Impact REC-3) would be avoided. Overall, impacts to recreation (beach access) associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Transportation and Traffic

As Component 2 decommissioning activities would not be implemented, temporary traffic congestion (Impact T-3) and potentially significant traffic safety impacts (Impact T-4) would be avoided. In addition, the incremental Project contribution to cumulative traffic safety impacts would be reduced (Impact T-5). Overall, impacts related to traffic congestion and safety associated with the Single Component Abandonment Alternative would be less than the proposed Project.

Utilities and Service Systems

As Component 2 decommissioning activities would not be implemented, solid waste would not be generated and less than significant impacts on landfill capacity (Impact US-2) would be avoided. Overall, impacts to landfill capacity associated with the Single Component Abandonment Alternative would be less than the proposed Project.

PAGE LEFT INTENTIONALLY BLANK

6.0 OTHER REQUIRED CEQA SECTIONS AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As lead agency under the California Environmental Quality Act (CEQA), the California State Lands Commission (CSLC) has prepared this Environmental Impact Report (EIR) to evaluate the potential significant environmental effects of the PRC 421 Decommissioning Project (Project). The State CEQA Guidelines[15] state that an EIR shall:

- Identify and mitigate any significant impacts related to wasteful, inefficient, or unnecessary use of energy (§ 15126.2, subd. (b))
- Describe any significant impacts, including those that can be mitigated but not reduced to a level of insignificance (§ 15126.2, subd. (c))
- Identify significant irreversible environmental changes that would be caused by a proposed project should it be implemented (§ 15126.2, subd. (d))
- Identify any growth-inducing impacts of a proposed project such as the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (§ 15126.2(e))
- Identify any known areas of controversy or unresolved issues (§ 15123, subd. (b))
- Identify the environmentally superior alternative (§ 15126.6, subd. (e)(2))

Compliance with the above sections of the State CEQA Guidelines is addressed in Sections 6.1 through 6.5 below.

6.1 ENERGY USE

If analysis of a project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, the EIR shall provide mitigation to address such energy use. Project-related energy use would be limited to fossil fuels used in equipment and vehicles used to conduct decommissioning activities. This energy use would be focused on specific tasks and would not be wasteful, inefficient, or unnecessary or result in significant energy-related impacts. The Project would not conflict with any State or local plan for renewable energy or energy efficiency, including the city's Climate Action Plan.

[15] The State CEQA guidelines are found in California Code of Regulations, title 14, sections 15000 et seq.

6.2 SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Significant environmental impacts anticipated as a result of the Project and mitigation measures identified to reduce impacts are discussed in Section 4.0, Environmental Impact Analysis. The State CEQA Guidelines section 15126.2(c) require that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. There are no Project impacts that have been identified that cannot be avoided following implementation of recommended mitigation measures that will reduce potential impacts to a less than significant level.

6.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES CAUSED BY THE PROJECT IF IMPLEMENTED

Significant irreversible environmental changes that may occur with implementation of a proposed project are addressed in Sections 6.3.1 through 6.3.3 below (State CEQA Guidelines §15126.2, subd. (d)).

6.3.1 Non-renewable Resources

Use of non-renewable resources during the initial and continued phases of a project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Project-related use of non-renewable resources would be limited to fossil fuels used in equipment and vehicles used to conduct decommissioning activities. The Project would not involve any future phases beyond Components 1 and 2 or other components or features that would involve a large commitment of non-renewable resources. Therefore, the Project would not result in any significant irreversible environmental changes related to non-renewable resources.

6.3.2 Commit Future Generations to Similar Uses

Primary impacts and, in some cases, secondary impacts generally commit future generations to similar uses. The Project is limited to decommissioning of an existing land use (oil and gas production facilities) and would not provide access to previously inaccessible areas or result in a new land use that may commit future generations to similar uses. Therefore, the Project would not result in any significant irreversible environmental changes related to committing future generations to similar uses.

6.3.3 Environmental Accidents

Irreversible damage can result from environmental accidents associated with a project. Project implementation has the potential to result in an oil spill, should free oil occur within the caissons and be released to the marine environment during caisson removal. However, the amount of free oil (if present) that could be released is anticipated to be very small and would not result in irreversible damage. This EIR identifies caisson removal methods to minimize the potential for an oil spill, and mitigation to minimize the effects should it occur (implementation of the facilities' existing Oil Spill Contingency Plan, **MM HAZ-1c**). Therefore, the Project would not result in any significant irreversible environmental changes related to environmental accidents.

6.4 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

This section discusses whether the proposed Project would foster economic growth or population growth in the surrounding area. A project may foster economic or population growth in a geographic area if it would meet any of the following criteria:

- The project would result in the urbanization of land in a remote location, creating an intervening area of open space which then experiences pressure to be developed
- The project removes an impediment to growth through the establishment of an essential public service or the provision of new access to an area
- Economic expansion, population growth or the construction of additional housing occurs in the surrounding environment in response to economic characteristics of the project
- The project establishes a precedent-setting action, such as a change in zoning or general plan amendment approval that makes it easier for future projects to gain approval

Should a project meet any one of these criteria, it may be considered growth-inducing. An increase in population may require construction of new facilities which could cause significant environmental impacts. State CEQA Guidelines section15126.2(e) states that growth in an area is not necessarily beneficial, detrimental, or of little significance to the environment.

The Project would not result in urbanization of land, removal of an impediment to growth, would not produce an economic expansion or changes in revenue base, housing, or employment, and would not establish a precedent-setting action (e.g., no changes in zoning). Therefore, the Project would not be growth-inducing or result in environmental impacts associated with such growth.

6.5 KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES

6.5.1 Known Areas of Controversy

Pursuant to State CEQA Guidelines section 15123, the EIR shall identify "areas of controversy known to the lead agency including issues raised by agencies and the public." In response to the Notice of Preparation, a letter from Brownstein, Hyatt, Farber & Schreck dated July 9, 2021, expressed the Sandpiper Golf Course's concern about the potential adverse effects on their property associated with removal of the access roadway and rock revetment.

6.5.2 Unresolved Issues

An unresolved issue known to the CSLC, as the lead agency, is the scope of the Project that the CSLC can itself undertake, as the administrator of State sovereign lands. This EIR analyzes the entirety of the Project, which includes both Component 1 and Component 2. As explained in Section 1.2 of this EIR, the area waterward of the mean high tide line (MHTL) was within the boundary of former State Oil and Gas Lease PRC 421, which was at one point leased to Mobil Exploration and Producing, Inc. (now ExxonMobil). After Venoco, the last lessee of PRC 421, dissolved in bankruptcy, the CSLC and ExxonMobil entered into an agreement for ExxonMobil to undertake the plugging and abandonment of the two PRC 421 wells (completed in 2019) and decommissioning and removal of the PRC 421 caissons and piers (the elements of Component 1). The CSLC understands that the pipelines and access roadway between the piers and 12th hole of the Sandpiper Golf course exist on private uplands and reside outside the bounds of lease PRC 421. Additionally, as of fiscal year 2021/2022, the CSLC does not have authorized funding to undertake the removal of the pipelines or roadway (elements of Component 2). However, Component 2 is analyzed as part of the Project because it remains feasible and foreseeable that funding could be allocated to undertake Component 2, at some time, whether by the California Legislature, an agency of the State of California, or a local agency.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Two alternatives were analyzed in detail in this EIR: the No Project Alternative and the Single Component Abandonment Alternative. Table ES-2 compares the environmental impacts associated with implementation of the proposed Project with those of the other alternatives. As discussed in Section 5.4.1, the No Project Alternative would not result in any new direct impacts to the environment.

However, ongoing deterioration of the caissons by natural processes would ultimately lead to discharge of hydrocarbons to the ocean (contaminated fill material and possibly free oil in the caissons). The resulting discharge and related impacts to water quality and marine organisms would be greater than the proposed Project which includes procedures to remove hydrocarbons from the caissons to the extent feasible prior to caisson demolition to minimize any discharge. In addition, the gradual deterioration of these facilities will result in the public exposure to steel and concrete debris within the beach and intertidal zone. Because of these ongoing environmental impacts if the decommissioning Project is not implemented, the No Project Alternative is not considered the environmentally superior alternative.

The State CEQA Guidelines section 15126.6, subdivision (e)(2) states, in part, that an EIR shall identify an environmentally superior alternative among the other alternatives if the “environmentally superior alternative is the ‘no project’ alternative.” Because the No Project Alternative is not considered the environmentally superior alternative, the State CEQA Guidelines do not require identification of an environmentally superior alternative among the remaining alternatives.

PAGE LEFT INTENTIONALLY BLANK

7.0 MITIGATION MONITORING PROGRAM

As the lead agency under the California Environmental Quality Act (CEQA), the California State Lands Commission (CSLC) is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures (MMs). As proponent for the PRC 421 Decommissioning Project (Project), the CSLC will also ensure the implementation of the adopted MMs defined in this Environmental Impact Report (EIR). This lead agency responsibility originates in Public Resources Code section 21081.6, subdivision (a) (Findings), and the State Guidelines for Implementing CEQA sections 15091, subdivision (d) (Findings), and 15097 (Mitigation Monitoring or Reporting).

7.1 MONITORING AUTHORITY

The purpose of a Mitigation Monitoring Program (MMP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. A MMP can be a working guide to facilitate the implementation of the MMs and associated monitoring, compliance and reporting activities. The CSLC staff may delegate duties and responsibilities for monitoring to environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities. The number of construction monitors assigned to the Project will depend on the number of concurrent construction activities and their locations. The CSLC staff will ensure that appropriate agency reviews and approvals are obtained, that each person delegated any duties or responsibilities is qualified to monitor compliance, and that it is aware of and has approved any deviation from the MMP.

7.2 ENFORCEMENT RESPONSIBILITY

The CSLC, as lead agency, is responsible for enforcing the procedures adopted for monitoring through the environmental monitor. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to the CSLC staff or its designee.

7.3 MITIGATION COMPLIANCE RESPONSIBILITY

The CSLC is responsible for successfully implementing all the MMs in the MMP and shall ensure that these requirements are met by all construction contractors and field personnel. Standards for successful mitigation also are implicit in many MMs that include such requirements as obtaining permits or avoiding a specific impact entirely. Other MMs include detailed success criteria. Additional mitigation success thresholds may be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of MMs.

7.4 MONITORING PROCEDURES

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 (i.e., city of Goleta or California Coastal Commission). The CSLC or its designee shall ensure that qualified environmental monitors are assigned to the Project.

Environmental Monitors. To confirm implementation and success of the MMs, an environmental monitor must be on-site during all Project activities with the potential to create significant environmental impacts or impacts for which mitigation is required. Along with CSLC staff, the environmental monitor(s) are responsible for:

- Confirming that CSLC has obtained all applicable agency reviews and approvals
- Coordinating with CSLC to integrate the mitigation monitoring procedures during Project implementation
- Confirming that the MMP is followed

The environmental monitor shall immediately report any deviation from the procedures identified in this MMP to CSLC staff or its designee. 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. To facilitate successful implementation, relevant mitigation procedures shall be written into contracts between CSLC, ExxonMobil, and the demolition contractors.

General Reporting Procedures. A monitoring record form shall be submitted CSLC, and once the Project is complete, a compilation of all the logs shall be submitted to CSLC staff. CSLC staff or its designated environmental monitor shall develop a checklist to track all procedures required for each MM and shall confirm 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 are to be provided upon request.

7.5 MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table 7-1) for each environmental discipline that requires MMs. Impacts that do not require mitigation are not included (see Executive Summary for summary description of all Project impacts). Each table lists the following information, by column:

- Potential Impact
- Mitigation Measure (full text of the measure)
- Location (where impact occurs and where MM 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 (entity responsible to ensure MM compliance)
- Effectiveness Criteria (how the agency can know if the measure is effective)

PAGE LEFT INTENTIONALLY BLANK

Table 7-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Aesthetics					
Short term effects on public views from decommissioning activities (Component 1)	**MM AES-1a. Overnight Storage of Equipment**. Equipment utilized shall be returned to the staging areas at the end of each workday, both for public safety and aesthetic considerations	Observe equipment returned to laydown areas	Obstructed views minimized	CSLC, contractors	Following completion of each workday
	MM AES-1b. Material Removal at Construction Completion. All materials, equipment, and debris shall be removed from the site upon completion of each Project component	Observe all materials and equipment removed from Project work areas	Project areas restored	CSLC, contractors	Following completion Project Component 1
	MM AES-1c. Minimize Night Lighting. When required, lighting shall use the minimum number of fixtures and intensity needed for decommissioning activities. Fixtures shall be focused on work areas and fully shielded to minimize visibility from public viewing areas, wildlife habitats, migration routes, and other sensitive receptors	Observe nighttime lighting for compliance	Lighting and glare minimized	CSLC, contractors	During any nighttime work

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Short term effects on public views from decommissioning activities (Component 2)	**Implement MM AES-1a: Overnight Storage of Equipment** (see above) **Implement MM AES-1b: Material Removal at Construction Completion** (see above) **Implement MM BIO-5a: Coastal Wetlands Mitigation** (see below) **Implement MM BIO-5b: Retain Coastal Wetlands Adjacent to Pier 421-2** (see below)				
Cumulative aesthetic impacts to public views	**Implement MM AES-1a: Overnight Storage of Equipment** (see above) **Implement MM AES-1b: Material Removal at Construction Completion** (see above) **Implement MM AES-1c: Minimize Night Lighting** (see above)				
Air Quality					
Decommissioning-related air pollutant emissions (Component 1)	**MM AQ-1a. Fugitive Dust Control Measures.** The contractors used to conduct decommissioning activities shall implement the following measures when applicable and feasible. • Water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is	Documentation in compliance monitoring sheets	Reduction in fugitive dust	CSLC, contractors	Throughout Component 1 decommissioning activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	completed for the day. Increased watering frequency should be required whenever the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. • Minimize amount of disturbed area and reduce on-site vehicle speeds to 15 miles per hour or less. • If importation, exportation and stockpiling of fill material is involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin. • Gravel pads shall be installed at all access points				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	to prevent tracking of mud onto public roads. • After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or revegetating, or by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. • The contractor shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Santa				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Barbara County Air Pollution Control District (SBCAPCD) prior to Project initiation.				
	MM AQ-1b. Equipment Exhaust Emissions Reduction Measures. The contractors used to conduct decommissioning activities shall implement the following measures when applicable and feasible. • All portable diesel-powered construction equipment shall be registered with the State's portable equipment registration program OR shall obtain a SBCAPCD permit. • Mobile construction equipment shall comply with the State Regulation for In-Use Off-Road Diesel Vehicles (Cal. Code of Regs., tit. 13, § 2449) to reduce NOx, diesel particulate matter, and other criteria pollutant emissions.	Documentation in compliance monitoring sheets	Reduction in emissions	CSLC, contractors	Throughout decommissioning activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• On-road vehicles shall comply with the State Regulation for In-Use (On-Road) Heavy-Duty Diesel-Fueled Vehicles (Cal. Code of Regs., tit. 13, § 2025), to reduce diesel particulate matter, NOx and other criteria pollutants. • Off-road and on-road diesel vehicles shall comply with California Code of Regulations, title 13, sections 2449(d)(3) and 2485, limiting engine idling time. • Diesel equipment meeting the California Air Resources Board (CARB) Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible. • Diesel powered equipment should be replaced by electric equipment whenever feasible. • Equipment/vehicles using alternative fuels, such as compressed natural gas, liquefied natural gas, propane or biodiesel, should be used on-site where feasible. • Catalytic converters shall be installed on gasoline-powered equipment, if feasible. • All construction equipment shall be maintained in tune per the manufacturer's specifications.				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• The engine size of construction equipment shall be the minimum practical size. • The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time. • Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.				
Decommissioning-related air pollutant emissions (Component 2)	**Implement MM AQ-1a: Fugitive Dust Control Measures** (see above) **Implement MM AQ-1b: Equipment Exhaust Emissions Reduction Measures** (see above)				
Cumulative air quality impacts (Components 1 and 2)	**Implement MM AQ-1a: Fugitive Dust Control Measures** (see above) **Implement MM AQ-1b: Equipment Exhaust Emissions Reduction Measures** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Biological Resources					
Disturbance to nesting birds	**MM BIO-1: Avoidance of Active Cliff Swallow Nests**. A cliff swallow protection plan shall be developed prior to Project implementation. The plan shall specify how protection of the species will be implemented, including methods, timing, and monitoring requirements. Requirements shall include, but not be limited to: • Inactive cliff swallow nests shall be removed during the non-breeding season (August 16th through February 14th) prior to the initiation of pier and caisson removal. • Bird exclusion netting shall be installed on the underside of Pier 421-1 to prevent nesting prior to the initiation of pier and caisson removal. The netting shall remain in place, maintained, and not	Adherence to cliff swallow protection plan, including field monitoring requirements	Avoidance of impacts to cliff swallows	CSLC, contractors	During Component 1 Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	removed more than 24 hours before the initiation of removal of Pier 421-1.				
Disturbance to bats using the 421-2 caisson structure	**MM BIO-2: Transitional Bat Habitat.** A bat preclusion plan shall be prepared and implemented prior to and during the 421-2 caisson demolition activities. The plan shall include confirmation surveys of either seasonal or ongoing bat use of the structure and recommendations regarding the timing for installation of preclusion netting at the caisson roost.	Adherence to bat preclusion plan	Avoidance of bats	CSLC, contractors	Prior to and during 421-2 caisson demolition
Temporary effects of potential hydrocarbon discharge	**Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see below)				
Disturbance of terrestrial and aquatic special-status wildlife species	**MM BIO-3a: Avoidance of Estuarine Waters/Tidewater Goby Relocation**. Use of the alternative beach access route shall be scheduled during periods when the estuary mouth is closed (not outflowing to the Pacific Ocean). If this is not feasible, fish netting (0.25	Biological monitoring during required crossings	Avoidance of impacts to tidewater goby in Bell Canyon Creek	CSLC, contractors	During all Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	inch mesh size) shall be installed across the estuary mouth immediately upstream of the beach access route to isolate the estuary from the beach. A qualified biologist approved by the USFWS to handle tidewater goby shall use seines and dip nets to capture and relocate tidewater gobies from the beach area to upstream of the fish nets. Fish nets shall be removed by the biologist within 24 hours following termination of use of the alternative beach access route				
	MM BIO-3b: CRLF Fencing at the EOF. CRLF exclusion fencing (48 inch Ertec e-Fence, or equivalent) shall be installed along the entire western boundary of the EOF, adjacent to the margin of the riparian vegetation prior to use of the proposed staging area at this location. The bottom of the exclusion fencing shall be secured to the ground by trenching or other means to prevent CRLF from	Documentation and monitoring of fence installation	Avoidance of impacts to CRLF	CSLC, contractors	Prior to and throughout all Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	crawling under the fence. The CRLF exclusion fencing shall remain in place and maintained during all Project-related use of the EOF staging area.				
	MM BIO-3c Environmental Awareness Training. A CSLC-approved biological monitor(s) shall conduct 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.	Documentation of Environmental Awareness Training Sign-In Sheet	Training of Project crews	CSLC, contractors	Prior to each Project Component
	MM BIO-3d: Biological Pre-activity Surveys and Monitoring. A CSLC-approved biological monitor shall survey the work areas and access routes for sensitive species or other wildlife that may be present no more than 24 hours prior to the commencement of	Pre-activity survey report(s) Daily Monitoring reports	Avoidance of impacts to special status species during decommissioning activities	CSLC, contractors	Prior to each Project Component

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Project activities. In addition, the biological monitor shall provide daily biological clearance prior to the start of work and shall always be on-site during Project operations. If at any time during the Project any wildlife species are observed within the Project area, work around the animal's immediate area shall be stopped until the animal leaves on its own volition or work shall be redirected to an area within the Project site that would not impact these species. Work shall resume once the animal is clear of the work area. In the unlikely event special-status species are injured or killed by Project-related activities, the biological monitor shall stop work and notify CSLC and consult with the appropriate agencies to resolve the impact prior to re-starting work in the area.				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	MM BIO-3e: Delineation of Work Limits. Prior to the start of the Project, the Project work areas and access routes shall be clearly flagged to ensure heavy equipment and vehicles stay within the permitted disturbance areas and avoid native vegetation along the access route. Designated equipment staging and fueling areas shall also be delineated at this time.	Photo-documentation within Compliance sheets	Avoidance of areas outside of the designated Project worksite(s)	CSLC, contractors	Prior to each Project Component
Disturbance of marine special-status species	**MM BIO-4: Grunion Spawning Avoidance**. A grunion protection plan shall be developed prior to Project implementation. The plan shall specify how protection of the species will be implemented, including methods, timing, and monitoring requirements. Requirements shall include, but not be limited to: • Project activities that involve equipment activity on the beach shall be scheduled to avoid grunion spawning	Compliance monitoring report and photo-documentation	Avoidance of impacts to grunion spawning area(s)		Prior to Project implementation and during all Project activities within Grunion spawning periods

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	season (March through August) if possible, given other scheduling constraints (winter storm waves, etc.). • If avoiding spawning season is not feasible, a qualified biologist shall conduct an initial presence/absence survey during grunion runs (open and closed season runs) as predicted by the CDFW to document that grunion have not used the site. • If the initial presence/absence survey determines that grunion are spawning at the Project site; a focused survey shall be conducted immediately following the spawning event. During the focused survey, trenching shall be conducted at 3 to 6 foot spacing to determine if grunion spawning was				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	successful and eggs were deposited within the intertidal work area. The trenches shall be excavated approximately 10 inches wide and 3 to 6 inches deep. The trenches shall be located perpendicular to the high-water mark and extend from the highest high tide mark to approximate mean low water. Excavations shall continue until grunion eggs are found or until all trenches are sampled. If grunion eggs are found during focused surveys at the Project site, intertidal work activities in that location shall cease for 10 days to allow for hatching of the eggs during the next high-tide cycle. • Subsequent presence/absence monitoring shall continue during the next spawning period to determine if				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	grunion continue to spawn at the Project site.				
Loss of coastal wetlands (Component 2)	**MM BIO-5a: Coastal Wetlands Mitigation.** A coastal wetlands mitigation plan shall be developed prior to Project implementation. The Plan shall specify how mitigation will be implemented, including site location description, wetland creation or enhancement methods, plant palette, propagule sources, irrigation methods (if needed), maintenance activities, success criteria and monitoring requirements. Requirements shall include but not be limited to: • Coastal wetlands removed from the access roadway as part of Component 2 shall be replaced at a minimum 3:1 ratio (at least 0.32 acre) through a combination of wetland replacement and off-site wetlands creation or enhancement.	Coastal bluff scrub replacement plan documentation and monitoring	Replacement of coastal bluff scrub habitat	CSLC, contractors	Prior to Project implementation and following completion of Component 2

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	• Coastal wetlands replacement shall be included in the coastal bluff scrub replanting area (see **MM BIO-6a**) within the abandoned access roadway and the remaining wetlands creation/enhancement needed to meet the 3:1 ratio shall be conducted off-site.				
	MM BIO-5b: Retain Coastal Wetlands Adjacent to Pier 421-2. A coastal wetlands retention plan shall be developed prior to Project implementation. The Plan shall specify how this measure will be implemented, including materials, methods and integration into the overall decommissioning schedule. The rock and road base fill material comprising the access roadway north of Pier 421-2 shall be left in place or other suitable material placed as needed to maintain the impoundment of golf course	Coastal wetlands retention plan documentation and monitoring	Retention of wetlands	CSLC, contractors	Prior to and during implementation of Component 2

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	irrigation run-off which supports the existing wetlands at this location.				
Loss of terrestrial ESHA/sensitive natural communities	**MM BIO-6a: Coastal Bluff Scrub Replacement.** A coastal bluff scrub replacement plan shall be developed prior to Project implementation. The Plan shall specify how replacement will be implemented, including soil augmentation, planting site preparation, planting methods, plant palette, propagule sources, irrigation methods (if needed), maintenance activities, success criteria and monitoring requirements**.** Coastal bluff scrub removed along the seaward margin of the access roadway shall be replaced at a minimum 2:1 ratio (at least 0.6 acre) through soil augmentation and replanting the remaining surface of the abandoned access roadway with quail bush, coastal golden-bush and other native species characteristic of the bluffs.	Coastal Bluff Scrub Replacement Plan	Success criteria monitoring from Coastal Bluff Scrub Replacement Plan	CSLC, contractors	Prior to and during implementation of Component 2

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	MM BIO-6b: Southern Foredunes Avoidance. A CSLC-approved biological monitor shall be present when heavy equipment or vehicles transit the alternative beach access route and communicate with equipment/vehicle operators to ensure southern foredunes are avoided.	Daily Compliance documentation	Avoidance of southern foredune habitat areas	CSLC, contractors	Throughout Project activities (as utilized)
Cumulative impacts to biological resources (Components 1 and 2)	**Implement MM BIO-1**: **Avoidance of Active Cliff Swallow Nests** (see above) **Implement MM BIO-2: Transitional Bat Habitat** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see below) **Implement MM BIO-3a**: **Avoidance of Estuarine Waters/Tidewater Goby Relocation** (see above) **Implement MM BIO-3b**: **CRLF Fencing at the EOF** (see above) **Implement MM BIO-3c**: **Environmental Awareness Training** (see above) **Implement MM BIO-3d**: **Biological Pre-activity Surveys and Monitoring** (see above) **Implement MM BIO-3e**: **Delineation of Work Limits** (see above) **Implement MM BIO-4**: **Grunion Spawning Avoidance** (see above) **Implement MM BIO-5a**: **Coastal Wetlands Mitigation** (see above) **Implement MM BIO-5b**: **Retain Coastal Wetlands Adjacent to Pier 421-2** (see above) **Implement MM BIO-6a**: **Coastal Bluff Scrub Replacement** (see above) **Implement MM BIO-6b**: **Southern Foredunes Avoidance** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Cultural Resources/Tribal Cultural Resources					
Potential impacts to previously undiscovered Cultural or Tribal Cultural resources (Component 2)	**MM CUL-1/TCR-1: Cultural Resources Monitoring.** A Cultural Resources Monitoring Plan (Plan) shall be prepared prior to Component 2 ground disturbing activities. The Plan shall include, but not be limited to, the following measures: • CSLC shall retain a qualified archaeologist and a representative of a California Native American tribe that is culturally affiliated to the Project site to monitor all ground disturbing activities during Component 2. • CSLC shall provide a minimum 5-day notice to the archaeologist and tribal monitor prior to all activities requiring monitoring. • CSLC shall provide the archaeologist and tribal	Cultural Resources Monitoring Plan	Avoidance of disturbance of any found cultural resources	CSLC, contractors	Prior to and throughout Component 2 Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	monitor safe and reasonable access to the Project site. • The Plan shall include guidance on identification of potential cultural resources that may be encountered.				
Potential impacts to Cultural resources (Specifically CA-SBA-71)	**MM CUL-2/TCR-2: Cultural Resources Sensitivity Training**. Prior to Project implementation, a pre-construction cultural resources sensitivity training shall be given by a qualified archaeologist and Native American representative. The purpose of the training will be to educate onsite construction personnel as to the sensitivity of archaeological resources in the area, and specifically avoidance of CA-SBA-71 when utilizing the Bacara Resort fire road access area. The training will also cover the requirements of the Plan identified in **MM CUL-1/TCR-1**, including the possibility of exposing cultural resources, guidance on	Documentation of training	Avoidance of cultural resources	CSLC, contractors	Prior to Project implementation

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	recognizing such resources, and direction on procedures if a find is encountered. CSLC and the Project contractor will instruct all Project personnel that touching, collecting, or removing cultural materials from the property is strictly prohibited. Evidence of compliance with this MM shall be documented within pre-Project compliance documentation materials prior to Project implementation.				
	MM CUL-3/TCR-3: Discovery of Previously Unknown Cultural or Tribal Resources. In the event that potential cultural or tribal cultural resources are uncovered during Project implementation, all earth-disturbing work within 100 feet of the find shall be temporarily suspended or redirected until the approved archaeologist and tribal monitor have evaluated the nature and significance of the discovery. In the event that a potentially significant cultural or tribal cultural	Documentation of Notifications and Treatment Plan (if applicable)	Minimization of impact to discovered resources	CSLC, contractors	Throughout Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	resource is discovered, the Applicant, CSLC and any local, state, or federal agency with approval or permitting authority over the Project that has requested/required notification shall be notified within 48 hours. The location of any such finds must be kept confidential and measures shall be taken to secure the area from site disturbance and potential vandalism. Impacts to previously unknown significant cultural or tribal cultural resources shall be avoided through preservation in place if feasible. Damaging effects to tribal cultural resources shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other measures are mutually agreed to by the lead archaeologist and culturally affiliated tribal monitor that would be as or more effective. A treatment plan, if needed to address a find, shall be developed				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	by the archaeologist and, for tribal cultural resources, the culturally-affiliated tribal monitor, and submitted to the appropriate tribal representatives and CSLC staff for review, input, and concurrence prior to implementation of the plan. Protection in place of tribal cultural resources shall be prioritized, if feasible; if the archaeologist or tribe determines that damaging effects on the cultural or tribal cultural resource can be avoided in place, then work in the area may resume provided the area of the find is clearly marked for no disturbance. If avoidance in place of tribal cultural resources is infeasible, the treatment plan shall include measures that place priority on Tribal self-determination over collection and curation, including the option to repatriate (rebury) materials nearby at a location of their choosing, and to transfer possession/ownership to the culturally-affiliated Tribe.				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Title to all archaeological sites, historic or cultural resources, and tribal cultural resources on or in the tide and submerged lands of California is vested in the State and under CSLC jurisdiction. The final disposition of archaeological, historical, and tribal cultural resources recovered on State lands under CSLC jurisdiction must be approved by the CSLC				
	MM CUL-4/TCR-4: 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 both an archaeologist and CSLC staff must be contacted within 24 hours. The archaeologist shall consult with the County Coroner. If human remains are of Native American origin, the County	Documentation of Notifications	Minimization of impacts to human remains	CSLC, contractors	Throughout Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	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				
Potential for unauthorized collection of artifacts (Components 1 and 2)	**Implement MM CUL-2/TCR-2: Cultural Resources Sensitivity Training** (see above)				
	MM CUL-5/TCR-5: Cultural Resources Protective Fencing (CA-SBA-71). Prior to Project implementation, protective fencing or flagging clearly marking the area surrounding CA-SBA-71 for avoidance shall be installed; this fencing or flagging shall be maintained for the duration of the use of the Bacara Resort fire road	Documentation of Fencing or flagging installation and avoidance of area	Minimization of impact CA-SBA-71	CSLC, contractors	Throughout Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	access area, and no personnel, equipment, refuse, or other materials shall be allowed into the avoidance area at any time.				
Cumulative impacts to cultural resources/ Tribal cultural resources (Components 1 and 2)	**Implement MM CUL-1/TCR-1: Cultural Resources Monitoring** (see above) **Implement MM CUL-2/TCR-2: Cultural Resources Sensitivity Training** (see above) **Implement MM CUL-3/TCR-3: Discovery of Previously Unknown Cultural or Tribal Resources** (see above) **Implement MM CUL-4/TCR-4: Unanticipated Discovery of Human Remains** (see above) **Implement MM CUL-5/TCR-5: Cultural Resources Protective Fencing** (see above)				
Hazards and Hazardous Materials					
Exposure of public or environment to hazardous materials (Component 1)	**MM HAZ-1a: Remedial Action Plan Implementation.** The Remedial Action Plan submitted to the Santa Barbara County Public Health Department, Environmental Health Services Division shall be implemented during Component 1 Project decommissioning activities. The RAP will also be shared with California Department of Fish and	Remedial Action Plan Approval	Minimization of hazardous materials exposure	CSLC, contractors	Prior to and throughout Component 1 Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Wildlife Office of Spill Prevention and Response (OSPR), RWQCB, and city of Goleta (as applicable) for review and approval prior to the initiation of construction activities. Final approval of the plan shall be under the purview of OSPR, RWQCB, and Santa Barbara County Public Health Department. Upon approval, all contaminated materials shall be removed and disposed of in accordance with procedures described in the RAP. All soil sampling results shall be provided to the Santa Barbara County Public Health Department and city of Goleta immediately upon receiving results.				
	MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs. Prior to Project activities related to removal of contaminated soil**,** the Air Pollution Control District must be notified as an Air Pollution Control District Permit will be required. In addition,	Notification to APCD	Minimization of Air Quality Impacts	CSLC, contractors	During all Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	the following measures shall be implemented: • 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 6 inches of packed uncontaminated soil or another 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				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	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-1c: Oil Spill Contingency Plan Implementation. The EOF Facility's existing Oil Spill Contingency Plan (OSCP) and Addendum shall be implemented during all Project activities in the event of a release of oil or contaminants. The OSCP delineates prevention measures including daily inspection of equipment, refueling at designated stations, and secondary equipment containment for equipment to prevent spills. Additionally, the	Copy of OSCP	Spill avoidance and response (if required)	CSLC, contractors	During all Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	onshore work sites shall maintain onsite response equipment to clean up minor spills. In the event of a major spill (greater than five barrels) the OSCP requires utilization of an independent oil spill response contractor (i.e. Marine Spill Response Corporation) to provide secondary cleanup.				
	Implement MM HWQ-1: Storm Water Pollution Prevention Plan (see below)				
Use and transport of hazardous materials during decommissioning activities (Component 1)	**MM HAZ-2 Hazardous Materials Management and Contingency Plan**. A Hazardous Materials Management and Contingency Plan shall be developed and implemented. Measures shall include, but not be limited to, identification of appropriate fueling and maintenance areas for equipment, daily equipment inspection schedule, and reference to the facilities existing spill response plan, and spill response supplies to be maintained onsite.	Copy of Hazardous Materials Management and Contingency Plan. Compliance documentation during construction	Avoidance of hazardous materials exposure to the environment	CSLC, contractors	During all Project activities
Exposure of the public or	**Implement MM HAZ-1a: Remedial Action Plan Implementation** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
environment to hazardous materials (Component 2)	**Implement MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see above) **Implement MM HWQ-1: Storm Water Pollution Prevention Plan** (see below)				
Use of hazardous materials during decommissioning activities (Component 2)	**Implement MM HAZ-2: Hazardous Materials Management and Contingency Plan** (see above)				
Potential cumulative hazardous materials impacts	**Implement MM HAZ-1a: Remedial Action Plan Implementation** (see above) **Implement MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see above) **Implement MM HWQ-1: Storm Water Pollution Prevention Plan** (see below) **Implement MM HAZ-2: Hazardous Materials Management and Contingency Plan** (see above)				
Hydrology and Water Quality					
Potential water quality impacts during implementation of decommissioning Project (Component 1)	**Implement MM HAZ-1a: Remedial Action Plan Implementation** (see above) **Implement MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see above) **Implement MM HAZ-2: Hazardous Materials Management and Contingency Plan** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Construction-related erosion and sedimentation impacts to marine and onshore water quality (Component 1)	**MM HWQ-1. Storm Water Pollution Prevention Plan.** CSLC shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), including: • All fueling and maintenance of vehicles and heavy equipment will occur in designated areas at least 50 feet from waterways. Designated areas will include spill containment devices (e.g., drain pans) and absorbent materials to clean up spills • Vehicles and equipment will be maintained properly to prevent leakage of hydrocarbons and other fluids • Any accidental spill of hydrocarbons or other fluids that may occur at the work site will be cleaned immediately. Spill containment devices and	Contractor submittal of the SWPPP to CSLC, observation reports	Minimize erosion, siltation, and turbidity	CSLC, contractors	During all Project activities

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	absorbent materials will be maintained on the work site for this purpose. The Governor's Office of Emergency Services will be notified immediately in the event of a reportable quantity accidental spill to ensure proper notification, clean up, and disposal of waste • Waste and debris generated during construction will be stored in designated waste collection areas and containers away from drainage features, and will be disposed of regularly • Storm water pollution prevention best management practices will be used around the construction area perimeters during construction and around any construction operations that could				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	potentially degrade water quality • Erosion and sedimentation best management practices (e.g., silt fences straw wattles, mulching, and hydroseeding) will be installed properly and maintained regularly. Other best management practices will be installed as necessary and as required by Project permits • Runoff will be conveyed to prevent erosion from slopes and channels and directed to engineered drainage facilities • Disturbed slopes will be re-vegetated with appropriate native vegetation				
Potential water quality impacts during implementation of decommissioning	**Implement MM HAZ-1a: Remedial Action Plan Implementation** (see above) **Implement MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see above) **Implement MM HAZ-2: Hazardous Materials Management and Contingency Plan** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Project (Component 2)					
Construction-related erosion and sedimentation impacts to marine and onshore water quality (Component 2)	**Implement MM HWQ-1: Storm Water Pollution Prevention Plan** (see above)				
Potential for cumulative water quality impacts (Components 1 and 2)	**Implement MM HWQ-1: Storm Water Pollution Prevention Plan** (see above)				
Land Use					
Temporary conflicts with state and local policies	**Implement MM AES-1a. Overnight Storage of Equipment** (see above) **Implement MM AES-1b. Material Removal at Construction Completion** (see above) **Implement MM AES-1c. Minimize Night Lighting** (see above) **Implement MM AQ-1a: Fugitive Dust Control Measures** (see above) **Implement MM AQ-1b: Equipment Exhaust Emissions Reduction Measures** (see above) **Implement MM BIO-1: Avoidance of Active Cliff Swallow Nests** (see above) **Implement MM BIO-2: Transitional Bat Habitat** (see above) **Implement MM BIO-3a: Avoidance of Estuarine Waters/Tidewater Goby Relocation** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	Implement MM BIO-3b: CRLF Fencing at the EOF (see above) **Implement MM BIO-3c: Environmental Awareness Training** (see above) **Implement MM BIO-3d: Biological Pre-activity Surveys** (see above) **Implement MM BIO-3e: Delineation of Work Limits** (see above) **Implement MM BIO-4: Grunion Spawning Avoidance** (see above) **Implement MM BIO-5a: Coastal Wetlands Mitigation** (see above) **Implement MM BIO-5b: Retain Coastal Wetlands Adjacent to Pier 421-2** (see above) **Implement MM BIO-6a: Coastal Bluff Scrub Replacement** (see above) **Implement MM BIO-6b: Southern Foredunes Avoidance** (see above) **Implement MM HAZ-1a: Remedial Action Plan Implementation** (see above) **Implement MM HAZ-1b: Hydrocarbon Contaminated Soil Notification(s) and BMPs** (see above) **Implement MM HAZ-1c: Oil Spill Contingency Plan Implementation** (see above) **Implement MM HWQ-1: Storm Water Pollution Prevention Plan** (see above) **Implement MM REC-1: Maximize Beach Access** (see below)				
Recreation					
Temporary loss of recreational access during decommissioning activities (Component 1)	**Implement MM AES-1a: Overnight Storage of Equipment** (see above)				
	MM REC-1: Maximize Beach Access. Pier and caisson work	Compliance documentation	Beach access maintained	CSLC, contractors	Throughout Component 1

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
	areas shall be made passable by the public walking along the beach by removing debris to staging/storage areas off the beach and backfilling or placing steel plates over any open excavations at the end of each workday. If these measures are not feasible during periods of high tides or storm conditions, signage and temporary fencing shall be provided to notify the public that passage is not allowed and that alternative beach access locations can be found nearby.				decommissioning activities
Temporary loss of recreational access during decommissioning activities (Component 2)	**Implement MM AES-1a: Overnight Storage of Equipment** (see above)				

Potential Impact	Mitigation Measure (MM)	Monitoring / Reporting Action	Effectiveness Criteria	Responsible Party	Timing
Transportation and Traffic					
Component 1 Traffic Safety	**MM T-1. Truck Entrance Signage.** Easily visible signage shall be posted on Hollister Avenue at least 1,000 feet east and west of the EOF driveway to alert motorists of a truck entrance. This signage shall also be required at the Bacara Resort fire road entrance if this secondary access route is used by heavy-duty trucks.	Documentation of appropriate signage	Avoidance of traffic impacts	CSLC, contractors	Prior to Component 1 Project implementation
Component 2 Traffic Safety	**Implement MM T-1. Truck Entrance Signage** (see above)				
Contribution to Cumulative Transportation/ Traffic impacts (Components 1 and 2)	**Implement MM T-1. Truck Entrance Signage** (see above)				

8.0 OTHER STATE LANDS 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's) consideration of the Project. The considerations addressed below are:

- Climate Change and Sea Level Rise (SLR)
- Commercial Fishing
- Environmental Justice
- Significant Lands Inventory

Other considerations may be addressed in the staff report presented at the time of the CSLC's consideration of the Project.

8.1 CLIMATE CHANGE AND SEA LEVEL RISE

While the scientific understanding and projections of climate change and sea level rise (SLR) are advancing at a rapid pace, impacts are already being felt in our oceans and along the California coast. Climate change has been found to have many effects on our oceans and coasts including, but not limited to, ocean acidification, hypoxia, increased storm surge, and SLR. Refer to Section 4.7, *Greenhouse Gas Emissions*, regarding Project emissions of greenhouse gases (GHGs). Additionally, Section 4.6, *Geology, Soils, and Paleontological Resources*, provides a discussion of the potential impacts of SLR on the Ellwood coastline following implementation of each Project component.

8.1.1 Climate Change

High anthropogenic global carbon dioxide (CO_2) emissions over the last 250 years have significantly altered atmospheric and oceanic chemistry, resulting in harmful ecological impacts. Underwater current and circulation patterns and processes are anticipated to change as a result of warmer water temperatures and changes in density and salinity. This atmospheric and oceanic interaction (i.e., storm-related water turbulence) could change the character of submerged lands in shallow nearshore environments, as the seafloor would be subjected to stronger energy forces as a results of inshore wave propagation during extreme storm events. Changes to nearshore currents and water chemistry in California are being monitored by the Southern California Coastal Ocean Observing System (SCCOOS).

Storm surges are anticipated to increase in both strength and frequency with climate change. The National Atmospheric and Space Administration (NASA) has determined that storm surges are being boosted from climate change, and that climate change may lead to more frequent and severe storms. More frequent and intense storms can lead to greater amounts of runoff, turbidity, decreased salinity, and direct physical damage to submerged structures and habitats (CSLC 2019). The frequency and severity of El Niño Southern Oscillation-related storm events may increase over time with climate change, which could increase the speed of coastal erosion processes.

8.1.2 Sea Level Rise

Sea levels have risen between 4 and 10 inches during the past century and are projected to be affected by climate change in the future. Global average sea level rose at an average rate of 0.07 inch per year from 1961 through 2003 and at an average rate of about 0.12 inch per year from 1993 to 2003 (Intergovernmental Panel on Climate Change [IPCC] 2007). The California Ocean Protection Council (OPC) adopted the 2018 update of the State of California Sea Level Rise (SLR) Guidance, which provides science-based guidance to help state and local governments analyze the risks associated with SLR and incorporate SLR into planning, permitting, and investing decisions. In this 2018 SLR Guidance, a range of potential SLR projections were developed for a subset of active California tide gauges based on emission trajectories, acknowledging that projected SLR has a significant range of variation as a result of uncertainty in future greenhouse gas emissions and their geophysical effects, such as the rate of land ice melt.

The probabilistic projections for the height of SLR over different time frames and emission scenarios for the Santa Barbara tide gauge, the closest gauge to the Project site, are summarized in Table 8-1. The Santa Barbara tide gauge was used for the projected SLR scenario, and the Project site could see up to 0.4 foot SLR by 2030, 1 foot by 2050, and 2.0 to 3.1 feet by 2100 (Ocean Protection Council 2018). The range in potential SLR indicates the complexity and uncertainty of projecting these future changes, which depend on the rate and extent of ice melt, particularly in the second half of the century.

Table 8-1. Sea Level Rise Projections (Feet, from 2000)

Time Period (by)	High/Low Emissions Scenarios (as presented by OPC 2018)	Likely Range in Feet (66% probability)	Medium-High Rise Aversion in Feet (0.5% probability)
2050	High Emissions	0.4-1.0	1.8
2070	Low Emissions	0.5-1.3	2.8
2070	High Emissions	0.7-1.7	3.3
2100	Low Emissions	0.6-2.0	5.3
2100	High Emissions	1.2-3.1	6.6

Source: NV5 2021
OPC = Ocean Protection Council

Higher water levels result in greater wave energy reaching higher on the shoreline and directly onto the face of cliffs. SLR of these magnitudes could potentially affect the upland areas behind the seawall and rock revetment because the loss of beaches would likely result in greater wave force on the bluff area resulting in increased weathering and erosion of the bluff.

8.1.2.1 Waves Offshore of PRC 421

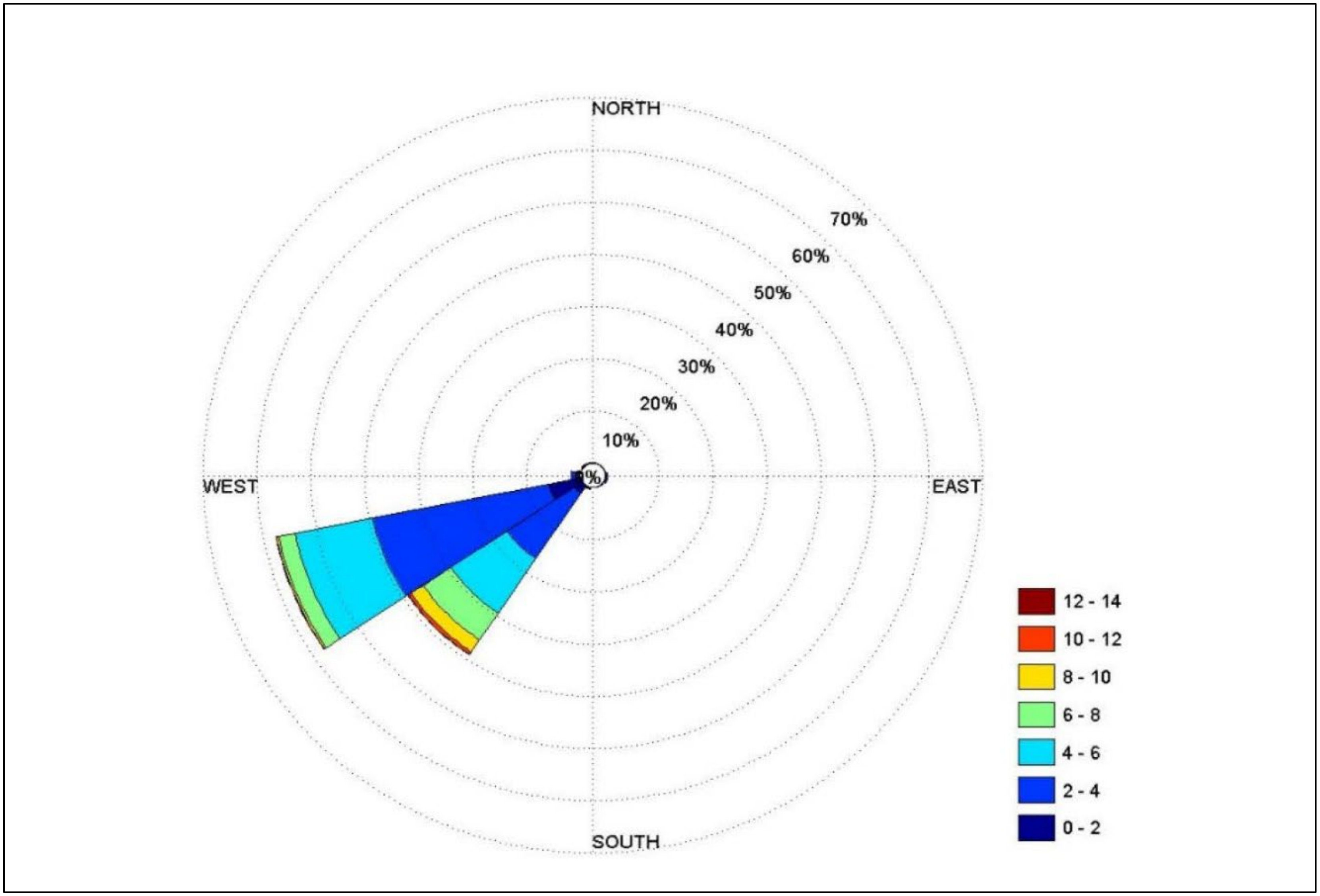
Waves (ocean swell and wind waves) along the southern California coast are mainly produced by six basic meteorological weather patterns. These include extratropical storm swells in the Northern Hemisphere (north or northwest swell), wind swells generated by northwest winds in the outer coastal waters (wind swell), westerly (west sea) and southeasterly (southeast sea) local seas, storm swells of tropical storms and hurricanes off the Mexican coast, and southerly swells originating in the Southern Hemisphere (southerly swell).

Because of blockage from Point Conception and Coal Oil Point, PRC 421 is only exposed to waves coming from the southeast and then clockwise to approximately the west, as shown in Figure 8-1. Furthermore, the offshore Channel Islands provide some sheltering for waves coming from the Pacific Ocean within this exposure angle and reduce the energy of many ocean swells before they reach Santa Barbara Channel.

As shown in Figure 8-1 and 8-2, the wave direction is from the southwest (SW) direction during approximately 40 percent of the time and from the west southwest (WSW) direction during approximately 58 percent of the time. The waves from other directions are negligible. The dominant SW to WSW wave directions is a combined result of the specific wave exposure angle, the sheltering effect of the Channel Islands, and the local nearshore plain/contour orientation that faces SW.

Figure 8-1. PRC 421 Exposure Angle to Pacific Storms

Figure 8-2. Joint Distribution of Wave Heights and Directions at -6 feet Mean Lower Low Water (MLLW)



8.1.3 Coastal Impact Assessment

A coastal impact analysis was conducted by NV5, Inc. (Appendix I, 2021) on behalf of the Project. As noted in the study, the 421-1 and 421-2 caissons sitting on the beach have provided a wave sheltering effect for the areas behind (landward of) the caissons during high tides, and thus have provided erosion protection for the beach and shoreline behind these caissons.

Additionally, the access roadway that runs along the bluff is currently armored with riprap revetment along the majority of the area. NV5 noted that this revetment provides erosion protection for the access roadway and protects the coastal bluff behind the roadway from wave-induced erosion.

As part of their analysis, NV5 documented nearshore oceanographic conditions including still water levels, wave heights, and anticipated SLR projections based on different timeframes and emissions scenarios for the Santa Barbara tide gauge (located closest to the Project site). Review of the historical conditions at the Project site supported their conclusions that the PRC 421 caissons have provided erosion protection for the beach and shoreline immediately behind the caissons during "winter" conditions; therefore, the removal of PRC 421 caissons would expose these sheltered areas to storm-induced erosion during the winter months, similar to the natural processes that occur to adjacent beach areas.

In addition, the removal of the caissons would expose the existing wooden sea wall that runs behind both PRC 421 piers and from the midpoint between the two piers to approximately 75 feet to the east of PRC 421-2. Much of this wooden sea wall has been compromised by storm and wave activity over many decades, and removal of PRC 421 piers and caissons would expose the wooden seawall to direct and more intense wave action, further deteriorating or causing a failure of the wooden seawall.

Following the removal of the access roadway and riprap revetment, the new ground or bluffs behind the existing access roadway is anticipated to be exposed to direct wave action and coastal erosion, which would be further exacerbated by SLR. Storm and SLR-induced erosion at the toe of the bluff is anticipated to undercut the slope of high grounds, eventually leading to failure (slope failure, collapses, and landslides). While the eroded beach might be restored in the subsequent summer with calmer waves, the undercutting and failure of high grounds and bluffs is considered permanent loss and is not anticipated to naturally recover during the summer because these high grounds are above the active wave zones.

As indicated by NV5, after removal of the access roadway and revetment, the Project area would be returned to natural conditions and the erosion and failure of the high grounds and coastal bluffs is expected to continue for the foreseeable future. The resulting bluff retreat rate and extent of erosion depends on the soil erodibility and intensity of future storms. In addition, future sea level rise would result in greater wave energy reaching higher on the shoreline and the face of bluffs with a longer duration of wave action. Although there will be no remaining structures present following completion of the Project, anticipated sea level rise would accelerate future shoreline and bluff retreat. This erosion would contribute to the long-term replenishment of the beach as part of the natural shoreline processes.

8.2 COMMERCIAL FISHING

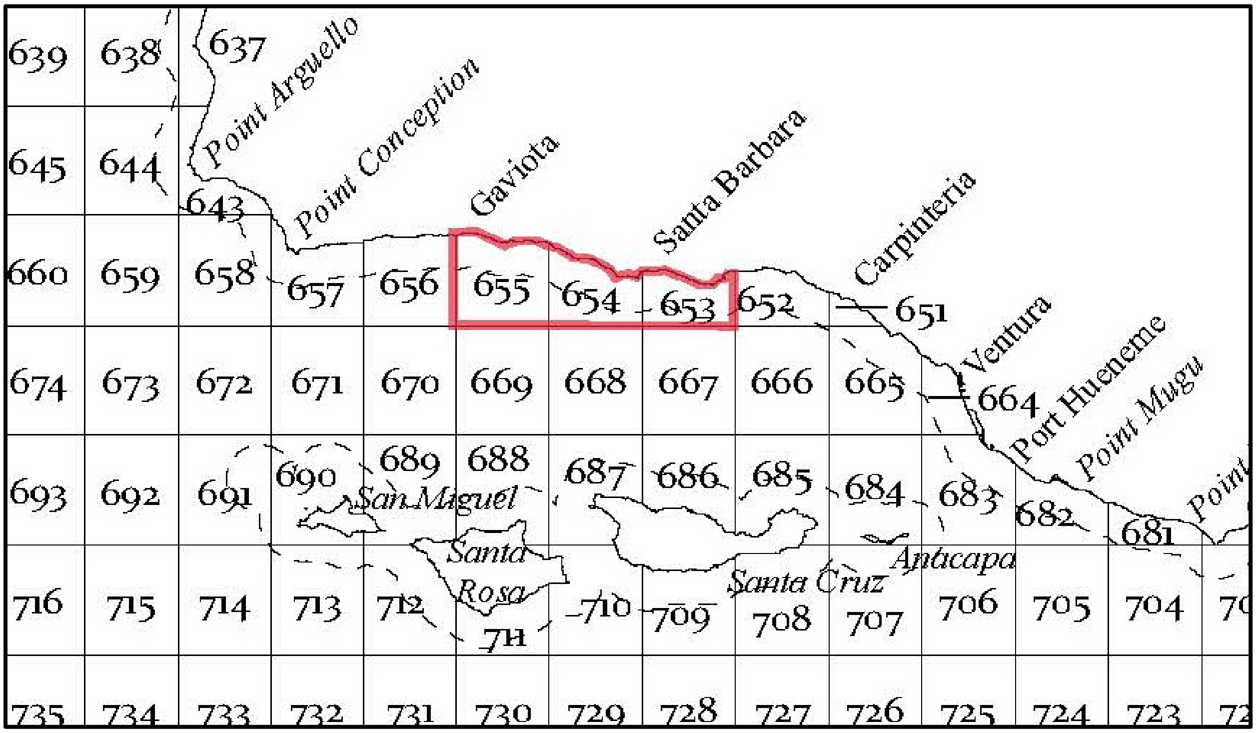
This section describes commercial fishing activities surrounding the Project site, evaluates the potential impacts to those commercial fisheries in accordance with applicable California Coastal Act Policies 30234 and 30234.5, and, where appropriate, identifies mitigation measures related to implementation of the proposed Project. Recreational fishing is discussed within Section 4.13, *Recreation,* above. Commercial fishing is an important economic and cultural activity in California. Commercial fishing along the Santa Barbara coast uses several gear types that target a wide variety of fish and invertebrate species. The most common types of commercial gear types include trawls, trolling, longlines, and gillnets. In 2019, a total of 14,424,189 pounds of fish were landed in the Santa Barbara area, equivalent to $24,142,390.00 (CDFW 2020).

8.2.1 Fish Block Information

Information for commercial fisheries was taken from the CDFW California Fishery Information System that maintains data on where fish are caught and landed. Information is provided below for commercial catch data for CDFW Fish Blocks (FB) 653, 654, and 655 (Figure 8-3). The entire Project is located within the tidelands of FB 654; however, the adjacent fish blocks are included in this analysis to provide an indication of the types of commercial fishing activity likely to occur in the immediate vicinity of the proposed Project.

The top five ranked fisheries by catch value for Santa Barbara area harbors are listed in Table 8-2 below. However, commercial catch is not uniformly distributed across the Santa Barbara Channel and is weighted more towards FBs in the Channel Island area (FBs 684 through 690; Figure 8-3) (CSLC 2014). Based on the water depths and habitats available in FB 654, only a small percentage of the regional fishing reported in Table 8-2 is expected to occur within the Project area. Due to confidentiality policy outlined in Fish and Game Code, section 8022, disclosure of commercial fishing data is limited, and the specific percentage of FB 654 within the Santa Barbara harbor landings cannot be calculated at this time. An analysis of commercial fishing completed in the CSLC 2014 EIR for the Recommissioning of PRC 421 reported the Project area (FB 654) accounted for 2 percent of the total value and 0.31 percent of the total biomass caught within the Santa Barbara Channel between 1999 and 2005. The total value for catch landed from FB 654 was $1.8M, which consisted primarily of lobster, prawns, urchin, halibut, and sea cucumber (CSLC 2014).

Figure 8-3. CDFW Fish Catch Blocks



Source: CDFW 2001

Note: Red highlighted blocks are nearshore fishery blocks used in this analysis. Dashed line indicates 3 nautical miles from shoreline (state waters limit).

Table 8-2. Total Poundage and Value of Commercial Landings in 2019 by Port for Santa Barbara Area

Species	Pounds	Value
Lobster, California spiny		
Santa Barbara Harbor	274,696	$3,847,676
Ventura Harbor	95,667	$1,294,667
Oxnard	77,879	$1,086,038
Port Hueneme	83	$959
Total	**448,325**	**$6,229,340**
Market Squid		
Santa Barbara Harbor	103	$204
Ventura Harbor	5,895,721	$2,849,714

Species	Pounds	Value
Port Hueneme	3,214,710	$1,589,431
Total	**9,110,534**	**$4,439,349**
Prawn, spot		
Santa Barbara Harbor	26,856	$413,585
Ventura Harbor	108,553	$1,564,603
Oxnard	6,518	$98,933
Port Hueneme	61,287	$918,671
Total	**203,214**	**$2,995,792**
Sea Urchin, Red		
Santa Barbara Harbor	522,884	$1,262,798
Ventura Harbor	21,334	$11,825
Oxnard	483,562	$772,170
Total	**1,027,780**	**$2,046,793**
Sablefish		
Santa Barbara Harbor	436,327	$1,240,824
Ventura Harbor	7,891	$20,375
Oxnard	30,289	$176,001
Total	**474,507**	**$1,437,200**

Source: CDFW 2020

8.2.2 Oil Spill Impacts to Commercial Fishing

In addition to the species listed above, a wide variety of fish and shellfish species are commercially harvested offshore of the Project area, many of which are targeted in deep offshore waters (i.e., Sablefish, squid, and spot prawn); however, both adult and larval stages of commercially targeted species are known to occur in intertidal and shallow subtidal habitats near the Project area.

Among fishes, benthic (bottom dwelling) species are more sensitive to petroleum than pelagic (open ocean) species, and intertidal species are the most tolerant (CSLC 2009). Adult fish and mobile invertebrates (i.e., lobster and prawn) may be able to avoid or minimize exposure to oil or petroleum product in the water. Although deep-water species are a majority percentage of the commercial fisheries, several of those species lay eggs in benthic habitats that have pelagic and nearshore larval phases. The larval stages of fish life histories are imperative for survivorship and are highly dependent on the oceanic conditions at the water's surface (CSLC 2009). Egg and larval stages of fish as well as immobile invertebrates (i.e., sea urchin and abalone) would not be able to avoid exposure to petroleum, if released, and therefore are the most vulnerable.

The potential for petroleum product to be released into marine waters during the Project is limited to the contact of marine waters with Project-related contaminated soils.

Because fish species are economically important and because long-term loss can result from an oil spill, potentially significant impacts could occur depending on the size and location of an incidental release of oil into marine waters. Implementation of **MMs HAZ-1a** through **MM HAZ-1c** as well as **MM HAZ-2** and **MM HWQ-2** will reduce impacts to less than significant by requiring implementation of measures intended to prevent or minimize the potential for exposure of hazardous materials to the marine environment, as well as planning and equipment to reduce the extent of a release, should it occur. A less than significant impact to commercial fishing would result.

8.3 ENVIRONMENTAL JUSTICE

"Environmental justice" is defined by California law as "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (Gov. Code, § 65040.12, subd. (e)). 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 December 2018 (Item 75, December 2018) to ensure that environmental justice is an essential consideration in the CSLC's processes, decisions, and programs.[16] Through its policy, the 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. Among other goals, the policy commits the CSLC to, "Strive to minimize additional burdens on and increase benefits to marginalized and disadvantaged communities resulting from a proposed project or lease."[17]

This policy is consistent with the principals outlined in the California Coastal Commission's Environmental Justice policy adopted in 2019[18]. As specified, California Public Resources Code Section 30604(h) states that "when active on a coastal development permit, the issuing agency, or the commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state".

[16] See https://www.slc.ca.gov/wp-content/uploads/2018/11/EJPolicy.pdf
[17] Id.
[18] https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf

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, CSLC believes that it is critical to include individuals who are disproportionately affected by a proposed project's effects in the decision-making process. 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 (OPR) (the lead state agency on planning issues) is working with state agencies, local governments, and many partners to update the General Plan Guidelines to include guidance for communities on environmental justice (OPR 2020).

The available data revealed no significant environmental impact associated with the PRC 421 Decommissioning Project. The subject parcel is located within a predominantly recreational/open space area that shows a small degree of environmental burden as noted by quantitative data, at this time. Project activities are intended to return this portion of coastline to natural conditions, which would include a long-term benefit to aesthetics, recreation, and local land uses. Therefore, community outreach was not conducted.

8.3.1 U.S. Census Bureau Statistics

Table 8-3 presents income, employment, and race data of the regional and local study area in the Project vicinity, based on the most recently available information from U.S. Census 2019 American Community Survey 5-Year Estimates.[19] The Project is located within the city of Goleta in Santa Barbara County, but specifically falls within Census Tract No. 29.34 (previously reported within Tract No. 29.30 in the most recent Census data).

8.3.2 Population and Economic Characteristics

8.3.2.1 Demographics

As indicated in Table 8-3, regionally the population in Santa Barbara County and the

[19] U.S. Census 2019 American Community Survey estimates come from a sample population but are more current than the most recent full census of 2010. Because they are based on a sample of population, a certain level of variability is associated with the estimates. Supporting documentation on American Community Survey data accuracy and statistical testing can be found on the American Community Survey website in the Data and Documentation section available here: census.gov/programs-surveys/acs.

city of Goleta are comprised of an approximately 72.2 to 76.8 percent white and 23.2 to 27.8 percent non-white population. The population reported within Census Tract 29.34, including the Project site, are also predominantly white (68.8 percent). It is important to note that regionally, this area contains a significant number of persons who classify themselves as being of Hispanic or Latino decent (46.0 percent in Santa Barbara County, 32.5 percent in the city of Goleta, and 30.8 percent within the Project Census Tract). However, the city of Goleta and Project Tract (including the Project site) percentage of persons identified as being of Hispanic or Latino decent are lower than the percentage for Santa Barbara County, and also for the State of California as a whole (39.0 percent).

8.3.2.2 Socioeconomics

As shown in Table 8-3, from a regional standpoint, the city of Goleta has a higher-than-average median household income level ($98,005) compared to Santa Barbara County ($75,653) or the State of California ($75,235). Similarly, Census Tract 29.30 (now 29.34) includes a median household income level of $91,923, which is slightly lower than the city of Goleta median, but much higher than the County of Santa Barbara or State of California earnings. Santa Barbara County and city of Goleta residents are primarily employed in professional, scientific, management, and educational services (accounting for a total of 37.1 percent of jobs within the County and 46.2 percent of jobs within the city). With respect to populations (all families) living below the established poverty level, the city of Goleta is significantly lower (3.3 percent) than Santa Barbara County (6.1 percent) or the State as a whole (9.6 percent). Census Tract 29.30 (now 29.34) includes 3.5 percent of all families below the established poverty level, which is similar to the city of Goleta and lower than that reported for Santa Barbara County and the State of California.

Table 8-3. Environmental Justice Statistics

Parameter	California	Santa Barbara County	City of Goleta	Census Tract 29.34 (formerly 29.30)
Income and Population				
Total population	39,283,497	446,499	30,975	8,421
Median household income	$75,235	$75,653	$98,005	$91,923
Percent (%) below the poverty level (all families)[1]	9.6%	6.1%	3.3%	3.5%

Parameter	California	Santa Barbara County	City of Goleta	Census Tract 29.34 (formerly 29.30)
Employment Industry (percentage of total population)				
Agriculture, forestry, fishing and hunting, mining	2.2%	10.0%	0.6%	0.0%
Construction	6.3%	6.8%	4.7%	6.0%
Manufacturing	9.1%	5.8%	9.4%	8.5%
Wholesale trade	2.8%	1.7%	2.0%	3.1%
Retail trade	10.5%	8.3%	8.6%	5.2%
Transportation and warehousing, and utilities	5.3%	3.1%	3.0%	3.3%
Information	2.9%	1.7%	2.8%	4.2%
Finance and insurance, and real estate and rental and leasing	6.0%	4.6%	4.8%	1.9%
Professional, scientific, and management, and administrative and waste management services	13.7%	13.6%	13.7%	14.6%
Educational services and health care and social assistance	21.0%	23.5%	32.5%	34.8%
Arts, entertainment, and recreation, and accommodation and food services	10.4%	12.5%	8.3%	7.9%
Other services, except public	5.2%	5.3%	6.2%	6.5%

Parameter	California	Santa Barbara County	City of Goleta	Census Tract 29.34 (formerly 29.30)
administration				
Public administration	4.4%	3.2%	3.3%	4.1%
Race				
White	59.7%	76.8%	72.2%	68.8%
Black or African American	5.8%	2.2%	3.3%	2.0%
American Indian and Alaska Native	0.8%	1.1%	0.7%	0.0%
Asian	14.5%	5.8%	9.8%	11.3%
Native Hawaiian	0.4%	0.1%	0.2%	0.0%
Some Other Race	14.0%	10.5%	8.6%	12.0%
Hispanic or Latino (of Any Race)	39.0%	46.0%	32.5%	30.8%

Notes:

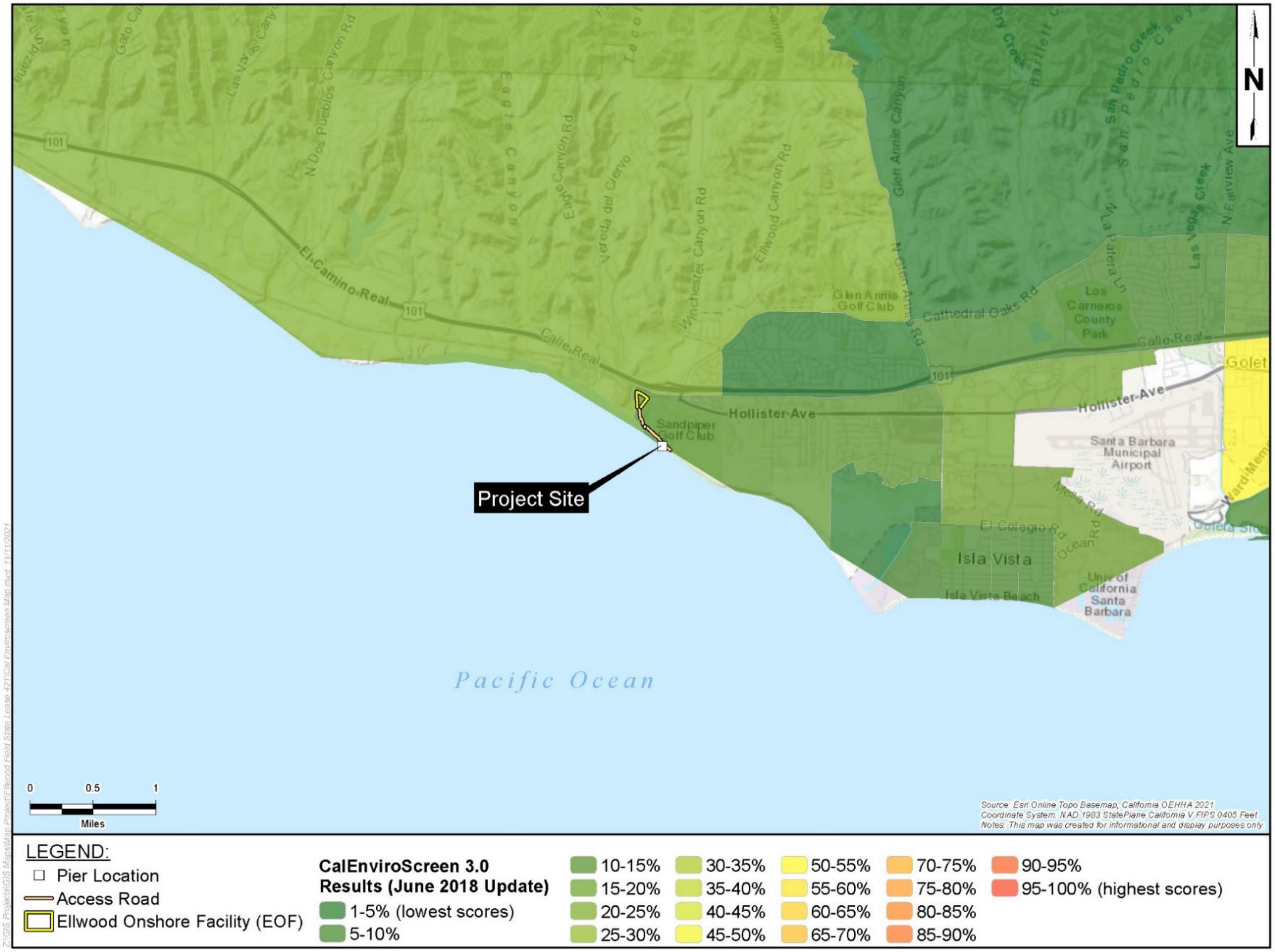
[1] Poverty threshold as defined in the ACS is not a singular threshold but varies by family size. Census data provides the total number of persons for whom the poverty status is determined and the number of people below the threshold. The percentage is derived from this data.

Source: U.S. Census Bureau American Fact Finder accessed August 2021 (DP05 – ACS Demographic and Housing Estimates and DP03 – Selected Economic Characteristics; 2019 ACS 5-Year Estimates.

8.3.3 California Office Of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen Results

According to California Office of Environmental Health Hazard Assessment (OEHHA 2021) California Communities Environmental Health Screening Tool (CalEnviroScreen 4.0) data (accessed August 2021), the Project site is located within an area of low existing environmental burden, scoring between 10 to 20 percent (pollution burden percentile of 18 percent). This means that 80 to 90 percent of all census tracts in California have greater population vulnerability or environmental burdens (Figure 8-4). The exposures indicated at the Project site primarily include air quality hazards, with diesel particulate matter scoring highest, which is attributed to the Project site's proximity to the U.S. 101 transportation corridor, as traffic exposure was noted as the second highest concern. Environmental effects were indicated in relation to groundwater threats and impaired waters, as well as generation of hazardous waste.

Figure 8-4. CalEnviroScreen Results



8.3.4 Conclusion

Project decommissioning activities would occur for approximately 143 days during Component 1 removal and 63 days for Component 2 removal. During this time, public access may be partially impeded along this stretch of beach to safely accommodate large construction equipment and work activities, however recreation and coastal access would not be significantly affected as the beach area outside of the work zone would remain open east and west of the Project site(s). As indicated in Section 4.0, *Environmental Impact Analysis*, during this time, the proposed Project would have the potential for short-term construction-related impacts to aesthetics, cultural resources, tribal cultural resources, hazards and hazardous materials, hydrology and water quality, and recreation that have the potential to contribute to existing circumstances affecting environmental justice communities. However, following incorporation of identified mitigation measures (including equal representation of English and Spanish languages in posted notices and other Project-related notifications), the proposed Project is not anticipated to create new burdens or add to existing pollution burdens felt by a vulnerable community; and there are no anticipated factors that would put any sensitive populations disproportionately at risk from this Project. No long-term or permanent structures or operations would result from incorporation of the proposed Project.

The Project site is located within an area that is comprised of a high percentage of white persons, with above-average wealth, and a low existing environmental burden. The Project purpose is removal of deteriorating structures that now represent a physical coastal obstruction, a potential public safety hazard, and a potential environmental hazard represented by the known presence of hydrocarbon-impacted soil and fill contained within the pier caissons. The removal of these structures would be a significant public benefit, would allow full use of the beach coastline by the public, and would eliminate an existing threat to public safety and the environment. No significant impacts to environmental justice communities would result.

8.4 SIGNIFICANT LANDS INVENTORY

The Project involves lands identified as possessing significant environmental values within CSLC's Significant Lands Inventory, pursuant to Public Resources Code section 6370 et seq. The Project site is in the Significant Lands Inventory as parcel number 42-062-100 (Gaviota State Park to Coal Oil Point). The subject lands are classified as use category Class B, which authorizes limited use. Environmental values identified for these lands are mostly biological, including endangered species habitat and marine wildlife support, but also geological and recreational values.

Based on CSLC staff's review of the Significant Lands Inventory and the CEQA analysis provided in this EIR, the Project, as proposed, would not significantly affect those lands and is consistent with the use classification. As provided in Impact AES-2 and Impact

REC-2, with the removal of the piers and caissons there would be a beneficial impact to recreational values by improving the visual quality and character of the beach and increasing the beach area.

PAGE LEFT INTENTIONALLY BLANK

9.0 REPORT PREPARATION SOURCES AND REFERENCES

This Environmental Impact Report (EIR) was prepared by the staff of the California State Lands Commission (CSLC) Division of Environmental Planning and Management (DEPM), with the assistance of Padre Associates, Inc. The analysis in the EIR is based on information identified, acquired, reviewed, and synthesized based on DEPM guidance and recommendations.

9.1 CALIFORNIA STATE LANDS COMMISSION STAFF

Eric Gillies, Assistant Chief, DEPM
Nicole Dobroski, Chief, DEPM
Mary Griggs, Retired Annuitant, DEPM
Jennifer Mattox, Science Advisor/Tribal Liaison, Executive Office
Joseph Fabel, Senior Attorney, Legal Division
Chandrashekar Basavalinganadoddi, Supervising Mineral Resources Engineer, Mineral Resources Management Division
Joo Chai Wong, Associate Engineer, Mineral Resources Management Division
Jeff Planck, Petroleum Engineer, Mineral Resources Management Division
Peter Regan, Petroleum Engineer, Mineral Resources Management Division

9.2 SECTION AUTHORS AND REVIEWERS

Name and Title	MND Sections
Padre Associates, Inc.	
Simon Poulter, Principal	Complete document
Eric Snelling, Principal Geologist	4.8, Hazards and Hazardous Materials; 4.9, Hydrology and Water Quality
Ryan Zukor, Principal Geologist	4.8, Hazards and Hazardous Materials, Appendix J, Access Roadway Sampling Report
Matt Ingamells, Senior Biologist/Senior Project Manager	Complete document; Appendix D, Air Quality and GHG Calculations, Appendix F, Wetland Delineation Report
Jennifer Leighton, Senior Project Manager	Complete document
Rachael Letter, Senior Archaeologist	4.4, Cultural Resources; 4.5, Cultural Resources – Tribal
Andrew Krause, Project Biologist	4.3, Biological Resources; Appendix E, Bat Study Memo

Name and Title	MND Sections
Jeff Damron, Principal and Geotechnical Engineer	4.6, Geology, Soils, and Paleontological Resources; Appendix G, Bluff Retreat Study
Eva vonThury, Project Geologist	4.6, Geology, Soils, and Paleontological Resources; Appendix G, Bluff Retreat Study
Michaela Craighead, Marine Biologist	4.13, Recreation (Fishing); 8.1, Climate Change and Sea Level Rise; 8.2, Commercial Fishing
Brett Sullivan, Senior Geologist	Appendix J, Access Roadway Sampling Report
Scott Santala, CSP, CAC, Senior HES Manager	Appendix K, Asbestos and Lead-Based Paint Sampling Report
Andy Park, CAC, Project Manager	Appendix K, Asbestos and Lead-Based Paint Sampling Report
Annette Varner, Word Processor/Technical Editor	Complete document
NV5, Inc.	
Wenkai Qin, Ph.D, P.E.	Appendix I, Coastal Impact Assessment

9.3 REFERENCES CITED

Arnold, J. E., 1992. Complex hunter-gatherer-fishers of prehistoric California: Chiefs, specialists, and marine adaptations of the Channel Islands. *American Antiquity* (57):60-84.

Bartsch, E.C., L.D. Gurrola, R.D. Francis, D.C. Quigley, J.S. Hornafius, B.P. Luyendyk. 1999. Structural Control of the Spatial Distribution of Hydrocarbon Seeps in the Northern Santa Barbara Channel, California. American Geophysical Union Fall Meeting 1999. OS31A-02 POSTER.

BeaconWest. 2020. Oil Spill Contingency Plan – Ellwood Facilities, including Ellwood Onshore Facility. January 2020.

Bean, L. J., 1974. Social Organization in Native California. In *Antap: California Indian Political and Economic Organization.* Anthropological Papers 2:93-110. Ballena Press, Ramona.

Bean, W., 1968. *California: An Interpretive History*. McGraw Hill Book Company, New York.

California Air Resources Board. 2017. OFFROAD ORION 2017 web database: arb.ca.gov/orion.

California Air Resources Board. 2021. EMFAC 2021 web database: arb.ca.gov/emfac/project-analysis.

California Air Resources Board. 2021a. EMFAC 2021 web data base (https://arb.ca.gov/emfac/project-analysis). Accessed July 2021.

___. 2021b. OFFROAD 2017-ORION web data base (arb.ca.gov/orion). Accessed July 2021.

___. 2021c. iADAM: Air Quality Data Statistics (https://www.arb.ca.gov/adam/index.html). Accessed July 2021.

___.2021d. California's AB 32 Scoping Plan Update. November 2, 2021.

California Climate Change Center. 2009. Final Paper – The Impacts of Sea-Level Rise on the California Coast.

California Coastal Records Project. 2021. www.californiacoastline.org . Website accessed October 2021.

California Department of Fish and Wildlife (CDFW). 2020. Final California Commercial Landings for 2019. State of California Natural Resources Agency. February 2020.

___. 2021. California Natural Diversity Database (CNDDB) Rarefind application (https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data). Accessed August 2021.

California Emergency Management Agency. 2009. Tsunami Inundation Map for Emergency Planning. State of California, County of Santa Barbara – Dos Pueblos Canyon Quadrangle. January 31, 2009.

California Fish and Game Commission. 2019. Petition for regulation change: file 2019-014.

California State Lands Commission (CSLC). 2009. Final Environmental Impact Report for the Venoco Ellwood Marine Terminal Lease Renewal Project. State Clearinghouse No. 2004071075. CSLC EIR No. 743. April 2009.

___. 2014. Final Environmental Impact Report for the Revised PRC 421 Recommissioning Project. State Clearinghouse No. 2005061013. CSLC EIR No. 732. November 2014.

___. 2016. Tribal Consultation Policy Document. www.slc.ca.gov/tribal-consultation.

___. 2021. Addendum to the Ellwood Facilities Oil Spill Contingency Plan. ExxonMobil PRC 421 Piers Decommissioning Project. May 2021.

CalRecycle. 2021. Solid Waste Information System (SWIS) Facility/Site Summary – Clean Harbors Buttonwillow LLC 915-AA-0257).

Chartkoff, J. L., and K. K. Chartkoff, 1984. *The Archaeology of California.* Stanford University Press, Stanford, California.

City of Goleta. 1997. Coastal Zoning Code. Division 4 - Zoning Districts.

____. 2004. General Plan EIR, Background Report No. 16 – Geology/Geologic Hazards. March 19, 2004.

____. 2006. City of Goleta General Plan/Coastal Land Use Plan – Conservation Element. September 2006.

____. 2006b. City of Goleta General Plan/Coastal Land Use Plan – Open Space Element. September 2006.

____. 2006c. City of Goleta General Plan/Coastal Land Use Plan – Land Use Element. September 2006.

____. 2006d. City of Goleta Final General Plan/Coastal Land Use Plan – Environmental Impact Report. September 2006.

____. 2006e. City of Goleta's State Lease 421-1 Caisson Wall Repair Project. Draft Mitigated Negative Declaration: 06-MND-01. Prepared by the City of Goleta Case 05-132-DP (follow up to 04-EMP-001). July 18, 2006.

____. 2006f. City of Goleta General Plan/Coastal Land Use Plan – Land Use Element. September 2006.

____. 2006f. City of Goleta General Plan/Coastal Land Use Plan – Safety Element. September 2006.

____. 2009. City of Goleta General Plan/Coastal Land Use Plan – Scenic and Visual Resources Map. November 2009.

____. 2009b. City of Goleta General Plan/Coastal Land Use Plan – Geologic Hazards Map. November 2009.

____. 2014. Final Climate Change Action Plan. July 2014.

____. 2016. General Plan/Coastal Land Use Plan. Figure 6-2. Fire, Flood, and Tsunami Hazards Map. June 2016.

____. 2020. City of Goleta Zoning Map. February 2020.

____. 2021. City of Goleta Cumulative Projects List (Updated February 25, 2021). Accessed online August 2021.

Consortium of California Herbaria. 2021. Herbarium record search (https://ucjeps.berkeley.edu/consortium/search.html). Accessed August 2021.

County of Santa Barbara Planning and Development. 2008. Environmental Thresholds and Guidelines Manual. October 2008.

____. 2015. Seismic Safety and Safety Element. Adopted 1979, Republished May 2009, Amended February 2015.

____. 2021. Cumulative Projects List for the Entire County. March 5, 2021. Access online August 2021.

Department of Toxic Substances Control (DTSC). 2021. Envirostor Hazardous Waste and Substances Site List, Accessed August 2021.

Dieter, B., H. Greene, C. Endris, M. Erdey and N. Golden. 2014. *Potential Marine Benthic Habitats, Offshore Coal Oil Point Map Area, California*. U.S.G.S Scientific Investigation Map 3302.

eBird.org. 2021. Haskell's Beach hotspot data (https://ebird.org/hotspot/L1075907). Accessed August 2021.

Federal Highway Administration. 2006. Roadway Construction Noise Model User's Guide.

GHD. 2020. VMT Threshold Study for the City of Goleta.

Glassow, Michael A., Lynn H. Gamble, Jennifer E. Perry, and Glenn S. Russell, 2007. Prehistory of the Northern California Bight and the Adjacent Transverse Ranges. *California Prehistory.* T. L. Jones and K. A. Klar, eds., AltaMira Press, Lantham, Maryland.

Grant, C., 1978. Chumash: Introduction in Handbook of the North American Indian, Volume 8, *California*, edited by Robert F. Heizer. Smithsonian Institution. Washington D.C.

Greenwood, R.S., 1972. 9,000 Years of Prehistory at Diablo Canyon. San Luis Obispo County Archaeological Society Occasional Papers 7. Paso Robles, California.

___. 1978. Obispeño and Purisimeño Chumash. In Volume 8, California, Handbook of North American Indians. Edited by Robert F. Heizer. Smithsonian Institution, Washington.

Governor's Office of Planning and Research (OPR). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA.

Gurrola, L.D. 2004. Geologic map of the Western Santa Barbara Fold Belt, Santa Barbara, California.

Helix, M. 2006. Biological Communities Near Natural Oil and Gas Seeps. Minerals Management Service. www.mms.gov/omm/ pacific/enviro/seeps2.htm. Accessed: September 22, 2006.

Holland, R.F. 1986. Preliminary Description. of the Terrestrial Natural Communities of California.

Hoover, R. 1986. Archaeological Survey Report for the Proposed Shell-Union Oil Pipeline Connection, Price Canyon Facility. On file, Central Coast Information Center, Department of Anthropology, University of California, Santa Barbara.

Hornafius, J.S., D. Quigley, and B.P. Luyendyk. 1999. The World's Most Spectacular Marine Hydrocarbon Seeps (Coal Oil Point, Santa Barbara Channel, California): Quantification of Emissions. Journal of Geophysical Research, vol. 104, no. C9, pp. 20, 703-720, September 15.

Interact, 2020. Remedial Action Plan – PRC 421 Piers Soil Removal, Prepared for California State Lands Commission and ExxonMobil. August 2020.

____. 2021. Draft Project Description and Environmental Assessment. PRC 421 Decommissioning Project. February 2021.

____. 2021.Supplemental Project Description – Access Road, Revetment, and Seawall Removal. June 2021.

Intergovernmental Panel on Climate Change (IPCC). 2007. Synthesis Report.

____. 2021. Climate Change 2021-The Physical Science Basis.

Jones, T. L. and J. A. Ferneau, 2002. Prehistory at San Simeon Reef: Archaeological Data Recovery at CA-SLO-179 and -267, San Luis Obispo County, California. San Luis Obispo County Archaeological Society Occasional Paper 16.

Jones, T. L., K. Davis, G. Farris, S. D. Grantham, T. W. Fung, and B. Rivers, 1994. Toward a Prehistory of Morro Bay: Phase II Archaeological Investigations for the Highway 41 Widening Project, San Luis Obispo County, California. Prepared for the Department of Transportation, District 05, San Luis Obispo, California.

Keller, E.A. and L.D. Gurrola. 2000. Final Report, July, 2000. Earthquake Hazard of the Santa Barbara Fold Belt, California. Institute for Crustal Studies, UCSB.

Kimley-Horn. 2021. A Traffic Safety Study for the City of Goleta (draft).

King, C., 1990. The Evolution of Chumash Society: A Comparative Study of Artifacts Used in Social System Maintenance in the Santa Barbara Channel Region before A.D. 1804. Garland, New York.

Kroeber, A. L., 1925. Handbook of the Indians of California. Bulletin 78 of the Bureau of American Ethnology of the Smithsonian Institution, Government Printing Office, Washington. Republished in 1976 by Dover Publications, Inc., New York.

Landberg, L. C. W., 1965. The Chumash Indians of Southern California. Southwest Museum Papers No. 19. Southwest Museum, Los Angeles.

Lehman, P. 1994 (updated 2019). The Birds of Santa Barbara County, California.

Lemieux-Labonté V, Dorville NAS-Y, Willis CKR and Lapointe F-J (2020) Antifungal Potential of the Skin Microbiota of Hibernating Big Brown Bats (Eptesicus fuscus) Infected With the Causal Agent of White-Nose Syndrome. Front. Microbiol. 11:1776. doi: 10.3389/fmicb.2020.01776.

Lorenson, T.D., J.A. Dougherty, F.D. Hostettler, and R.J. Rosenbauer. 2004. Natural Seep Inventory and Identification for the County of Santa Barbara, California, Final Report, March 25, 2004. Prepared for Santa Barbara County, by the U.S. Geological Survey (USGS), Western Coastal and Marine Geology Team.

Moyle, P.B., R.M. Quinones and J.V. Katz. Fish Species of Special Concern in California.

Ocean Protection Council. 2018. California Sea-level Rise Guidance Document. www.opc.ca.gov/. Accessed November 2021.

OEHHA. 2021. CalEnviroScreen (oehha.ca.gov/calenviroscreen). Accessed August 2021.

Office of Planning and Research. 2017. Technical Advisory, AB52 and Tribal Cultural Resources in CEQA. June 2017.

____. 2020. General Plan Guidelines (www.opr.ca.gov/docs/20200706-GPG_Chapter_4_EJ.pdf).

Padre Associates. 2019. Report of Findings - Site Assessment Activities, Ellwood Field State Lease PRC 421, Wells 421 1 and 421-2, Ellwood Oil Field, Ellwood Beach, Goleta, Santa Barbara County, California.

____. 2021. Bluff Retreat Evaluation Report. PRC 421 Decommissioning Project, Goleta, Santa Barbara County, California. August 2021.

Quigley, D.C. et al. 1999. "Decrease in natural hydrocarbon seepage offshore Coal Oil Point, California, associated with oil production." (1999 AAPG PACIFIC SECTION MEETING; ABSTRACTS; AAPG Bulletin; Vol. 83, no. 4; p. 699).

Recreational Fisheries Information Network (RecFin). 2021. https://www.recfin.org/ query for data 2016-2020, Subregion: Southern California, County: Santa Barbara, Water Area(s): Ocean <= 3 miles, All Species groups, All Species. Accessed: July 30, 2021.

Ruhge, Justin. 2016. California and World War II – The Japanese Attack on the Central Coast, 23 February 1942.

RWQCB. 2019. Central Coast Basin Plan. Accessed at: https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/.

Santa Barbara Botanic Garden. 2012. Rare Plants of Santa Barbara County.

Santa Barbara Coastal Long-term Ecological Research Project. 2003. Three Year Progress Report – Volume 1. Prepared for the National Science Foundation Site Review Team. June 2 and 3.

Santa Barbara County Air Pollution Control District. 2017. Scope and Content of Air Quality Sections in Environmental Documents.

___. 2019. 2019 Ozone Plan, December 2019 – Final.

Santa Barbara County Association of Governments (SBCAG). 2017. Fast Forward 2040: Regional Transportation Plan and Sustainable Communities Strategy.

Santa Barbara County Fire Department. 2021. www.sbcfire.com. Website accessed October 2021.

Santa Barbara County Planning and Development Department. 2002. Environmental Thresholds and Guidelines Manual.

____. 2001. Final Proposed Mitigated Negative Declaration 01-ND-34: Venoco, Inc. - State Lease 421 Well Stabilization Project 01DVP-00000-00040. October.

___. 2003. Project Clean Water, Water Quality Analysis Report – Rain Year 2002/2003. December 2003.

Santa Barbara County Public Works. 2011. Engineering Design Standards. September 2011.

Sawyer, J.O., T. Keeler-Wolf and J.M. Even. A Manual of California Vegetation (online version: vegetation.cnps.org/search?).

Shuford, W.D. and T. Gardali. 2008. California Bird Species of Special Concern.

Southern California Earthquake Center (SCEC). 1995. Seismic Hazards in Southern California: Probable Earthquakes, 1994 to 2024.

State Ready Mix Recycling. 2021. www.statereadymix.com Accessed online August 2021.

State Water Resources Control Board. 2010. Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report) – Statewide.

____. 2021. Geotracker online database accessed August 2021.

Thompson, B., J. Dixon, S. Schroeter, and D. Reish. 1993. Benthic Invertebrates In: Ecology of the Southern California Bight; A Synthesis and Interpretation.

Thomson, R.P., A.N. Wright and H.B. Shaffer. California Amphibian and Reptile Species of Special Concern.

University of California, Santa Barbara. 2020. UCSB Hydrocarbon Seeps Project. http://seeps.geol.ucsb.edu/. Accessed: December 23, 2020.

U.S. Bureau of Land Management. 1986. Visual Resource Management System, U.S. Bureau of Land Management Manual 8431: Visual Resource Contrast Rating.

U.S. Census Bureau. 2021. (data.census.gov). Accessed August 2021.

____. 2021a. DP05-ACS Demographic and Housing Estimates and DP03 – Selected Economic Characteristics; 2019 ACS 5-Year Estimates.

____. 2021b. 2020 Census Tract Map – Santa Barbara County (083).

U.S. Department of Agriculture (USDA). 1981. Soil Survey of Santa Barbara County, California, South Coast Part.

U.S. Department of the Air Force (USAF). 2011. Final Programmatic Environmental Assessment for the 2011-2015 Integrated Natural Resources Management Plan. Vandenberg Air Force Base, California. August 16, 2011.

U.S. Fish and Wildlife Service (USFWS). 2017. Biological Opinion on the Venoco Line 96 Bell Creek "Frac-out" Event and Associated Cleanup Activities that Occurred from October to December 2011 Near the City of Goleta, Santa Barbara County, California.

U.S. Geologic Survey. 2009. Geologic Map and Description of the Santa Barbara Coastal Plain Area, Santa Barbara County, California.

U.S. Geological Survey (USGS). 2009. Open File Report 2009-1225. Natural Offshore Oil Seepage and Related Tarball Accumulation on the California Coastline – Santa Barbara Channel and the Southern Santa Maria Basin: Source Identification and Inventory. T.D. Lorenson, et. al.

____. 2009.b Coastal Processes Study of Santa Barbara and Ventura Counties, California. Final Report to the Beach Erosion Authority for Clean Oceans and Nourishment (BEACON).

____. 2021. U.S. Quaternary Faults – National Database. https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=5a6038b3a1684561a9b0aadf88412fcf. Accessed August 2021.

Waste Management (WM). 2021. Simi Valley Landfill online statistics. https://www.wm.com/location/california/ventura-county/landfill/index.jsp. Accessed August 2021.

Williams, D.F. 1986. Mammalian Species of Special Concern in California.

Winant, C.D., D.J. Alden, E.P. Dever, K.A. Edwards and M.C. Hendershott. 1999. Near surface trajectories off central and southern California. Journal of Geophysical Research 104(C7): 15713–15726.

Xerces Society. 2020. Western Monarch Thanksgiving Count 1997-2020.

Zembal, R., S. Hoffman and R. Patton. 2015. A Survey of the Belding's Savannah Sparrow in California, 2015.